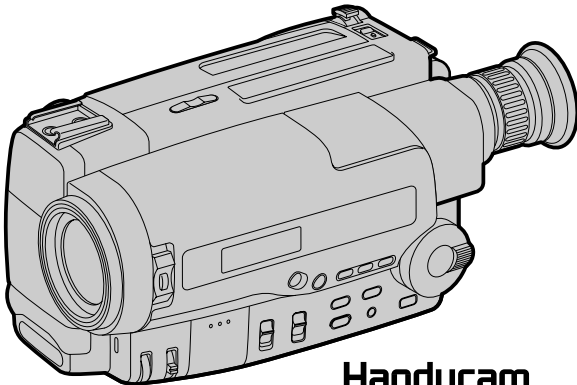


Video Camera Recorder

Operating Instructions

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

àìòú ùí~ëíîó~ íòôîûú~ëë
èâ Â% î~îíî~ íòôîûú~ëë%îîó,,ó ðòð ðú ð óòëî , îëîúâî, îó
ô ó~âòú, îðòóí~ââ ùíó,ó%òú,ó ëòòú,ëú, Â,,ó%îí · Ù%ú~ëì òð ð,óí.



Handycam
CCD-TR620E

Video 8
CCD-TR501E/TR502E/TR620E **8**

© 1997 by Sony Corporation

English

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.

NOTICE ON THE SUPPLIED AC POWER ADAPTOR FOR CUSTOMERS IN THE UNITED KINGDOM

A moulded plug complying with BS1363 is fitted to this equipment for your safety and convenience.

Should the fuse in the plug supplied need to be replaced, a 5 AMP fuse approved by ASTA or BSI to BS1362 (i.e., marked with  or  mark) must be used.

If the plug supplied with this equipment has a detachable fuse cover, be sure to attach the fuse cover after you change the fuse. Never use the plug without the fuse cover. If you should lose the fuse cover, please contact your nearest Sony service station.

ε000ίεε

ÑÓ. Ó !

ε0Á% ‡,íflÁí Ç‡0 ò ò ÉÓ. ÁÚÁíÉÁí %‡íí0È ,É%ÁÓí‡íÁ ° Handycam® ÛÈ í° Sony. è ÓÓíÓ~ , Ç‡-ÁÈ ,É%ÁÓí‡íÁ ° Handycam Ç° í0ÉÁÚÁ Á‡0Á~‡ÚíÁÚ. %Ó Ó„ÉÁ Ç‡í í„í0,ÁíÉfl ÉÉÁíÉ ò ò Á,ó0í0%í°í í‡~Á0Ú,óí ÉÁÓ. ‡ÉÁíÉfl É Á,Úí‡. Ç‡-‡ ,É%ÁÓí‡íÁ ‡ Handycam Ó0í‡~Áí‡ Û00,Á ~Áí0Ú,Ó,‡íí°íÈ Û0íí~ÉflíÈ, í0 È , ÚÓ ÉÁ , Áífl ÁÁ Ó~Áí, íÁ„í0 É000í, ÁÓ,‡Ú. Ç° ,0í0 Á ·Ú%ÁÚÁ Ó0Á%‡,‡Ú. òÁíÁÈí°Á ,É%ÁÓÁ‡0È0È, í000 °íÈ í0ÉÁÚÁ í‡0í‡É%‡Ú, òfl , Ó00íÁ%Ú. ~ÉÁ „0%°.

èèöÑìèèöÜÑöçàö

Ñífl ò Á%0Ú, ‡~ÁíÉfl ,0Á,ó ‡íÉfl ÉíÈ Ó0‡0í00ÚÈ~íÁíÚ È~Á0í0,ó0%‡ ‡ íÁ Ó0%,Á „‡Ú, ‡00‡ ‡Ú,0Á%ÁÈ0Ú,È. %0È%fl ÉíÈ ,í‡„È.

ÇÓ ÉÁ·ÁÈ‡íÉÁ Ó0 ‡ÉÁíÉfl~íÁíÚ È~Á0íÈí Ú0í0í íÁ 00í ° ,‡Ú, í0 000. á‡ Ó·òí0ÈÈ,‡íÉÁí Ó· ‡~‡Ú, òfl Ú0í, í0 í í,‡íÈ0È~È Ó,‡íí0íÚ Ó·òí0ÈÈ,‡. ~ÁíÚ ÓÁ Ó0í‡íÚ.



Table of contents

é,,î†,îâîëâ

Before you begin

Using this manual.....	4
Checking supplied accessories	6

Getting started

Charging and installing the battery pack.....	7
Inserting a cassette	11

Basic operations

Camera recording	12
Using the zoom feature.....	15
Hints for better shooting.....	16
Checking the recorded picture	18
Connections for playback	19
Playing back a tape	20

Advanced operations

Using alternative power sources	22
Changing the mode settings	26
Recording with the date or time.....	29
Selecting the START/STOP mode	30
Shooting with backlighting.....	31
Fade-in and fade-out	32
Enjoying picture effect.....	34
Using the wide mode function (CCD-TR502E/ TR620E only)	36
Focusing manually	38
Using the PROGRAM AE function.....	40
Releasing the STEADY SHOT function (CCD-TR620E only)	42
Superimposing a title.....	43
Making your own titles.....	46
Editing onto another tape.....	48

Additional information

Changing the lithium battery in the camcorder	49
Resetting the date and time	51
Playback modes	52
Tips for using the battery pack.....	53
Maintenance information and precautions.....	58
Using your camcorder abroad.....	64
Trouble check	65
Specifications	73
Identifying the parts.....	75
Warning indicators.....	84
Index.....	85

èâ ¤ î†~†îôî †·óú°	
àòòòî, áó, †îëâ ¤ îîô, ó úíó, óúú, †	4
è ó, â í† ò ëî†, †âî° 1 ò ëî† îâëîóóúâë .	6

èó,, óúó, í† í î†~†îú †·óú°	
á† ¤ î† ë úúúîó, í† ·ú† âëîó, ó ·íó† . .	7
çóú†, í† í†òòâú°	11

éòîó, î° â óòâ †°ëë	
á†òëò, ò óóîó°, ¤, ¤âóí†îâ °	12
àòòòî, áó, †îëâ úúî†°ëë î†ââ†	
¤âóí†îâ °	15
éó, áú° ¤ î† îú°~âë ò ·âîë	16
è ó, â í† á†òëòîîó, ó éâó· †ëâîë†	18
èó,, óòâ ¤ îâîë† ¤ î†, óòò óéâ, â ¤ îë† . . .	19
çóóò óéâ, â ¤ îëâ îâîú°	20

ìóó, â °âîóú, ó, †îî° â óòâ †°ëë	
àòòòî, áó, †îëâ †î, úâ í†úë, î° 1 ëóúó~îëíó,	
òëú†îë†	22
àîâîâîëâ âëëîî° 1 úúúîó, óí	26
á†òëò, ò ¤ úúóë ëîë, âîâîâî	29
ç°·ó âëëî† START/STOP	30
è°âîî† ò á†îâë óó·ó, áúíóë	31
ç, â ¤ îëâ ë, °, â ¤ îëâ éâó· †ëâîë†	32
ç†òî†ë ¤ îëâ ° úúâîú†îë éâó· †ëâîë† . .	34
àòòòî, áó, †îëâ úúî†°ëë ° é óíóúó î†úíó, ó	
âëëî† (íóî, íó CCD-TR502E/TR620E) .	36
íóíúòë ó, í†, ú°îú	38
àòòòî, áó, †îëâ úúî†°ëë PROGRAM AE . .	40
éúîî, °âîëâ úúî†°ëë STEADY SHOT	
(íóî, íó CCD-TR620E)	42
ç†íóéâîëâ î†°òëòë	43
éóâ ¤ îëâ ç†°ëî óó·óú, âîî° 1 î†°òëòâë .	46
âóíú†ë î† ¤ ú, ù, îâîúú	48

ñóóóîëúâî, î†† ëîúó î†°ë†	
á†îâî† îëúéâ, óë ·ú† âëíë, .	
¤âóí†îâ á	49
ìúúîó, í† ¤ ú° ë, âîâîë	51
éâëëî°, óòò óéâ, â ¤ îë†	52
éó, áú° óó ëòòòî, áó, †îë· ·ú† âëîó, ó	
·íó†	53
àîúó î†°ë† óó úíóú á† †òò† †úóí ë	
ò ¤ úúúó óëîóúë	58
àòòòî, áó, †îëâ ç†°âë, ¤âóí†îâ ° á†	
ú·âëóî	64
è ó, â í† îâëòò †, íóúúâë	69
íâîë°âóíëâ í† †íúâ ëóúëíë	74
éóóâî†, †îëâ ¤ áú†îâë	75
è âúó âë†, °âë ëîëí†úó °	84
í†â†úâî,	86

Before you begin

Using this manual

The instructions in this manual are for the three 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-TR620E 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-TR620E 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.

èÂ Â% Ì†~†ÍÓÌ †·ÓÚ°

àòòóî, áó, †ìèâ %†ìòó, ó ùíó, ó%òú, †

àìòú Òí~ÈÈ, %†ììòí Òíó, ó%òú, Â ÈÁÍÓÈÁì°
%Ífl Ù Âì ÌÈÈÁÒÂ Â~ÈÓÍÁìì°ì ÌÓ%ÁÍÀÈ.
èÂ Â% ÚÁÌ, Í†Í Ç° Ì†~ÌÁÚÂ ~ÈÚÙ, %†ììòÂ
Òíó, ó%òú, óÈ~ìòòíÙ†ÚÈ Ó, †Ú, †òò† †Ú,
Ò Ó, Â ÚÁ ÌÓÍÂ Ç†~ÂÈ ÌÓ%ÁÍÈ, òòòíóú Â,
ì† ÌÈÈì. Ò†ÌÁÌ. Ç†~ÂÈ, È%ÁÓÍ†ÌÂ °.
äó%ÁÌ, CCD-TR620E Èòòóî, ÁÚÁÚòfl,
ÈÍÌ. ÒÚ †ÚÈ, Ì°ì ^ÁÌfl. Ç ÈÍÓÍ òìÚ~†Â
ì†ÈìÁìó, †ìÈÁ ÌÓ%ÁÍÈ Òí†Â°, †ÁÚòfl Ì†
Èòòíì†ì. ä. °Â †ÁÈÈ~Èfl, †·ÓÚÂ ~ÁÚíó
Úí†Áìì°, ÚÁÍÓÚÂ, Í†Í Ì†ò ÈÌÂ "ìóì, Ìó
CCD-TR620E".
äó, %† Ç° ·Ù%ÁÚÂ ~ÈÚÙ. Òíó, ó%òú, Ó,
Ù~ÈÚ°, †ÈÚÂ, ~ÚÓ ÌìòóíÈ È ÒÚÚ†ìó, ÌÈ Ì†
È%ÁÓÍ†ÌÂ Â ÒÓÍ†Áìì° Á†, Ì†, Ì°ÌÈ ·Ùí, †ÌÈ.
Ò Èì. ÌòÚ†ìó, ÈÚÂ, °Íì. ~†ÚÁÌ, POWER,
ÒÓÍÓÈÁìÈÂ CAMERA.
ÒòìÈ Ì† Èòòíì†ì Òí†Â°, †ÁÚòfl Áì†Í Ì, Ç°
ìóÈÁÚÂ òì~†Ú. ÁÚÍÌÂ Ì°È Â, Òíó, óÈ
òÈ, Ì†ì %Ífl òò%Ú, Â È%ÁÍÈfl Ç†~ÂÈ †·ÓÚ°.

Types of differences

ìÈÒ° †ÁÍÈ~ÈÈ

CCD-	TR501E	TR502E	TR620E
Optical Zoom éòúÈ~ÀòíÈÈ Ù †ìòúóì†úó	15X	15X	15X
Digital Zoom ñÈÚ Ó, óÈ Ù †ìòúóì†úó	—	30X*	30X*
Wide Mode òÈ òíó° í †ìì°È ÂÈÈì	—	●	●
Steady Shot ìòúóÈ~È, †fl ò`Áìí†	—	—	●

* 180xinsomearea/* Ç ÌÁÍÓÚÓ °ì †Èòì†ì 180-í †Úì°È

Note on TV colour systems

TV colour systems differ from country to country. To view your recordings on a TV, you need a PAL system-based TV. When you want to use a SECAM system-based TV, you will need a PAL/SECAM transcoder (as this is a PAL system-based camcorder).

è ÈÌÂ~†ìÈÂ ÒÓ ÒÈòÚÁì†ì
^, ÁÚÍÓ, Ó ÚÁÌÂ, È%ÁÍÈfl

ÈÈòÚÁì° ^, ÁÚÍÓ, Ó ÚÁÌÂ, È%ÁÍÈfl ÒÚÈ~†· Òòfl
, Á†, ÈòÈìòòúÈ ÒÚò Ì†. Ñìfl Ò òòíóú †
Ç†~Èì Á†òÈòÀÈ ÒÓ ÚÁÌÂ, ÈÁÓ Ù, Ç†ì
ÌÁÓ. ÌÓ%ÈÍÓ Èòòóî, ÁÓ, †Ú, ÚÁÌÂ, ÈÁÓ,
òòìó, †ìì°È Ì† ÒÈòÚÁìÂ PAL.
ÒòìÈ Ç° ÌòúÈÚÂ Èòòóî, ÁÓ, †Ú, ÚÁÌÂ, ÈÁÓ Ì†
òòìó, Â ÒÈòÚÁì° SECAM, Ç†ì òòì†%Ó·ÈÚòfl
Ò ÁÓ. †ÁÓ, †ÚÁÌ, ÌÓ%† PAL/SECAM
(Òòòíóì, ÌÚ~Ù†, È%ÁÓÍ†ÌÂ † ÈÁ, ÒÚó, ÌÁì† Ì†
òòìó, Â ÒÈòÚÁì° PAL).

Using this manual

àððóí, áó, ÷íëâ %÷ííó,,ó
úíó, ò%òú, ÷

Precaution on copyright

Television programmes, films, video tapes, and other materials may be copyrighted. Unauthorized recording of such materials may be contrary to the provision of the copyright laws.

è Â%óòúâ âëâíëâ ó. ÷, úó òíóí ò ÷, â

íâíâ, ëáëóíí*â ò ó,, ÷íí*, íëíóùëí. í*,
, ë%áóíâíú° ë % ù,, ëâ í÷úâ ë÷í° íó,, úú. °ú.
Á÷°ë~âí° ÷, úó òíëí ò ÷, óí.
çáó ÷, òíóí~í÷íâ÷òëð. ù÷íëí í÷úâ ë÷íó,
íóëáú ò óúë, ó â~ëú, ùòíó, ëíí â÷íóí÷ ó.
÷, úó òíóí ò ÷, â.

Precautions on camcorder care

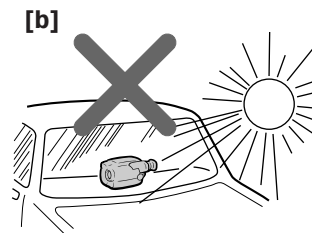
- Do not let the camcorder get wet. Keep the camcorder away from rain and sea water. It may cause a malfunction and sometimes the malfunction cannot be repaired. **[a]**
- Never leave the camcorder under temperatures above 60 °C (140 °F), such as in a car parked in the sun or under direct sunlight. **[b]**

è Â%óòúúó óëíóóúë òó ùí%ú â÷
, ë%áóí÷íâ óë

- çâ %óòúòí÷ëúâ, ~úó.°, ë%áóí÷íâ ÷
òú÷íó, ëí÷ò. íóí óë. ñâ ëëúâ
, ë%áóí÷íâ ù òó%÷í, ~â óú %óë%í ë
íó òíóë, ó%. ùúó íóëáú ò ë, âóúë í
íâëòò ÷, íóóúë ÷òò÷ ÷÷, íóúó ÷í íâ
òâ,, %÷ íóëáú. °ú. ëòò ÷, íâí÷. **[a]**
- çëíó,, %÷ íâ óóú÷, ííëúâ, ë%áóí÷íâ ù,
íâóúâ ò úáíóâ ÷úú óë ò, °â 60°ë (140°F),
í÷í í÷ò ëíâ, , ÷, úóíó.ëíâ,
óóú÷íó, íâííóí í÷ òóíí~â ëíë òó%
ò íí~íë òóííâ~í~íë íú~÷íë. **[b]**



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



ëó%â ëëíóâ á÷òëòë íâ íóëáú. °ú.
óúíó áíúë ó, ÷íó, àòíë á÷òëð. ëíë
, òòò óëâ, â%âíëâ íâ, °óíííí. ùòí ëâ-á÷
íâëòò ÷, íóóúë, ë%áóí÷íâ °, , ë%áóíâíú°
ëú.%.

Before you begin

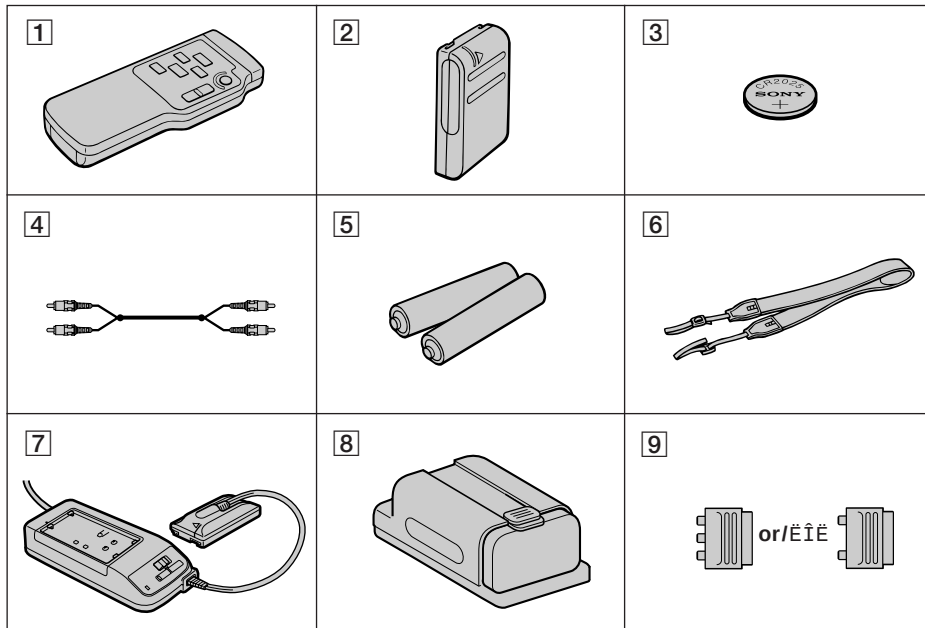
èâ Â% í÷~÷íóí ÷. úó

Checking supplied accessories

è Ó, Â Í± Ô ÈÎ±, ±ÂÎ° 1
Ô ÈÎ±%ÎÂÈÎÓÓÚÂÈ

Check that the following accessories are supplied with your camcorder.

è Ó, Â , ÚÂ Í±ÎÈ~ÈÂ ÒÎÂ%Ú, ~È1
Ô ÈÎ±%ÎÂÈÎÓÓÚÂÈ, Ô ÈÎ±, ±ÂÎ° 1 í Ç±ÂÈ
, È%ÂÓÍ±ÎÂ Â.



1 **Wireless Remote Commander (1)**
(p. 21, 79)

2 **NP-33 Battery Pack (1)** (p. 7)

3 **CR2025 Lithium Battery (1)** (p. 49)
Already installed in the camcorder.

4 **A/V connecting cable (1)** (p. 19)

5 **R6 (size AA) battery for Remote Commander (2)** (p. 79)

6 **Shoulder strap (1)** (p. 81)

7 **AC-V16/V16A/V17/V17A AC power adaptor (1)** (p. 7, 23)
AC-V17A AC power adaptor is not available in the United Kingdom.

8 **Battery case (1)** (p. 24)

9 **21-pin adaptor (1)** (p. 19)

1 AAÒÒ Ó, Ó%Î°È ÒÚÎ, Ú %ÈÓÚ±î~ÈÓÎÓ,, Ó
ÚÒ ±, ÎÂÎÈÎ (1) (ÒÚ . 21, 79)

2 A±Ú± ÂÈî°È ·ÎÓÍ NP-33(1) (ÒÚ . 7)

3 äÈÚÈÂ, ±Î ·±Ú± ÂÈî± CR2025 (1) (ÒÚ . 49)
îÈÂ ÚÓÚ±ÎÓ, ÎÂî± , , È%ÂÓÍ±ÎÂ Â.

4 èÓÂ%ÈîÈÚÂÎ, î°È í±·ÂÎ, ±Ú%ÈÓ/, È%ÂÓ
(1) (ÒÚ . 19)

5 A±Ú± ÂÈî± R6 (±ÁÎÂ ÓÎ ÂÂ) %ÎÎ ÒÚÎ, Ú±
%ÈÓÚ±î~ÈÓÎÓ,, ÓÚÒ ±, ÎÂÎÈÎ (2) (ÒÚ . 79)

6 èÎÂ~Â, ÓÈ ÒÂÎÂÎ (1) (ÒÚ . 81)

7 èÂÚÂ, ÓÈ ±±ÔÚÂ ÒÂ ÂÎ. ÚÓÍ± AC-V16/
V16A/V17/V17A (1) (ÒÚ . 7, 23)
AC-V17A ÎÂ ÈÓÓÓÎ, ÂÚÂÚÓÎ, èÓÂ%ÈîÂîîÓÎ
äÓ ÓÎÂ, ÒÚ, Â

8 A±Ú± ÂÈî±Î Î±ÎÂ ± (1) (ÒÚ . 24)

9 21-Ú° , ÍÓ, °È ±±ÔÚÂ (1) (ÒÚ . 19)

Getting started

Charging and installing the battery pack

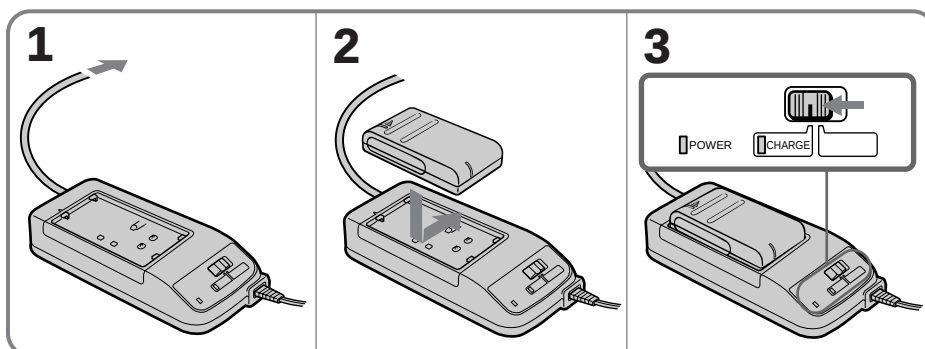
Before using your camcorder, you first need to charge and install the battery pack. To charge the battery pack, use the supplied AC power adaptor.

Charging the battery pack

Charge the battery pack on a flat place without vibration.

- (1) Connect the AC power adaptor to the mains.
- (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	Charging time*
NP-33 (supplied)	60
NP-67	105
NP-66H / 68	125
NP-78	170
NP-98	215

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

èÓ%,,ÓÚÓ,Í† Í†~†ÍÚ †.ÓÚ°

á† fl%Í† È ÛÒÚ†ÍÓ,Í†
·†Ú† ÂÈÍÓ,,Ó ·ÍÓÍ†

èÄ Å%ÓÓÍ ÁÓ,†ÍÈ† Ç† ÂÈ,È%ÁÓÍ†ÍÄ ÓÈ Ç†Í ÒÍÄ%ÚÁÚ Ò††~†Í† Á† fl%ÈÚ, È ÛÒÚ†ÍÓ,ÈÚ, ·†Ú† ÂÈÍ°È ·ÍÓÍ. NÍfl Á† fl%ÍÈ ·†Ú† ÂÈÍÓ,,Ó ·ÍÓÍ†,ÓÓÓÓÍ,ÁÚÈÚÁÓ, Ó ÈÍ†,†Á†Í ÒÁÚÁ,°Í †%†ÓÚÁ ÓÍ ÓÄ Á†. ÚÓÍ†.

á† fl%Í† ·†Ú† ÂÈÍÓ,,Ó ·ÍÓÍ†

á† fl%ÍÚ ·†Ú† ÂÈÍÓ,,Ó ·ÍÓÍ† Ó ÓÈÄ,Ó%ÈÚÁ Í† Ó,ÍÓÈ ÓÓ,Ä †ÍÓÓÚÈ, ÍÄ ÓÓ%,Ä ÈÁÍÍÓÈ,È. †ÈÈ.

- (1) èÓ%ÓÓÁ%ÈÍÈÚÁ ÒÁÚÁ,ÓÈ ÍÚ †%†ÓÚÁ † ÓÄ Á†. ÚÓÍ† Í† ÍÁÍÚ È~ÁÓÍÓÈ ÓÁÚÈ.
- (2) ÌÓÚ†ÍÓ,ÈÚÁ Ó †,Ú. ÓÚÓ ÓÍÚ ·†Ú† ÂÈÍÓ,,Ó ·ÍÓÍ† Í† Ó%ÍÓÈ ÍÈÍÈÈ Ó ÓÁÚÁ,°Í †%†ÓÚÁ ÓÍ ÓÄ Á†. ÚÓÍ†, Á†ÚÁÍ ÓÄ Å%,ÈÍ. ÚÁ ·†Ú† ÂÈÍ°È ·ÍÓÍ, Í†Ó †,ÍÁÍÈÈ ÓÚ ÁÍÈ.
- (3) ÌÓÚ†ÍÓ,ÈÚÁ ÒÁÍÁÍÚÓ, ÓÓÍÓÈÁÍÈÄ CHARGE. á†,,Ó ÈÚÓfl Í†ÍÓÓ~Í† CHARGE (Ó †ÍÈÄ,†fl). Ç†~ÍÁÚÓfl Á† fl%Í†. äÓ,,%† Á† fl%Í† Á†,Ä ÈÚÓfl, Í†ÍÓÓ~Í† CHARGE ÓÓ,,†ÓÍÁÚ. éÚÍÍ. ÈÚÁ †ÓÓ† †Ú ÓÚ ~ÍÁÍÚ È~ÁÓÍÓÈ ÓÁÚÈ, † Á†ÚÁÍ ÓÍÈÍÈÚÁ ·†Ú† ÂÈÍ°È ·ÍÓÍ È ÛÒÚ†ÍÓ,ÈÚÁ Å,,Ó Í† È%ÁÓÍ†ÍÄ Û.

Getting started

èÓ%,,ÓÚÓ,Í† Í†~†ÍÚ †.ÓÚ°

Ç ÁÍfl Á† fl%ÍÈ

Á†Ú† ÂÈÍ°È ·ÍÓÍ	Ç ÁÍfl Á† fl%ÍÈ*
NP-33 (Ó ÈÍ†,†ÁÚÓfl)	60
NP-67	105
NP-66H/68	125
NP-78	170
NP-98	215

* è È.ÍÈÁÈÚÁÍ, ÍÓ, ÍÈÍÓÚ†Í%Ífl Á† fl%ÍÈ †Á flÈÁÍÍÓ,,Ó ·†Ú† ÂÈÍÓ,,Ó ·ÍÓÍ† Ó ÈÓÓÓÍ, ÁÓ,†ÍÈ† Ó ÈÍ†,†ÁÍÓ,,Ó ÒÁÚÁ,Ó,,Ó †%†ÓÚÁ † ÓÄ Á†. ÚÓÍ†. (è ÈÍÈÁÍÈ ÍÁÍÓÄ †ÚÚ †Í, ÁÍfl Á† fl%ÍÈ Û%ÍÈÍflÁÚÓfl.)

Charging and installing the battery pack

á† fl%Í† È ÒÙ†ÍÓ,Í†
·†Ú† ÂÈÍÓ,Ó ·ÍÓÍ†

Battery life CCD-TR501E/TR502E

Battery pack	Typical recording time**	Continuous recording time***
NP-33 (supplied)	55	100
NP-67	90	175
NP-66H / 68	105	195
NP-78	135	255
NP-98	175	330

ë ÓÍ ÒÍÙÊ·° ·†Ú† ÂÈÍÊ CCD - TR501E/TR502E

Â†Ú† ÂÈÍ·È ·ÍÓÍ	ÍÊÖÊ~ÍÓÃ , ÂÍfl Â†ÖÊÊ* *	ÇÂÔ Â ° - ,ÍÓÃ, ÂÍfl Â†ÖÊÊ***
NP-33(Ô ÊÍ†,†ÂÙfl)	55	100
NP-67	90	175
NP-66H/68	105	195
NP-78	135	255
NP-98	175	330

CCD-TR620E

Battery pack	Typical recording time**	Continuous recording time***
NP-33 (supplied)	50	95
NP-67	90	160
NP-66H / 68	100	185
NP-78	130	240
NP-98	175	315

CCD - TR620E

Â†Ú† ÂÈÍ·È ·ÍÓÍ	ÍÊÖÊ~ÍÓÃ , ÂÍfl Â†ÖÊÊ* *	ÇÂÔ Â ° - ,ÍÓÃ, ÂÍfl Â†ÖÊÊ***
NP-33(Ô ÊÍ†,†ÂÙfl)	50	95
NP-67	90	160
NP-66H/68	100	185
NP-78	130	240
NP-98	175	315

- ** 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.

- ** è È·ÍÊÁËÚÃÍ,Í†fl Ô Ó%ÍÊËÚÃÍ,ÍÓÙÚ, ÍÊÍÙÚ†Í Ô ÈÂ†ÖÊÊ, ÍÓ,,Ç° ÓÓ,ÚÓ flÃÚÃ Í†~ÍÓ/ÓÓÚ†ÍÓ, Â†ÖÊÊ, Ú †ÍÙÚÍ†~È. È ,ÍÍ,~†ÃÚÃ/,°ÍÍ,~†ÃÚÃ ÖÊÚ†ÍÊÃ. êÃ†Í,Í°È Ò ÓÍ ÒÍÙÊ·° ·†Ú† ÂÈÍÓ,Ó ·ÍÓÍ† ÍÓÊÃÚ·°Ú, ÍÓ Ó·Ã.
- ***è È·ÍÊÁËÚÃÍ,ÍÓÃ, ÂÍfl ÍÃÔ Â°,ÍÓ,,Ó ,ÓÓÔ ÓÊÃ,Â%ÃÍÊfl, ÓÓÍÃ~ÃÍÊÊ.

Important! Use the battery completely before re-charging!

Before you recharge the battery, make sure the battery has been used up (discharged) completely.
Repeated charging while some capacity remains causes a lowering of battery capacity. However, the original battery capacity can be recovered if you use the battery completely and charge it fully again.
To use up the battery, remove the cassette and turn the POWER switch to CAMERA with the battery attached, and leave the camcorder until the  indicator and the red lamp flash rapidly in the viewfinder.

Ç†ÊÍÓ!
àÓÓÓÍ,ÂÙÊÚÃÂ† fl%·†Ú† ÂÈÍÓ,Ó ·ÍÓÍ† ÓÓÍÍÓÙÚ, Ô ÂÈ%Ã, ~ÃÍ Ô ÈÓÙÚÊÚ, Í Â,ÓÃ† fl%ÍÃ!
èÃ Â%Ã† fl%ÍÖÊ·†Ú† ÂÈÍÓ,Ó ·ÍÓÍ† Ú·Â%ÊÚÃÓ, ~ÚÓÃ,ÓÃ† fl%ÓÓÍÍÓÙÚ, ÈÓÓÓÍ,ÂÓ,†Í (·ÍÓÍ †Ã flÊÃÍ).
èÓ,ÚÓ Í†flÃ† fl%Í†, ÓÍÙ~†Ã~†ÓÙÊ~ÍÓ ÓÓÚ†, ~ÂÊÓfl ÂÍÍÓÙÚÊ Ô È,Ó%ÊÚ Í ÒÍÊÊÃÍÊ, ÂÍÍÓÙÚÊ. è%Í†ÍÓ ÓÃ, ÓÍ††Í Í†fl ÂÍÍÓÙÚ ·†Ú† ÂÈ ÍÓÊÃÚ·°Ú, ÓÓÓÚ†ÍÓ,ÍÃÍ†, ÂÓÍÊ Ç° ÓÓÍÍÓÙÚ, ÈÓÓÓÍ,ÂÙÃÚÃÂ† fl%·†Ú† ÂÈ È ÓÍÓ,†ÃÃ ÓÓÍÍÓÙÚ Â† fl%ÊÚÃ.
ÑÍfl †Ã fl%ÍÊ·†Ú† ÂÈ ÒÍÊÊÊÚÃ Í†ÓÓÃÚÚ È ÓÃ Â%,ÈÍ ÚÃ ÓÃ ÂÍÍ ~†ÚÃÍ, POWER, ÓÓÍÓÊÃÍÊÃ CAMERA Ô È ÓÓ%ÓÓÃ%ÊÍÃÍÓÊ ·†Ú† ÂÈ È ÓÓÚ†, ÚÃ, È%ÃÓÍ†ÍÃ Ú ,ÍÍ,~ÃÍÍÓÊ %Ó ÚÃÍ ÓÓ, ÓÓÍ†, È%ÖÊÍ†ÚÃÍÃ ÍÃÍ†ÍÙÚ·°ÓÚ Ô ÍÊ,,†Ú, ÊÍÊÍ†ÚÓ  È Í †ÓÍ†fl Í†ÍÓÓ~Í†.

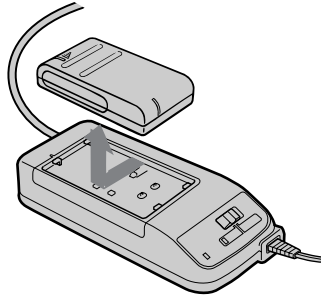
Charging and installing the battery pack

á† fl%Í† È ÙÒÚ†ìÓ, Í†
·†Ú† ÂÈìÓ,,Ó ·ìÓÍ†

To remove the battery pack

Slide the battery pack in the direction of the arrow.

Ñîfl ÒîflúÈfl ·†Ú† ÂÈìÓ,,Ó ·ìÓÍ†
è Â%,Èì, ÙÂ ·†Ú† ÂÈì°È ·ìÓÍ, ìò †,îÂìÈÈ
ÙÚ ÂîîÈ.



Notes on charging the battery pack

- The POWER lamp will remain lit for a while even if the battery pack is removed and the mains lead 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 mains lead. After about one minute, reconnect the mains lead and set the selector to CHARGE again.
- You cannot operate the camcorder using the AC power adaptor while charging the battery pack.

è ÈîÂ~†îÈfl ÒÓ Á† fl%îÂ ·†Ú† ÂÈìÓ,,Ó ·ìÓÍ†
• ä†îÓÓ~Í† POWER ·Ù%Â ìÂìÓÚÓ ÓÂ, Âîfl
Ò,ÂÚÈÚ, Òfl, %†ÈÂ ÂÒìÈ ·†Ú† ÂÈì°È ·ìÓÍ
Òîflú È ÒÂÚÂ, ÒÈ Ò Ó,Ó% ÓÚîî, ~Âì ÒÓÒîÂ
Á† fl%îÈ ·†Ú† ÂÈìÓ,,Ó ·ìÓÍ†. ùÚÓ fl, îflÂÚÒfl
ìÓ ì†î, ì°î.
• ÒÒìÈ ì†îÓÓ~Í† POWER ìÂ Á†,,Ó †ÂÚÒfl,
ÙÚÚ†ìÓ, ÈÚÂ ÒÂîÂîÚÓ, ÒÓîÓÈÂîÈÂ VTR (DC
OUT) È ÓÚÓÓÂ%ÈîÈÚÂ ÒÂÚÂ, ÒÈ Ò Ó,Ó%.
è ÈîÂ ìÓ ~Â ÂÂ îÈìÚÚÚ, ìÓ,
ÓÓ%ÒÓÂ%ÈîÈÚÂ ÒÂÚÂ, ÒÈ Ò Ó,Ó% È ÓÓflú,
ÙÚÚ†ìÓ, ÈÚÂ ÒÂîÂîÚÓ, ÒÓîÓÈÂîÈÂ CHARGE.
• Ç° ìÂ ìÓÈÂÚÂ ÙÓ †, îflú, È%ÂÓí†îÂ ÒÈ Ò
ÈÓÓÓî, ÁÓ, †îÈÂî ÒÂÚÂ, Ó,,Ó †%†ÓÚÂ † ÓÂ Âî.
ÚÓÍ†, Ó, Âîfl Á† fl%îÈ ·†Ú† ÂÈìÓ,,Ó ·ìÓÍ†.

Getting started

èÓ%,ÓÚÓ, ì† î ì†~îÚ †·ÚÚ°

Charging and installing the battery pack

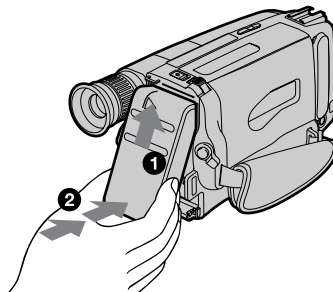
á† fl%Í† È ÒÙ†ÌÓ, Í†
·†Ú† ÀÈÌÓ,,Ó ·ÍÓÍ†

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. Make sure that you hear clicks twice. Attach the battery pack to the camcorder securely.

ÌÙ†ÌÓ, Í† ·†Ú† ÀÈÌÓ,,Ó ·ÍÓÍ†

- (1) ÇÒÙ†,, ÚÁ, Á ÌÈÈ ÍÓÌÁ~ ·†Ú† ÀÈÌÓ,,Ó ·ÍÓÍ†,, Á ÌÌ.. ~†ÒÙ, ·†Ú† ÀÈÌÓÈ ÒÙ†ÌÓ, Ó~ÍÓÈ ÒÓ, Á ÌÍÒÙÈ.
- (2) Ç†ÈÌÈÚÁ ·†Ú† ÀÈÌ°È ·ÍÓÍ, Ò†Í, ~ÚÓ° ÒÍ ·Í Ì†ÀÈÌÓ Ò ÈÒÓÁÈÌÁÌ. Ì·ÁÈÚÁÒ, ~ÚÓ° Ç° ÒÒÍ°~†ÈÈ %, ÓÈÌÓÈ ~ÁÌ°ÓÍ. Ì·ÁÈÚÁÒ, , ~ÚÓ Ç° %, †ÈÈ° ÒÒÍ°~†ÈÈ ~ÁÌ°ÓÍ.
è ÈÍ ÁÒÈÚÁ Ì†ÀÈÌÓ ·†Ú† ÀÈÌ°È ·ÍÓÍ Í, ÈÁÓÍ†ÌÁ Á.



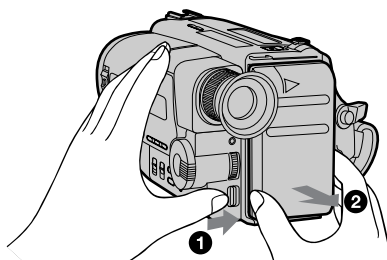
Note on installing the NP-98 battery pack ÈÌÁ~†ÈÁ ÒÙ†ÒÈÚÁÌ, ÌÓ ·†Ú† ÀÈÌÓ,,Ó ·ÍÓÍ† NP-98 àÒÓÓÍ, ÁÚÈÚÁ, ÈÁÓÍ†ÌÁ Ò, ÒÌÁ,,Í† Ò ÈÒÓ%Ìfl, ÈÁÒÈÒÍ†ÚÁÌ.

Note on the battery pack
Do not carry the camcorder by grasping the battery pack.

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

è ÈÌÁ~†ÈÁ Í ·†Ú† ÀÈÌÓÌÙ ·ÍÓÍÙ ÇÁ ÒÁ ÁÌÓÒÈÚÁ, ÈÁÓÍ†ÌÁ Ò, ÒÁ ÈÈ, fl ÁÁ Á† ·†Ú† ÀÈÌ°È ·ÍÓÍ.

ÑÌfl ÒÌflÍÙÈfl ·†Ú† ÀÈÌÓ,,Ó ·ÍÓÍ† È%, ÈÌ, ÚÁ BATT, † Á†ÚÁÌ ÒÓÙflÌÈÚÁ Á† ÌÈÈÌ, ~†ÒÙ, ·†Ú† ÀÈÌÓ,,Ó ·ÍÓÍ†.



You can look at the demonstration of the functions available with this camcorder. (p. 28)

Ç° ÍÓÈÁÚÁ, Á,, flÌÙÙ, Ì† %ÁÌÓÌÙÙ †È. ÒÙÌÍ°ÈÈ, ÈÌÁ, ~ÈÌÒfl, %, ÌÌÍÓÈ, ÈÁÓÍ†ÌÁ Á. (ÒÙ .28)

Inserting a cassette

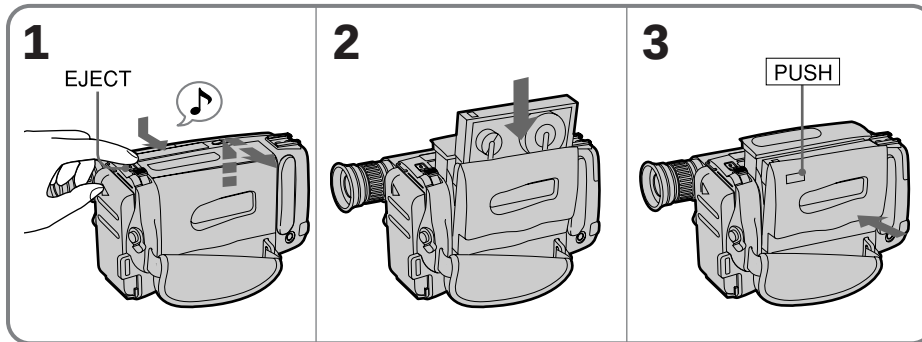
ÇÒÚ†, Í† Í†ÒÒÂÚ°

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.

Ì·Â%ÈÚÁÒ, ~ÚÓ ÈÒÚÓ~ÌÈÍ ÒÈÚ†ÌÈÍ ÒÒÚ†ÍÓ, ÍÂÌ.

- (1) Ç†ÈÈÍ†Í†Í†ÍÂÌ, ÍÚ. ÒÈÌ. ÌÍÒÓÍÚ, Ò%, ÈÌ. ÚÁ EJECT, Ì†Ò †, ÍÂÌÈÈ ÒÚ ÂÌÈÈ. ÈÚÒÂÍ Í†ÒÒÂÚ° †, ÚÓÍ†ÚÈ~ÂÒÍÈ ÒÚÍ °, †ÂÚÒÍ.
- (2) ÇÒÚ†, ÚÁ Í†ÒÒÂÚÚ (ÌÂ Ò ÈÌ†, †ÂÚÒÍ) ÓÍÓ~ÍÓÍ, Ó· †~ÂÌÌ~Í Í† ÚÈÚ.
- (3) Ç†ÈÈÈÚÁ ÍÂÚÍÚ PUSH Í† ÓÚÒÂÍÂ Í†ÒÒÂÚ° %Í†ÍÂ,, Ó Â†Í °ÚÈÍ. ÈÚÒÂÍ Í†ÒÒÂÚ° †, ÚÓÍ†ÚÈ~ÂÒÍÈ Â†Í °, †ÂÚÒÍ.



To eject the cassette

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

To prevent accidental erasure

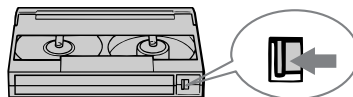
Slide the tab on the cassette to expose the red mark.

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, and you cannot record.

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

ÑÍÍÍ, °Ú†ÍÈÈ, †ÌÈÍ Í†ÒÒÂÚ° Ç†ÈÈÍ†Í†Í†ÍÂÌ, ÍÚ. ÒÈÌ. ÌÍÒÓÍÚ, Ò%, ÈÌ. ÚÁ EJECT, Ì†Ò †, ÍÂÌÈÈ ÒÚ ÂÌÈÈ.

ÑÍÍÍ Ò Â%ÓÚ, †~ÂÌÈÍ ÒÍÚ~†ÈÍÓ,, ÒÚÈ †ÌÈÍ ÈÂ Â%, ÈÌ. ÚÁ ÍÂÒÂÒÚÓÍ Í† Í†ÒÒÂÚÂ, ~ÚÓ· ÓÓÍ, ÈÌ†Ò, Í †ÒÍ†Í ÍÂÚÍ†. ÒÒÍÈ Ç°, ÒÚ†, ÈÚÁ Í†ÒÒÂÚÚ Ò È, °ÒÚ†, ÍÂÌÍÓÈ Í †ÒÍÓÈ ÍÂÚÍÂ È Â†Í ÓÂÚÁ ÓÚÒÂÍ Í†ÒÒÂÚ°, ÚÓ Â†Â, Ò~ÈÚ ÁÚÍÂ Í~È ÒÈ,, Í†Í. ÒÒÍÈ Ç° ÓÓÓ~Ú†ÂÚÁÒ. Â†ÒÈÒ°, †Ú. Ò È, °ÒÚ†, ÍÂÌÍÓÈ Í †ÒÍÓÈ ÍÂÚÍÂ, , È%ÒÈÒÍ†ÚÁÍÂ·Ú%ÚÚ ÍÈ,, †Ú, ÈÌ%ÈÍ†ÚÓ ° È È Ç° ÍÂ ÒÍÓÈÂÚÂ Ò ÈÂ, ÂÚÈÈ Â†ÒÈÒ. ÑÍÍÍ ÓÂ ÂÂ†ÒÈÒÈ Í† %†ÍÍÚ. ÍÂÌÍÚ ÓÂ Â%, ÈÌ. ÚÁ ÍÂÒÂÒÚÓÍ Í†Â†%, ~ÚÓ· Â†Í °Ú, Í †ÒÍÚ. ÍÂÚÍÚ.



Getting started

ÈÒ%, ÒÚÓ, Í† Í†~†ÍÚ †·ÚÚ°

Camera recording

á±0ÈÒ, ò 00í0, , È%ÁÓí±íÁ °

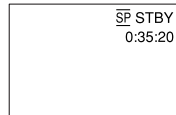
To stop recording momentarily [a]

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 and remove the battery pack.

[a]



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.

Notes on the 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 8 mm camcorders or VCRs, the playback quality may not be as good as that on this camcorder.

Note on recording

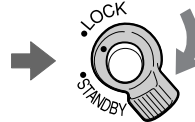
When you record from the beginning of the tape, run the tape for about 15 seconds before starting the actual recording. This prevents the camcorder from missing any start-up scenes when you play back the tape.

Ñífl, ÁíÁíí0È 00Ú±í0, íÉ Á±0ÈÒÈ [a]
Ç±ÉíÉÚÁ 00flÚ, START/STOP. Ç
, È%0Èí±ÚÁíÁ Èí%Èí±ÚÓ "REC" ÉÁíÁíÉÚ0fl í±
Èí%Èí±ÚÓ "STBY" (ÁÈÈí „00Ú, í00ÚÈ).

Ñífl 0í0í~±íÉfl Á±0ÈÒÈ [b]

Ç±ÉíÉÚÁ START/STOP. èÓ, Á íÉÚÁ STANDBY
, íÉÁ È Ú0Ú±í0, ÉÚÁ, ° íí ~±ÚÁí, POWER,
00í0ÈÁíÉÁ OFF. á±ÚÁí, °Ú0íííÉÚÁ í±00ÁÚÚ È
Ú%íÉÚÁ ±Ú± ÁÈí° È í0í.

[b]



è ÉíÁ~±íÉÁ í ÁÈÈíÚ „00Ú, í00ÚÈ
00íÈ Ç° 00Ú±, íflÁÚÁ, È%ÁÓí±íÁ Ú í± 5 íÉíÚÚ
ÉíÈ °íÁÁ 00, 00±, íÁíí0È í±00ÁÚÚÈ, ÁÈÈíÁ
„00Ú, í00ÚÈ, Ú0, È%ÁÓí±íÁ ±, ° íí ~ÉÚ0fl
±, Ú0í±ÚÈ~Á0íÈ. ÚÚ0 0 Á%0Ú, ±~±ÁÚ ±Á fl%íÚ
±Ú± ÁÈ È ÉÁí00 íÁíÚ°. Ñífl, 0ÁÓ í0, íÁíÉfl
ÁÈÈí± „00Ú, í00ÚÈ 0%Èí ±Á 00, Á íÉÚÁ
STANDBY, íÉÁ È 0í0, ± 00, Á íÉÚÁ „0, „Á 1.
Ñífl í±~±í± Á±0ÈÒÈ í±ÉíÉÚÁ START/STOP.

è ÉíÁ~±íÉfl í ÁÈÈí±í Á±0ÈÒÈ

- Ñíííífl, È%ÁÓí±íÁ ± Á±0ÈÒ°, ±ÁÚ È
, 000 0ÉÁ, 0%ÉÚ, ÁÈÈíÁ SP (00±í%± Úí0„0
, 000 0ÉÁ, Á%ÁíÉfl) ÉíÈ, ÁÈÈíÁ LP
(Ú%íÉíÁíí0„0, 000 0ÉÁ, %ÁíÉfl).
È%í±í0, í±~ÁÚÚ, 0, 000 0ÉÁ, Á%ÁíÉfl,
ÁÈÈíÁ LP Ú%ÁÚ íÁ Ú±íÉí í0 0 Éí, í±í,
ÁÈÈíÁ SP.
- 00íÈ íÁíÚ±. ° í± Á±0ÈÒ±í±, ÁÈÈíÁ LP í±
%±íí0È, È%ÁÓí±íÁ Á È, 000 0ÉÁ, 0%ÉÚ0fl í±
% Ú„É1 ÚÉ0±1 8-íí, È%ÁÓí±íÁ ÉíÈ áÇÁ,
í±~ÁÚÚ, 0, 000 0ÉÁ, Á%ÁíÉfl í0ÉÁÚ ° Ú. íÁ
Ú±íÉí í0 0 Éí, í±í 0 È, 000 0ÉÁ, Á%ÁíÉÈ
í±%±íí0È, È%ÁÓí±íÁ Á.

è ÉíÁ~±íÉÁ í 0 °~Á00Ú Á±0ÈÒÈ
00íÈ Ç° 0 0ÉÁ, 0%ÉÚÁ Á±0ÈÒ, 0 0±í0„0 í±~±í±
íÁíÚ°, %±ÉÚÁ, 0Áí0Éí00Ú, íÁíÚÁ
0Á ÁíÁ0ÚÉÚ, 0fl 0í0í0 15 0ÁíÚí% %0 í±~±í±
Á±0ÈÒÈ. ÚÚ0 0 Á%01 ±íflÁÚ, È%ÁÓí±íÁ Ú 0Ú
0 00Ú0í± í±~±í í° 0 ÉÁÚ0, 0 ÁííÈ, í0„%±
Ç° Ú%ÁÚÁ, 000 0ÉÁ, 0%ÉÚ, íÁíÚÚ.

Basic operations
è0í0, í° Á 00Á ±~ÉÈ

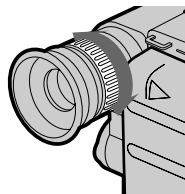
Camera recording

áþ0ÈÒ, ò 00íó, , È%ÁÓÍþíÁ °

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 so that the indicators in the viewfinder come into sharp focus.

Ñífl úóíúðè ó, íè ó· Áíúè, þ, È%ÓÈÒíþúÁífl
00íè, È%ÓÈÒíþúÁí, , 00· Á íá 000íúðè ó, þí,
Éíè, Áðíè Ç° Èð00í, ÁúÁúÁ, È%ÁÓÍþíÁ ò
000íÁ úó,, ó, íþí ÁÁ È000í, Áó, þí íúó-úó
% ù,, 0È, úó 000íúðè úèúÁ ó· Áíúè,
, È%ÓÈÒíþúÁífl. èó, Á íèúÁ Á,, úíè ó, ó· íóÁ
íóí. °óó· Áíúè, þ, È%ÓÈÒíþúÁífl úþí, °úó·
Èí%Èíþúó °, , È%ÓÈÒíþúÁíÁ °· íè °Áúíó
000íúðè ó, þí°.



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 COUNTERRESET.
- 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 as a guide, 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. 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 in the menu system.

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BEEP, 00íóÉÁíÈÁ OFF, òÈÓÚÁíÁ íÁí.

Camera recording

Note on the AUTO DATE feature

The clock is set at the factory to London time for United Kingdom and to Paris time for the other European models. You can reset the clock. The AUTO DATE feature shows the date automatically once a day. However, the date may automatically appear more than once a day when:

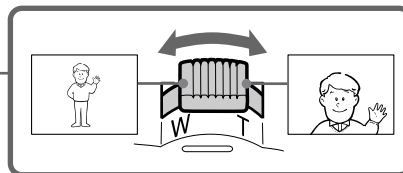
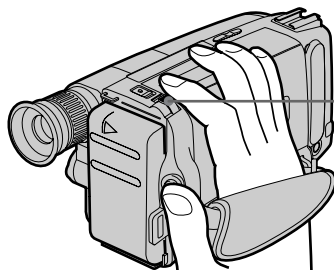
- you reset the date and time.
- you eject and insert the tape again.
- you stop recording within 10 seconds.

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 (Variable speed zooming)

Turn the power zoom lever fully for a high-speed zoom. Turn it 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, 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 (about 2 5/8 feet) away from the lens surface in the telephoto position, or 1 cm (about 1/2 inch) in the wide-angle position.

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, È%Â0Í±ÏÂ °

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Basic operations

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Camera recording

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Notes on digital zoom

– CCD-TR502E/TR620E only

- More than 15x 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 D ZOOM to OFF in the menu system.
- The right side [a] of the power zoom indicator shows the digital zooming zone, and the left side [b] shows the optical zooming zone. If you set D ZOOM to OFF, the right [a] zone disappears.

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– ÚÓÍ, ÍÓ CCD-TR502E/TR620E
• í ±ÌÙÙÓÍ±ÚÓ ·ÓÍÀÀ, ~ÀÌ 15, 00Á%±Ì ,
^ÈÙ Ó,ÓÍ È000ÌÌÀÌÈÈ, È Í±^ÀÙ,Ó
ÉÁÓ· ±ÈÀÌÈÍ ÙÌÙ% ±ÁÙ0Í 00 ÍÀ Á Ç±^À,,Ó
%,ÈÈÀÌÈÍ, 00Ó ÓÍÙ í. 00ÌÈ Ç° ÍÀ 10ÚÈÚÁ
È000Í, ÁÓ, ±Ú. ^ÈÙ Ó,ÓÈ Ù ±ÌÙÙÓÍ±ÚÓ ,
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• è ±,±Í 00Ó ÓÍ± [a]ÈÌÈÍ±ÚÓ ± ò È,0%ÌÓ,,Ó
Ù ±ÌÙÙÓÍ±ÚÓ ± 00Í±Á°, ±ÁÙ ÁÓÍÙ ^ÈÙ Ó,ÓÈ
Ù ±ÌÙÙÓÍ±^ÈÈ ± ÍÀ, ±Í 00Ó ÓÍ± [b]
00Í±Á°, ±ÁÙ ÁÓÍÙ 00ÚÈ^À0ÍÓÈ
Ù ±ÌÙÙÓÍ±^ÈÈ. 00ÌÈ Ç° ÙÙÙ±ÍÓ, ÉÚÁ
ÙÙÌÍ^È, D ZOOM Í± OFF, ÚÓ ÁÓÍ± [a]
È0^ÀÌÁÚ.



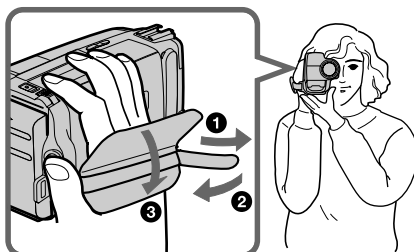
Hints for better shooting

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Ò·ÁÌÌÈ

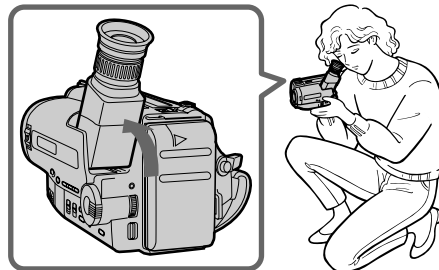
For hand-held shots, you'll get better results by holding the camcorder according to the following suggestions:

ÑÍÍÍ Í±% Ó, ò È Ù%Á ÈÈ, ±ÌÈÈ, È%ÁÓÍ±ÌÀ ° ,
ÚÍ±1, Ç° 00ÍÙ^ÈÚÁ ÍÛ~^ÈÁ ÁÁÚÍ, Ù±Ú°,
Á0ÌÈ ·Ù%ÁÚÁ %Á È±Ú, È%ÁÓÍ±ÌÀ Ù ,
00ÓÚ, ÁÚÙÚ, ÈÈ 00 òÍÁ%Ú. ^ÈÈÈ ÚÍ±Á±ÌÈÍÈÈ:

[a]



[b]



Hints for better shooting

- 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.
- Place your eye firmly against the viewfinder eyecup.
- Use the viewfinder frame as a guide to determine the horizontal plane.
- You can record in a low position to get an interesting recording angle. Lift the viewfinder up for recording from a low position **[b]**.

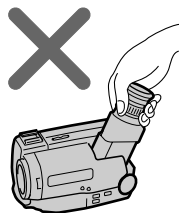
Place the camcorder on a flat surface or use a tripod

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 that the length of the tripod screw is less than 6.5 mm (9/32 inch). Otherwise, you cannot attach the tripod securely and the screw may damage 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]**.

[c]



Basic operations

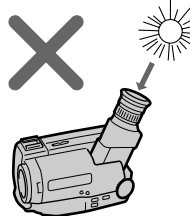
- **Hold the camcorder** firmly and secure it with the grip strap so that you can easily manipulate the controls with your thumb **[a]**.
- **Place your right elbow** against your side.
- **Place your left hand** under the camcorder to support it.
- **Place your eye** firmly against the viewfinder eyecup.
- **Use the viewfinder frame** as a guide to determine the horizontal plane.
- **You can record in a low position** to get an interesting recording angle. Lift the viewfinder up for recording from a low position **[b]**.

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 that the length of the tripod screw is less than 6.5 mm (9/32 inch). Otherwise, you cannot attach the tripod securely and the screw may damage the camcorder.

Be careful when placing the camcorder under sunlight or by a window.

- 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]**.

[d]



Checking the recorded picture

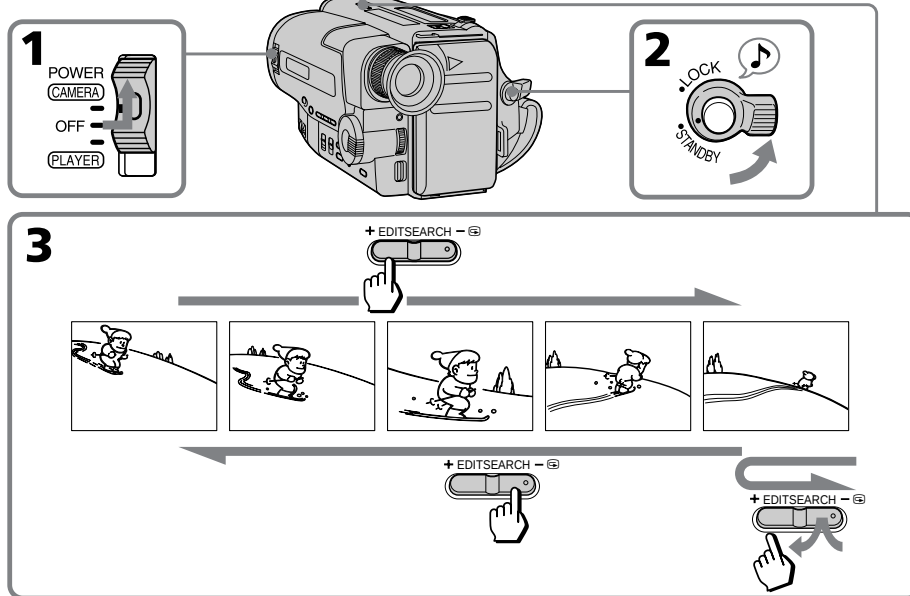
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Using EDITSEARCH, you can review the last recorded scene or check the recorded picture in the viewfinder.

- (1) While pressing the small green button on the POWER switch, set it to CAMERA.
- (2) Turn STANDBY up.
- (3) Press the – (⊖) side of EDITSEARCH 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 (**Edit Search**).

àÒÒÍ, Áfl EDITSEARCH, Ç° ÍÓÊÁÚÁ
ÔÁ ÀÒÍÓÚ ÁÚ, ÓÓÒÍÁ%Í, Á†ÔÈÒ†ÌÌÓ, Ò^ÀÌÚ
ËÌË Ò Ó, Â ËÚ, Á†ÔÈÒ†ÌÌÓÁËÁÓ. ‡ÊÂÌËfl ,
Ë%ÓÈÒ†ÌÌÓÁÌÁ.

- (1) Ç†ÊÊÌ†fl Í†ÌÁÌ, ÍÚ, ÁÁÌÁÌÚ, ÍÌÓÒÍÚ Í†
, °ÍÌ ~†ÚÁÌÁ POWER, ÚÓÚ†ÌÓ, ËÚÁ Â,, Ó,
ÓÓÍÓÊÁÌËÁ CAMERA.
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- (3) ÇÁÌ†%ÓÍ,, Ó Í†ÊÌËÚÁ ÓÚÓ ÓÌÚ – (⊖) ÍÌÓÒÍË
EDITSEARCH; ÓÓÒÍÁ%ÌËÁ ÍÁÒÍÓÍ, ÍÓ
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, ÓÓÓ ÓËÁ, Â%ÁÌ° (ÔÁ ÀÒÍÓÚ Á†ÔÈÒË).
ÑÁ ËËÚÁ ÓÚÓ ÓÌÚ – ÍÌÓÒÍË EDITSEARCH
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Í ÊÁÌ†ÁÌÓË Ò^ÁÌÁ. èÓÓÍÁ%Ífl Á†ÔÈÒ†ÌÌ†fl
~†ÓÚ, ·Ú%ÁÚ, ÓÓÓ ÓËÁ, Â%ÁÌ†. ÑÌfl
Ò Ó%, ËËÂÌËfl , ÔÁ Â%Á ËËÚÁ ÓÚÓ ÓÌÚ +
(ÍÓÍÚ†ÊÌ°È ÓÓÈÒÍ).



To stop playback
Release EDITSEARCH.

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

ÑÌfl ÓÓÚ†ÌÓ, ‡, ÓÓÓ ÓËÁ, Â%ÁÌËfl
Ç†ÊÌËÚÁ EDITSEARCH.

ÑÌfl Í†~Í† ÔÁ ÁÁ†ÔÈÒË
Ç†ÊÌËÚÁ START/STOP. èÁ ÁÁ†ÔÈÒ,
Í†~ÊÌ†ÁÚÓfl ÓÚ ÓÓÒÍÁ%ÌÁË Á†ÔÈÒ†ÌÌÓË ÓÓ~ÍË
ËÌË ÓÚ ÓÓ~ÍË, „%Á Ç° ÓÚÓÓÚËË
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, °ÚÓÍÌÌÓË Í†ÒÒÁÚÚ, È ÔÁ Á1Ó% ÍÁË%Ú
ÓÓÒÍÁ%ÌÁË Ò^ÁÌÓË, ÍÓÚÓ Û Ç° Á†ÔÈÒ†ÌË, È
ÒÍÁ%Ú. ~ÁË Ò^ÁÌÓË, ÍÓÚÓ Û Ç°
Á†ÔÈÒ°, ‡ÁÚÁ, ·Ú%ÁÚ ÓÍ†, Í°Í.

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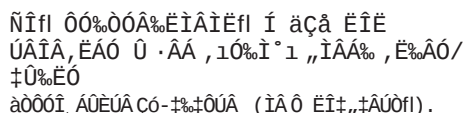
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ΕΥΙ ΘΕΥΑ Ι ° ΙΟΥ, ΙΑΑ%, ΕΘΟΟΙ ΑΥΗ
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 , Ε% ΑΟ, ΘΟ% ΘΑΑ% ΕΙΕΥΑ, Ε% ΑΟΙ° ΙΑ ΟΙ
 , ΙΟ% Ι° Ι, ΙΑΑ% Ι° Ι LINE Ι Ι ΥΑΙΑ, ΕΑΟ Α ΕΙΕ
 , Ε% ΑΟΙ°, ΙΕΥΟΟΥΙΑ, ΘΟ% ΘΑΑ% ΕΙΑΙΤΙΟΙ Ι
 ΥΑΙΑ, ΕΑΟ Ο. ΙΟΥ° ΙΟ, ΕΥΑ ΘΑΙΑΙΟΥ TV/VCR Ι Ι
 ΥΑΙΑ, ΕΑΟ Α, ΘΟΙΟΕΑΙΕΑ VCR, ΟΟΥ° ΙΟ, ΕΥΑ
 ΘΑΙΑΙΟΥ, ΙΟ% ΙΟ, Θ° ΟΕ, Ι° Ι° Ι° Ι° αça ,
 ΘΟΙΟΕΑΙΕΑ LINE.



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 (EUROCONNECTOR)

àòòóî, ÁûÊÚÂ Ò Êî‡,‡Ãî°È 21-Ú° , ÍÓ, °È
‡‡ÔÚÁ .



19

Playing back a tape

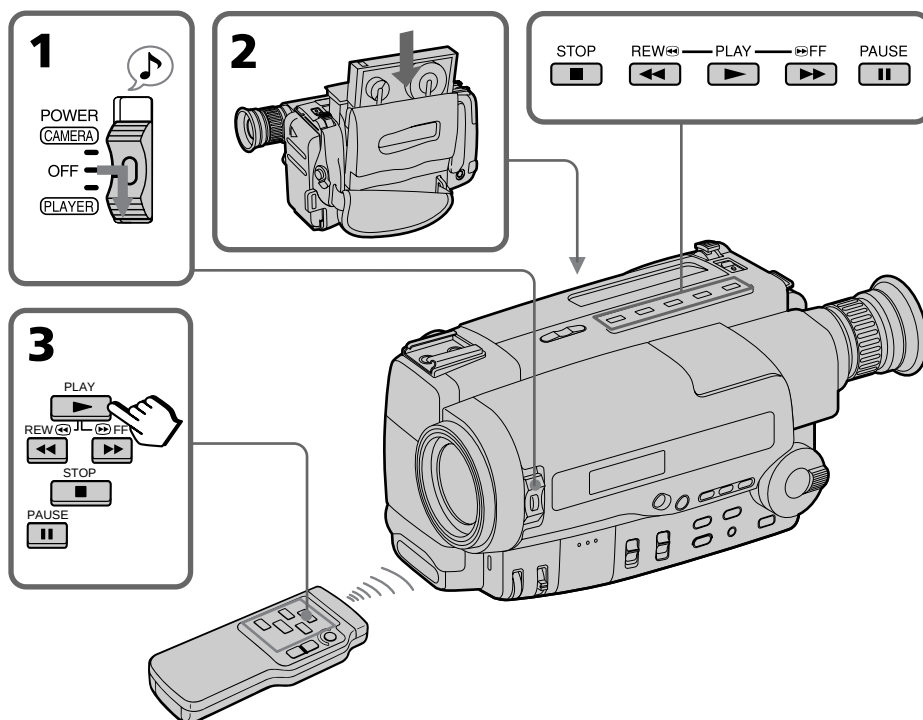
ÓÓÔÔ ÓËÁ, Â%ÂÏËÂ ÎÂÏÚ°

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

- (1) While pressing the small green button on the POWER switch, set it to PLAYER.
- (2) Insert the recorded tape with the window facing out.
- (3) Press ► to start playback.

Ç° ÍÓËÁÚÁ, °ÓÓÏÏËÚ, ÍÓÏÚ ÓÎ, Ì°Ë
Ô ÓÓÏÚÚ, °ÓÓÔ ÓËÁ, Â%ÂÏÏÚ, ÓËÁÓ. †ËÂÏËÏ, ,
Ë%ÓËÓÏ†ÚÁÏÂ. Ç° Ú†ÏËÂ ÍÓËÁÚÁ Ô%ÂÏ†Ú,
Ô ÓÓÏÚÚ Ì†~Í †ÏÂ ÚÁÏÂ, ËÁÓ †ÓÓÏÏÂ
ÔÓ%ÏÏ, ~ÂÏËÏ, Ë%ÂÓÏ†ÏÂ ° Í ÚÁÏÂ, ËÁÓ Ô
ËÏË äçä.

- (1) Ç†ËËÏ†Ï Î†ÏÂÏ, ÏÚ. ÁÂÏÏÚ. ÏÏÓÓÏÚ Ì†
, °ÏÏ, ~†ÚÁÏÂ POWER, ÓÂ Â%, ËÏ, ÚÁ Â,, Ó,
ÓÓÏÓËÂÏËÂ PLAYER.
- (2) ÇÓÚ†, ÚÁ Á†ÔËÓ†ÏÏÚ. Í†ÔÔÁÚÚ ÓÍÓ°ÍÓÏ,
Ó. †~ÂÏÏ°Ï Ì† ÚËÚ.
- (3) Ç†ËÏËÚÁ ►%ÏÏ Ì†~†Ï†
, °ÓÓÔ ÓËÁ, Â%ÂÏËÏ.



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

ÑÏÏÍ ÓÓÚ†ÏÓ, †, °ÓÓÔ ÓËÁ, Â%ÂÏËÏ Ì†ËÏËÚÁ
■.
ÑÏÏÍ ÚÓÏÓ ÂÏÏÓË ÓÂ ÂÏÓÚÏË ÎÂÏÚ° Ì†Á†%
Ì†ËÏËÚÁ ◀◀.
ÑÏÏÍ ÚÓÏÓ ÂÏÏÓË ÓÂ ÂÏÓÚÏË ÎÂÏÚ°, ÓÂ Â%
Ì†ËÏËÚÁ ▶▶.

Playing back a tape

ÇÒÒÔ ÓÉÁ,Â%ÂÏÊÂ ÎÂÏÚ°

Using the Remote Commander

You can control playback using the supplied Remote Commander.
Before using the Remote Commander, insert the R6 (size AA) batteries.

To erase the indicators

Press DISPLAY to erase the viewfinder screen indicators on the TV. To display the indicators, press again.

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 while advancing the tape 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 playback pause mode lasts for 5 minutes or more, the camcorder automatically enters stop mode.

Note on the lens cover

The lens cover does not open when the POWER switch is set to PLAYER. Do not open the lens cover manually. It may cause malfunction.

àòòóî, áó, ðïêâ òúî, ú±
%ëòú±î~ëóîîó,,ó úò ±, îâîëfi
Ç° îóëáúâ úò ±, îfiú, ,òòò óéá,Â%ÂÏÊÂÏ ò
ëòòóî, áó, ðïêâî ò ëî±,,±âîó,,ó òúî, ú±
%ëòú±î~ëóîîó,,ó úò ±, îâîëfi.
èâ Â%ëòòóî, áó, ðïêâî òúî, ú±
%ëòú±î~ëóîîó,,ó úò ±, îâîëfi, òú±,, úâ
·ú± Æëîë R6 (±âîâ óî ää).

Ñîfi òúë ±îëfi~í ±îî° 1 ëî%ëí±úó ó,
Ç±ëîëúâ îîóóîú DISPLAY %îfi òúë ±îëfi
ëî%ëí±úó ó, î±~í ±îâ, È%óëóî±úâîfi. Ñîfi
óúó· ±ëâîëfi ëî%ëí±úó ó, î±ëîëúâ äâ òîó, ±.

è±âîë~î°â Âëëî°, òòò óéá,Â%ÂÏÊfi
Ñîfi ò òòîóú ± îâòó%, ëëîó,,ó éá· ±ëâîëfi
(ò±úâ±, òòò óéá,Â%ÂÏÊfi)
Ç±ëîëúâ îîóóîú **II**, ó, Âîfi
,òòò óéá,Â%ÂÏÊfi. Ñîfi, óáó·îó, îâîëfi
,òòò óéá,Â%ÂÏÊfi î±ëîëúâ îîóóîú **II** ëîë **▶**.

Ñîfi óú°òí±îëfi éâî±âîó,,ó ú ±,, îâîú±
(òëòí éáó· ±ëâîëfi)
Ñâ ë±ú, î±ë±úóë îîóóîú **◀◀** ëîë **▶▶**, ó,
, Âîfi, òòò óéá,Â%ÂÏÊfi. Ñîfi, óáó·îó, îâîëfi
îó î±î, îó,,ó, òòò óéá,Â%ÂÏÊfi óúóúóúëú,
îîóóîú.

Ñîfi íóíú óîfi éáó· ±ëâîëfi î±, °òóíóë
óíó òúë, ó, Âîfi úòíó âîîóë óâ âîóúíë
, óâ Â%ëîë î±â±% (òëòí îâúó%óí ò °, òí±)
Ñâ ë±ú, î±ë±úóë îîóóîú **◀◀**, ó, Âîfi
óâ âîóúíë îâîú° î±â±% ëîë îîóóîú **▶▶**, ó,
, Âîfi óâ âîóúíë îâîú°, óâ Â%. Ñîfi
, óáó·îó, îâîëfi îó î±î, îó,,ó,
,òòò óéá,Â%ÂÏÊfi î±ë±ú, îîóóîú **▶**.

è ëîâ~±îëfi í, òòò óéá,Â%ÂÏÊë.
• Ç ±âîë~î°1 Âëëî±1, òòò óéá,Â%ÂÏÊfi î±
~í ±îâ îó,,úú óófi, éú, òfi óóíó° ë á, úí
·úâú ò ë,,îú âî.
• òòíë ò±úâ±, òòò óéá,Â%ÂÏÊfi ò óóíë±âúòfi
óíóíó 5 îëîúú ëîë ·óí, ^â, È%âóí±îâ ±
±, úóí±úë~âóíë óâ âîó%ëú, Âëëî
óú±îó, ±.

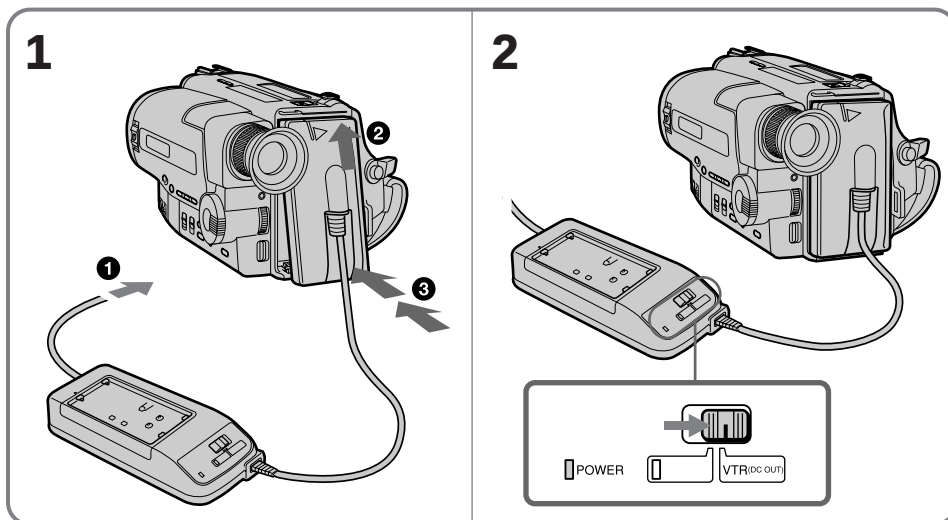
è ëîâ~±îëâ í í °~íâ ó·âíúë, ±
â °~í± ò·âíúë, ± îâ úúí °, ±âúòfi, àòíë
, °íî, ~±úâî, POWER úúú±îó, îâî,
óóíóëâîëâ PLAYER. Çâ úúí °, ±ëúâ í °~íú
ó·âíúë, ±, ò~îú, . úúó îóëáú ò ë, àòúë í
îâëò ±, îòóúë.

Using alternative power sources

Using the mains

To use the supplied AC power adaptor:

- (1) Connect the mains lead to the mains. 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. Make sure that you hear clicks twice.
- (2) Set the selector to VTR (DC OUT).



WARNING

The mains lead must only be changed at qualified service shop.

PRECAUTION

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

àòòóî, áó, ÷ìèâ ÷î, úâ ì÷úë, ì° ì
ëòúó~ìëíó, òëú÷ìëí

àòòóî, áó, ÷ìèâ ~îâíú ë~àòíóë òâúë

Ñîíí ëòòóî, áó, ÷ìëí ò ëí÷, ÷âíó,, ò òâúâ, ò,, ò
÷÷÷÷÷ ÷ òâ Æí. Úóí÷, , Æ ìí, ÷÷÷÷÷

(1) ëòòóî, áó, ÷ìèâ ò ò, ò% ~îâíú òëú÷ìëí ì
~îâíú ë~àòíóë òâúë. Çòù÷, , úâ , Æ ìíëë
íóíâ^ òòâ%ëíëúâí, ìóë òí÷÷÷÷÷ òâúâ, ò,, ò
÷÷÷÷÷ ÷ òâ Æí. Úóí÷, , Æ ìí, ÷÷÷÷÷
÷÷÷ Æëíóë ùòù÷íó, ò~íóë òó, Æ ìíóóúë.
Ç÷ëíëúâ ì÷ òòâ%ëíëúâí, ìú, òí÷÷÷÷÷,
ú÷í, ~úó.° òí÷ ò ëòòóî, áó, ÷ìèâ ò, ì÷~âëíó.
ì. Æëúâð, , ~úó Ç° %, ÷ë% ùòí~÷ìë
Æí~óí.

(2) ìòù÷íó, ëúâ òâíâíúó , òóíóëâíëâ VTR
(DC OUT).

Advanced operations
ìòó, Æ ~âíóù, ò, ÷÷÷ Æ òòâ ÷~ëë

ëëòÑìëëòùòçàð

ëâúâ, òë ò ò, ò% òíâ%òâú Æ÷ìâííú, ùóí, ìó ,
ì÷÷÷÷ òíóë ì, ÷ìëúë~ë ò, ÷ìíó,, ò
ò. òíóëë, ÷ìëí.

ëëòÑëëìòëòùòçàð

Ñ÷ìí°ë ÷òò÷ ÷ú ìâ òúíí, ~÷âúòí òú
ëòúó~ìëí÷ òëú÷ìëí òâ Æí. Úóí÷, òóí÷ òí
òòâ%ëíëúâ ì ~îâíú ë~àòíóë òâúë, %÷ëâ
âòíë ò÷ì ÷òò÷ ÷ú òúíí, ~âí.

Using alternative power sources

àððóí, áó, þíðá þí, úá ìþúð, ì°₁
 èóúó~íðíó, òéúþíðí

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, set the selector to VTR (DC OUT) and disconnect the mains lead. After about one minute, reconnect the mains lead.

To remove the adaptor

The adaptor is removed in the same way as the battery pack.

è ìíá~íðí í ìþíðó~íá POWER

- ãþíðó~íþ POWER ·ú%áú óóúþ, þú, òí „ó í~áè íþíóá-úó, áíí, %íðá àðíð þóðþ þú ·ú%áú óóóá%èíðì óóóíá èóóóí, áó, þíðí. ùúó í, ííáúðí íó ìþí, ì°₁.
- òòíð ìþíðó~íþ POWER íá áþ, ò þáúðí, ùóúþíó, éúá òáíáíúó, òóíðéáíðá VTR (DC OUT) è óóóá%èíðúá òáúá, òé ò ó, ò%. è ì·íðéúáí, íó ~á áá ò%íú ìðíúúú òíó, þ òó%òá%èíðúá òáúá, òé ò ó, ò%.

Ñíí òðííúðí þ%þóúá þ

Á%þóúá òíðíþáúðí úþíðí éá ó. þáóí, íþí è ·þúþ áèì°è ·íóí.

Using alkaline batteries

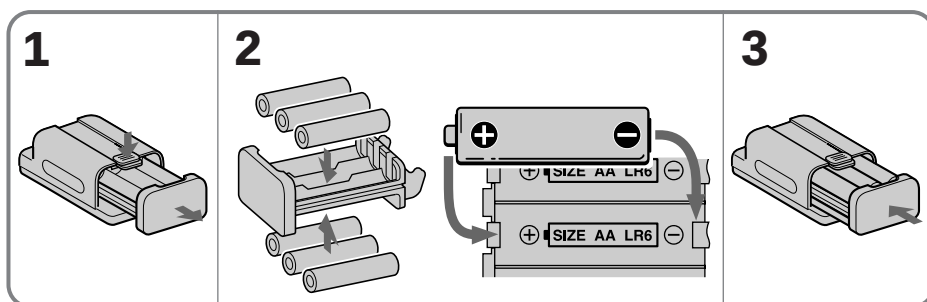
Use the supplied battery case and six LR6 (size AA) Sony alkaline batteries (not supplied).

- (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 camcorder in the same way as the battery pack.

àððóí, áó, þíðá ~áíó~ì°₁
 ·þúþ ááí

àððóí áóéúá ò èíþ, þáíú. ·þúþ áèíú. íþíá ùè~áóú ~áíó~ì°₁ ·þúþ ááí Sony LR6 (þáíá óíáá) (íá ò èíþ, þ.úðí).

- (1) èíðíðúá ·þúþ áèì°è %á èþúáí, ò ·þúþ áèíðé íþíá ·.
- (2) çóúþ, úá áóú, ~áíó~ì°₁ ·þúþ ááí, ·þúþ áèì°è %á èþúáí, òíá%ðí óóíáúíþí ìþ %á èþúáíá, òó%ú, á è%íí, ~úó ·þúþ áèíðé úóúþíó, íáí°, ò þ, èí, íóí ìþó þ, íáíðé.
- (3) ìóúþíó, éúá ·þúþ áèì°è %á èþúáí, òó ~áíó~ì°₁ è ·þúþ áèíþíðé.
- (4) ìóúþíó, éúá ·þúþ áèíú, íþíá ùóó ~áíó~ì°₁ è ·þúþ áèíþíðé íþ ·þúþ áèíú. ùóúþíó, ò~íú, òó, á ìíðóú, è%áóíþíá ·úþíðí éá ó. þáóí, íþí è ·þúþ áèì°è ·íóí.



Battery life

CCD-	Typical recording time	Continuous recording time
TR501E /TR502E	80 min.	150 min.
TR620E	70 min.	135 min.

- 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.

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

Use Sony 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.

The DC pack is removed in the same way as the battery pack.

CCD -	Ç Âĩřİ ÜÊË- ~İÔÊ Â±ÔÊË	Ç Âĩřİ ÎÂË Â- °, İÔÊ Â±ÔÊË
TR501E/ TR502E	80 min.	150 min.
TR620E	70 min.	135 min.

Nĭfĭ OĭfĭrUĕfĭ. †U† Âĕĭŏĕ Ĩ†ĭĀ °
 A†U† Âĕĭ†fĭ Ĩ†ĭĀ †ŏĭĕ†ĀUŏfĭ U†ĭĕĕ ĖĀ
 Ő. †AŐĭ, Ĩ†ĭĕ. †U† Âĕĭĕ. ĭŐĭ.
 ĕ ĖĀ†ĭĀĭĀ. †U† ÂĀĭ ĨĀ A†. Ő%. ŪĀ, °ĭŪŪ, ĖĀ
 ĖĖĖĖĖĖĖĖĖ. °. †U† ÂĕĭŪ. Ĩ†ĭĀ Ő% ĭfĭ
 Ő ÂĖŪ, †Âĕĭĕfĭ Ū Âĕĕĕ, †ŪĀ.

Ñîîfi ÒìfiÚĖfi .îóí† ôóòú. úóí†
 Âîóí ôóòú. úóí† ÒèĖî†Âúòfi ú†íĖî ÊÂ
 Òòòòò.óî, í†í Ė .†ú† ÂĖî°Ė .îóí.

$$100, \hat{A}^{-1} \hat{A}^{\dagger} \hat{U}, \hat{U}^{\dagger} \hat{A}^{\dagger} \hat{U} \hat{A} + \hat{E}$$

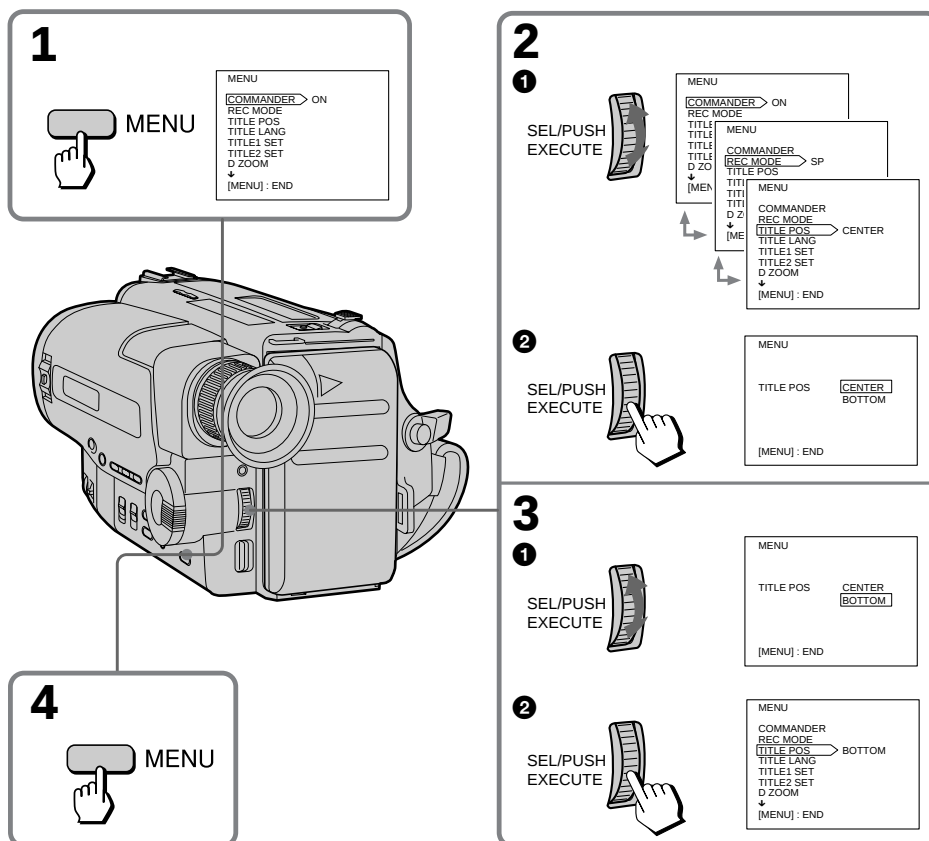
Changing the mode settings

ÀÁÏÂÏÂÏÊÂ ÂÊËÏÏ° 1 ÙÒÚÛÏÓ,ÓÍ

You can change the mode settings to further enjoy the features and functions of the camcorder.

- (1) Press MENU to display the menu.
- (2) Turn the control dial to select the desired item, and press the dial.
- (3) Turn the control dial to select the desired mode, and press the dial.
- (4) Press MENU to erase the menu display.

- Ç° ÍÔÊÁÚÂ ÊÁÏÂÏÍÚ, ÂÊËÏÏ° Â ÙÒÚÛÏÓ, ÍÊ , ÒÊÓÚÁÏÂ ÏÂÏ. %Ífl . ÓÍ, -Â,,Ó Ì±ÒÏ±Ê%ÂÏÊfl ÒÒÓ·ÂÏÏÒÓÚflÍÊ Ê ÙÒÏÏ^ÊflÍÊ ,Ê%ÂÓÏ±ÏÂ °.
- (1) Ç±ÊÏÊÚÂ MENU %Ífl ÓÚÓ. ±ÊÂÏÊfl ÏÂÏ. .
- (2) ÊÓ,Â ÏÊÚÂ Â,,ÙÏÊ Ó,Ó~Ï°Ê%ÊÓÏ %Ífl , °.Ó ± ÊÂÏ±ÂÏÔÊ ÙÒÚÛÏÓ, ÍÊ Ê Ì±ÊÏÊÚÂ %ÊÓÏ.
- (3) ÊÓ,Â ÏÊÚÂ Â,,ÙÏÊ Ó,Ó~Ï°Ê%ÊÓÏ %Ífl , °.Ó ± ÊÂÏ±ÂÏÔ,,Ó ÂÊËÏ±Ê Ì±ÊÏÊÚÂ %ÊÓÏ.
- (4) Ç±ÊÏÊÚÂ MENU %Ífl ÓÚÊ ±ÏÊfl ÊÏ%ÊÏ±^ÊÊ ÏÂÏ. .



Changing the mode settings

ÀÁÂÃÄÅ ÆÇÈÉÊËÌÍÎÏ ÑÒÓÔÕÖ×ØÙÚÛÜÝ

Selecting the mode setting of each item

Items for both CAMERA and PLAYER modes

COMMANDER <ON/OFF>

- Select ON when using the supplied Remote Commander for the camcorder.
- Select OFF when not using the Remote Commander.

BEEP* <ON/OFF>

- Select ON so that beeps sound when you start/stop recording, etc.
- Select OFF when you do not want to hear the beep sound.

Items for CAMERA mode only

REC MODE* <SP/LP>

- Select SP to record a tape in SP (standard play) mode.
- Select LP to record a tape in LP (long play) mode.

TITLE POS* <CENTER/BOTTOM>

- Select CENTER to centre the title in the picture.
- Select BOTTOM to position the title at the bottom of the picture.

TITLE LANG* <ENGLISH/FRANÇAIS/ESPAÑOL/PORTUGUÊS/DEUTSCH/NEDERLANDS/ITALIANO>

Select the language of the preset titles.

TITLE1 SET*/TITLE2 SET*

Store your own titles.

D ZOOM* <ON/OFF> (CCD-TR502E/TR620E only)

- Select ON to activate digital zooming.
- Select OFF to not use the digital zoom. The camcorder goes back to 15x zoom.

Ç°·À ÊÛÄ ON, ÆËËÏ ÌÍÊ%ÒÈ ÛÒÙ±ÌÓ, ÍË

ÌÒÙ±ÌÓ, ÍË %ÎÍ ÆËËÏ, CAMERA È PLAYER

COMMANDER <ON/OFF>

- Ç°·À ÊÛÄ ON, ÆËËÏÏ, ÁÓ, ±ÌËË Ò ÈÏ±, ±ÄÌÓ, Ò Í, Æ%ÄÓÍ±Ä Ä ÒÛ, Û± %ÈÒÙ±Ì`ÈÓÌÍ, Ò ÛÒ ±, ÍÄÏÏ.
- Ç°·À ÊÛÄ OFF, ÄÏË ÒÛ, Û %ÈÒÙ±Ì`ÈÓÌÍ, Ò ÛÒ ±, ÍÄÏÏ ÍÄ ÈÒÏÏ, ÄÛÄÛÏ.

BEEP* <ON/OFF>

- Ç°·À ÊÛÄ ON, ~ÚÓ·° ÄÏÏÄ Ì`Ä ÒÈ, Ì±Ì`Ä, Û±±Ë, ÍÓ, %± Ç° Ì±~È±ÄÛÄ/ÒÒÙ±±, ÍË, ±ÄÛÄÄ±ÒÈ, È Û.%.
- Ç°·À ÊÛÄ OFF, ÄÏË Ç° ÍÄ ÌÓÛÛÄ ÒÏ~±, ÄÏÏÄ Ì`È Ä, ÛÌÓ, ÒÈ ÒÈ, Ì±Ì.

ÌÒÙ±ÌÓ, ÍË ÛÓÍ, ÍÓ %ÎÍ ÆËËÏ CAMERA

REC MODE* <SP/LP>

- Ç°·À ÊÛÄ SP %ÎÍ Ä±ÒÈÒÈ, ÆËËÏÄ SP (ÒÒÙ±± ÛÌÓ, Ò, ÒÒÒ ÒÈÄ, Ä%ÄÏÏ).
- Ç°·À ÊÛÄ LP %ÎÍ Ä±ÒÈÒÈ, ÆËËÏÄ LP (Û%ËËÄÌÍ, Ò, ÒÒÒ ÒÈÄ, Ä%ÄÏÏ).

TITLE POS* <CENTER/BOTTOM>

- Ç°·À ÊÛÄ CENTER %ÎÍ ±ÒÒÏÍÓÈÄÏÏ Ì±%ÒÈÒÈ, ~ÄÌ Ä ÄÄÓ· ±ÈÄÏÏ.
- Ç°·À ÊÛÄ BOTTOM %ÎÍ ±ÒÒÏÍÓÈÄÏÏ Ì±%ÒÈÒÈ, ÍÄÄ ÄÄÓ· ±ÈÄÏÏ.

TITLE LANG* <ENGLISH/FRANÇAIS/ESPAÑOL/PORTUGUÊS/DEUTSCH/NEDERLANDS/ITALIANO>

Ç°·À ÊÛÄ ÍÄ`Í Ò Ä%, ± ÊÛÄÍ, ÌÒ ÛÒÙ±ÌÓ, ÍÄÏÏ`Ì Ì±%ÒÈÒÈ.

TITLE1 SET*/TITLE2 SET*

Ä±ÒÏËÏ±ËÄ Ç±`È ÒÒ·Ò, ÄÌÍ`Ì Ì±%ÒÈÒÈ.

D ZOOM* <ON/OFF> (ÚÓÍ, ÍÓ CCD-TR502E/TR620E)

- Ç°·À ÊÛÄ ON %ÎÍ ±ÍÛÈ, ÈÄ±`ÈÈ`È Ò, ÒÈ Û ±ÌÒÛÍ±`ÈÈ.
- Ç°·À ÊÛÄ OFF %ÎÍ, `ÍÍ`ÄÏÏ`È Ò, ÒÈ Û ±ÌÒÛÍ±`ÈÈ. ÇÈ%ÄÓÍ±Ä ±, ÓÄ, ±ÛÈÛÏ Í Û ±ÌÒÛÍ±`ÈÈ 15.

Advanced operations

ÌÒÙ, Ä`ÄÌÒ, Ó, ±Ì`Ä ÒÄ ±`ÈÈ

Changing the mode settings

ÀÁÂÃÄÅ ÆÇÈÉÊËÌÍÎÏÐ ÑÒÓÔÕÖ×ØÙÚÛÜÝÞßàáâãäå æçèéêëìíîïð ñòóôõö÷øùúûüýþÿ

REC LAMP* <ON/OFF>

- Select OFF when you do not want the camera recording/battery lamp at the front of the unit to light up.
- Normally select ON.

AUTO DATE* <ON/OFF>

- Select ON to record the date for 10 seconds after recording has started.
- Select OFF to not record the date.

CLOCK SET*

Reset the date or time.

DEMO MODE* <ON/OFF>

- Select ON to make the demonstration appear.
- Select OFF to make the demonstration not appear.

Notes on DEMO MODE

- DEMO MODE is set to STBY at the factory and the demonstration starts about 10 minutes after you set the POWER switch to CAMERA without inserting a cassette. Note that you cannot select STBY of DEMO MODE in the menu system.
- You cannot select DEMO MODE when a cassette is inserted in the camcorder.
- If you insert a cassette during the demonstration, the demonstration stops. You can start recording as usual. DEMO MODE automatically returns to STBY.

To look at the demonstration at once

Eject the cassette, if inserted. Select ON of DEMO MODE. Erase the menu display. The demonstration will begin. When you turn off the camcorder once, DEMO MODE automatically returns to STBY.

- * These settings are retained even when the battery is removed, as long as the lithium battery is in place.

REC LAMP* <ON/OFF>

- Ç°·À ÈÚÀ OFF, ÆÖÏÈ Ç° ÌÀ 10ÚÈÚÀ, ~ÚÓ·° Á±,,Ó ±Í±Ò, Í±ÍÒÓ~Í± Á±ÖÈÖÈ Í±ÌÀ ÓÈ/·±Ú± ÆÈÌÓ,,Ó·ÍÓÍ±, ±ÖÖÓÍÖÈÀÌ±Í± Ì± ÒÀ ÆÌÀÈ ÖÚÓ ÒÌÀ ±ÖÖ± ±Ú±.
- é·°~ÍÓ , °·È ±ÈÚÀ ON.

AUTO DATE* <ON/OFF>

- Ç°·À ÈÚÀ ON %ÍÍÌ Á±ÖÈÖÈ %±Ú° , ÚÀ~ÀÌÈÀ 10 ÒÀÍÚÌ%ÖÖÓÌÀ ÚÓ,,Ó, Í±Í·°Í± Ì±~±Ú± Á±ÖÈÖÈ.
- Ç°·À ÈÚÀ OFF, ~ÚÓ·° ÌÀ Á±ÖÈÖÈ°, ±Ú, %±ÚÚ.

CLOCK SET*

Ñ±ÚÚ ÈÌÈ , ÆÍÍÌ.

DEMO MODE* <ON/OFF>

- Ç°·À ÈÚÀ ON, ~ÚÓ·° ÓÓÍÌ,ÈÌ±Ò, %ÀÌÓÌÓÚ ±~ÈÍÌ.
- Ç°·À ÈÚÀ OFF, ~ÚÓ·° %ÀÌÓÌÓÚ ±~ÈÍÌ ÌÀ ÓÓÍÌ,ÍÍÌ±Ò .

è ÈÌÀ~±ÌÈÍÌ ÓÚÌÓÖÈÚÀÌ, ÌÓ ÆÈÈÌ±
DEMO MODE

- DEMO MODE ÒÚÚ±ÌÓ,ÌÀÌ, ÓÓÍÓÈÀÌÈÀ STBY Ì±Á±,Ó%À-ÈÀ,,ÓÚÓ,ÈÚÀÌÀ, È %ÀÌÓÌÓÚ ±~ÈÍÌ Ì±~ÌÀÚÒÍÌ Ò ÈÌÀ ÌÓ ~À ÁÀ 10 ÌÈÌÓÚ ÓÖÓÌÀ ÚÓ,,Ó, Í±Í Ç° ÒÚÚ±ÌÓ,ÈÚÀ , °ÍÌ~±ÚÀÌ, POWER , ÓÓÍÓÈÀÌÈÀ CAMERA ·ÁÀ ÒÚÚ±ÌÓ,ÌÈ Ì±ÒÀÚ°. é· ±ÚÈÚÀ,ÌÈÌ±ÌÈÀ, ~ÚÓ Ç° ÌÀ ÌÓÈÀÚÀ , °· ±Ú, STBY ÆÈÈÌ± DEMO MODE , ÒÈÖÚÀÌÀ ÌÀÌ.
- Ç° ÌÀ ÒÌÓÈÀÚÀ , °· ±Ú, DEMO MODE, ÆÖÏÈ , È%ÀÓÌ±ÌÀ Ò , ÒÚ±,ÌÀÌ± Ì±ÒÒÀÚ±.
- ÖÖÏÈ Ç° , ÒÚ±,ÈÚÀ Ì±ÒÒÀÚÚ , Ó , ÆÍÍÌ %ÀÌÓÌÓÚ ±~ÈÈÈ, ÚÓ%ÀÌÓÌÓÚ ±~ÈÍÌ·Ú%ÀÚ ÓÚÚ±ÌÓ,ÌÀÌ±. Ç° ÌÓÈÀÚÀ ÓÚÚ±ÌÓ,ÈÚ, Á±ÖÈÖÈ, Í±Í Ó·°~ÍÓ. DEMO MODE ±,ÚÓÍ±ÚÈ~ÀÖÏÈ ,À ÌÀÚÒÍÌ, ÓÓÍÓÈÀÌÈÀ STBY.

ÑÍÍÌ ÚÓ,,Ó, ~ÚÓ·° Ò ±ÀÚ ,À,,ÍÍÌÌÓÚ, Ì± %ÀÌÓÌÓÚ ±~ÈÈÈ.
àÀ,ÌÀÌÈÚÀ Ì±ÒÒÀÚÚ, ÆÖÏÈ ÓÌ±, ÒÚ±,ÌÀÌ±.
Ç°·À ÈÚÀ ON , DEMO MODE. èÓÚ ÈÚÀ ÈÌ%ÈÍ±~ÈÈÈ ÌÀÌ. Ç±~ÌÀÚÒÍÌ %ÀÌÓÌÓÚ ±~ÈÍÌ.
ÖÖÏÈ Ç° , °ÍÌ~±ÀÚÀ Ì±ÌÀ Ò, ÆÈÈÌ DEMO MODE ±,ÚÓÍ±ÚÈ~ÀÖÏÈ ,ÓÀ, ±~±ÀÚÒÍÌ, ÓÓÍÓÈÀÌÈÀ STBY.

- * Ñ±ÌÌ~À ÒÚÚ±ÌÓ,ÌÈ ÒÓÌ ±ÍÍÌ·ÚÒÍÌ, %±ÈÀ ÌÓ,,%± ÒÈÈÈ±ÀÚÒÍÌ·±Ú± ÆÈÌÈÈ·ÍÓÍ %Ó ÚÀÌ ÓÓ , ÓÓÍ± ÒÚÚ±ÌÓ,ÌÀÌ± ÌÈÚÈÀ,ÍÍÌ·±Ú± ÆÈÍ±.

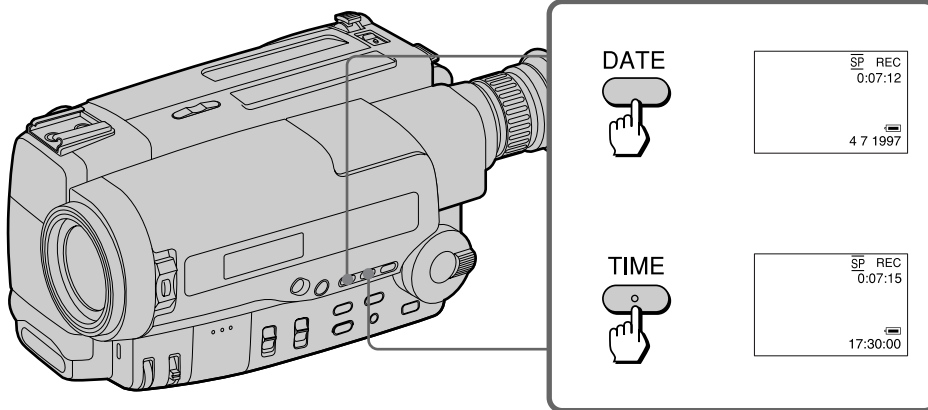
Recording with the date or time

á±ÔÈÒ Ò %±ÚÓÈ ÈÎÈ
, ÂÎÂÎÂÎ

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 is recorded.

The clock is set at the factory to London time for United Kingdom and to Paris time for the other European models.

èÂ Â%ÚÂÎ, Î±Í Ç° Î±~ÎÂÚÂ Â±ÔÈÒ, ÈÎÈ, Ó
, ÂÎÎ Â±ÎÈÒÈ Î±ÈÎÈÚÂ DATE ÈÎÈ TIME. Ç°
ÎÓÈÂÚÂ Â±ÔÈÒ±Ú, %±ÚÓ ÈÎÈ, ÂÎÎ,
ÓÚÓ. ±ÈÂÎÎÓÂ Î±~Í Î±ÎÂ ÚÂÎ ÈÎÈ,
, È%ÓÈÒÎ±ÚÂÎÂ, , ÎÂÓÚÂ Ò ÈÂÓ. ±ÈÂÎÈÂÎ. Ç°
ÎÂ ÎÓÈÂÚÂ Â±ÔÈÒ°, ±Ú, %±ÚÓ È, ÂÎÎ
Ó%ÎÓ, ÂÎÂÎÎÓ. Â ÓÎÂ ÈÎ%ÈÎ±ÚÓ ±%±Ú° ÈÎÈ
, ÂÎÂÎÈ, ÎÈÎ±ÎÓÈ ÈÎ%ÈÎ±ÚÓ Â±ÔÈÒ°, ±Ú, ÒÎ
ÎÂ ·Ú%ÂÚ. Ó±Ò° ÚÓÚ±ÎÓ, ÎÂÎ° Î± Â±, Ó%Â Î±
, ÂÎÎ áÓÎ%ÓÎ± %ÎÎ ÈÓÂ%ÈÎÂÎÎÓ,, Ó
äÓ ÓÎÂ, ÚÚ, ± È Î±, ÂÎÎ è± ÈÈ± %ÎÎ% Ú,, È₁
Â, ÓÓÂÈÒÈÎ ÎÓ%ÂÎÂÈ.



To stop recording with the date or time

Press DATE or TIME again. The date or time indicator disappears. The recording continues.

Note

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

ÑÎÎ ÓÓÚ±ÎÓ, ± Â±ÔÈÒÈ Ò %±ÚÓÈ ÈÎÈ
, ÂÎÂÎÂÎ
Ç±ÈÎÈÚÂ DATE ÈÎÈ TIME ÒÎÓ, ±. àÎ%ÈÎ±ÚÓ
%±Ú° ÈÎÈ, ÂÎÂÎÈ ÈÒ~ÂÂÎÂÚ. á±ÔÈÒ,
Ò Ó%ÓÎÈÈÚÒÎ.

è ÈÎÂ~±ÈÂ
Ç° ÎÂ ÎÓÈÂÚÂ Î±ÎÓÈÈÚ, Î±%ÔÈÒ, , Ó, ÂÎÎ
Â±ÔÈÒÈ %±Ú° ÈÎÈ, ÂÎÂÎÈ.

Selecting the START/STOP mode

Ç°·Ó ÂÊËÏ START/STOP

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) Set START/STOP MODE to the desired mode.

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

 **ANTI GROUND SHOOTING** : The camcorder records only while you press down START/STOP so that you can avoid recording unnecessary scenes.

5 SEC : When you press START/STOP, the camcorder records for 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.

Ç°·Ó, Ê°ÁÓÏÏÂ ð ÊÏÂÂÚ Â°Â%, ð ÂÊËÏÏ, Ï ÓÏÂ Ó°·°~ÏÓ, Ó ÂÊËÏÏ Â±ÓÓÏÏ±/ÓÓÚÏÏ, ð. ÙÛÊ ÂÊËÏÏ° ÓÓÁ, ÓÏÏ, Ù Ç°Ï ÒÏÏÏ, ÓÂ Ê. ÏÓ ÓÛÏÏÏ Ï±% Ó,, ÓÓÂ±, ðÏ, ÂÂÛÏ, Ù±ÚÂ ÊÊ, Ù, Ê°ÁÓÓ Ó,, ðÏÏ.

- (1) ÏÓÚÏÏ, ÊÚÂ START/STOP MODE Ï± ÊÂÏ±ÂÏ°Ê ÂÊËÏ.

 : á±ÓËÓ, Ï±ÊÏ±ÂÚÏÏ, ÏÓ, %± Ç° Ï±ÊËÏ±ÂÚÂ ÏÏÓÏÏ START/STOP Ê ÓÓÚÏÏ±, ÏÊ, ðÂÚÏÏ, ÏÓ, %± Ç° Ï±ÊËÏ±ÂÚÂ ÂÂ ÒÏÓ, ð (Ó°·°~Ï°Ê ÂÊËÏ).

 **ANTI GROUND SHOOTING** : ÇÊ°ÁÓÏÏÂ ð Ó ÓËÁ, Ó%ÊÚ Â±ÓËÓ, ÙÓÏ, ÏÓ, ÏÓ, %± Ç° %Â ÊÊÚÂ START/STOP, Ï±Ê±ÚÓÏ ÓÓÓÚÓÏÏÏÊÊ, Ù±Ï, ~ÚÓ°·° Ç° ÏÓ,, ÏÊ ÊÂ·ÂÊ±Ú, Â±ÓËÓÊ ÏÂÊÂÏ±ÚÂÏ, Ï° Ï°~ÓÊÁÓÓ, .

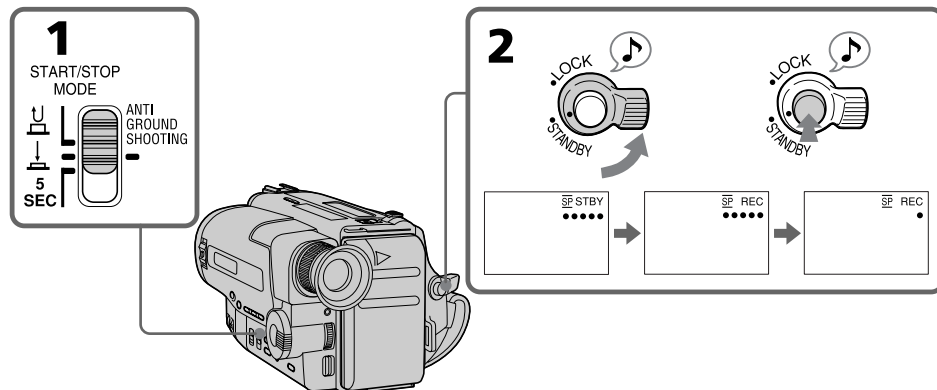
5 SEC : è Ê Ï±Ê±ÚËÊ START/STOP

, Ê°ÁÓÏÏÂ ð Ó ÓËÁ, Ó%ÊÚ Â±ÓËÓ, , ÚÂ·ÂÏËÁ 5 ÓÂÏÏÏ%, ð Â±ÚÂÏ ÓÓÚÏÏ±, ÏÊ, ðÂÚÏÏ ð, ÙÓÏ±ÚÊ°ÂÓÏË.

- (2) èÓ, Â ÏÊÚÂ **STANDBY**, Â Ï Ê Ï±ÊÏÊÚÂ START/STOP.

á±ÓËÓ, Ï±ÊÏ±ÂÚÏÏ.

ÓÓÏË Ç°, °·°Ê ðÂÚÂ ÂÊËÏ 5 SEC, ÓÏÏ, ÙÓ·ÂÏ ÒÏÏ, ÏÏ, ÙÓÏ, , Ê°ÓËÓÏ±ÚÂÏÂ. ÏÓ·ÏÊ ÊÓ·ÂÂ±, Ù ÊÂ ðÓ·ÂÚ± ÓÓ Ó%ÏÓÊ Â± ÓÂÏÏÏ%Ú, Ï±Ï ÓÓÏ±Â±Ï Ï± ÊÓÛÏÂ.



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.

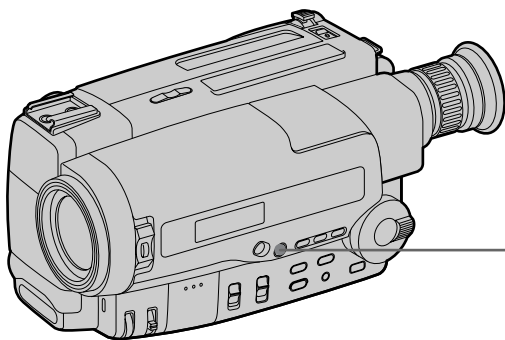
ÑÏÏ Ò Ó%ÏÂÏËÏ, ÂÏÂÏÊ Â±ÓËÓÊ, ÂÊËÏÂ Â±ÓËÓÊ 5 SEC

èÏÓ, ð Ï±ÊÏÊÚÂ START/STOP ÓÂ Â% ÚÂÏ, Ï±Ï, ÓÂ ÚÓ·ÏÊ ÊÓ·ÂÂÏÚ. á±ÓËÓ, Ó Ó%ÓÏËÊÚÓÏ Â° ÓÏÓÏÓ 5 ÓÂÏÏÏ% ÓÚ ÏÓÏÂÏÚ± Ï±Ê±ÏÏ START/STOP.

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 function.

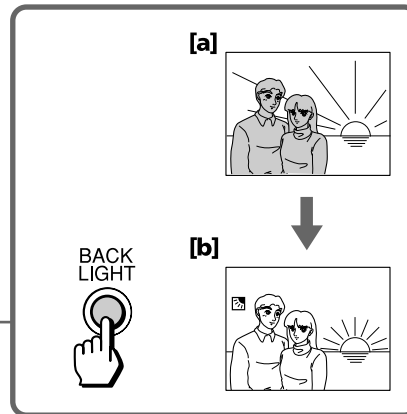
Press BACK LIGHT. The  indicator appears in the viewfinder.



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 function.

Press BACK LIGHT. The  indicator appears in the viewfinder.



- [a] Subject is too dark because of backlight.
[b] Subject becomes bright with backlight compensation.

After shooting

Be sure to release this adjustment condition by pressing BACK LIGHT again. The  indicator disappears. Otherwise, the picture will be too bright under normal lighting condition.

This function is also effective under following conditions:

- On 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.

Fade-in and fade-out

You can fade in or out to give your recording a professional appearance. When fading in, the picture gradually fades in from black while the sound increases. When fading out, the picture gradually fades to black while the sound decreases.

When fading in [a]

- (1) While the camcorder is in Standby mode, press FADER. The FADER indicator starts flashing.
- (2) Press START/STOP to start recording. The FADER indicator stops flashing.

When fading out [b]

- (1) During recording, press FADER. The FADER indicator starts flashing.
- (2) Press START/STOP to stop recording. The FADER indicator stops flashing, and then recording stops.

Ç, Â%ÂÎËÂ Ë, °, Â%ÂÎËÂ
ËÁÓ. ‡ÊÂÎËË

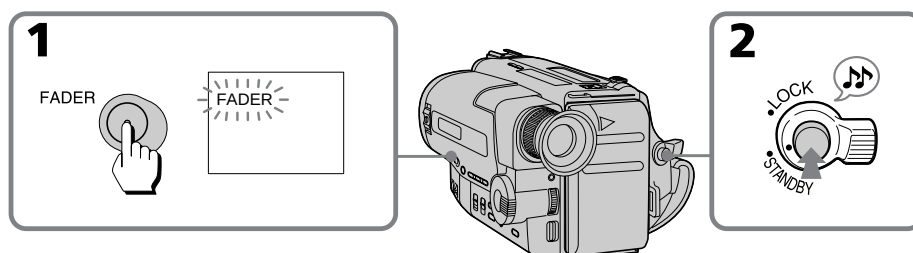
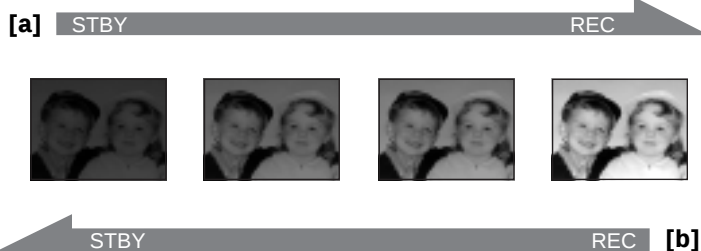
Ç° ÎÓÊÂÚÂ, , Ó%ËÚ. Ë, °, Ó%ËÚ.
ËÁÓ. ‡ÊÂÎËÂ, Ô Ë%‡, ‡Ë Ç‡ ÂË Á‡ÔËÒË
Ô ÓÚÂÒÒËÓË‡Î, Ì°Ë, Ë%.
è Ë, , Â%ÂÎËË ËÁÓ. ‡ÊÂÎËÂ ÓÓÓÚÂÓÂÎËÓ
, , Ó%ËÚË ÓÚ ~Â ÎÓ, Ó ËË ÎÓÂ‡Ë~ÂÓÎÓ, Ó Ò
Ó%ÎÓ, ÂÎÂÎË°Î ÓÓ, °~ÂÎËÂÎ Á, ÚË‡.
è Ë, °, Â%ÂÎËË ËÁÓ. ‡ÊÂÎËÂ ÓÓÓÚÂÓÂÎËÓ
, , Ó%ËÚË ÓÚ ~Â ÎÓ, Ó ËË ÎÓÂ‡Ë~ÂÓÎÓ, Ó Ò
Ó%ÎÓ, ÂÎÂÎË°Î ÓÓËËÂÎËÂÎ Á, ÚË‡.

ÑÎË, , Â%ÂÎËË ËÁÓ. ‡ÊÂÎËË [a]

- (1) äó, %‡, Ë%ÂÓÎ‡ÎÂ ‡ Î‡ÎÓ%ËÚË, ÂËËÎÂ
„ÓÚÓ, ÎÓÓËË, Ë‡ËËËÚÂ FADER. àË%ËÎ‡ÚÓ
FADER Ì‡~ÎÂÚ ËË, ‡Ú. .
- (2) Ç‡ËËËÚÂ START/STOP %ËË Ì‡~Î‡ Á‡ÔËÒË.
àË%ËÎ‡ÚÓ FADER ÔÂ ÂÓÚ‡ÎÂÚ ËË, ‡Ú. .

ÑÎË, , °, Â%ÂÎËË ËÁÓ. ‡ÊÂÎËË [b]

- (1) ÇÓ, ÂËË Á‡ÔËÒË Ì‡ËËËÚÂ FADER.
àË%ËÎ‡ÚÓ FADER Ì‡~ÎÂÚ ËË, ‡Ú. .
- (2) Ç‡ËËËÚÂ START/STOP %ËË ÓÓÚ‡ÎÓ, ‡
Á‡ÔËÒË. àË%ËÎ‡ÚÓ FADER ÔÂ ÂÓÚ‡ÎÂÚ
ËË, ‡Ú. Ë Á‡ÔËÒË. ÓÓÚ‡Î‡, ËË, ‡ÂÚËË.



Ç, Â%ÀËÄ Æ , ° , Â%ÀËÄ
ËÁÓ. ‡ÊÂÏÈfl

Nîfl ÓÚÎÀÌ² ÙÒÎÌ²ÊÊ,,Â%ÀÌÊfl/
 ,²,Â%ÀÌÊfl ÊÁÓ. ‡ÊÀÌÊfl
 ÊÀ Â% Ì²Ê²ÙÊÀÌ START/STOP Ì²ÊÌÊÚÀ
 ÎÒÓÎÚ FADER, ~ÚÓ.²,²ÎÌ.ÊÚ, ÊÌ%ÊÌ²ÚÓ
 FADER.

Ὀὐδὲ ὀύο. †Ê†Αὐὸφι ἔἰ%Εἴ†ύο %†ύ° ἔἰἔ
 , ἈἶἈἔ
 à%Εἴ†ύο %†ύ° ἔἰἔ , ἈἶἈἔ ἔ ἰ†%ὈἔὈἔ
 Ὄ†, ἰὸ ἰἈ , , Ὄ%Εὐὸφι ἔ ἰἈ , , Ὄ%Εὐὸφι.

00iE 0A Aii ~uAi, START/STOP
 MODE 00u+io, iAi, 00ioEaiEa
 1 EiE 5 SEC
 C- iA ioEaUa E00oi, Ao, +u, 00iiE-
 ,,AaAiEfi/, °, AaAiEfi EAo. +EAiEfi.

Advanced operations

100, A - A100, 0, 111° A 00A + EE

Enjoying picture effect

Ç°·Ó ~ÙÀÍÚ‡Ë
ÉÁÓ· ‡ÊÀÏËfl

Selecting picture effect

You can make pictures like those of television with the Picture Effect function.

Ç°·Ó ~ÙÀÍÚ‡ ÉÁÓ· ‡ÊÀÏËfl

Ç°·ÍÓÊÁÚÀ Ò%ÂÏ‡Ú, ÉÁÓ· ‡ÊÀÏËÄ, ÒÚËÍÄ
ÚÄ1, ~ÚÓ ÔÄ Ä%‡ Ú ÓÓ ÚÄÍÄ, È%ÂÏË, Ò
ÓÓÍÓ~, , ÒÚÍÍ~ÈÈ ~ÙÀÍÚÓ, ÉÁÓ· ‡ÊÀÏËfl.

[a]



[b]



[c]



MOSAIC [a]

the picture is mosaic.

MOSAIC [a]

àÁÓ· ‡ÊÀÏËÄ ·Ú%ÁÚ ÍÓÁ‡È~ÀÒÍËÏ.

SOLARIZE [b]

The light intensity is more clear, and the picture looks like a painting.

SOLARIZE [b]

Û ÍÓÚÚ, Ò, ÁÚ‡ ·Ú%ÁÚ ·ÓÍÄÄ flÒÍÓË, È
ÉÁÓ· ‡ÊÀÏËÄ ·Ú%ÁÚ , °,,Ífl%ÁÚ, Í‡Í Í‡ ÚËÏ‡.

B&W

The picture is monochrome (black and white).

B & W

àÁÓ· ‡ÊÀÏËÄ ·Ú%ÁÚ ÍÓÍÓ1 ÓÍ‡ÚË~ÀÒÍËÏ
(~Ä ÌÓ-·ÄÏ~Ï).

SEPIA

The picture is sepia.

SEPIA

àÁÓ· ‡ÊÀÏËÄ ·Ú%ÁÚ , ^, ÁÚÄ ÒÄÏËfl.

NEG. ART [c]

The colour of the picture is reversed.

NEG. ART [c]

ñ, ÁÚ ÉÁÓ· ‡ÊÀÏËfl ·Ú%ÁÚ ÌÄ,,‡ÚË, Ì°Ï.

Enjoying picture effect

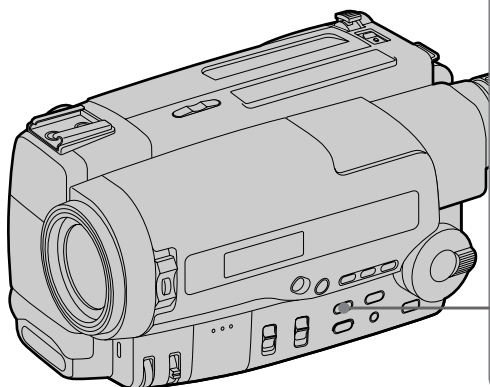
Ç±ÒÎ±Ê%ÂÏÊÂ ~ÙÙÂÍÚ±ÏË
ÉÁÓ· ±ÊÂÏËfl

Using picture effect function

While the camcorder is in Standby mode, press PICTURE EFFECT to select the desired Picture Effect mode.

àÒÒÓÎ, ÁÓ, ±ÏÊÂ ÙÙÏÍ~ËË
~ÙÙÂÍÚÓ, ÉÁÓ· ±ÊÂÏËfl

Ç ÚÓ, ÂÏfl, ÍÓ,,±, Ê%ÁÓÍ±ÏÂ ± Ï±10%ËÚ0fl ,
ÂËËÏÂ „ÓÚÓ, ÏÓÚË, Ï±ËÏËÚÁ ÏÏÓÍÚ
PICTURE EFFECT %Ïfl ÚÓ,,Ó, ~ÚÓ·°, °· ±Ú,
ÊÂÏ±ÂÏ°È ÂËËÏ ~ÙÙÂÍÚÓ, ÉÁÓ· ±ÊÂÏËfl.



PICTURE EFFECT



MOSAIC

SOLARIZE

B & W

SEPIA

NEG. ART

Advanced operations

ÏÓÓ, Â ~ÂÏÚ, Ó, ±Ï° Â ÓÓÂ ±~ËË

Returning to normal mode

Press PICTURE EFFECT until the Picture Effect indicator disappears.

Note on the picture effect

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

ÇÓÁ, ±Ú Í ÏÓ Ï±Ï, ÏÓÍÚ ÂËËÏÚ
Ç±ÊËÏ±ËÚÁ ÏÏÓÍÚ PICTURE EFFECT, ÓÓÍ±
ËÏ%ËÏ±ÚÓ ~ÙÙÂÍÚÓ, ÉÁÓ· ±ÊÂÏËfl ÏÂ
ÈÒ~ÂÂÏÂÚ.

è ÊÏÂ~±ÏÊÂ Í ~ÙÙÂÍÚ±Ï ÉÁÓ· ±ÊÂÏËfl
ÒÓÏË Ç°, °ÏÏ, ~ËÚÁ ÒËÚ±ÏÊÂ, Ê%ÁÓÍ±ÏÂ ±
, ÓÁ, ±~±ÁÚ0fl, ÏÓ Ï±Ï, Ï°È ÂËËÏ.

Using the wide mode function

àòòóî, áó, ÷îëâ ùîíí^ëë
 ÷ë óíóúó ì÷úíó,,ó âêëî÷

– CCD-TR502E/TR620E only

– íóî, íó CCD-TR502E/TR620E

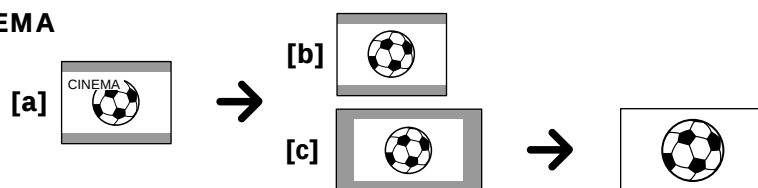
Selecting the desired mode

ç°·ó êâî÷âîó,,ó âêëî÷

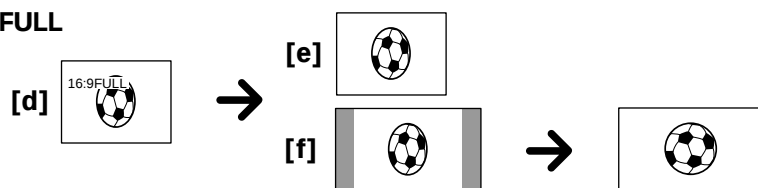
You can record a cinemalike picture (CINEMA) or a 16:9 wide picture to watch on the 16:9 wide-screen TV (16:9FULL).

ç°·íóêâúá á÷òë°, ÷ú, éáó· ÷êâîëâ í÷í, íëíóúá÷ú â (CINEMA) ëîë ÷ë óíóúó ì÷úíóâ éáó· ÷êâîëâ 16:9%ífl ò òòíóú ÷÷ ÷ë óíó í ÷îíóí úâîâ, éáó â 16:9 (16:9FULL).

CINEMA



16:9FULL



CINEMA

Black bands appear at the top and the bottom of the screen. The viewfinder [a] and a normal TV screen [b] look wide. You can also watch the picture without black bands on a wide-screen TV [c].

CINEMA

óâ ì°â òòíóò° òòfl, ífl, úòfl ò, â ìú ë òíëáú ~í ÷÷ë, ,ë%óëòí÷úâîâ [a] ë ó.~ì°ë úâîâ, éáéóíí°ë ~í ÷÷ [b], °,,ífl%ëú, í÷í ÷ë óíëë. ç° ú÷íëâ íóëáúâ òíóú áú, éáó· ÷êâîëâ ·ââ ~â ì° òòíóò ÷÷ ÷ë óíó í ÷îíóí úâîâ, éáó â [c].

16:9FULL

The picture in the viewfinder [d] or on a normal TV [e] is horizontally compressed. You can watch the picture of normal images on a wide-screen TV [f].

16:9FULL

àáó· ÷êâîëâ, ,ë%óëòí÷úâîâ [d] ëîë ÷÷ íó ÷÷, íóí úâîâ, éáó â [e] ·ú·áú òë÷úó òó,,ó éáóíú÷íë. ç° íóëáúâ òíóú áú, íó ÷÷, íóâ éáó· ÷êâîëâ ÷÷ ÷ë óíó í ÷îíóí úâîâ, éáó â [f].

Using the wide mode function

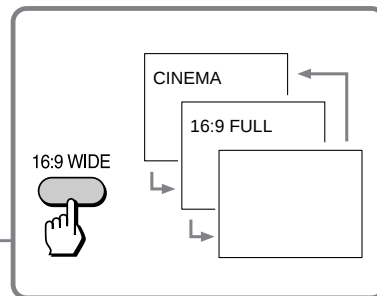
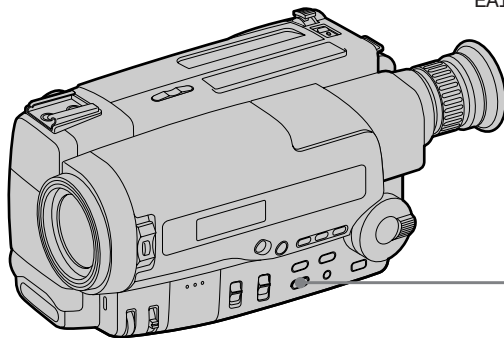
àòòóî, áó, ÷îêâ ùùîí~êê
~ê óíóúó ï÷úíó,,ó âêêî÷

Using the wide mode function

While the camcorder is in Standby mode, press 16:9 WIDE repeatedly so that the desired mode indicator appears.

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~ê óíóúó ï÷úíó,,ó âêêî÷

àó,,÷,ê%áóí÷îâ ÷î÷íó%êúòñ, âêêîâ
,,óúó,íóóúê, óó,úó ïó ï÷êêî÷êúâ 16:9 WIDE
%ó úáí óó, òóí÷ îâ òóñ,êúòñ êî%êí÷úó
êáí÷îíó,,ó âêêî÷.



To cancel wide mode

Press 16:9 WIDE repeatedly until the wide mode indicator disappears.

To watch the tape recorded in wide mode

To watch the tape recorded in CINEMA mode, set the screen mode of the wide-screen TV to zoom mode. To watch the tape recorded in 16:9FULL mode, set it to full mode. For details, refer to the instruction manual of your TV. Note that the picture recorded in 16:9FULL mode looks compressed on a normal TV.

Notes on wide mode

- You cannot cancel the wide mode during recording.
- If wide mode is set to 16:9FULL, the SteadyShot function does not work and the (📷) indicator flashes.
- When you record in 16:9FULL mode, the date or time indicator will be widened on the wide-screen TV.
- If you dub a tape, the tape is copied in the same mode as the original recording.
- The wide mode is cancelled automatically 5 minutes after you remove the power source.

Ñîñî óúíâì° ~ê óíóúó ï÷úíó,,ó âêêî÷
èó,úó ïó ï÷êêî÷êúâ 16:9 WIDE %ó úáí óó,
òóí÷ êî%êí÷úó ~ê óíóúó ï÷úíó,,ó âêêî÷
îâêò~ââíâ.

Ñîñî ò óòíóú ÷ îâíú°, á÷òêò÷îíóê,
~ê óíóúó ï÷úíóî Æêêîâ
Ñîñî ò óòíóú ÷ îâíú°, á÷òêò÷îíóê, âêêîâ
CINEMA, ùóú÷íó,êúâ âêêî~í ÷î÷
~ê óíó° í ÷îíó,,ó úáíâ,êáó ÷ ÷î÷ âêêî
í÷ò ù÷.ê ò, ÷îêñ. Ñîñî ò óòíóú ÷ îâíú°,
á÷òêò÷îíóê, âêêîâ 16:9FULL, ùóú÷íó,êúâ
â,,ó ÷ òóííó° í ÷îí°ê âêêî÷. èó% ò.íóóúê
óóú êúâ, ùíó,ò%óú,â òó° ïóóíó÷ú÷êê
ç÷~â,,ó úáíâ,êáó ÷.
á÷íâú, úâ, ~úó êáó. ÷êâíêâ, á÷òêò÷îíóâ,
âêêîâ 16:9FULL, , °,,îñ%êú òê÷ú° ÷ ÷î÷
ó.°~íóí úáíâ,êáó â.

è êíâ~÷îêñ í ~ê óíóúó ï÷úíóíú âêêîú
• çó, âíñ á÷òêòê ç° îâ òíóêâúâ óúíâíêú,
~ê óíó° í ÷îí°ê âêêî.
• òòíê ~ê óíóúó ÷îúí°ê âêêî ùóú÷íó,íâí
í÷ 16:9FULL, ùóíí°êñ ùóóóê~ê,òê ò° áííê
îâ ð%âú ÷ ð%âú, ê êî%êí÷úó (📷) ð%âú
íê,,íú.
• è ê á÷òêòê, âêêîâ 16:9FULL êî%êí÷úó
%÷ú° êíê, âíâíê ð%âú ÷ò°ê âíí°í ÷î÷
~ê óíó° í ÷îíóí úáíâ,êáó â.
• òòíê ç° óóú~âóú,íñâúâ òâ âá÷òêò,
íâíú°, úó íâíú÷ ð%âú òâ âá÷òêò÷î÷,
ú÷íóí êâ âêêîâ, ÷îí°ê òóíóí÷îñ á÷òêò.
• òê óíóúó ÷îúí°ê âêêî ð%âú
÷,úóí÷úê~âóíê óúíâíâí ~â ââ 5 íêíúú
óóóíâ òíñúêñ êóóó° íêí÷ òêú÷íêñ.

Advanced operations

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Focusing manually

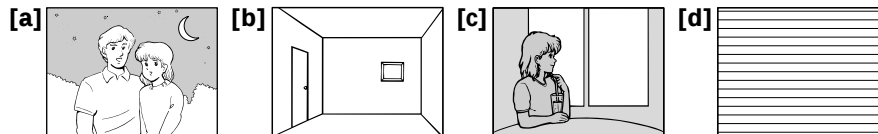
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

When to use manual focus

In the following cases you should obtain better results by adjusting the focus manually.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.



- Insufficient light **[a]**
- Subjects with little contrast — walls, sky, etc. **[b]**
- Too much brightness behind the subject **[c]**
- Horizontal stripes **[d]**
- Subjects through frosted glass
- Subjects beyond nets, etc.
- Bright subject or subject reflecting light
- Shooting a stationary subject when using a tripod

- 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. **[a]**
- 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. **[b]**
- 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. **[c]**
- 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. **[d]**
- 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.
- 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.
- 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.
- 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

Focusing manually

ιόίϋòē ó, í†, ò~ìϋ.

Focusing manually

When focusing manually, first focus in telephoto before recording, and then reset the shot length.

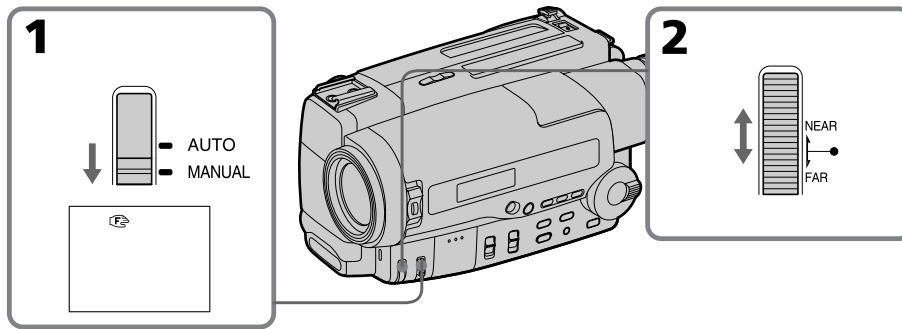
- (1) Set FOCUS to MANUAL. The  indicator appears.
- (2) Turn the focus dial to focus on the subject.
Turn to the NEAR side to focus on a nearer object.
Turn to the FAR side to focus on a farther object.

ēϋ~ì†fl òóíϋòē ó, í†

è ē ò~ìòē òóíϋòē ó, íáòòá, †òá Æ
Á†òēò, , °òóììēϋ òóíϋòē ó, íϋ, Æēēíá
úáíáúóúó, †á†úáì òòú†ìó, ēϋ, †òòúóíìēá
%ífl ò~áííē.

- (1) ìòú†ìó, ēúá FOCUS ì† MANUAL.
èófl, ēúòfl ēì%ēí†úó .

- (2) èó, á ìēúá %ēòí òóíϋòē ó, íē %ífl úó,, ó,
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èó, á ìēúá %ēòí, òúó óíϋ NEAR, ~úó. °
, °òóììēϋ òóíϋòē ó, íϋ ì† ·ìēēìēē
ó. ° áíú.
èó, á ìēúá %ēòí, òúó óíϋ FAR, ~úó. °
, °òóììēϋ òóíϋòē ó, íϋ ì† %†ì, ìēē
ó. ° áíú.



To return to the autofocus mode

Set FOCUS to AUTO. The  indicator goes out.

Shooting in relatively dark places

Shoot at wide-angle after focusing in the telephoto position.

Ñífl, óá, †ú† í Æēēíϋ
†, úóí†úē~áòíóē òóíϋòē ó, íē
ìòú†ìó, ēϋ, FOCUS ì† AUTO. àì%ēí†úó 
ēò~ááíáú.

ē~áíí†, óúìòòēúáí, íó úáíì°ì íáòú†ì
ç°òóììēúá ò~áííú, òóíóēáìēē~ē óíó,, ó
ú,, †† òóóíá òóíϋòē ó, íē, òóíóēáìēē
úáíáúóúó.

Advanced operations
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Using the PROGRAM AE function

ÀÒÓÔÎ ÁÓ, ÌËÄ ÛÛÏÎ~ËË PROGRAM AE

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.

Ç° ÌÓËÄÜÄ, °· ÌÛ, Ó%ËÏ ÄÄ Ü ÄÏ ÄËËÏÓ, PROGRAM AE (Ì, ÛÓÏÌÛË~ÄÒÍÓË Ò· ÄÏËË), ÒÓÓÜ, ÄÜÜÜ, ËË Ò ÇÌ~ÄË ÒËÜÜÌ~ÄË. ÒÒËË Ç° ÈÒÓÓÎ, ÄÜÄÜÄ PROGRAM AE, Ç° ÌÓËÄÜÄ ÄÌÖÄ~ÌÛÏÄÜ, °ÒÓÍÓÒÍÓ ÒÓÜÍÓÄ%ÄËÜÜ, ÄÄ ÈËË ÌÓ~Ì·Ä, È%°.

Selecting the best mode

Select the best mode by using the following examples.

Ç°·Ó ÌÌËÏÛ~Ä,,Ó ÄËËÏÌ

Ç°·Ä ÈÜÄ ÌÌËÏÛ~ËË ÄËËÏ, ÈÒÓÓÎ, ÄÜÜ ÒÍÄ%Ü, ÄÄ Ò ÈÏÄ °.



Sports mode

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

ÄËËÏ ÒÓÓ ÜÌ

- ÈÒÓ ÜË, Ì·Ä Ò·ÄÌ°, ÌÄ ÒÓÍÄ~ÄËËÏ, ÌÌÖ ÈÏÄ, ÜÜÜ·ÓÏ, ÜÄËËËÒ, „ÓÏ, ÜÈËË Ì·ËË
- ÄÌË% ÌÛÜ ÄÄ%, ÈËÜ~Ä,,ÒÒÏ Ì, ÛÓÍÓ·ËËÏ

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

ÄËËÏ, °ÒÓÍÓÒÍÓ ÒÓÜÍÓ,,Ó ÄÌÜ,Ó Ì

- ÇÄÏÌË,Ó, ÄËËË,, °,,„ÓÏ, ÜÈËË ÜÄËËËÒ, ÌÓ Ó~Ü, ÒÓ,,Ó%Ü Ò~ÄÜËË ÄÌÖÄ~ÌÛÏÄËÄË ÌËÌ~Ì
- ÇÓÓÓ ÓËÄ,Ä%ÄËÄÄ ÒÓ Ä%ÄÏÄËË~Ì Ò~ÄÌ Ò, °ÒÓÍÓÒÍÓ ÒÓÜÍ°Ë%, ÈËÄËËËËË Ò~ÄÜËË, ÄÄËËË ÄÄÓ· ÌËÄËÄË

Twilight mode

- Recording night views, neon signs or fireworks

ÄËËÏ ÒÜÏÄ ÄÏ

- ÄÌÖËÜ, ÌÓ~Ì°Ì,È%Ó,, ÌÄÓÍÓ,,°Ì ÄËËÌ~ËË ÜÄËÄ,Ä ÌÓ,

Using the PROGRAM AE function

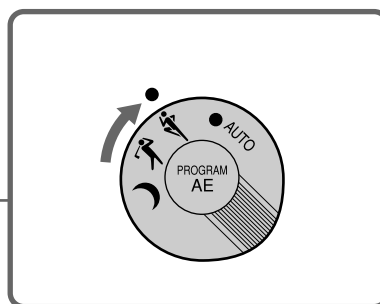
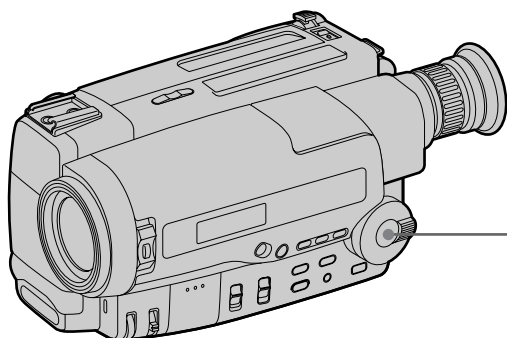
àòòóî, áó, ÷îëâ ùòîí~ëë
PROGRAM AE

Using the PROGRAM AE function

While the camcorder is in Standby mode, set the mark of the desired mode to ● mark above the PROGRAM AE dial.

àòòóî, áó, ÷îëâ ùòîí~ëë
PROGRAM AE

Ç úó, Æíí, íó, ÷, Ë%Àóí÷íÄ ÷ ÷÷1ó%Ëúòíí, ÆËËíÄ,,óúó,íóúË, úú÷íó,Ëú, Äí÷í ËÄí÷Äíó,,ó ÆËËí÷ ÷ Äí÷í ●, ÷òóóíóËÄíí~Ë ÷÷% Ëòíóí PROGRAM AE.



Returning to automatic mode

Turn PROGRAM AE until the PROGRAM AE indicator disappears.

Ç óá, ÷ú í ÷, úóí÷úË~Äòíóíú ÆËËíú èó,ó ÷~Ë,÷ËúÄ%Ëòí PROGRAM AE, òóí÷ ìÄ Ëò~ÄÄíÄú Ëí%Ëí÷úó PROGRAM AE.

Note on shutter speed

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

Sports mode – between 1/50 to 1/500

High-speed shutter mode – 1/4000

Twilight mode – 1/50

AUTO mode – 1/50 (or 1/100 when the Steady Shot is on – CCD-TR620E only)

è ËíÄ~÷íËÄ í òíó òúË Ä÷ú,ó ÷ èíó òú, Ä÷ú,ó ÷, ÷÷Ë%óí ÆËËíÄ PROGRAM AE íí,ííÄúòíí òíÄ%ú,~Äè: èóó úË,ì~Ë ÆËËí – ÌÄË%ú 1/50 Ë 1/500 èÄËËí,~òóíóòíó òúúíó,,ó Ä÷ú,ó ÷ – 1/4000 èÄËËí òúíÄ Äí – 1/50 èÄËËí AUTO – 1/50 (ËíË 1/100, ÄòíË ,íí,~Äí÷ ùòíí~Ëí úúóóË~Ë,òË ò~ÄííË – úóí, íó CCD-TR620E)

Advanced operations

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Releasing the STEADY SHOT function

éÚÍÎ, ~ÂÎÊÂ ÛÛÎÍ^ÊÊ STEADY SHOT

– CCD-TR620E only

When you shoot, the  indicator appears. This indicates that the SteadyShot function is working and the camcorder compensates for camera-shake.

You can release the SteadyShot function when you do not need to use the SteadyShot function. Do not use the SteadyShot function when shooting a stationary object with a tripod.

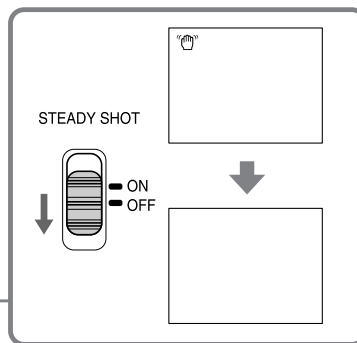
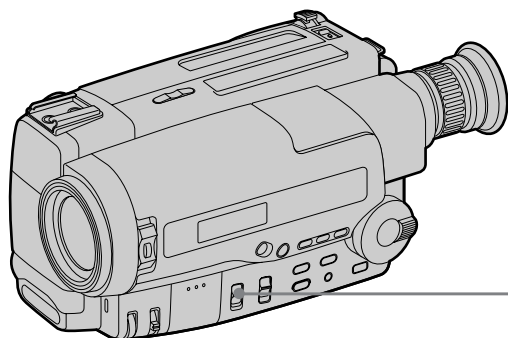
Set STEADY SHOT to OFF. The  indicator goes off.

– íÓÎ, ÍÓ CCD-TR620E

äÖ,,%‡ Ç° Ò ÓÊÁ,Ó%ÊÚÁ Ò`ÂÍÍÚ, ÓÓfl, íflÁÚÓfl ÈÌ%ÊÍ‡ÚÓ . ÛÚÓ ÚÍ‡Á°, ‡ÁÚ, ~ÚÓ ÛÛÎÍ^ÊÊ ÛÚÓÓÊ~Ê, ÓÊ Ò`ÂÍÍÊ ‡·ÓÚ‡ÁÚ %Ífl ÍÓÍÓÁÍÒ‡^ÊÊ% ÓÊ‡ÎÊfl, Ê%ÁÓÍ‡ÎÁ °.

Ç° ÍÓÊÁÚÁ ÓÚÍÎ, ~ÊÚ, ÛÛÎÍ^ÊÊ, ÛÚÓÓÊ~Ê, ÓÊ Ò`ÂÍÍÊ, ÂÒÎÊ Ç‡Í ÎÁ Ú Á·ÚÁÚÓfl ÊÒÓÓÍ, ÁÓ, ‡Ú, ~ÚÓ ÛÛÎÍ^ÊÊ. ÇÁ ÊÒÓÓÍ, ÁÚÊÚÁ ÛÛÎÍ^ÊÊ, ÛÚÓÓÊ~Ê, ÓÊ Ò`ÂÍÍÊ Ò Ê Ò`ÂÍÍÁ ÎÁÒÓ%, ÊÊÍÓ,,Ó Ó·`ÂÍÚ‡ Ò ÓÓÍÓ~, , Ú ÂÍÓ,,Ê.

ìÒÚ‡ÍÓ, ÊÚÁ STEADY SHOT Ì‡ OFF.
àÌ%ÊÍ‡ÚÓ  ÓÓ,,‡ÒÎÁÚ.



To activate the SteadyShot function again

Set STEADY SHOT to ON.

ÑÍfl ‡ÍÚÊ, ÊÁ‡^ÊÊ ÛÛÎÍÊÊ ÛÚÓÓÊ~Ê, ÓÊ Ò`ÂÍÍÊ òÍÓ, ‡
ìÒÚ‡ÍÓ, ÊÚÁ STEADY SHOT Ì‡ ON.

Notes on the steady shot

- The SteadyShot will not correct excessive camera-shake.
- When you switch the SteadyShot function on or off, the exposure may fluctuate.
- When you record in 16:9FULL mode, the SteadyShot function does not work and the  indicator flashes.

- è ÊÎÁ~‡ÎÊfl Í ÛÛÎÍ^ÊÊ ÛÚÓÓÊ~Ê, ÓÊ Ò`ÂÍÍÊ
- ìÛÎÍ^ÊÊfl ÛÚÓÓÊ~Ê, ÓÊ Ò`ÂÍÍÊ ÎÁ ÒÍÓÊÁÚ ÓÚÍÓ ÂÍÚÊ Ó, ‡Ú, ~ ÂÁÎÁ ÍÓÁ% ÓÊ‡ÎÊÁ, Ê%ÁÓÍ‡ÎÁ °.
- è Ê, ÎÎ, ~ÂÍÊÊ ÊÎÊ, ° ÍÎ, ~ÂÍÊÊ ÛÛÎÍ^ÊÊ STEADY SHOT ~ ÍÓÓÓÁÊ^Êfl ÍÓÊÁÚ ÍÓÍÁ·‡Ú, òfl.
- ÒÒÎÊ Ç°, °ÓÓÍflÁÚÁ Á‡ÒÊÒ, , ÂÊÊÎÁ 16:9, ÛÛÎÍ^ÊÊfl ÛÚÓÓÊ~Ê, ÓÊ Ò`ÂÍÍÊ ÎÁ ‡·ÓÚ‡ÁÚ, ‡ ÈÌ%ÊÍ‡ÚÓ  ÎÊ,,‡ÁÚ.

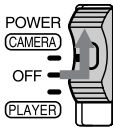
Superimposing a title

You can select from eight preset titles and two titles you made to superimpose it on the picture during recording. Each time you press TITLE, the preset titles appear one by one. You can also select the language and position of the titles in the menu system.

Selecting the language

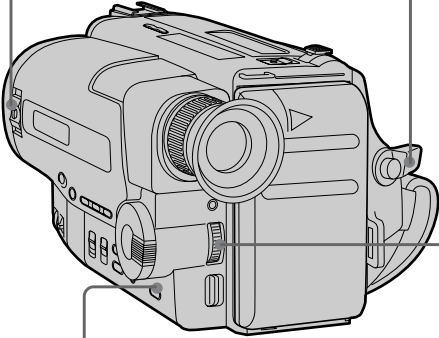
- (1) Set the POWER switch to CAMERA.
- (2) Turn STANDBY up.
- (3) Press MENU to display the menu.
- (4) Turn the control dial to select TITLE LANG, then press the dial.
- (5) Turn the control dial to select the desired language, then press the dial.
- (6) Press MENU to erase the menu display.

1



2





3, 6



4

1



MENU
 COMMANDER
 REC MODE
 TITLE POS
 TITLE LANG → ENGLISH
 TITLE1 SET
 TITLE2 SET
 D ZOOM
 [MENU] : END

2



MENU
 [ENGLISH]
 FRANÇAIS
 ESPAÑOL
 PORTUGUÊS
 TITEL LANG
 DEUTSCH
 NEDERLANDS
 ITALIANO
 [MENU] : END

5

1



MENU
 ENGLISH
 FRANÇAIS
 [ESPAÑOL]
 PORTUGUÊS
 TITEL LANG
 DEUTSCH
 NEDERLANDS
 ITALIANO
 [MENU] : END

2



MENU
 COMMANDER
 REC MODE
 TITLE POS
 TITLE LANG → ESPAÑOL
 TITLE1 SET
 TITLE2 SET
 D ZOOM
 [MENU] : END

Advanced operations

Superimposing a title

ç†İÖÊÂİÊÂ İ†%ÔÊÒË

Using titles

To superimpose from the beginning

- (1) Set 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 superimpose the title.
- (5) Press TITLE when you want to turn off the title.

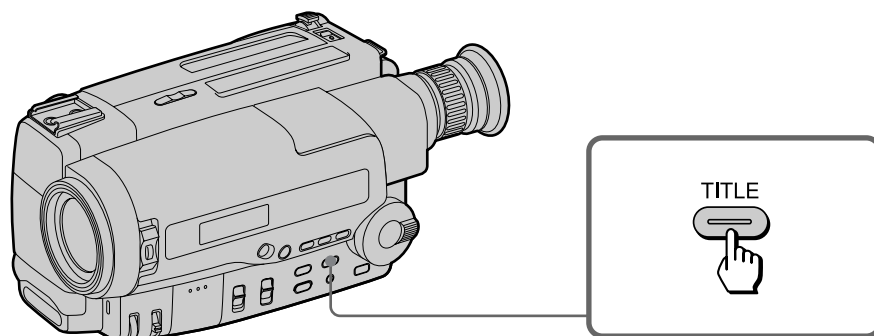
àÒÒÓÎ, ÁÓ, †İÊÂ İ†%ÔÊÒÂË

ÑÎfl İ†İÖÊÂİÊfl ÓÚ İ†~†İ†

- (1) İòÚ†İÖ, ÊÚÂ , °İİ, ~†Ú†İ, POWER , ÓÍÖÊÂİÊÂ CAMERA.
- (2) ÊÓ, Â İÊÚÂ STANDBY , , Â 1.
- (3) ÇÁÓ%İÓÍ †ÚİÖ İ†ÊÊİ†ÊÚÂ TITLE, ÓÓÍ† İÂ ÓÓfl, ÊÚÒfl ÊÂİ†Âİ†fl İ†%ÔÊÒ, . Ç†%ÔÊÒ, ·Ú%ÁÚ İÊ, †Ú .
- (4) Ç†ÊÊİÚÂ START/STOP %İfl İ†~†İ† Á†ÔÊÒË.
- (5) Ç†ÊÊİÚÂ TITLE, İÓ, %† Ç° Á†İÓÚÊÚÂ , °İİ, ~ÊÚ, İ†%ÔÊÒ, .

ÑÎfl İ†İÖÊÂİÊfl , Ô Ó^ÂÒÂ Á†ÔÊÒË

- (1) ÇÁÓ%İÓÍ †ÚİÖ İ†ÊÊİ†ÊÚÂ TITLE, ÓÓÍ† İÂ ÓÓfl, ÊÚÒfl ÊÂİ†Âİ†fl İ†%ÔÊÒ, . Ç†%ÔÊÒ, ·Ú%ÁÚ İÊ, †Ú .
- (2) äÓ, %† İ†%ÔÊÒ, ÔÂ ÂÒÚ†İÂÚ İÊ, †Ú, İ†ÊÊİÚÂ TITLE. Ç†%ÔÊÒ, ÊÒ~ÁÂİÂÚ.
- (3) Ç†ÊÊİÚÂ START/STOP %İfl İ†~†İ† Á†ÔÊÒË.
- (4) Ç†ÊÊİÚÂ TITLE, İÓ, %† Ç° ÓÓÊÂİ†ÂÚÂ İ†İÖÊÊÚ, İ†%ÔÊÒ, .
- (5) Ç†ÊÊİÚÂ TITLE, İÓ, %† Ç° Á†İÓÚÊÚÂ , °İİ, ~ÊÚ, İ†%ÔÊÒ, .



Superimposing a title

Ç±ÍÔÊÂÏÊÂ Ì±%ÔÊÒÈ

Titles cycle as follows

Original title 1→ Original title 2→ HELLO!→
HAPPY BIRTHDAY→ HAPPY HOLIDAYS→
CONGRATULATIONS!→ OUR SWEET BABY
→ WEDDING→ VACATION→ THE END
When you press TITLE with “THE END”
displayed, the titles disappear. When you press
TITLE once again, the titles begin from
“HELLO!” or your original title.
The titles are displayed in the language you
selected in the menu system.

If you have not stored any original titles
The titles begin from “HELLO!”.

Notes on titles

- You cannot select a title during recording.
- While the picture is fading in or fading out, a title does not fade in or out.
- You cannot record a title and the date or time at the same time.
- While the menu is displayed, the titles are not recorded.

To select the title position

- (1) Press MENU to display the menu.
- (2) Turn the control dial to select TITLE POS, then press the dial.
- (3) Turn the control dial to select CENTER [a] or BOTTOM [b], then press the dial.
- (4) Press MENU to erase the menu display.

[a]



[b]



Ç±%ÔÊÒÈ ^ÊÏÊ~ÂÔÏÊ ÊÂÏÂÏÏ ÒÔÏ
ÔÏÂ%Ô. ^ÊÏ Ô. ±ÂÔÏ:
àÒÌÔ%Ì±Ï Ì±%ÔÊÒ, 1 → àÒÌÔ%Ì±Ï Ì±%ÔÊÒ, 2
→ HELLO! → HAPPY BIRTHDAY → HAPPY
HOLIDAYS → CONGRATULATIONS! → OUR
SWEET BABY → WEDDING → VACATION →
THE END
ÔÔÏÊ Ç° Ì±ÊÏÂÛÂ TITLE Ô Ê ÓÚÓ. ±Ê±ÂÏÔÊ
ÊÏ%ÊÏ±^ÊÊ “THE END”, Ì±%ÔÊÒÈ ÊÒ^ÂÏÛ.
ÔÔÏÊ Ç° Ì±ÊÏÂÛÂ TITLE Ô%ÊÏ ±Á, Ì±%ÔÊÒÈ
Ì±^ÏÛÓ ÓÚÓ. ±Ê±Ú, ÔÏ Ò “HELLO!” ÊÏÊ Ò
Ç±^ÂÊ Ó Ê,,ÊÏ±Ï, ÌÔÊ Ì±%ÔÊÒÈ.
Ç±%ÔÊÒÈ ÓÚÓ. ±Ê± ÒÔÏ Ì± ÏÌÁ^ÏÂ, ÌÓÚÓ °È
Ç°, °. ±ÏÊ, ÔÊÓÚÂÏÂ ÏÂÏ.

ÔÔÏÊ Ç° ÏÂ Á±ÏÂÔÏÊ, Ô±ÏÏ, Ì±ÏÊ±-ÏÊ-Ô
Ó Ê,,ÊÏ±Ï, Ì°± Á±ÔÊÒÂÊ
àÏ%ÊÏ±^ÊÏ Ì±%ÔÊÒÂÊ Ì±^ÏÂÛÓÏ Ò “HELLO!”.

- È ÊÏÂ~±ÏÊÏ ÓÚÏÔÔÊÛÂÏ, ÌÔ Ì±%ÔÊÒÂÊ
- Ç° ÏÂ ÌÔÊÂÛÂ, °. ±Ú, Ì±%ÔÊÒ, Ó, ÂÏÏ
Â±ÔÊÒÈ.
 - ÇÚÓ, ÂÏÏ, ÌÓ,,%± ÊÂÓ. ±ÊÂÏÊÂ,,Ô%ÊÛÓÏ
ÊÏÊ, °,Ô%ÊÛÓÏ, Ì±%ÔÊÒ, ÏÂ,,Ô%ÊÛÓÏ È ÏÂ
, °,Ô%ÊÛÓÏ.
 - Ç° ÏÂ ÌÔÊÂÛÂ Á±ÔÊÒ°, ±Ú, Ì±%ÔÊÒ, È %±ÚÚ
ÊÏÊ, ÂÏÏ Ô%ÏÓ, ÂÏÂÏÏ.
 - ÇÚÓ, ÂÏÏ, ÌÓ,,%± ÓÚÓ. ±Ê±ÂÛÓÏ ÏÂÏ,
Ì±%ÔÊÒÈ ÏÂ Á±ÔÊÒ°, ± ÒÔÏ.

ÑÏÏ, °.Ó ± ÔÔÏÔÊÂÏÊÏ Ì±%ÔÊÒÈ

- (1) Ç±ÊÏÊÛÂ ÌÏÔÔÏÛ MENU %ÏÏ ÓÚÓ. ±ÊÂÏÊÏ
ÏÂÏ.
- (2) èÓ,Â ÌÊÛÂ%ÊÔÏ ÛÔ ±, ÏÂÏÊÏ%ÏÏ ÛÓ,,Ó,
~ÚÓ.°, °. ±Ú, TITLE POS, ± Á±ÚÂÏ
Ì±ÊÏÊÛÂ%ÊÔÏ.
- (3) èÓ,Â ÌÊÛÂ%ÊÔÏ ÛÔ ±, ÏÂÏÊÏ%ÏÏ ÛÓ,,Ó,
~ÚÓ.°, °. ±Ú, CENTER [a] ÊÏÊ BOTTOM
[b], ± Á±ÚÂÏ Ì±ÊÏÊÛÂ%ÊÔÏ.
- (4) Ç±ÊÏÊÛÂ ÌÏÔÔÏÛ MENU %ÏÏ ÛÓ,,Ó, ~ÚÓ.°
ÓÚÂ ÁÚ, ÊÏ%ÊÏ±^ÊÊ ÏÂÏ.

Advanced operations

ÌÔÓ,Â ^ÂÏÛ,Ó,±Ï^Â ÓÔÂ ±^ÊÊ

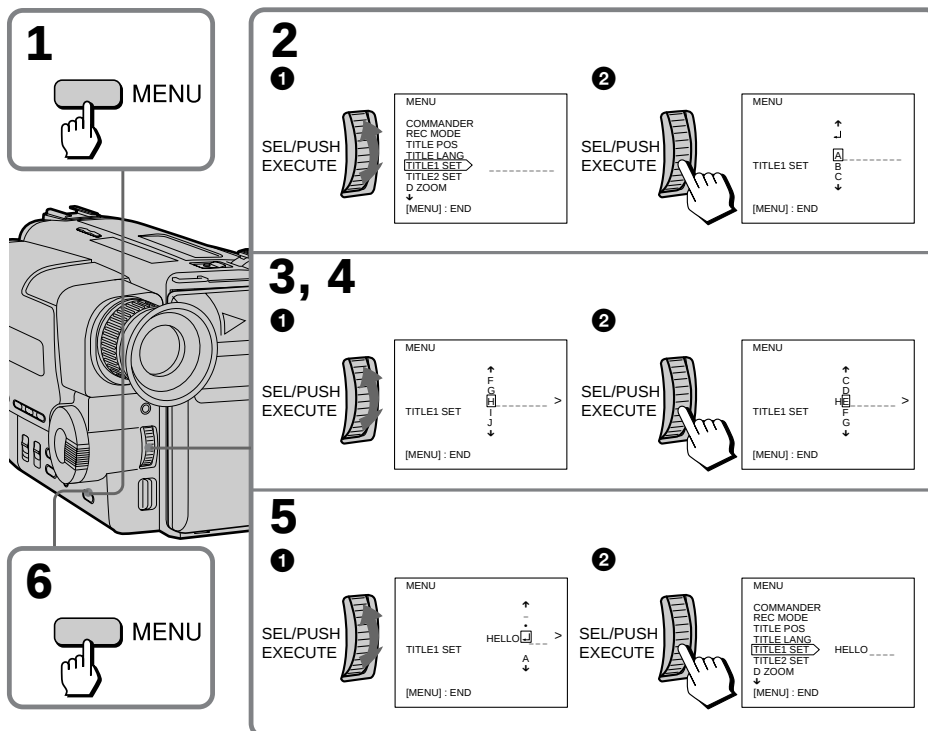
Making your own titles

ÖÖ·ÖÜ,ÄÏÏ° 1 Ï%ÔÈÒÄÈ

You can make two titles of up to 22 characters each, and store them in memory. We recommend to eject the cassette before you begin so that the power is not turned off on the way.

- (1) While the camcorder is in Standby mode, press MENU to display the menu.
- (2) Turn the control dial to select TITLE1 SET or TITLE2 SET, then press the dial.
- (3) Turn the control dial to select the desired character, then press the dial.
- (4) Repeat step 3 until you finish the title.
- (5) Turn the dial to select ↵, then press the dial. The title is stored in memory.
- (6) Press MENU to erase the menu display.

- Ç° ÏÖÄÜÄ ÖÖÄ°Ü, %,Ä Ï%ÔÈÒÈ ÄÄ 22 ÄÏÏÖ, Ï%Ïfl È ÄÏÄÖÜÈ È 1, ÖÏflÜ. .
 êÄÏÖÄÏ%ÖÄÜÖfl Ö Ä%, ð ÈÜÄÏ. ÏÖ, °ÏÜÜ, ÏÖÖÄÜÜ, °ÜÖ°.°, Ö Ö°ÄÖÄ ÖÖÄ°Ïfl Ï%ÔÈÒÄÈ ÖÈÜÏÈÄ ÏÄ, °ÏÏ. °ÈÏÖ. .
- (1) äÖ,%, ð, È%ÄÖÏÏÄ ð Ï%ÖÜÖfl, ÄÈÈÏÄ, ÖÜÖ, ÏÖÖÜÈ, Ï%ÈÈÜÄ MENU %Ïfl ÖÜÖ. ðÈÄÏfl ÏÄÏ. .
 - (2) öÖ,Ä ÏÈÜÄ Ä,ÜÏÈ Ö,Ö°È%ÈÖÏ%Ïfl, °.Ö ð TITLE1 SET ÈÈÈ TITLE2 SET, ð ÄÏÜÄ Ï%ÈÈÜÄ%ÈÖÏ. .
 - (3) öÖ,Ä ÏÈÜÄ Ä,ÜÏÈ Ö,Ö°È%ÈÖÏ%Ïfl, °.Ö ð ÈÄÏÏÄÏÖ,Ö ÄÏÏÏ, ð ÄÏÜÄ Ï%ÈÈÜÄ%ÈÖÏ. .
 - (4) öÖ,ÜÖ flÈÜÄ ÖÜÏÏÜ 3%Ö ÜÄ 1 ÖÖ, ÖÖÏ Ç° ÏÄ ÄÏÏÖÏ°ÈÜÄ Ï%ÖÈÖ. .
 - (5) öÖ,Ä ÏÈÜÄ%ÈÖÏ, °ÜÖ°.°, °. ðÜ, ð ÄÏÜÄ Ï%ÈÈÜÄ%ÈÖÏ. Ç%ÖÈÖ, °Ü%ÄÜ ÄÏÄÖÄÏ, ÖÏflÜ. .
 - (6) Ç%ÈÈÜÄ MENU %Ïfl ÖÜÈ ðÏfl ÈÈÈÏÏ°ÈÈ ÏÄÏ. .



Additional Information

Changing the lithium battery in the camcorder

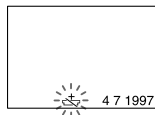
Your camcorder is supplied with a lithium battery installed. When the lithium battery becomes weak or dead, the indicator flashes in the viewfinder for about 5 seconds when you set the POWER switch to CAMERA. In this case, **replace the battery with a Sony CR2025 lithium battery. Use of any other battery may present a risk of fire or explosion.** Discard used batteries according to the manufacturers instructions.

The lithium battery for the camcorder lasts for about one year under normal operation. (The lithium battery that comes installed at the factory may not last one year.)

NOÓÓÎËÛÂÎ, Î†¶ ËÛÓ Î†~Ë¶

á†ÎÂÎ† ÎËÛËÂ, ÓË
·†Ú† ÂËËË, , Ë%ÁÓÎ†ÎÂ Â

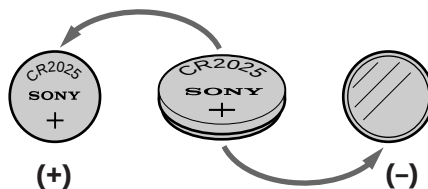
Ç†~†, Ë%ÁÓÎ†ÎÂ † Ò†·ËÂ† ÒÓÚ†ÍÓ, ÎÂÎÏË
ÎËÛËÂ, ÓË ·†Ú† ÂËÏË. ÓÓË ÎËÛËÂ, †¶
·†Ú† ÂË† ÒÚ†ÎÂ Ò†·ËË ËËË ÓÓÏÓÓÚ,
†Â ÎËÂÎÏË, ËË%Ë†ÚÓ ·Ú·, ,
Ë%ÓËÏ†ÚÂÎÂ. è Ë·ËÂËÛÂÎ, ÍÓ, ÚÂ~ÂËÂ 5
ÓÂÎÛ%, ÍÓ, %† Ç° ÒÓÚ†ÍÓ, ËÛÂ, ~Î†~†ÚÂÎ,
POWER, ÓÓÏËÂÎËÂ CAMERA. Ç Ú†ÍÓ†
ÒÍÚ~†Â Á†ÎÂËÛÂ ·†Ú† ÂËÛ Î† ÎËÛËÂ, Ò·
·†Ú† ÂËÛ Sony CR2025. àÓÓÏÎ, ÁÓ, †ÎËÂ
% Ú·, ÓË ·†Ú† ÂËËË ÍÓËÂÚ Ò Ë, ÁÓÛË Í ËÓÍÚ
, ÓÓÏÎ†ÎÂÎËËË ËËË, Á°, †. ÂËË, Ë%Ë ÛËÛÂ
ËÓÓÏÎ, ÁÓ, †Î†·Â ·†Ú† ÂËËË, ÓÓÓÚ, ÁÓÓÚ, ËË Ò
ËÛÚ Û†~Ë¶Î† Á†, Ó%†-ËÂ, ÓÓÚ, ËÛÂÎ¶.
ÂËÛËÂ, †¶ ·†Ú† ÂË† %¶Î¶, Ë%ÁÓÎ†ÎÂ °
·. ÓÚ†ÂÚ Ò Ë·ËÂËÛÂÎ, ÍÓ, ÚÂ~ÂËÂ 1, %†
Ò Ë ÍÓ Î†Î, Î†· ÒÓÍÓ, Ë¶Î~ÍÓÓÍÚ†Ú~ËË.
(ÂËÛËÂ, ÓË ·†Ú† ÂËËË, ÍÓÓÚ †¶·†
ÚÓÚ†ÍÓ, ÎÂÎ† Î† Á†, Ó%Â, ÍÓËÂÚ ÎÂ 1, †ÚËÛ, Î†
Ó%ËÎ, %·.)



Notes on 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 assure a good contact.
- Do not hold the battery with metallic tweezers, otherwise a short-circuit may occur.
- The lithium battery has positive (+) side and negative (-) side as illustrated. **Be sure to insert the lithium battery with the positive side facing out.**

è ËÎÂ~†ÎË¶ ÓÓ ÎËÛËÂ, ÓË ·†Ú† ÂËËÂ
· Î†ËÛÂ ÎËÛËÂ, Ò· ·†Ú† ÂËÛ, ÎÂÓÚÂ, ÎÂ
%ÓÓÚÓÓÍÓ† %¶Î¶ %ÁÚÂË. Ç ÓÍÚ~†Â
Ò Ó, Î†Ú°, †ÎË¶ ·†Ú† ÂËËË ÎÂÎÂ%ÎÂÎÏ
Ó· †ÚËÛÂÓ, Í, †~Ú.
· è ÓÚ ËÛÂ ·†Ú† ÂËÛ ÒÓÚÓË Û†Î, %¶Î¶
ÚÓ, Ó, ~ÚÓ· °·ÂÓÂ~ËÛ, ÍÓ Ó ËË ÍÓÍÚ†ÍÚ.
· ÇÂ %Â ËËÛÂ ·†Ú† ÂËÛ Ò ÓÓÍÓ~
ÎÂÚ†ÎË~ÂÓÍÓ, Ó ËËÎ~ÂÚ†, Ë†~Â ÍÓËÂÚ
Ò ÓËÂÓËË ÍÓ ÓÚÍÓÂ Á†Î~Î†ËÂ.
· é· †ÚËÛÂ, ÎËÎ†ÎËÂ, ~ÚÓ ÎËÛËÂ, †¶
·†Ú† ÂË† ËÎÂÚ ÓÓÍÓËËÛÂÎ, Î†~Ë (+) Ë
ÓÚ Ë~†ÚÂÎ, Î†~Ë (-) ÓÓÍ, Ó°, Î†Î ÓÓÍ†ÂÍÓ
Î† ËÓÚÎÂ. ÇÂ Á†·Ú·, ÚÂ ÒÓÚ†ÍÓ, ËÛ,
ÎËÛËÂ, Ò· ·†Ú† ÂËÛ Ú†Î, ~ÚÓ·
ÓÓÍ, Ó° Î† ·†Ú† ÂËËÂ ÓÓÓÚ, ÁÓÓÚ, Ó, †ÎË
ÓÓÍ, Ó†Î Î†, Ë%ÁÓÎ†ÎÂ Â.



Additional Information NOÓÓÎËÛÂÎ, Î†¶ ËÛÓ Î†~Ë¶

Changing the lithium battery in the camcorder

WARNING

The battery may explode if mistreated. Do not recharge, disassemble, or dispose of in fire.

Changing the lithium battery

When replacing the lithium battery, keep the battery pack or other power source attached. Otherwise, you will need to reset the date and time.

- (1) Slide the cover, and then pull it up.
- (2) Push the battery in once and pull it out from the holder.
- (3) Install the new lithium battery with the positive (+) side facing out.
- (4) Close the cover. Then slide the cover until it clicks.

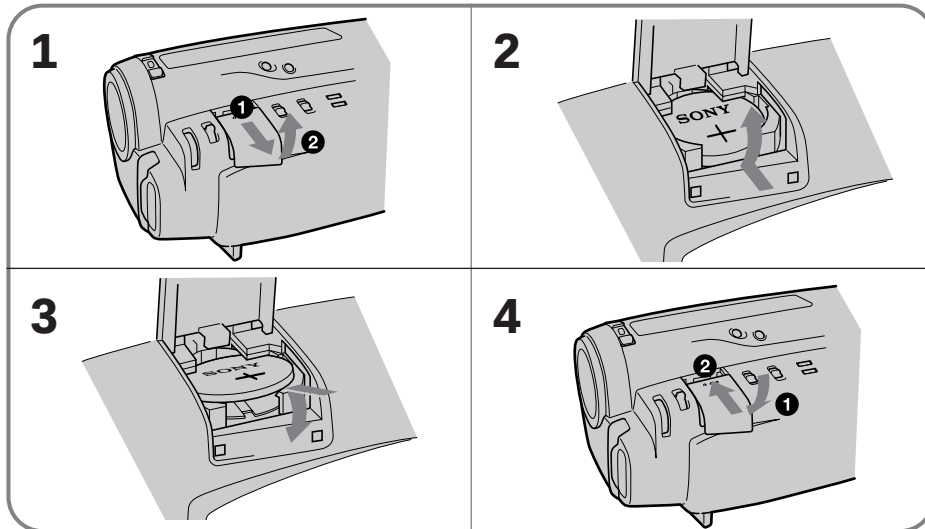
á†İÄİ† İÊÜÊÄ, ÓÈ ·†Ú† ÂÈİÊ ,
, Ê‰ÄÖİ†İÄ Ä

è è Ñ ì è è Ñ Ñ Ç à Ñ
ÖÖİÊ Ò ·†Ú† ÂÈİÖÊ İÄÖ †, Êİ, İÖÖ ·†Ú, Òİ,
Öİ† İÖÊÄ, ÄÖ , †Ú, Òİ. ÇÄ ÖÄ ÄÄ† İÊ†Ú, İÄ
†Ä·Ê †Ú, Ê İÄ · ÖÖ†Ú, ·†Ú† ÂÈİÜ , Ö,, Öİ, .

á†İÄİ† İÊÜÊÄ, ÓÈ ·†Ú† ÂÈİÊ

è Ê Ä†İÄİÄ İÊÜÊÄ, ÓÈ ·†Ú† ÂÈİÊ ‰ ÊÜÄ
·†Ú† ÂÈİ·Ê ·İÖİ ÊİÊ ‰ Ü,, ÓÈ ÊÖÜÖ·İÊİ
ÖÊÜ†İÊİ Ò ÊÖÖÄ‰ÊİÄİ·İ. àİ†~Ä Ç†İ
Ò Ê‰ÄÜÖİ ÖÄ ÄÜÜ†İ†, İÊ, †Ú, ‰†ÜÜ Ê , Äİİİ.

- (1) èÄ Ä‰, Êİ, ÜÄ Í ·~İÜ Ê ÖÖÜİİÊÜÄ ÄÄ
,, Ä 1.
- (2) Ç†ÊİÊÜÄ ·†Ú† ÂÈİÜ Ö‰Êİ †Ä Ê , ·Ú†~ÊÜÄ
ÄÄ ÊÄ‰ Ê†ÜÄİİİ.
- (3) İÖÜ†İÖ, ÊÜÄ İÖ, Ü, İÊÜÊÄ, Ü, ·†Ú† ÂÈİÜ
ÖÖİÖÊÜÄİ, İÖÊ (+) ÖÜÖ İÖİÖÊ, Ö ·~ÄİİÖÊ
İ† ÜÊÜ.
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Í ·~İÜ, ÖÖİ† Öİ† İÄ Ä†~ÄİİİÄÜÖİİ.



Resetting the date and time

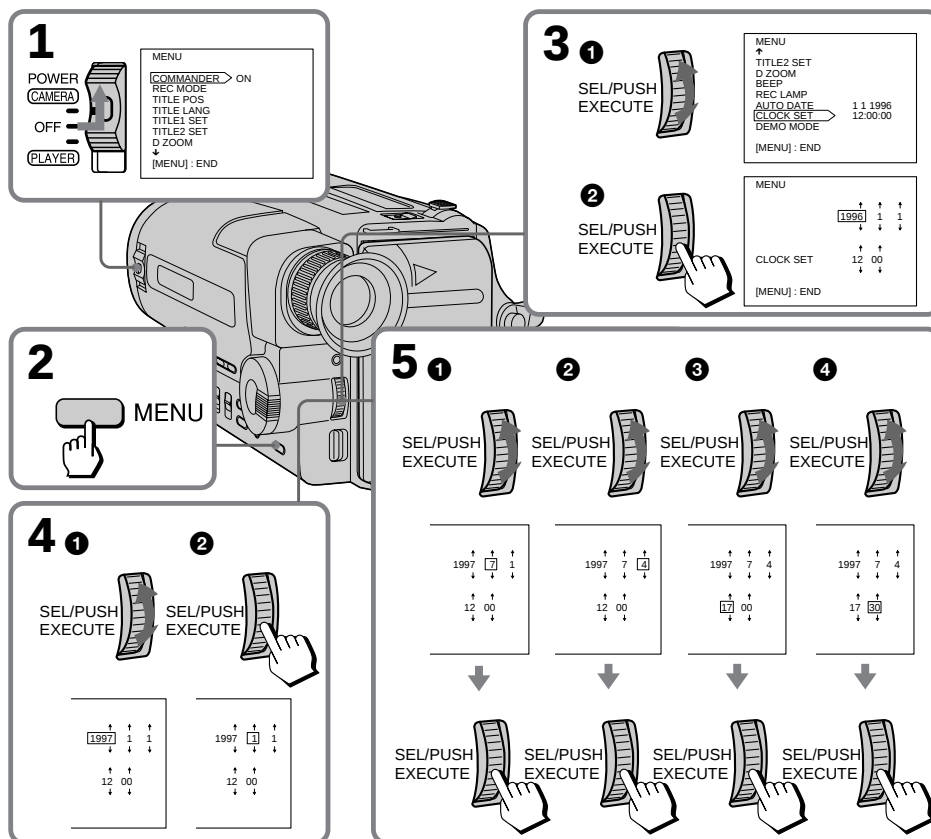
Resetting the date and time

You can reset the date and time in the menu system.

- (1) Set the POWER switch to CAMERA.
- (2) Press MENU to display the menu.
- (3) Turn the control dial to select CLOCK SET, then press the dial.
- (4) Turn the control dial to select the desired year, then press the dial.
- (5) Set the month, day, hour, and minutes by turning the control dial and pressing the dial.
- (6) Press MENU to erase the menu display.

Resetting the date and time

- (1) Set the POWER switch to CAMERA.
- (2) Press MENU to display the menu.
- (3) Turn the control dial to select CLOCK SET, then press the dial.
- (4) Turn the control dial to select the desired year, then press the dial.
- (5) Set the month, day, hour, and minutes by turning the control dial and pressing the dial.
- (6) Press MENU to erase the menu display.



Additional information

Resetting the date and time

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To correct the date and time setting

Repeat steps 4 and 5.

To check the date and time

Press DATE to display the date indicator. Press TIME to display the time indicator. When you press the same button again, the indicator goes out.

The year indicator changes as follows:

1996 → 1997 → 2025

Note on the time indicator

The internal clock of this camcorder operates on a 24-hour cycle.

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1996 → 1997 → 2025

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Playback modes

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

Foreign 8 mm video

You may not play back tapes recorded on a different TV colour system. Because the TV colour systems differ from country to country, you may not be able to play back foreign pre-recorded tapes. Refer to the list of "Using your camcorder abroad" to check the TV colour system of foreign countries.

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Tips for using the battery pack

This section shows you how you can get the most out of your battery pack.

Preparing the battery pack

Always carry additional batteries

Have sufficient battery pack power to do 2 to 3 times as much recording as you have planned.

Battery life is shorter in cold environment

Battery efficiency is decreased, and the battery will be used up more quickly, if you are recording in a cold environment.

To save battery power

Turn **STANDBY** down when not recording to save battery power.

A smooth transition between scenes can be made even if recording is stopped and started again.

While positioning the subject, selecting an angle, or looking through the viewfinder lens, the lens moves automatically and the battery is used. The battery is also used when a cassette is inserted or removed.

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Additional information ñöóîîëúâî, ÷íí ëîúó ÷÷~ëí

Tips for using the battery pack

When to replace the battery

While you are using your camcorder, the remaining battery indicator decreases gradually as battery power is used up.



When the remaining battery indicator reaches the lowest point, the indicator appears and starts flashing.

When the indicator changes from slow flashing to rapid flashing while you are recording, set the POWER switch to OFF on the camcorder and replace the battery pack. Leave the tape in the camcorder to obtain smooth transition between scenes before and after the battery pack has been replaced.

Notes on the remaining battery indicator

- The remaining battery indicator of the camcorder may indicate a different remaining capacity from that of the battery pack with its own indicator (not supplied). The indicator on the battery pack is more accurate.
- While you are using the battery case, the remaining battery indicator does not indicate correctly.

Notes on the rechargeable battery pack

CAUTION

Never leave the battery pack in temperatures above 60°C (140°F), such as in a car parked in the sun or under direct sunlight.

While you are using your camcorder, the remaining battery indicator decreases gradually as battery power is used up.

When the remaining battery indicator reaches the lowest point, the indicator appears and starts flashing.

When the indicator changes from slow flashing to rapid flashing while you are recording, set the POWER switch to OFF on the camcorder and replace the battery pack. Leave the tape in the camcorder to obtain smooth transition between scenes before and after the battery pack has been replaced.

When the remaining battery indicator reaches the lowest point, the indicator appears and starts flashing. When the indicator changes from slow flashing to rapid flashing while you are recording, set the POWER switch to OFF on the camcorder and replace the battery pack. Leave the tape in the camcorder to obtain smooth transition between scenes before and after the battery pack has been replaced.

- The remaining battery indicator of the camcorder may indicate a different remaining capacity from that of the battery pack with its own indicator (not supplied). The indicator on the battery pack is more accurate.
- While you are using the battery case, the remaining battery indicator does not indicate correctly.

When the remaining battery indicator reaches the lowest point, the indicator appears and starts flashing.

When the indicator changes from slow flashing to rapid flashing while you are recording, set the POWER switch to OFF on the camcorder and replace the battery pack. Leave the tape in the camcorder to obtain smooth transition between scenes before and after the battery pack has been replaced.

Tips for using the battery pack

The battery heats up

During charging or recording, the battery pack heats up. This is caused by energy that has been generated and a chemical change that has occurred inside the battery pack. This is not cause for concern and is normal.

Battery pack care

- **Remove the battery pack from the camcorder after using it**, and keep it in a cool place. When the battery pack is installed to the camcorder, a small amount of current flows to the camcorder even if the POWER switch is set to OFF. This shortens battery life.
- The battery pack is always discharging even when it is not in use after charging. Therefore, you should charge the battery right before using the camcorder.

How to use the switch on the battery pack

When the switch is supplied with the battery pack ([a] on page 57), you can use it to find whether the battery pack is charged or not. Set the switch to the "no mark" position when charging is completed. Set the switch to the "red mark" position when the battery is used up (or in whichever direction you want to remind yourself).

The life of the battery pack

If the battery indicator flashes rapidly just after turning on the camcorder with a fully charged battery pack, the battery pack should be replaced with a new fully charged one.

Charging temperature

You should charge batteries at temperatures from 10°C to 30°C (from 50°F to 86°F). Lower temperatures require a longer charging time.

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Tips for using the battery pack

Notes on charging

A brand-new battery

A brand-new battery pack is not charged. Before using the battery pack, charge it completely.

Before recharging a used battery pack

- Make sure to use up the battery before recharging.
- If recording is completed before the indicator appears in the viewfinder, you should remove the tape, turn the POWER switch to CAMERA, turn STANDBY up, and leave the camcorder until the indicator flashes rapidly.
- **Charging the usable battery causes a lowering of battery capacity. Battery capacity can be recovered if you fully discharge and charge the battery again.**

After long storage

Recharge the battery pack after a long period of storage. If the battery pack is charged fully but not used for a long time (about one year), it becomes discharged. Charge it again, but in this case the battery life will be shorter than normal. After several charging and discharging cycles, the battery life will recover its original capacity.

Notes on the terminals

If the terminals (metal parts on the back) are not clean, the battery charge duration will be shortened.

When the terminals are not clean or when the battery pack has not been used for a long time, repeatedly install and remove the battery pack a few times. This improves the contact condition. Also, wipe the + and - terminals with a soft cloth or paper.

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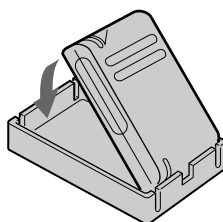
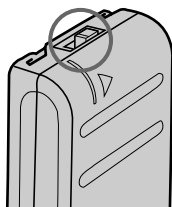
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- ē óí òtūē. ° . þú‡ ááí áí‡~ēuáí, íó íāí, ~ā , íóíō~í~í úōíō, ēíí (íēēā 10°e/50°f).
- ēō~ā ēēuā íáúí~íē~āóíē~íōuē , ~ēóuōā. ðōíē óíē òu~íúú „ ííáí~íē, ò úó ēuā ēí íí, íōē úí‡í, .
- çā þ~ā~ē þēuā ē íā ò áó. þáó, ° , þēuā . þú‡ áēíú, í~íā ú.
- çā òō~, á ~, þíēā . þú‡ þēíú, í‡íā ú í‡íēí-íē. ò íáí‡íē~āóíēí ú~í. þí.
- çó , áíí á‡ōēðē . þú‡ áēí‡í í‡íā ‡ í‡, ~ā, þáúōí. úúó íā íí, ííáúōí ò ē~íēíē ~íí . áōóóíēóēú, ‡.
- ē á~óí íííēuā~íáíú ò~í. . þú‡ áēíōē í‡íā á úó íóíú~íú‡ ò íáúí~íē~āóíēí ò . áíúóí.
- ðōíē ç ° íā . ú~āúā ēðōōí, áó, þú, . þú‡ áēíú, í‡íā ú, úā~áíēā~íēuáí, íō, ò , áíáíē, úó úóóóā~íēuā . þú‡ áēíú, í‡íā ú úó, ē~āóí~íā ° ē ú~í~íēuā . þú‡ áēíē ēā . þú‡ áēíōē í‡íā ° .

Maintenance information and precautions

àìùó ìí^èfl óó ùíó%ù áí ±òòí-
±úóí è ô à%óóúó óèìóóúè

Moisture condensation

If the camcorder is brought directly from a cold place to a warm place, moisture may condense inside the 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 the camcorder may not operate correctly. To prevent possible damage under these circumstances, the camcorder is furnished with moisture sensors. Please take the following precautions.

Inside the camcorder

When the  and  indicators flash, moisture has condensed inside the camcorder. If this happens, no other function except for tape ejection will work.

Eject the tape, turn off the camcorder and leave it with the cassette compartment open for at least one hour. The camcorder can be used again if the  indicator does not appear when the power is turned on again.

On the lens

If moisture condenses on the lens, no indicator appears, but the picture becomes dim. Turn off the power and do not use the camcorder for about one hour.

How to prevent moisture condensation

When bringing the camcorder from a cold place to a warm place, put the camcorder in a plastic bag and allow it to adapt to room conditions over a period of time.

- (1) Be sure to tightly seal the plastic bag containing the camcorder.
- (2) Remove the bag when the air temperature inside it has reached the temperature surrounding it (after about one hour).

àóì%Àìòí^èfl , íí,,è

òòìè , è%áóííá ± , íàòàíí íàóó à%óó, àìíó éá íóíó%ìó,,ó íàóúí, úáóíóá, , íúú è , è%áóííá ° íóéáú íóí%àìòè ó, ±ú, òfl , íí,,±, ±úíéá íí óó, à ííóóúè íáíú° èíè íí ó· áíúè, à. è è úííóí úóíó, èè íáíúí íóéáú ó èíèòíúú. í·± ±·íú,,óíó, íè è·ú%áú óó, àè%áíí èíè éá, è%áóííá ± íóéáú ±·óúíú. íàó ±, èí. íó. nífl ò à%óó, ±·áíèfl , óáíóèíó,,ó óó, àè%áíèfl , , è%ó úííé, ó·óúóíúáí. óú, , è%áóííá ú, óú óáí° %±ú°èíè , íí,,è. èó·í.%±éúá òíá%ú. ~éá ò à%óóúó óèìóóúè.

çìúú è , è%áóííá °
òòìè èíèèííúó °  è  íè,,±, ú, úó áíí~éú , íí,,± òíóí%àìòè ó, ±íò, , íúú è , è%áóííá °. òòìè ~úó òíú~éíóó, , úó íèííéá% ú,,éá úúíí~èè, í óíá , °úííé, ±íèfl íáíú°, íá·ú%úú ±·óúíú. ç·úóíííéúá íáíúú, , íí~éúá , è%áóííá ú è óóúí, , úá áá ò óúí °ú°í óúóáíóí í±òóáú° óó íáí, ~áè íá á íí ó%èí ~ò. çè%áóííá ± òíó, ± íóéáú·°ú, èòóóí, áó, ±íí, àòíè èíèèííúó  íá òófl, éúófl, íó,,± òéúíéá·ú%áú, íí~áíó óófl, .

ç± ó· áíúè, à
òòìè , íí,,± òíóí%àìòè ó, ±íò, íí ó· áíúè, à, úó íèííéáíèèíí~èfl òófl, íflú, òfl íá·ú%áú, íó éáó. ±éáíéá óúííó, éúófl úóóíí°í. éúíí~éúá òéúíéá è íá èòóóí, áúéúá, è%áóííá ú, úá~áíéá ó%ìó,,ó ~òí.

- àíí ò à%óó, ±úéú, íóí%àìòí^è,
, íí,,è
è è , íàòàíèè , è%áóííá ° ò íóíó%ìó,,ó íàóúí, úáóíóá óóíóééúá, è%áóííá ú, òòíè~úéíáíó, °è òíáú è%±éúá àè , óáíóèíóóú, ±%±óúè ó, ±ú, òfl í íóíí±úí°í úóíó, èflí, , úá~áíéá óó à%áíáííó,,ó áá èó%± , áíáíè.
- (1) çá áí·ú%áú, à íáúè~íó áí, fláíú, òóíè~éúíáíó, °è òíáú, òó%á è±~èè , è%áóííá ú.
 - (2) èíèíéúá òíáú, íó,,± úáíóá ±úú ±, íúú è íá,,ó%óóúè,,íáú úáíóá ±úú °
óí úè±~áè ò à% (ò éíá íó óóúóúfl ó%èí ~ò).

Maintenance information and precautions

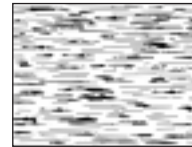
àìùó ì†^ëfl ôó ùíó%ù á†
†òò† †úó† ë ò á%òóúó óëíóóüë

Video head cleaning

To ensure normal recording and clear pictures, clean the video heads. When the  indicator and “ CLEANING CASSETTE” message appear one after another in CAMERA mode or playback pictures are “noisy” or hardly visible, the video heads may be dirty.



[a]



[b]

[a] Slightly dirty
[b] Dirty

If this happens, clean the video heads with the Sony V8-25CLH cleaning cassette (not supplied). After checking the picture, if it is still “noisy”, repeat the cleaning. (Do not repeat cleaning more than 5 times in one session.)

Caution

Do not use a commercially available wet-type cleaning cassette. It may damage the video heads.

Note

If the V8-25CLH cleaning cassette is not available in your area, consult your nearest Sony dealer.

é~ëòúí† „óíó, óí

Ñîfl ó·âòâ~âîëfl îó ì†î, îóë á†òëòë ë
~âúíó, ò éáó· †éâîëfl, ë%âó, „óíó, íë òíâ%úâú
ó~ë~†ú. òòîë ëî%ëî†úó  ë òóó·~âîëâ “
CLEANING CASSETTE” òófl, îfl, ùòfl ó%ëî á†
% ù, ëî, âëëîâ CAMERA ëîë
, òóó óéâ, ò%ëîóá éáó· †éâîëâ fl, îfl îâúòfl
“á†~ùîîâîî~î” ëîë ù ù%íó †âîë~ëî~î,
, ë%âó, „óíó, íë îó, ùú·~ú, á†, flâîâî°.

[a] ëîâ, î† á†, flâîâî°
[b] á†, flâîâî°

òòîë~úó ò ééáó~íó, ó~ëòúëúá, ë%âó, „óíó, íë
ò òóíó~. ò~ëòúëúâî, îóë ì†òòâú° V8-
25CLH (îâ ò ëî†, †âúòfl). ëòóîâ ò ó, â íë
éáó· †éâîëfl, âòîë òíó, òfl â~fl “á†~ùîîâîó”,
òó, ùó ëúá ó~ëòúíú. (çâ òó, ùó flëúá ó~ëòúíú
·óíââ 5 †áá† ò%ëî ò éâî).

è â%òóúá âëâîëâ
çâ ëòóóî, áúëúá ëîâ, ~éâòfl, ò ò%†éâ
ó~ëòúëúâî, ì~â ì†òòâú°, ì†ëîó, ò úëò†. ùúó
íóéâú òó, â%ëú, ë%âó, „óíó, íë.

è ëîâ~†îëâ
òòîë ó~ëòúëúâî, îóë ì†òòâú° V8-25CLH îâú,
ò ò%†éâ, ç†~âë ó·î†úúë, ó· †úëúâò, ,
ç†~â·îëë†ë~ââ †, îùúúú, ó Sony.

Additional information òòóíëúâî, î†fl ëíúó ì†~ëfl

Maintenance information and precautions

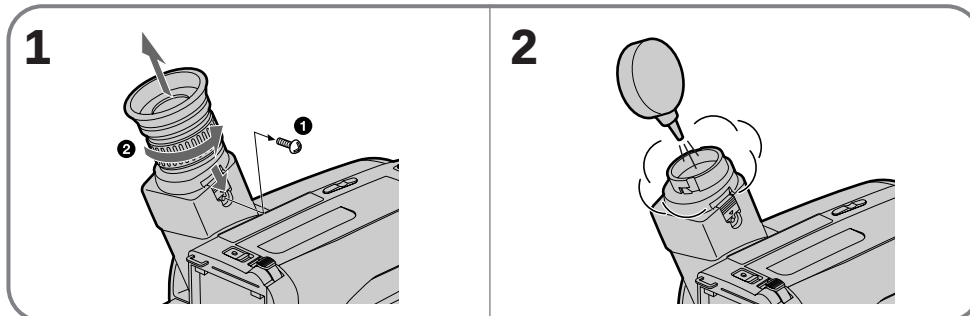
àìùó ì†~ëfl ôó ûlô%û á†
†ôô† †úóî ë ô ã%ôôúó óëìóóúë

Removing dust from inside the viewfinder

ì%†îâîëã ô°îë ëâìúú ë
,ë%ôëôî†úâîfl

- (1) Remove the screw with a screw driver (not supplied). Then, while sliding the RELEASE knob, turn the eyecup in the direction of the arrow and pull it out.
- (2) Clean the surface with a commercially available blower.

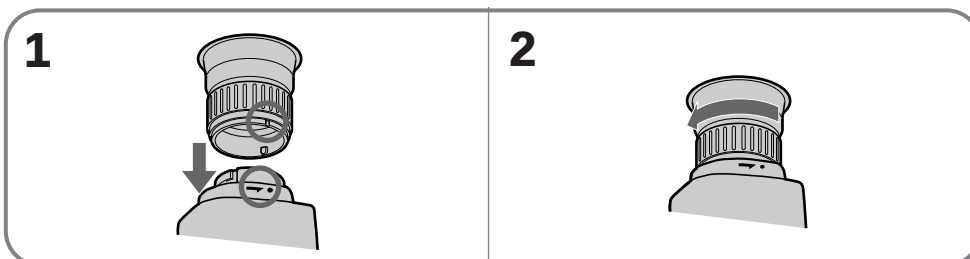
- (1) ëîëîëúâ ,ëìú ò ôóîó~, . óú, ã úíë (ìâ ò ëî†,,†âúôfl). á†úâî, ôâ ã%,ë,,†fl û~îú RELEASE, ôó, ã îëúâ óíúîfl , ì†ò †, îâîëë óú âîíë ë òîëîëúâ ã,,ó.
- (2) é~ëòúëúâ ôó, ã ììóú, ò ô%ú, ó~ì°î úóú óëòú, óî, ô ëó. áúâîî°î îóîîâ ~âóîëî óóóóó·óî.



To reattach the eyecup

- (1) Align the groove on the eyecup with the mark on the barrel.
- (2) Turn the eyecup in the direction of the arrow.
- (3) Replace the screw.

- Ñîfl ô ëí âôîâîëfl óíúîfl †
- (1) ëó, îâóúëúâ ì†ì†, îú ì† óíúîfl ã ò · îâúíóë ì† íó óúòâ.
 - (2) ëó, ã îëúâ óíúîfl , ì†ò †, îâîëë óú âîíë.
 - (3) ìóú†îó, ëúâ ,ëìú.



Caution

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

ë ã%ôóúâ ãëâîëã
çâ òîëîëúâ ì†îëã-îë·ó% û,,ëâ ,ëìú°. ç°
îóëâúâ òîflú, úóî, íó ,ëìú %îfl òîflúëfl
óíúîfl †.

Maintenance information and precautions

àìùó ìî~ëfl ôó ûîó%û á†
†ôô† †úóî ë ô ã%óóúó óëìóóúë

Precautions

Camcorder operation

- Operate the camcorder using 6.0V (battery pack), or 7.5V (AC power adaptor).
- For DC or AC operation, use only the recommended accessories.
- Should any solid object or liquid fall into the casing, unplug the camcorder and have it checked by your nearest 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 when not using the camcorder.
- Do not wrap up the camcorder and operate it since heat may build up internally.
- Keep the camcorder away from strong magnetic fields or mechanical vibration.

On handling tapes

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

Camcorder care

- When the camcorder is not to be used for a long time, disconnect the power source and remove the cassette. Periodically turn on the power, operate the camera and player sections and play back a tape for about 3 minutes.
- 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 soft dry cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent which may damage the finish.

è ã%óóúó óëìóóúë

ê†·óú† ò , ã%áóí†îã òë

- ùíóóîú†úë ùëúã , ã%áóí†îã ùëóóî. áófl 6, 0 Ç (·†ú† ãëì~ë·íóí) ëîë 7, 5 Ç (òãúã, òë †%†úã òã ãî. úóí†).
- Ñîfl †·óú* óúóóú. úóí† ëîë òã ãî. úóí† ëóóî, áúëúã úóí, íó ãíóîãî%úãî~ã ò ëî†%îãëìóóúë.
- Ç òîú~†ã òóó†%†îëfl í†îëî-îë·ó ú, ã %~1 ò ã%îãúó, ëîë ëë%íóóúë, ìúú, íó òúó† í†îã °, óúíî~ëú, ã%áóí†îã ùë ò ò, ã ëú, ãã, ·îëëë ãî†, ãîúóú, ã Sony òã ã%î, îãë~ãë~íóóîú†ú†~ëãë.
- àã·ã,,†ëúã,, ù·ó,,óó· †~ãîëfl ò , ã%áóí†îã òë ëîë îãî†îë~ãóíó,,ó ù%† îó,,ó , òã%ãëóú, ëfl. áú% úã óóó·ãîíó óóúó óëì° ò ó··ãíúë, òí.
- Ñã ëëúã , °îî~†úãî, POWER , óóíóëãîëë OFF, ãóíë , ã%áóí†îã † îã ëóóî, áúãúòfl.
- Çãã†, ó †~ë, †ëúã, ã%áóí†îã ùë îã †·óú†ëúã ú†îëî ó· †áóí ò îãë, óóóíóí, íú , ìúú ë í†îã ° íóëãú óó%îfl, òfl úãíóã †úú †.
- Ñã ëëúã, ã%áóí†îã ù, %†îë óú òëî, ì~1 î†,,îëúî~1 óóíãë ëîë îãî†îë~ãóíëî , ë· †~ëë.

ëúíóóëúãî, îó ó· †~ãîëfl ò îãîú†îë Çã, òú†, îflëúã îëí†îëî ò ã%îãúó, , î†îãî, îëã óú, ã òúëfl î†ã†%îãë óúó òîã î†òóãú°. ùúë óú, ã òúëfl ëóóîí, áú ùòfl %îfl óó ã%ãîãîëfl úëó† îãîú°, úóí~ëî° îãîú° ë î†îë~ëfl îãóãúí†ã†ëòë.

ìîó% á† , ã%áóí†îã òë

- òòîë , ã%áóí†îã † îã·ù%ãú ëóóî, áó, †ú, òfl %îëúãî, îóã, ãîfl, óúíî~ëúã ëóóó~îëí òëú†îëfl ë ëã, îãíëúã î†òóãú. ëã ëó%ë~ãóíë, îî~†ëúã òëú†îëã, ò óëã, ò%ëúã óóã †~ëë ò , ã%áóí†îã òë ë òãí~ëãë òîãëã † ë , óóó óëã, ò%ëúã îãîúó óó fl%î†3 îëîúú.
- ë~ë~†ëúã ó··ãíúë, îfl,,íóë îëóóó~íóë %îfl ù%†îãîëfl ò~îë. òòîë î† óó, ã ìíóóúë ó··ãíúë, † ëîã, ùòfl óóóã~†úíë ò†î, ^ã,, ù%†îëúã ëî ò óóíó°, , îfl,,íóë úí†îë.
- ë~ë~†ëúã íó òúó, ã%áóí†îã ° îfl,,íóë òúíóë úí†î, , ëîë ëã îfl,,íóë úí†î, , òîã,,í† òíó~ãîíóë, îfl,,íóí †óú, ó ã íó, ^ã,, ò ò%óú, †. Çã ëóóîí, áúëúã îëí†îëî †óú, ó ëúãîãë, óóóíóí, íú~úó íóëãú óó, ã%ëú, óú%ãíú.

Additional information Ñóóîíëúãî, îfl, ëîúó î†~ëfl

Maintenance information and precautions

- 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.

AC power adaptor Charging

- Attach the battery pack firmly.
- Repeated charging while some capacity remains causes a lowering of battery capacity. However, the original battery capacity can be recovered if you use the battery completely and charge it fully again.
- Place the battery pack on a flat surface without vibration during charging.
- The battery pack will get hot during charging. This is normal.

Others

- Unplug the unit from the mains when not in use for a long time. To disconnect the mains lead, pull it out by the plug. Never pull the cord itself.
- Do not operate the unit with a damaged cord or if the unit has been dropped or damaged.
- Do not bend the AC power cord (mains lead) forcibly, or put a heavy object on it. This will damage the cord and may cause a fire or an electrical shock.
- Be sure that nothing metallic comes into contact with the metal parts of the connecting plate. If this happens, a short may occur and the unit may be damaged.
- Always keep the 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 because it will disturb AM reception and video operation.

àìùó ìî`ëfl ôó ùìó%ù áî
±òò± ±ùóì ë ò á%òóùó óëìóóùë

- ÇÀ ÓÓÁ, ÓìíëÙÁ ÒÀÓÍÙ ÓÓÓ±ÓÙ, ,
ë%ÁÓì±ìÁ Ù. ÓÓìë Ç` ÈÓÓÓì, ÁÙÁÙÁ
ë%ÁÓì±ìÁ Ù ì± ÓÀÓ`±ìÓì ÓÓìëÁ Èìë,
Ó`ì, ÌÓì ÌÁÓÙÁ, ÙÓ Ò Á%Òì ±ìíëÙÁ ÁÁ ÓÙ
ÒÀÓì± Èìë Ó`ìë. ëÀÓÓì Èìë Ó`ì, ÌÓ,, ÙÙ
`Á, ±Ù, ÌÁÈÓÓ ±, ÌÓÓÙ, , È, ÌÁìÓÓÙ `ì
ÓìÙ`±ìì ÌÁÈÓÓ ±, ÌÓÓÙ, ÌÁ ÓÓ%ÌÁÈÈÙ
ÁìÓìÙ.

ëÁÙÁ, Óë ±%±ÓÙÁ ÒÁ Áì. ÙÓì±
áî fl%ì±

- ë ÈÓÓÁ%ÈìëÙÁ Ì±%ÁÈìÓ. ±Ù± ÁÈì`ë. ÌÓì.
- ëÓ, ÙÓ Ì±ì Áî fl%ì± Ò ÈÓÓÙ±, `ÁÈÓì
ÌÁìÓÓÙ Óë ÁìÓÓÓÙë Ò È, Ó%ÈÙ Ì ÓìÈÈÁìë.
ÁìÓÓÓÙë. ±Ù± ÁÈìÓ, Ò. ÌÓì±. È%ì±ìÓ,
ÒÁ, Óì±`ì Ì±ì ÁìÓÓÙ. ±Ù± ÁÈìÓ, Ò
·ìÓì± ÌÓÈÁÙ. `Ù, ÓÓÓÙ±ìÓ, ÌÁì±, ÁÒìë
Ç` ÓÓììÓÓÙ, %Ó ÌÓì± ÈÓÓÓì, ÁÙÁÙÁ
ÁìÓÓÙ. ±Ù± ÁÈìÓ, Ò. ÌÓì±, ±ÓÓÙì
ÓÓììÓÓÙ. Áî fl%ÈÙÁ Á,, Ò.
- ë±ÁìÁÓÙÈÙÁ. ±Ù± ÁÈì`ë. ÌÓì Ì± ÓìÓÓìÓë
ÓÓ, Á ÌìÓÓÙë. ÁÁ, È. ±`ÈÈ, Ò, Áìì
Áî fl%ìë.
- Á±Ù± ÁÈì`ë. ÌÓì. Ù%ÁÙ Ì±,, Á, ±Ù, Òì, Ò
, Áìì Áî fl%ìë. ùÓ òì, ÌìÁÙÓì ÌÓ Ì±ì, Ì`ì.

ë Ó`ÁÁ

- ëÙÓÓÁ%ÈìëÙÁ ±òò± ±Ù ÓÙ`ìÁìÙ È`ÀÓìÓë
ÒÁÙë, ÁÒìë Òì ÌÁ ÈÓÓÓì, ÁÙÁÙÓì, ÙÁ`ÁìÈÁ
%ìÈÙÁì, ÌÓ, Ò, ÁìÁìë. Ììì ÓÓÙÓÁ%ÈìÁìì
ÒÁÙÁ, Ò, Ò Ò Ó, Ó%±, `Ù±`ÈÙÁ Á,, Ò Áî. Áì.
ÇÈìÓ, %± ÌÁ ÙììÈÙÁ Áî Ò±ì Ò Ó, Ó%.
- ÇÀ`ìÓÓìÙ±Ùë ÙÈÙÁ ±òò± ±Ù Ò
ÓÓ, ÁÈ%Áìì`ì ÌÙ Óì Èìë ÈÁ, ÁÒìë
±òò± ±Ù. `ì Ù ÓìÁì Èìë ÓÓ, ÁÈ%Áì.
- ÇÀÓ,, È. ±ÈÙÁ ÓÁÙÁ, Óë ÌÙ ÓÁ Áì. ÙÓì±
(ÒÁÙÁ, Óë Ò Ó, Ó%) È ÌÁ Ìì±ÈÙÁ ÙììÈÁ`Á
Ò Á%ÌÁÙ` Ì± ÌÁ,, Ò. ùÓ ÌÓÈÁÙ ÓÓ, Á%ÈÙ.
ÒÁÙÁ, Óë ÌÙ È ÌÓÈÁÙ Ò È, ÁÓÙë Ì ÓÓë± Ù
Èìë ÓÓ ±ÈÁìë, `ìÁìÙ È`ÀÓìëì ÙÓìÓì.
- ëÌÁ%ÈÙÁ Áî ÙÁì, `ÙÓ. `ìÈì±ìÈÁ
ÌÁÙ±ììë`ÀÓìëÁ Ò Á%ÌÁÙ` ÌÁ Ò ÈìÓ%Èìë,
ìÓìÙ±ìÙ Ò ÌÁÙ±ììë`ÀÓìëìë %ÁÙ±ììë
ÓÓÁ%ÈìëÙÁì, ÌÓë Óì±ÓÙëì. ÓÓìë `ÙÓ
Ò ÓëÁÓë%ÁÙ, ÙÓ ÌÓÈÁÙ, ÓÁìëììÙ, ÌÓ ÓÙìÓÁ
Áî Ì`ì±ìÈÁ È ±òò± ±Ù ÌÓÈÁÙ. `Ù,
ÓÓ, ÁÈ%Áì.
- ÇÒÁ,, %± ÓÓ%Á Èë, ±ÈÙÁ ÌÁÙ±ììë`ÀÓìëÁ
ìÓìÙ±ìÙ, `ìÈÓÙÓÁ.
- ÇÀ. ±Á. È. ±ÈÙÁ ±òò± ±Ù.
- ÇÀ ÓÓ%, Á,, ±ÈÙÁ ±òò± ±Ù ÌÁì±ìë`ÀÓìëì
Ù%±. ±ì È ÌÁ ÓìíëÙÁ Á,, Ò.
- ÓÓìë ±òò± ±Ù Ì±ìÓ%ÈÙÓì, `ì ÌÓÓìÙ±Ù±`Èë,
ÓÓÓ. ÁììÓ, ÁÈÈìÁ Áî fl%ìë, %Á ÈÈÙÁ Á,, Ò
, %±ìë ÓÙ Ò ÈÁììëìÓ, ÁÁ È
, È%ÁÓÓ. Ò Ù%Ó, ±ìëì, ÓÓÓìÙ `ÙÓ Òì ÌÓÈÁÙ
Ì± Ù`ÈÙ. Ò ÈÁì ÁÁ È. ±. ÓÙÙ
, È%ÁÓ±òò± ±ÙÓ.

Maintenance information and precautions

- The unit becomes warm while in use. This is normal.
- Do not place the unit in locations that are:
 - Extremely hot or cold
 - Dusty or dirty
 - Very humid
 - Vibrating

Notes on dry batteries

To avoid possible damage from battery leakage or corrosion, observe the following.

- Be sure to insert the batteries in the correct direction.
- Dry batteries are not rechargeable.
- Do not use a combination of new and old batteries.
- Do not use different types of batteries.
- The batteries slowly discharge while not in use.
- Do not use a battery that is leaking.

If battery leakage occurred

- Wipe off the liquid in the battery case carefully before replacing the batteries.
- If you touch the liquid, wash it off with water.
- If the liquid gets into your eyes, wash your eyes with a lot of water and then consult a doctor.

The battery charger for this camcorder is designed to charge Sony Ni-Cd batteries and should only be used for such purpose, or for the purpose of charging batteries that are compatible therewith and allow it to function safely. This battery charger should not be used with Ni-MH batteries as it may cause excessive rise in temperature of Ni-MH batteries. Sony does not warrant the compatibility or safety of this battery charger for use with batteries other than Sony Ni-Cd batteries. Before using this battery charger for charging batteries other than Sony Ni-Cd batteries, confirmations should be obtained from the battery manufacturer that such batteries are compatible with this charger and may be used safely therewith.

If any difficulty should arise, unplug the unit and contact your nearest Sony dealer.

àìùó ìî~èfl ôó ûîó%û á†
†ôô† †úóî è ô â%ôóúó ôèìóóúè

- Àôô† †úóú†ìó, èúòfl úáôî~î, ô, âîfl èóóî. Áó, †îèfl. ùúó fl, îfláúófl ìó ì†î ì~î.
- Çá †áîá †èúá †ôô† †ú, ìáóú†ì, íóúó ~â:
 - Í †èîá, ô fl~èá èîè ìóìó%î~â
 - Ô~î ì~â èîè, fláî~â
 - Ó~âî, ì†èî~â
 - Óó%, á èáî, è. †~èè

è èîá~îèfl òúìóèúáî, ìó òúìèì. †ú† áâí çó èá. àè†èá, óáìóèìó, ô óó, àè%áîèfl, òîá%óú, èá úúá~îè èá. †ú† áâí èîè íó óáèè óó. ì. %†èúá òîá%ó ~ââ.

- è~flá†úáî ìó, óú†, úá. †ú† àèîè, ô †. èî. ìóì ì†ó †. ìáîèè.
- èúìèá: †ú† àèîè ìá fl, îfl, úòfl óá áâ† flè†áî~îè.
- Çá èóóî. áúèúá íóî. èì†~è. èá ìó, ~ì è óú† ~ì. †ú† áâí.
- Çá èóóî. áúèúá †áîè~ì~â úèó~. †ú† áâí.
- Á†ú† àèîè óîá, ì† †á flè†. úòfl, íó, %† óîè ìá èóóî, áú, úòfl.
- Çá èóóî. áúèúá. †ú† àèîú, íóúó †fl ó úáî†áú.

òóîè òíú~èúòfl úúá~ì† èá. †ú† áâí
• ì~†úáî ìó, ~ú èúá èè%íóóú, ~†ú† àèìóè ì†ìá áóá à%áîáíóè. †ú† áâí.
• òóîè ç~ú ó, †îè èè%íóóú, ~úó òíóèúá áá, óóè.
• òóîè èè%íóóú. óóó†ì†, ç†~è, ì†á†, úó ó íóèúá ç†~è, ì†á†. óî. èî íóîè á-óú, óî, ó%, †á†úáî ó. †úèúáó, í, †~ú.

á† fl%íóá úóú óèóú, ó †ííúíúíúó ì~ì. †ú† áâí %îfl %†ìíóè, è%áóî†ìá. ~ó á%ì†áî†~áíó%îfl á† fl%îè ìèíáî. -ì%îèá, ~ì. †ú† áâí Ni-Cd úè ì~ì Sony è %óîèíó. ~ú. èóóî. áó, †ìó úóî. íó, ~úèì. ~áîfl, èîè, ~áîfl á† fl%îè. †ú† áâí, íóúó ~á fl, îfl, úòfl óó, ìáóúèì~îè ó, ~áúóîflíúú~îè è ó. áóóá~è, †. ú. ááóó†òíóá úúí~èóîè ó, †ìèá úóú óèóú, †. Ñ†ìíóá á† fl%íóá úóú óèóú, ó †ííúíúíúó ì~ì. †ú† áâí ìá òîá%úáú èóóî. áó, †ú. %îfl á† fl%îè. †ú† áâí Ni-MH, ú†ì ì†ì ~úó ìóèáú ó è, áóúè ì~ì ááîá ìóìú óó, ~áîè. úáîóá †úú. ~†ú† áâí Ni-âç. ìè ì† Sony ìá, † †íúè úáú óó, ìáóúèíóóú, èîè. ááóó†òíóóú. %†ìíó, ó á† fl%íó, ó úóú óèóú, † †ííúíúíúó ì~ì. †ú† áâí ó è èóóî. áó, †ìèè á, óó. †ú† àèì†ìè, óúîè~ì~îè óú ìèíáî. -ì†~îèá, ~ì. †ú† áâí Ni-Cd úè ì~ì Sony. èá á%èóóî. áó, †ìèáî %†ìíó, ó á† fl%íó, ó úóú óèóú, † †ííúíúíúó-ì~ì. †ú† áâí %îfl á† fl%îè % ú, èì, óúîè~ì~ì óú ìèíáî. -ì†~îèá, ~ì. †ú† áâí Ni-Cd úè ì~ì Sony, %óîèíó. ~ú. óóíú~áíó óó%ú, á è%áîèá óú èá, óúó, èúáîèá. †ú† áâí, ~úó. †ú† àèîè fl, îfl, úòfl óóìáóúèì~îè ó %†ìí~ì á† fl%í~ì ìóú óèóú, óî è íó, ~úó ó ìèî. ~ááóó†òíó èóóî. áó, †ú, ófl.

Ç òíú~†áú ù%íóóúáè óúóóá%èìèúá †ôô† †ú è ó. †úèúáó, ç† á. ìèè†è áá†, áìúóú, ó Sony.

Additional information Ñóóóîèúáî, ì†fl èìúó ì†~èfl

Using your camcorder abroad

Each country or area has its own electricity and TV colour systems. Before using your camcorder abroad, check the following points.

Power sources

You can use your camcorder in any country or area with the supplied AC power adaptor within 110V to 240V AC, 50/60 Hz.

Difference in colour systems

This camcorder is a PAL system-based camcorder. If you want to view the playback picture on a TV, it must be a PAL system-based TV or a SECAM system-based TV with a PAL-SECAM transcoder. Check the following list.

PAL system

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

PAL M system

Brazil

PAL N system

Argentina, Paraguay, Uruguay

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.

SECAM system

Bulgaria, Czech Republic, France, Guyana, Hungary, Iran, Iraq, Monaco, Poland, Russia, Slovak Republic, Ukraine, etc.

àòòóî, áó, ÷îêâ ç÷-âè
, ë%âóí÷îá ° á÷ ù·âèóî

ä÷ê%÷fl òù ÷î÷ êîë ó·î÷òù, ëîââù ò, ó, òó·òù, äîîù, òèòùâîù ~ îâîù ë~âóíóë òâùë ë òèòùâîù ^, âúîó,,ó úâîâ, ë%âîëfl. ëâ ä% èòòóî, áó, ÷îêâ ç÷-âè, ë%âóí÷îá ° á÷ ù·âèóî ò ó, ä, úâ òîâ%ù, ëâ òùîíù°:

àòùó~îëíë òèù÷îëfl

ç° îóëâùâ èòòóî, áó, ÷ù, ç÷-ù, ë%âóí÷îâ ù, î, ·óë òù ÷îâ êîë ó·î÷òùë ò ò ëî÷,,÷âî°î òâùâ, °î ÷%÷òùâ òî òâ äî. úóí÷, ò ä%âî÷÷ òù 110 ç%ó 240 ç òâ äî. úóí÷, 50/60 ë^.

ê÷âîë~ëfl, òèòùâî÷÷ ^, âúîó,,ó úâîâ, ë%âîëfl

ñîîî÷fl, ë%âóí÷îâ ÷ òòîó, ÷î÷ ÷÷ òèòùâîâ PAL. òòîë ç° ìóùëùâ ò òòîóù äù, ,òòò óëâ, ò%ëîóâ ëáó. ÷ëâîëâ ÷÷ úâîâ, ëáó ä, òî %óîëâî ·°ù. òòîó, ÷î ÷÷ òèòùâîâ PAL ëîë ëâ ÷÷ òèòùâîâ SECAM ò ù ÷îòîó%â òî PAL-SECAM: ë ó, ä, úâ òîâ%ù, ~ëë òòèòóî.

ëèòùâî÷ PAL
ä, òù ÷îëfl, ä, òù ëfl, äâî, „ëfl, çâîëíó· ëù÷îëfl, ëâ ÷îëfl, éóîî÷îëfl, éóîíóî,, ñîëfl, àð÷îëfl, àù÷îëfl, àëù÷ë, àù, äëù, ä÷î÷ëâëfl, çó, ÷fl áâî÷îëfl, çó, ä, ëfl, ëó úù,,÷îëfl, ëëî,,÷òù, ÷îëî÷îë%, ÷îëîfl÷îëfl, ò, ä~ëfl, ò, äë^÷ ëfl, ë%.

ëèòùâî÷ PAL-M
ä ÷âëîëfl

ëèòùâî÷ PAL-N
ä „âîùëî÷, ë÷ ÷,,÷ë, ÷ ù,,÷ë

ëèòùâî÷ NTSC
â÷,,÷îòîëâ òòù ó, ÷, áóîë, ëfl, çâîâòù~î÷, ä÷î%÷, äóîù·ëfl, áó äfl, äâîòëî÷, ëâ ù, ëù ëî÷î, ëòâ, ÷÷ë, ÷î, ÷îëëòòëî°, ñâîù ÷î, ÷÷fl äîâ ëî÷, óëîë, ùí, ÷%ó, ùî÷ëî÷, úóóîëfl ë%.

ëèòùâî÷ SECAM
áóî,,÷ ëfl, çâî,, ëfl, ë÷ë÷î÷, à ÷î, à ÷î, áóî÷îó, ëóî, ^÷, ëòòòëfl, ëîó, ÷^î÷fl ëâòòù·îëî÷, ÷î ÷ëî÷, ÷ ÷î~ëfl, óâ òî÷fl ëâòòù·îëî÷ ë%.

Trouble check

If you run into any problem using the camcorder, use the following table to troubleshoot the problem. Should the difficulty persist, disconnect the power source and contact your Sony dealer or local authorized Sony service facility.

Camcorder

Power

| Symptom | Cause and/or Corrective Actions |
|---|---|
| The power is not on. | <ul style="list-style-type: none"> The battery pack is not installed.
→ Attach the battery pack firmly by pushing the lower part of the battery pack until it clicks twice. (p. 10) The battery is dead.
→ Use a charged battery pack. (p. 7) The AC power adaptor is not connected to mains.
→ Connect the AC power adaptor to mains. (p. 23) |
| The power goes off. | <ul style="list-style-type: none"> While being operated in CAMERA mode, the camcorder has been in the Standby mode for more than 5 minutes.
→ Turn STANDBY down once and turn it up again. (p. 12) The battery is dead.
→ Use a charged battery pack. (p. 7) |
| The battery pack is quickly discharged. | <ul style="list-style-type: none"> The ambient temperature is too low. (p. 53) The battery pack has not been charged fully.
→ Charge the battery pack again. (p. 7) The battery pack is completely dead, and cannot be recharged.
→ Use another battery pack. (p. 22) |

Operation

| Symptom | Cause and/or Corrective Actions |
|---|---|
| START / STOP does not operate. | <ul style="list-style-type: none"> The tape is stuck to the drum.
→ Eject the cassette. (p. 11) The tape has run out.
→ Rewind the tape or use a new one. (p. 20) The POWER switch is set to PLAYER.
→ Set it to CAMERA. (p. 12) The tab on the cassette is out (red).
→ Use a new cassette or slide the tab. (p. 11) |
| The cassette cannot be removed. | <ul style="list-style-type: none"> The battery is dead.
→ Use a charged battery pack or the AC power adaptor. (p. 7, 23) |
| No function except for cassette ejection works. | <ul style="list-style-type: none"> Moisture condensation has occurred.
→ Remove the cassette and leave the camcorder for at least 1 hour. (p. 58) |
| The tape does not move when a tape transport button is pressed. | <ul style="list-style-type: none"> The POWER switch is set to CAMERA or OFF.
→ Set it to PLAYER. (p. 20) The tape has run out.
→ Rewind the tape or use a new one. (p. 20) |

Continued to the next page

Trouble check

| Symptom | Cause and/or Corrective Actions |
|--|--|
| The date or time indicator is flashing. | <ul style="list-style-type: none"> The lithium battery is weak or dead.
→ Replace the lithium battery with a new one. (p. 50) You pressed DATE and TIME together for more than 2 seconds. The camcorder is not malfunctioning.
→ You may start recording. Flashing will stop soon. |
| The date or time indicator disappears. | <ul style="list-style-type: none"> Reset the date and time. (p. 51) |
| The SteadyShot function does not activate. (CCD-TR620E only) | <ul style="list-style-type: none"> STEADY SHOT is set to OFF.
→ Set STEADY SHOT to ON. (p. 42) The SteadyShot function does not work when the wide mode is set to 16:9FULL. |
| The autofocus function does not work. | <ul style="list-style-type: none"> FOCUS is set to MANUAL.
→ Set it to AUTO (p. 39) Shooting conditions are not suitable for autofocus.
→ Set FOCUS to MANUAL to focus manually. (p. 39) |
| Recording stops in a few seconds. | <ul style="list-style-type: none"> START/STOP MODE switch is set to  or 5 SEC.
→ Set it to . (p. 30) |
| The title display position shifts. | <ul style="list-style-type: none"> There are unwanted blanks before or after the title.
→ Delete them then select . |
| The fader function does not work. | <ul style="list-style-type: none"> The START/STOP MODE switch is set to 5 SEC or .
→ Set it to . (p. 30) |

Picture

| Symptom | Cause and/or Corrective Actions |
|--|---|
| The image on the viewfinder screen is not clear. | <ul style="list-style-type: none"> The viewfinder lens is not adjusted.
→ Adjust the viewfinder lens. (p. 14) |
| A vertical band appears when a subject such as lights or a candle flame is shot against a dark background. | <ul style="list-style-type: none"> The contrast between the subject and background is too high. The camcorder is not malfunctioning.
→ Change locations. |
| The picture is "noisy". | <ul style="list-style-type: none"> The video heads may be dirty.
→ Clean the heads using the Sony V8-25CLH cleaning cassette. (p. 59) |
| A vertical band appears when shooting a very bright subject. | <ul style="list-style-type: none"> The camcorder is not malfunctioning. |
| An unknown picture is displayed in the viewfinder. | <ul style="list-style-type: none"> If 10 minutes elapsed after you set the POWER switch to CAMERA without inserting a cassette, the camcorder automatically starts the demonstration.
→ Insert the cassette, and the demonstration stops. You can make the demonstration not appear. (p. 28) |

Trouble check

Others

| Symptom | Cause and/or Corrective Actions |
|---|--|
| The supplied Remote Commander does not work . | <ul style="list-style-type: none">• COMMANDER is set to OFF.
→ Set it to ON. (p. 27)• Something is blocking the infrared rays.
→ Remove the obstacle.• The battery is not inserted with the correct polarity.
→ Insert the battery with the correct polarity. (p. 79)• The batteries are dead.
→ Insert new ones. (p. 79) |
| There is dust in the viewfinder. | <ul style="list-style-type: none">• Detach the eyecup and clean the viewfinder lens. (p. 60) |

Continued to the next page

Additional information

For more information, see the user manual.

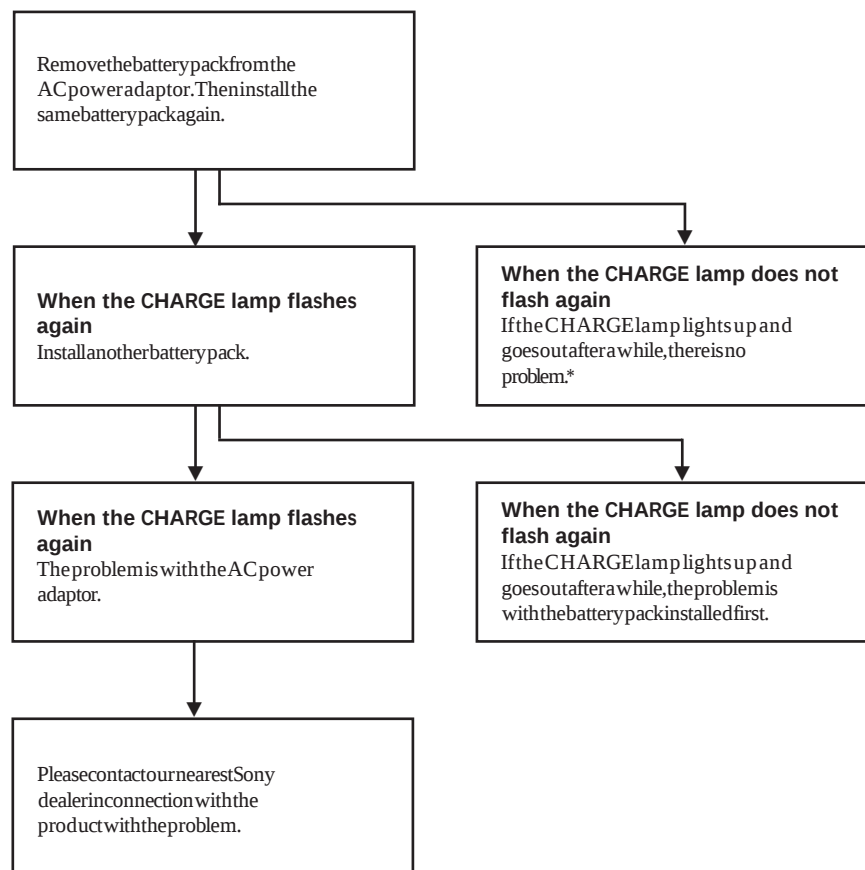
Trouble check

AC power adaptor

| Symptom | Cause and/or Corrective Actions |
|--------------------------------|---|
| The POWER lamp does not light. | <ul style="list-style-type: none"> Set the selector to VTR (DC OUT) and disconnect the mains lead. After about one minute, try again. (p. 9) |
| The CHARGE lamp flashes. | <ul style="list-style-type: none"> See the following chart. |

When the CHARGE lamp flashes

Check through the following chart.



* If you use a battery pack which you have just bought or which has been left unused for a long time, the CHARGE lamp may flash at the first charging. This does not indicate a problem. Repeat again to charge with the same battery pack.

è Ó,Â Í‡ ÌÄËÒÔ ‡,ÌÓÒÚÂÈ

ÇË%ÔÍ±ÏÂ ±

| | |
|--|---|
| <p>è ÈÀÌ†Ì
ÇÀ, ÎÎ, ~†ÀÙÒfl ÔÈÚ†IÈÀ.</p> | <p>è È~ÈÌ† È/ÈIÈ%ÆÈÙ, Èfl ÔÙ ÒÙ ì†IÀIÈ.
 • À†Ú† ÀÈÌ'È .ÍÓÍ IÀ ÌÀ ÈÒÒÀ%ÈÌÀÌ.
 → Ç†%ÆÈÌÒ ÒÒ%ÒÒÀ%ÈÌÈÙ, .†Ú† ÀÈÌ'È .ÍÓÍ ÒÙÙÀÌ
 I†È†ÙÈfl IÈÈIÀÈ ~†ÙÈ .†Ú† ÀÈÌÒ,,Ò .ÍÓÍ†. (ÒÙ .10)
 • è†À fl%ÈÌÒfl .†Ú† ÀÈÌ'È .ÍÓÍ.
 → àÒÒÓÌ, ÀÙÈÙÀ À† flÈÀÌ'È .†Ú† ÀÈÌ'È .ÍÓÍ. (ÒÙ .7)
 • ÈÀÙ, ÒÈ †%†ÙÀ ÒÀ ÀÌ. ÚÓÍ† IÀ ÒÒ%ÒÒÀ%ÈÌÀÌ Í' IÀÍÙ È'ÀÓIÒÈ ÒÀÙÈ.
 → èÒ%ÒÒÀ%ÈÌÈÙÀ ÒÀÙÀ, ÒÈ †%†ÙÀ ÒÀ ÀÌ. ÚÓÍ† Í
 ' IÀÍÙ È'ÀÒÈÒÈ ÒÀÙÈ. (ÒÙ .23)</p> |
| <p>Ç'ÎÎ, ~†ÀÙÒfl ÔÈÚ†IÈÀ.</p> | <p>• ÇÒ, Àflfl ~ÍÒÒÍÙ†Ú† ÈÈ, ÀÈÈÌÀ CAMERA, È%ÀÓÍ†IÀ †
 .†, ÀÈÈÌÀ,,ÒÙ, ÍÒÙÈ .ÓIÀÀ 5 IÈÌÙ.
 → èÒ,À IÈÙÀ ÒÀ ÀÍÎ, ~†ÙÀÌ, STANDBY, IÈÀ Ò%ÈÌ †À È
 ÒÒ,À IÈÙÀÀ,ÒÒÍÒ,†,,À 1. (ÒÙ .12)
 • À†Ú† ÀÈÌ'È .ÍÓÍ †À fl%ÈÌÒfl.
 → àÒÒÓÌ, ÀÙÈÙÀ À† flÈÀÌ'È .†Ú† ÀÈÌ'È .ÍÓÍ, (ÒÙ .7)</p> |
| <p>À†Ú† ÀÈÌ'È .ÍÓÍ .ÒÙ Ò
‡À flÈ†ÀÙÒfl.</p> | <p>• ÈÍ ÙÈ†, ~†fl ÙÀÌÒÀ †ÙÙ †ÒIÈ ÍÓÍ IÈÀÍ†fl. (ÒÙ .53)
 • À†Ú† ÀÈÌ'È .ÍÓÍ IÀ ÒÓÍÍÒÙÙ, À† flÈÀÌ.
 → à† fl%ÈÙÀÒÌÒ,† .†Ú† ÀÈÌ'È .ÍÓÍ. (ÒÙ .7)
 • À†Ú† ÀÈÌ'È .ÍÓÍ ÒÓÍÍÒÙÙ, †À fl%ÈÌÒfl È IÀ ÍÓÈÀÙ
 .Ù, ÒÀ ÀÀ† flÈÀÌ.
 → àÒÒÓÌ, ÀÙÈÙÀ% Ù,ÒÈ .†Ú† ÀÈÌ'È .ÍÓÍ. (ÒÙ .22)</p> |

| | |
|--|--|
| <p>e ĒĒi†ī ē ĒĒi† ē/ĒiĒ ĄĒōū, ēfi ōō ōūō †iĒiĒ.</p> <p>ĈĀ ŪŪi†ĒōiĒ ŪĀŪ</p> <p>īiŋōi† START/STOP.</p> | <ul style="list-style-type: none"> • āĀiŪ† ō ēiĒōi† ī . † . †iŪ. → ĈĀ ŪŪiĒĒĀ ī†ōōĀŪ. (ŪŪ . 11) • āĀiŪ† ā†iŋiĒĒiŋō. → ēĀ āiŋŋĒĒĀ īāiŪŪ ēiĒ ēōōiĒ āŪĒĀ iŋ, ŪŪ . (ŪŪ . 20) • ĈĀ īiĒ . †iŪiĒ . POWER ŪŪŋ†iŋ, īāiĒ , ōōiŋēāiĒĒĀ PLAYER. → iŋŋ†iŋ, ēŪĀ ā,, ō, ōōiŋēāiĒĒĀ CAMŌRA. (ŪŪ . 12) • Ĉ† ī†ōōĀŪ īāiŪ īāŋōŪi† (ī †ŋiŋ, ō). → āŋōōiĒ . āŪĒĀ iŋ, ŪŪ ī†ōōĀŪ ēiĒ ōĀ ā,, ēiĒ ŪĀ īāŋōŪŋiĒ. (ŪŪ . 11) |
| <p>ā†ōōĀŪ† īĀ iŋēĀŪ . ŪŪ,</p> <p>, †iŪ† ēĀĀ ē†iŪiĒfi.</p> | <ul style="list-style-type: none"> • āŪ† āĒiĒĒ . iŋiĒ †Ā fiĒiŋfi. → āŋōōiĒ . āŪĒĀ ā† fiĒĒiĒĒĒĒ . †iŪ† āĒiĒĒĒĒ . iŋiĒ ēiĒ ōĀŪĀ, ōĒ †ĀŋĀŪĀ ōĀ āiĒ . ŪŪi† (ŪŪ . 7, 23) |
| <p>ĈĀ † . ŪŪ†ĀŪ īĒ ō,, ī† ēĀ ŪŪiĒĒĒĒĒ,</p> <p>ī ōiĀ , Ū†iĒĒ, †iĒfi ī†ōōĀŪ .</p> | <ul style="list-style-type: none"> • ē ēĀŋōĒi† iŋiŋĒiŋŋĒĒĒfi, ī†,, ē. → ĈĀ ī . ŪĀ ī†ōōĀŪ ē ēŋŋŋŋ , ŪĀ , ēĀŋōi†iĀ Ūŋ ōō ī †ĒiĒĒ īĀ āi†1 †ŋ. (ŪŪ . 58) |
| <p>āĀiŪ† īĀ ōĀ āiĀ†ĀŪŋfi ō ē</p> <p>ī†ē†ŪĒĒĒ īiŋōiĒ</p> <p>ŋĀ āiĀ†ĒfiĒ īāiŪŪ .</p> | <ul style="list-style-type: none"> • ēĀ āiĒ . †iŪiĒ . POWER ŪŪŋ†iŋ, īāiĒ , ōōiŋēāiĒĒĀ CAMERA ēiĒ OFF. → iŋŋ†iŋ, ēŪĀ , ōōiŋēāiĒĒĀ PLAYER. (ŪŪ . 20) • āĀiŪ† ā†iŋiĒĒiŋō. → ēĀ āiŋŋŋĒĒĀ īāiŪŪ ēiĒ ēōōiĒ āŪĒĀ iŋ, ŪŪ . (ŪŪ . 20) |

Additional information

è ó,â í† ìâëòò ‡,ìóòúâë

è ó~ââ

| è ÊÂì†í | è Ê~Êì† Ê/ÊîÊ %ÂÊòú,Êfl ôó úòú ‡ìâìÊ. |
|--|--|
| è Êî†,,†Âì°Ê ôúî, ú
%Êòú†ì°Êííò,,ó úò ‡,îâìÊfl
îâ ‡·òú†âú. | <ul style="list-style-type: none"> • COMMANDER Òòú†ìó, îâì , ôóíóÊâìÊâ OFF.
→ ìòú†ìó,Êúââ,,ó , ôóíóÊâìÊâ ON. (òú . 27) • óúó-úó ô â,, ‡Ê%†âú òúú, Êìú ‡í ‡òì°ì ìú~†ì.
→ ìòú ‡ìÊúâô â,, ‡%ú. • Â†ú† ÂÊìÊ ,òú†,îâì° ò ìâò ‡,Êî, ìòÊ ôóífl ìóòú, . .
→ Çòú†,, úâ ·†ú† ÂÊìÊ, ôó·î %†fl ô ‡,Êî, ìú.
ôóífl ìóòú. (òú . 79) • á† fl% ·†ú† Ââì Êâ ‡òìó%ó,†ì.
→ Çòú†,, úâ ìó, °â. (òú . 79) |
| á†ó° îÊìòfl ,Ê%óÊòí†úâî, . | • êúòóâ%ÊìÊúâ óíúîfl Ê ó° ÊòúÊúâ ó·°âíúÊ, ,Ê%óÊòí†úâîfl.
(òú . 69) |

(ô ó%óíÊâìÊâ òìâ%úâú)

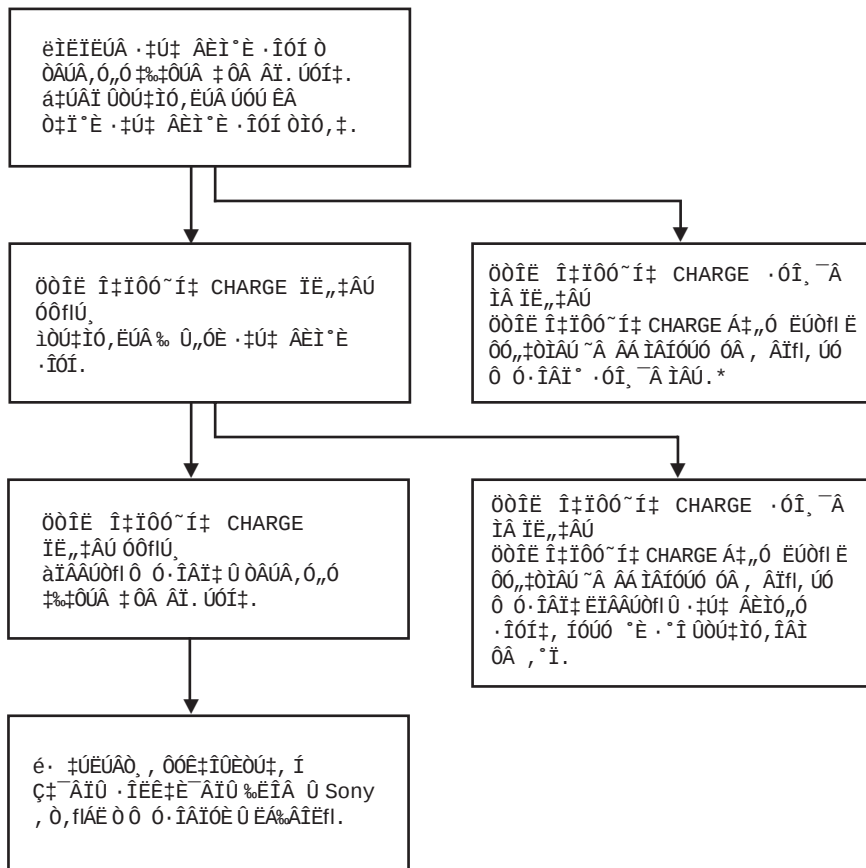
Additional information
îòóóìÊúâî, ‡†fl Êìúò ‡†Êfl

è Ó, Â Í† ÌÄÈÒÒ ‡, ÌÓÒÚÄÈ

èÄÚÄ, ÓÈ ‡%†ÓÚÄ ÒÄ ÄÌÄÌÄÌÒ, Ó ÓÓÍ†

| | |
|--------------------------|---|
| è ÄÄÍ†Í | è È~È† È/ÈÈ %ÄÈÓÚ, ÈÍ ÓÓ ÚÓÚ ‡ÌÄÈ. |
| ä†ÌÓÓ~Í† POWER ÌÄ „Ó ÈÚ. | • ÌÓÚ†ÌÓ, ÈÚÄ ÒÄÌÄÍÚÓ , ÒÓÍÓÈÄÌÈÄ VTR (DC OUT) È ÓÚÓÓÄ%ÈÈÈÚÄ ÒÄÚÄ, ÓÈ Ò Ó, Ó%. óÄ ÄÄ Ó%ÌÓ ÈÈÌÓÚÓ ÒÌÓ, ‡ ÓÓ%ÓÓÄ%ÈÈÈÚÄ ÒÄÚÄ, ÓÈ Ò Ó, Ó%. (ÓÚ . 9) |
| äÈ„†ÄÚ Ì†ÌÓÓ~Í† CHARGE. | • èÌÓÚ ÈÚÄ ÒÌÄ%Ú. ~Ú. Ú†. ÌÈ~Ú. |

äÓ„%† ÌÈ„†ÄÚ Ì†ÌÓÓ~Í† CHARGE
è Ó, Â ÈÚ, ÓÓ ÒÌÄ%Ú. ~ÄÈ Ú†. ÌÈ~Ä.



* ÒÒÈÈ Ç~ÈÓÓÍ, ÄÚÄÚÄ . ‡Ú† ÄÈÌ~È . ÌÓÍ, ÌÓÚÓ ~È Ç~È ÓÓÍ, ÌÓ ~ÚÓ ÌÓÈÈÈ, ÈÈÈ ÌÓÚÓ ~È . ~Ì ÓÓÚ†, ÌÄÌ Ì† %ÈÈÚÄÌ, ÌÓÄ, ÄÍÍ, ÚÓ Ì†ÌÓÓ~Í† CHARGE ÌÓÈÄÚ ÌÈ„†Ú, Ò È ÓÄ , ÓÈ Ä† Í%ÌÄ. ÒÓÚ ÌÄ ÚÍ†Ä~, ‡ÄÚ Ì† Ò Ó. ÌÄÌÚ. èÓ, ÚÓ ÈÚÄ Ò Ó~Ä%Ú Ú Ä† Í%ÈÈ Ò ÚÄÌ ÈÄ Ò†Ì~È . ‡Ú† ÄÈÌ~È . ÌÓÍ.

English

Specifications

Video camera recorder

System

Video recording system

Two rotary heads, Helical scanning, FM system

Audio recording system

Rotary heads, FM system

Video signal

PAL colour, CCIR standards

Usable cassette

8 mm video format cassette (standard 8 mm)

Recording/Playback time

SP mode: 1 hour and 30 minutes (P5-90)

LP mode: 3 hours (P5-90)

Fastforward/rewind time

Approx. 5 min. (P5-90)

Image device

CCD (Charge Coupled Device)

Viewfinder

Electronic viewfinder (Black and white)

Lens

Combined power zoom lens,

CCD-TR501E: 15x (Optical)

CCD-TR502E/TR620E: 15x

(Optical), 30x* (Digital)

F1.4 – 2.4

Filter diameter 37 mm (1 1/2 inches)

Focal distance

f = 4.1 – 61.5 mm (3/16 – 2 1/2 inches)

When converted to a 35 mm still camera

CCD-TR501E/TR502E: 39 – 585

mm (1 1/16 – 23 1/8 inches)

CCD-TR620E: 47 – 705 mm

(1 7/8 – 27 7/8 inches)

Colour temperature

Auto

Minimum illumination

CCD-TR501E/TR502E: 0.4 lux at F 1.4

CCD-TR620E: 0.7 lux at F 1.4

Illumination range

CCD-TR501E/TR502E: 0.4 to 100,000 lux

CCD-TR620E: 0.7 to 100,000 lux

Recommended illumination

More than 100 lux

* 180x in some area

Input and Output connectors

Video output

Phono jack, 1 Vp-p, 75 ohm, unbalanced

Audio output

Monaural, Phono jack

327 mV, (at load impedance 47 kilohm), impedance less than 2.2 kilohm

RFU DC OUT

Special minijack, DC 5 V

LANC control jack

Stereo mini-minijack (ø 2.5 mm)

MIC jack

Minijack, 0.388 mV, low impedance with 2.5 to 3 V DC output, impedance 6.8 kilohm (ø 3.5 mm)

General

Power requirements

7.5 V (AC power adaptor)

Average power consumption

CCD-TR501E/TR502E: 3.3W

CCD-TR620E: 3.5W

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.)

111 x 105 x 200 mm (4 3/8 x 4 1/8 x 7 7/8 inches)

(w / h / d)

Mass (Approx.)

CCD-TR501E/TR502E: 770g (1 lb 11 oz)

CCD-TR620E: 780g (1 lb 11 oz)

Excluding the battery pack, lithium battery, cassette and shoulder strap

CCD-TR501E/TR502E: 990g (2 lb 2 oz)

CCD-TR620E: 1kg (2 lb 3 oz)

Including the battery pack NP-33, lithium battery CR2025, cassette P5-90 and shoulder strap

Microphone

Electret condenser microphone, monaural type

Supplied accessories

See page 6.

AC power adaptor

Power requirements

110 – 240 V AC, 50/60Hz

Power consumption

AC-V16/V17: 20 W

AC-V16A/V17A: 22 W

Output voltage

DC OUT in operation mode

7.5 V, 1.8 A

Battery charge terminal

10 V, 1.1 A in charge mode

Application

Sony battery packs

NP-33 (supplied), NP-67,

NP-66H/68, NP-78, NP-98

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.)

166 x 43 x 75 mm (6 5/8 x 1 11/16 x 3 inches) (w / h / d)

including projecting parts and controls

Mass (Approx.)

AC-V16: 420 g (15 oz)

AC-V16A: 450 g (16 oz)

AC-V17: 460 g (16 oz)

AC-V17A: 490 g (17 oz)

Design and specifications are subject to change without notice.

Additional information

NOÖÖITIEÜÄ. ††† EIUÖ †††E††

ēūōōīēē

īāīīēē~āōīēā 1† ‡íúā ēōúēīē

çē%āōī†īā ‡

ēēōūāī†

ēēōūāī†, ē%āōā†ōēōē
ñ, ā, ‡~†~ēāōfl „ōīō, īē,
ī†īōīō-ōū ō~ī†fl
‡ā, ā ūī†, ōēōūāī† ōā
ēēōūāī† ‡ū%ēōā†ōēōē
ç ‡~†~ēāōfl „ōīō, īē,
ōēōūāī† ōā
çē%āōōē, ‡†ī
ñ, āūō, ōē ōē, ‡†ī PAL,
ōū†ī%† ū ōō āāē
āōōōī, āūāī~ā ī†ōōāū~
ā†ōōāū~ 8-īī, ē%āōūō ī†ū†
(ōū†ī%† ū8īī)
ç āīfl ā†ōēōē/
, ōōō ōēā, ā%āīēfl
ēāēēī SP: 1~†ō ē 30 īēīūū
(ē5-90)
ēāēēī LP: 3~†ō† (ē5-90)
ç āīfl ōā āīōūīē, ōā ā%/
ī†ā†%
ē ē.īēā. 5 īēī. (ē5-90)
īō īē ō, ‡ūāī.
ēāō. ‡ēāīēfl
CCD (ō ē.ō ō ā† fl%ō, ōē
ō, flā.)
çē%ōēōī†ūāī.
ūāīū ōīī~ē, ē%ōēōī†ūāī.
(~ā īō.~āī~ē)
ē.~āīūē,
āōī.īēīē ō, ‡īī~ē ō.~āīūē,
ō ō ē, ō%ī~ī
ū ‡īōūōī†ūō ōī†,
CCD-TR501E:
15-ī ‡ūī~ē (ēōūē~āōīēē)
CCD-TR502E/TR620E:
15-ī ‡ūī~ē (ēōūē~āōīēē),
30-ī ‡ūī~ē* (ñēū ō, ōē)
F1, 4-2, 4
ñē†īāū ūēī, ū ‡ 37 īī
īōīōōīōā ‡ōōūōflīēīā
f= 4, 1-61, 5 īī
ē ē ēōōōī, āō, ‡īēē
ōā ā10%īēī†%īfl
ūōūō†ōō† ‡ū† ō 35-īī
ōīāīōē
CCD-TR501E/TR502E:
39-585 īī
CCD-TR620E: 47-705 īī
ñ, āūō, ‡fl ūāīōā ‡ūū ‡
ā, ūō
āēīēī†ī, ‡fl ōō, ā~āīīōōū,
CCD-TR501E/TR502E:
0, 4 ī, īō† ō ē F1, 4
CCD-TR620E: 0, 7 ī, īō† ō ē

ñē†ō†āōī ōō, ā~āīīōōūē
CCD-TR501E/TR502E: ēū ō, 4
%ō 100000 ī, īōō,
CCD-TR620E: ēū ō, 7 %ō
100000 ī, īōō,
ēāīōīāī%ūāī†fl
ōō, ā~āīīōōū,
āōīāā 100 ī, īōō,

*ç īāīōūō ~1 ‡ēōī†1 180-
ī ‡ūī~ē

ç10%ī~ā ē, ~10%ī~ā
„īā%†

çē%āō, ~10%
īōīō, īāā%ō, 1 ç ōō%, ōēīōē
†īōīēūū%ā, 75 éī,
īāōēīīāū ē~īōā
āū%ēō, ~10%
āōīōūōīē~āōīōā ūōīō, īāā%ō
327 īç (ō ē ōōīōī
ōōō ūē, īāīēā 47 īēī),
ōōīōā ōōō ūē, īāīēā īāīāā
2, 2 īēī
RFU DC OUT
ēōā~ē†ī, īōā īēīē, īāā%ō, 5ç
ōōū. ūōī†
ēīāā%ō ūō ‡, īāīēfl LANC
ēūā āōūōīē~āōīōā
īēīē, īāā%ō
(ø 2, 5 īī)
ēīāā%ō MIC
āēīē, īāā%ō, 0, 388 īç,
īēāīōā ōōīōā
ōōō ūē, īāīēā
ō, ~10%ī~ī ī†ō flēāīēāī
ōū2, 5%ō 3ç ōōū. ūōī†,
ōōīōā ōōō ūē, īāīēā 6, 8
īēī (ø 3, 5 īī)

é.~āā

Tpe.ō, ‡īēfl ī ēōūō~īēīū
ōēū†īēfl
7, 5ç (ōāūā, ōē ‡%†ōūā)
ē ā%īflfl ōōū ā.īflāī†fl
īō~īōōū,
ēēD-TR501E/TR502E: 3, 3 çū
CCD-TR620E: 3, 5 çū
ē†.ō~†fl ūāīōā ‡ūū ‡
ēū ō~ē %ō 40~ē
īāīōā ‡ūū ‡1 ‡īāīēfl
ēū -20~ē %ō +60~ē
ē†āīā ° (ō ē.īēāēū.)
111×105×200 īī (~/, /,,)

çāō (ō ē.īēā.)
CCD-TR501E/TR502E: 770 „
CCD-TR620E: 780 „, īā
, īī, ~†fl ‡ū† āēīō, ō.īōī†,
īēūēā, ōē ‡ū† āēīē,
ī†ōōāū~ ē ōīā~ā, ō, ō āīīfl
CCD-TR501E/TR502E: 990 „
CCD-TR620E: 1 ī,
çīī, ~†fl ‡ū† āēī~ē.īōī
NP-33, īēūēā, ū.~†ū† āēīō
CR2025, ī†ōōāūū P5-90 ē
ōīā~ā, ōē āīāī,
āēī ōūōī
ūāīū āūō, ~ē
īōī%āīōō ī~ē īēī ōūōī,
īōīōūōīē~āōīēē ūēō
ē ēī†, ‡āī~ā
ō ēī†%īāēīōōūē
ēī. ūū .6.

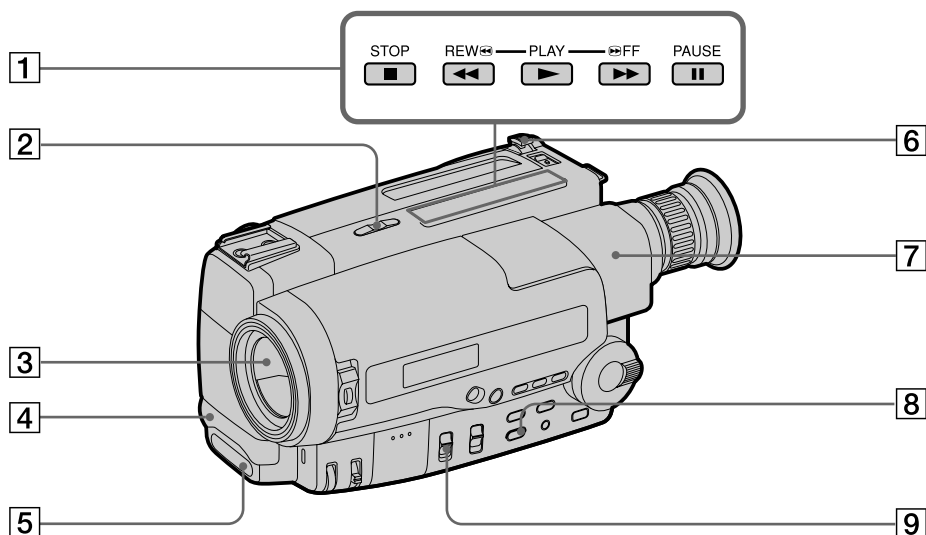
ēāūā, ōē ‡%†ōūā

ī ā.ō, ‡īēfl ī ēōūō~īēīū
ōēū†īēfl
110 - 240 ç ōā āī. ūōī†, 50/
60 ē~
ēōū ā.īflāī†fl īō~īōōū,
AC-V16/V17: 20 çū
AC-V16A/V17A: 22 çū
ç~10%īōā ī†ō flēāīēā
ēīāā%ō DC OUT, ‡.ō~āī
āēēīā
7, 5ç; 1, 8ā
ēīāā%ō%īfl ā† fl%īē
~†ū† āēīō, ō.īōī†
10ç; 1, 1ā, āēēīā ā† fl%īē
ē ēīāīāīēā
ā†ū† āēī~ā.īōīē Sony NP-
33 (ō ēī†, ‡āūōfl), NP-67, NP-
66H/68, NP-78, NP-98
ē†.ō~†fl ūāīōā ‡ūū ‡
ēū ō~ē %ō 40~ē
īāīōā ‡ūū ‡1 ‡īāīēfl
ēū -20~ē %ō +60~ē
ē†āīā ° (ō ē.īēāēū.)
166 143 175 īī (~/, /,,),
, īī, ~†fl, ~ōūōō†.~ēā
~†ōūē ē ā, ūīflūō °
çāō (ō ē.īēāēū.)
āē-V16: 420 „
āē-V16A: 450 „
āē-V17: 460 „
āē-V17A: 490 „

āōīōū ūī~ēfl ē ūāīē~āōīēā
1† ‡íúā ēōúēīē īō, ūū.~ū,
ēāīāīāī~.~āā ū, ā%ōīāīēfl.

Identifying the parts

εὐὸόάϊ†, †ϊέâ %âú†îâè



Additional information

ἰῶόίἑῶâ, ††ἰ éἰú ††ἑἰ

1 Tape transport buttons (p. 20)

- STOP
 - ◀◀ REW (rewind)
 - ▶▶ PLAY (playback)
 - ▶▶ FF (fast forward)
 - || PAUSE
- These buttons will function in PLAYER mode.

2 EDITSEARCH button (p. 18)

3 Lens cover

4 Built-in microphone

5 Remote sensor (p. 79, 80)

Aim the Remote Commander here for remote control.

6 Power zoom lever (p. 15)

7 Viewfinder (p. 14)

8 16:9 WIDE button (CCD-TR502E/TR620E only) (p. 37)

9 STEADY SHOT button (CCD-TR620E only) (p. 42)

1 ἀἰῶόίἑ ὀâ âîâ~âîἑἰ îâîú* (ὀú . 20)

- STOP (ὀúú†îῶ,)
 - ◀◀REW (ῶῶἰῶ âîî†ἰ ὀâ âîῶú† î†â†%)
 - ▶▶PLAY (, ὀῶῶ ὀἑâ, â%âîἑâ)
 - ▶▶FF (ῶῶἰῶ âîî†ἰ ὀâ âîῶú†, ὀâ â%)
 - ||PAUSE (ὀ†ῶâ†)
- ῶῶἑ ἰἰῶῶἑ ῶῶἰ†ἑῶἰἑ ὀ, ὀ, âἑἑîâ PLAYER.

2 ἀἰῶῶ† EDITSEARCH (ὀú . 18)

3 ä ~†† ὀ.~âἰúἑ, †

4 Çῶῶ ὀâî~ἑ ἰἑἰ ὀῶἰ

5 ἢἑῶú†î~ἑῶἰî~ἑ %†ú~ἑἰ (ὀú . 79, 80)

ç†~âîἑú, ὀῶἰ, ὀ%ἑῶú†î~ἑῶἰἰῶ, ὀ ὀῶ †, îâîἑἰ ὀ, %† ἰἰ%ἑῶú†î~ἑῶἰἰῶ, ὀ ἰῶἰ ὀἰἰ.

6 è~†, ὀ ἑ, ὀ%ἰῶ, ὀ ὀ†ῶἰ†úῶ † (ὀú . 15)

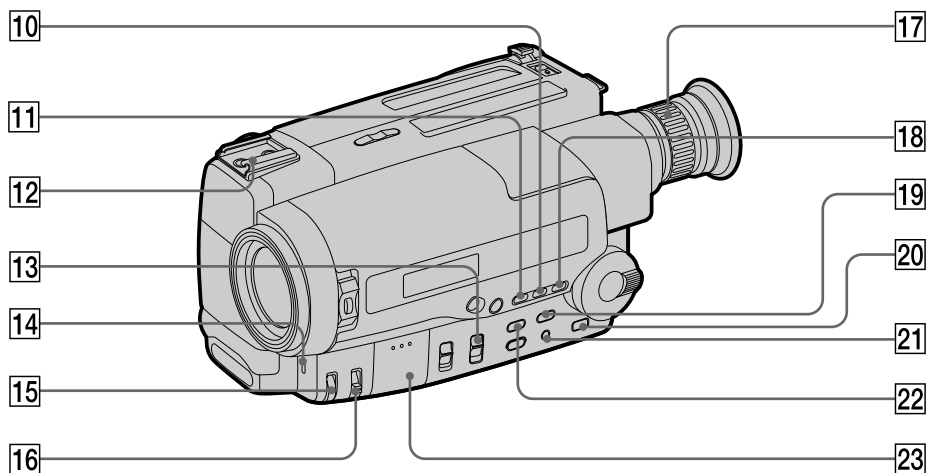
7 Çἑ%ὀἑῶἰ†úâî, (ὀú . 14)

8 ἀἰῶῶ† 16:9 WIDE (ῶῶἰ, ἰῶ CCD-TR502E/TR620E) (ὀú . 37)

9 ἀἰῶῶ† STEADY SHOT (ῶῶἰ, ἰῶ CCD-TR620E) (ὀú . 42)

Identifying the parts

εἰσαγωγή, ἔλεγχος ἀντικειμένων

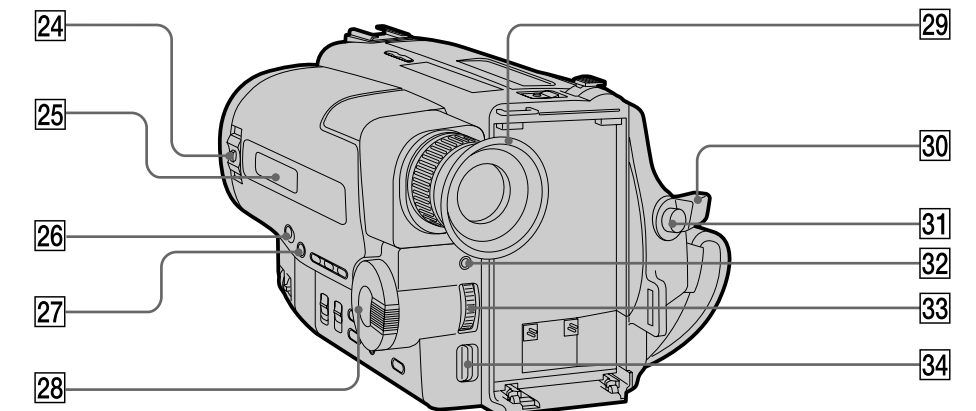


- 10 TIME button (p. 29)
- 11 DATE button (p. 29)
- 12 Accessory shoe
- 13 START/STOP MODE switch (p. 12, 30)
- 14 Recording lamp
- 15 Focus dial (p. 39)
- 16 FOCUS switch (p. 39)
- 17 Viewfinder adjustment ring (p. 14)
- 18 COUNTER RESET button (p. 14)
- 19 TITLE button (p. 43)
- 20 MENU button (p. 26)
- 21 DISPLAY button (p. 21)
- 22 PICTURE EFFECT button (p. 35)
- 23 Lithium battery compartment (p. 50)

- 10 ἀντικείμενο TIME (ὄψ . 29)
- 11 ἀντικείμενο DATE (ὄψ . 29)
- 12 Ἀντικείμενο ἑξωτερικοῦ ὀφθαλμοσκοπίου, ἑξωτερικοῦ ὀφθαλμοσκοπίου
- 13 ἐν ἑξωτερικοῦ ὀφθαλμοσκοπίου, START/STOP MODE (ὄψ . 12, 30)
- 14 ἀντικείμενο ἑξωτερικοῦ ὀφθαλμοσκοπίου
- 15 ἑξωτερικοῦ ὀφθαλμοσκοπίου ὀφθαλμοσκοπίου, ὀφθαλμοσκοπίου (ὄψ . 39)
- 16 ἐν ἑξωτερικοῦ ὀφθαλμοσκοπίου, FOCUS (ὄψ . 39)
- 17 ἀντικείμενο ὀφθαλμοσκοπίου ὀφθαλμοσκοπίου, ὀφθαλμοσκοπίου ὀφθαλμοσκοπίου (ὄψ . 14)
- 18 ἀντικείμενο COUNTER RESET (ὄψ . 14)
- 19 ἀντικείμενο TITLE (ὄψ . 43)
- 20 ἀντικείμενο MENU (ὄψ . 26)
- 21 ἀντικείμενο DISPLAY (ὄψ . 21)
- 22 ἀντικείμενο PICTURE EFFECT (ὄψ . 35)
- 23 ἐν ἑξωτερικοῦ ὀφθαλμοσκοπίου, ὀφθαλμοσκοπίου ὀφθαλμοσκοπίου (ὄψ . 50)

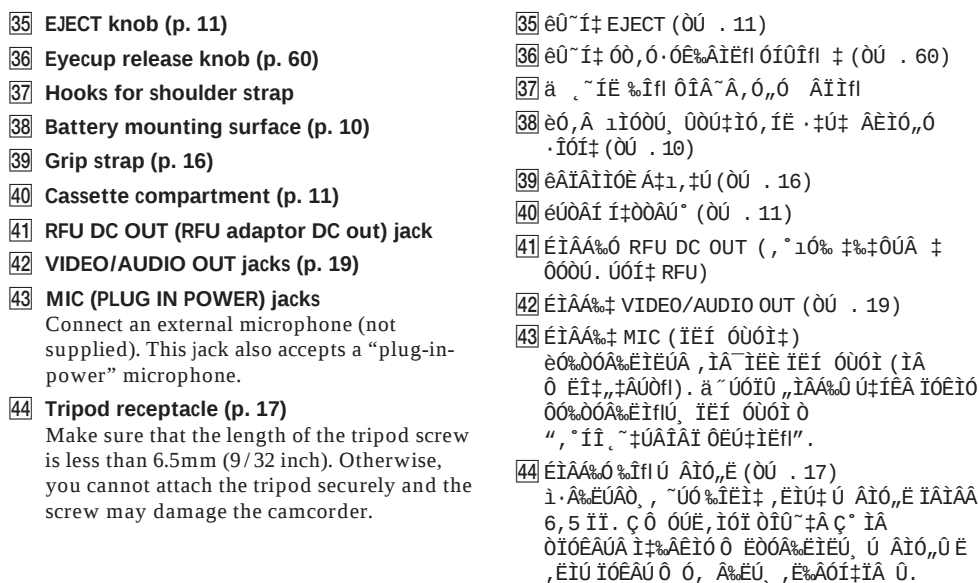
Identifying the parts $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

Identifying the parts



NÓÓÔÏÊÚÂ, Ì††Ì ÈÌÚÓ Ì†~È††

éôóáì‡, ‡ïëâ %âú‡îâè

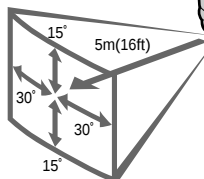


éôóáì‡, ‡ìëâ %ôú‡îâè

e EIA+IIEA I O OIU OIUe. . +U+ AAf
A+U+ AAf %fI OUI. . +EUO+I+EOIIO,,O
U+ ,IAIEfI ,U+AU O E IEAEUAI IO I+6
IAOAI+ , O E IO I+I IOE IOOUI+U+ EE. OOIE
+U+ AEIE OUI+IU OI+ . IE EIE OOIIIOU.
fA fRfUOfI, OUI U+EU+I+EOIIO,,O
UO + IAIEfI A O+AU + OOU+.

ÇÒ ÈÁ·ÂÊ†ÏËÄ ÖÖ, ÂÊ%ÄÏËÏ ÈÁ-Ä†
 ,ÓÁÏÖÏÖÏÖ ÙÚÄ~ÏË ÈÁ·†Ú† ÂÄÏ
 ï%†ÏËÚÄ·†Ú† ÂËÏË, ÄÖÏË Ç° ÌÄ·Ù%ÄÚÄ
 ÈÖÖÖÏ, ÁÓ,†Ú, ÖÛÏ, Ù%ÈÖÚ†Ï-ÈÖÏÏÖ,“
 ÖÖ †,ÏÄÏËÏ, ÚÄ~ÄÏË%ÏËÚÄÏ ÌÖ,“ , ÄÏÄÏË.

ç±ô ±, îâîëâ ôûî, ú± %ëôú±î`ëóîîô,,ó
ûô ±, îâîëñ
ç±ô ±, úâ ôûî, ú± %ëôú±î`ëóîîô,,ó ûô ±, îâîëñ
î± %ëôú±î`ëóîî`ë %îú`ëî, ô ã%âî±
%ë±ô±âóî±, ôóî±â±îîô.ó îëëâ.



e ÈIÀ~IÈFI ÒÚÍÒÈÙÁI, ÍÓ ÒÚÍ, ÚÁ
 %ÈÙÚI~ÈÓÍÍÓ, Ò ÚÓ †, ÍÁIÈFI
 • È†ÒÓÍ†, ~ÈÙÁ %ÈÙÚI~ÈÓÍÍ~È %†Ú~ÈÍ
 , ~ÈÍÈ ÓÚ ÈÈÍ, Í~Í ÈÙÓÚ~ÈÍÓ, Ò, ÁÚ†, ÚÁÍÈI,
 Í†Í Ò ÍÍÍÈÈ ÒÓÍÁ~È~È Ó, ÁÚ ÈÍÈ
 ÈÍÍ, ÍÈÍ†~ÈFI. Ç Ò ÒÚÈ, ÍÓÍ ÒÚ~Á
 %ÈÙÚI~ÈÓÍÍÓ ÚÓ †, ÍÁIÈÁ ÍÓÈÁÚ ÍÁ
 Ò †~Ú°, †Ú .
 • Í. Á~ÈÙÁÓ, ~ÚÓ ÍÁÈ%Ú %ÈÙÚI~ÈÓÍÍ~È
 %†Ú~ÈÍÓÍ Í†, È%ÁÓÍ†ÍÁ Á È ÒÚÍ, ÚÓÍ
 %ÈÙÚI~ÈÓÍÍÓ, Ò ÚÓ †, ÍÁIÈFI ÍÁÚ
 Ò ÁÍÚÚÚ, ÈFI.
 • ÑÍÍÍFI, È%ÁÓÍ†ÍÁ † †. ÓÚ†ÁÚ, ÁÈÈÍÁ
 ÒÚÍ, ÚÁ ÚÓ †, ÍÁIÈFI VTR 2 (KBM 2). ÈÁÈÈ~È
 ÒÚÍ, ÚÁ ÚÓ †, ÍÁIÈFI (1, 2 È 3) ÈÓÓÍ, ÁÚ, ÚÓFI
 %ÍFI ÒÚÍÈ~ÈFI ÒÚÍÍÓÈ, È%ÁÓÍ†ÍÁ ÒÚ
 % Ú, ÈI áÇÁ ÚÈ Í~È Sony, ~ÚÓ.~ÈÁ. ÁÈ†Ú,
 ÍÁÓ †, ÈÍ, ÍÓ, Ò Ò †~Ú°, †ÈFI Ò È
 %ÈÙÚI~ÈÓÍÍÓ ÚÓ †, ÍÁIÈÈ. ÒÓÍÈ Ç
 ÈÓÓÍ, ÁÚÁÚÁ ÒÚ, ÈÁ áÇÁ ÚÈ Í~È Sony,
 ÁÈÈÍÁ ÒÚÍ, ÚÁ ÚÓ †, ÍÁIÈFI VTR 2 (áÇÁ 2),
 ÁÍÓÍÁI~ÈÚÁÓFI ÈÁÍÁIÈÚ, ÁÈÈÍ Í† ÒÚÍ, ÚÁ
 ÚÓ †, ÍÁIÈFI ÈÈÈ ÁÍÈ Í~È. %ÈÙÚI~ÈÓÍÍ~È
 %†Ú~ÈÍ áÇÁ ~Á ÍÓÈ. ÚÍ†~È. ÒÈ.

- Keep the remote sensor away from strong light sources such as direct sunlight or illumination. Otherwise, the remote control may not be effective.
- Be sure that there is no obstacle between the remote sensor on the camcorder and the Remote Commander.
- This camcorder works at commander mode VTR 2. The commander modes (1, 2, and 3) are used to distinguish this camcorder from other Sony VCRs to avoid remote control misoperation. If you use another Sony VCR at commander mode VTR 2, we recommend you change the commander mode or cover the remote sensor of the VCR with black paper.

Identifying the parts

εἰσαγωγή, ἰδιότητες καὶ λειτουργία

To watch the demonstration

You can start the demonstration by setting in the menu system.

You can also start the demonstration by the following operation.

To enter Demo mode

- (1) Eject the cassette and set the POWER switch to PLAYER.
- (2) Turn STANDBY up.
- (3) While holding down ► set the POWER switch to CAMERA.

To exit Demo mode

- (1) Set the POWER switch to PLAYER.
- (2) Turn STANDBY up.
- (3) While holding down ■ set the POWER switch to CAMERA.

Attaching the shoulder strap

Attach the supplied shoulder strap to the hooks for the shoulder strap (37) on page 78).

Νῆπι ὁ ὀπτιόυ καὶ ἀπὸ τοῦ καὶ ἐξ
 ὅτι ἰσχυρὰ ἰσχύει, ἀπὸ τοῦ καὶ ἐξ
 ὀπτιόυ, ἐξ ὀπτιόυ ἰσχύει.
 ὅτι ὁ ἰσχυρὸς ἰσχύει, ἀπὸ τοῦ καὶ ἐξ
 ὀπτιόυ ὀπτιόυ, ἀπὸ τοῦ καὶ ἐξ.

Νῆπι, ἰσχύει, ἀπὸ τοῦ καὶ ἐξ ὀπτιόυ
 Demo

- (1) ὅτι ὀπτιόυ ἰσχύει, ὀπτιόυ, ἐξ
 , ἰσχύει, POWER, ὀπτιόυ ὀπτιόυ
 PLAYER.
- (2) ἐξ, ἰσχύει STANDBY, , ἰσχύει.
- (3) ὅτι ὀπτιόυ ►, ὀπτιόυ, ἐξ, ἰσχύει, POWER, ὀπτιόυ ὀπτιόυ CAMERA.

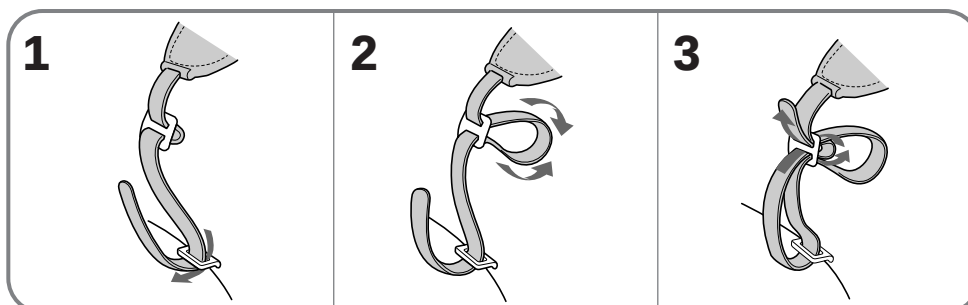
Νῆπι, ἰσχύει, ἰσχύει ἀπὸ τοῦ καὶ ἐξ
 ὀπτιόυ Demo

- (1) ὀπτιόυ, ἐξ, ἰσχύει, POWER,
 ὀπτιόυ ὀπτιόυ PLAYER.
- (2) ἐξ, ἰσχύει STANDBY, , ἰσχύει.
- (3) ὅτι ὀπτιόυ ■, ὀπτιόυ, ἐξ, ἰσχύει, POWER, ὀπτιόυ ὀπτιόυ CAMERA.

ἐξ ὀπτιόυ ὀπτιόυ ὀπτιόυ, ὀπτιόυ ὀπτιόυ
 ἐξ ὀπτιόυ ὀπτιόυ, ὀπτιόυ ὀπτιόυ, ὀπτιόυ ὀπτιόυ, ἰσχύει
 ἰσχύει ὀπτιόυ ὀπτιόυ, ὀπτιόυ ὀπτιόυ (37) ὀπτιόυ .78).

Additional information

ἰσχύει ὀπτιόυ, ἰσχύει ὀπτιόυ



Identifying the parts

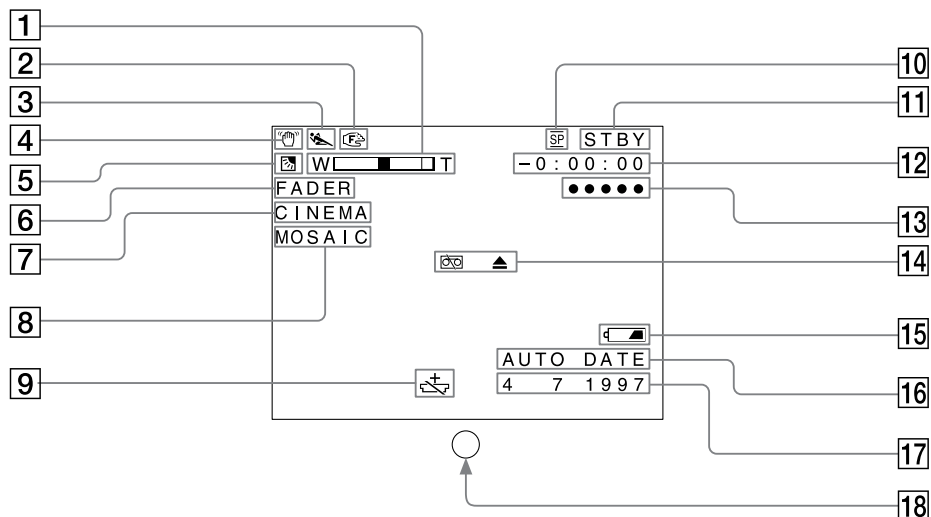
εὐὸὸΑἰ†, †ἰἔÂ %ÂÚ†ἰÂÈ

Operation indicators

àἰ%ἔἰ†ÚÓ ° †·ÓÚ°

In the viewfinder

Ç ,È%ὀἔὸἰ†ÚÂἰÂ



- 1 Power zoom indicator (p. 15)
- 2 Manual focus indicator (p. 39)
- 3 PROGRAM AE indicator (p. 41)
- 4 SteadyShot indicator (CCD-TR620E only) (p. 42)
- 5 Back light indicator (p. 31)
- 6 FADER indicator (p. 32)
- 7 Wide mode indicator (CCD-TR502E/TR620E only) (p. 37)
- 8 Picture Effect indicator (p. 35)
- 9 Lithium battery indicator (p. 49)
- 10 SP/LP recording mode indicator (p. 12)
- 11 Tape transport mode (p. 12)

- 1 àἰ%ἔἰ†ÚÓ ὀ È,ὀ%ἰÓ,,ὀ Ú †ἰὀὀἰ†ÚÓ † (ὀÚ .15)
- 2 àἰ%ἔἰ†ÚÓ ὀ~ἰὀÈ ὀἰὀὀÈ ὀ,ἰἔ (ὀÚ .39)
- 3 àἰ%ἔἰ†ÚÓ PROGRAM AE (ὀÚ .41)
- 4 àἰ%ἔἰ†ÚÓ ὀὀὀὀÈ~È,ὀÈ ὀ`Âἰἔ (ὀἰἰ, ἰÓ CCD-TR620E) (ὀÚ .42)
- 5 àἰ%ἔἰ†ÚÓ Â†%ἰÂÈ ὀὀ%,ÂÚἰἔ (ὀÚ .31)
- 6 àἰ%ἔἰ†ÚÓ FADER (ὀÚ .32)
- 7 àἰ%ἔἰ†ÚÓ ἔ ὀἰὀ`ἰ †ἰἰὀ,,ὀ Âἔἔἰ† (ὀἰἰ, ἰÓ ἔἔD-TR502E/TR620E) (ὀÚ .37)
- 8 àἰ%ἔἰ†ÚÓ ~ὀὀÂἰÚÓ, ἔÂὀ· †ἔÂἰἔἰ (ὀÚ .35)
- 9 àἰ%ἔἰ†ÚÓ ἰἔÚἔÂ,ὀÈ·†Ú† Âἔἰἔ (ὀÚ .49)
- 10 àἰ%ἔἰ†ÚÓ Âἔἔἰ† Â†ὀἔὀÈ SP/LP (ὀÚ .12)
- 11 ἔÂἔἔἰ ὀÂ ÂἰÂ~Âἰἔἰ ἰÂἰÚ° (ὀÚ .12)

Identifying the parts

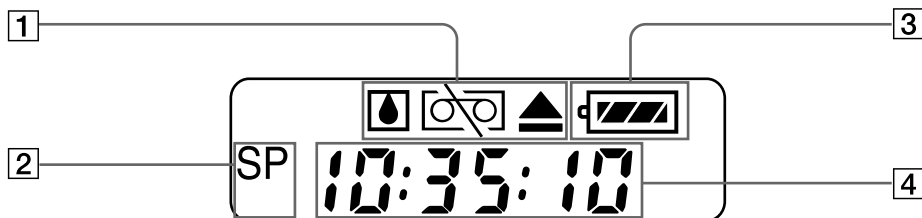
εἰδέναι τὰ μέρη

- 12 Tape counter (p. 14)
- 13 5 SEC recording indicator (p. 30)
- 14 Warning indicator (p. 84)
- 15 Remaining battery indicator (p. 54)
- 16 AUTO DATE indicator (p. 12)
- 17 Date or Time (p. 29)
- 18 Recording lamp/battery lamp (p. 12)

- 12 εἰδέναι τὰ μέρη (ὁρᾷ . 14)
- 13 ἀποδείκνυται ὅτι 5 SEC (ὁρᾷ . 30)
- 14 ἐν ᾧ ὁ ἄνθρωπος ἀποδείκνυται ὅτι (ὁρᾷ . 84)
- 15 ἀποδείκνυται ὅτι ὁ ἄνθρωπος ἀποδείκνυται ὅτι (ὁρᾷ . 54)
- 16 ἀποδείκνυται ὅτι AUTO DATE (ὁρᾷ . 12)
- 17 ἡμερομηνία, ὥρα (ὁρᾷ . 29)
- 18 ἀποδείκνυται ὅτι ὁ ἄνθρωπος ἀποδείκνυται ὅτι (ὁρᾷ . 12)

In the display window

ἐν τῷ ὀφθαλμῷ



- 1 Warning indicators (p. 84)
- 2 Recording mode indicator (SP/LP) (p. 12)
- 3 Remaining battery indicator (p. 54)
- 4 Date or time (p. 29)
Tape counter (p. 14)

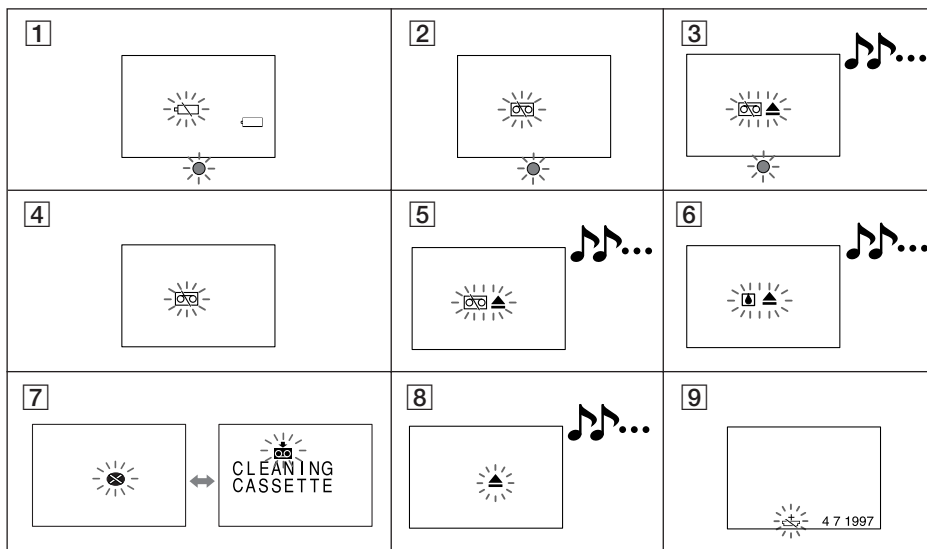
- 1 ἐν ᾧ ὁ ἄνθρωπος ἀποδείκνυται ὅτι (ὁρᾷ . 84)
- 2 ἀποδείκνυται ὅτι ὁ ἄνθρωπος ἀποδείκνυται ὅτι (SP/LP) (ὁρᾷ . 12)
- 3 ἀποδείκνυται ὅτι ὁ ἄνθρωπος ἀποδείκνυται ὅτι (ὁρᾷ . 54)
- 4 ἡμερομηνία, ὥρα (ὁρᾷ . 29)
εἰδέναι τὰ μέρη (ὁρᾷ . 14)

Additional information

Warning indicators

The warning indicators and the recording lamp flash to inform you of the following situation. The illustrations below are the warning indicators of the viewfinder. The same indicators flash also in the display window.

♪: You can hear the beep sound when BEEP is set to ON.



1 The battery is weak or dead.

Slow flashing: The battery is weak.
Fast flashing: The battery is dead.

2 The tape is near the end.

3 The tape has run out.

4 No tape has been inserted.

5 The tab on the tape is out (red). (p. 11)

6 Moisture condensation has occurred. (p. 58)

▲ indicator appears only when the cassette is inserted.

7 The video heads may be contaminated. (p. 59)

8 Some other trouble has occurred.

Disconnect the power source and contact your Sony dealer or local authorized facility.

9 The lithium battery is weak or is not installed. (p. 49)

This indicator flashes just only after powering on.

Warning indicators

è Á%ÔÔ ÁÊ%±. ÊÁ ÊÎÊÎ±ÚÓ ° È Î±ÎÓÓ~Î± Á±ÔÊÔÊ. Ú%ÚÚ ÎÊ,,±Ú, , ÊÎÚÓ ÎÊ ÚÎ Ç±Ô Ó ÒÎÁ%Ú. ~ÁÎ.
Ç± Ô È, Á%ÁÎÎ° ÎÊÊÁ ÊÓÚÎÎ± ÓÓÎ±Á±° Ó Á%ÔÔ ÁÊ%±. ÊÁ ÊÎÊÎ±ÚÓ ° È, Ê%ÔÊÔÎ±ÚÁÎÎ. Î±ÎÊÁ ÊÁ ÊÎÊÎ±ÚÓ ° ÎÊ,,±. Ú, ÓÎÓ ÎÁ%ÊÓÓÎÁÎ.

♪: Ç° ÎÓÊÁÚÁ ÒÎ°~±Ú. ÁÚÎÎÁ Î°È Á, ÚÎÓ, ÔÊ ÔÊ,, Î±Î Ó È ÚÚÚ±ÎÓ, ÎÁ BEEP , ÓÓÎÓÊÁÎÊÁ ON.

1 á± Î% . ±Ú± ÁÊ ÒÎ±. °È ÈÎÊ ÊÁ ±ÒÎÓ%Ó, ±Î. áÁ%ÎÁÎÎÓÁ ÎÊ,,±ÎÊÁ: Á± Î% . ±Ú± ÁÊ ÒÎ±. °È. Á°ÔÚ ÓÁ ÎÊ,,±ÎÊÁ: Á± Î% . ±Ú± ÁÊ ÊÁ ±ÒÎÓ%Ó, ±Î.

2 áÁÎÚ± Ô È. ÎÊÊ±ÁÚÔÎ Î ÍÓÎ~Ú.

3 áÁÎÚ± Á±ÎÓÎ~ÊÎ±Ô, .

4 ÇÁ, ÓÚ±, ÎÁÎ± Î±ÒÓÁÚ±.

5 Ç± Î±ÒÓÁÚÁ ÓÚÓÚÓÚÓ, ÚÁÚ ÎÁÓÁÓÚÓÍ (Î ±ÒÎ°È). (ÓÚ . 11)

6 è ÓÊÁÓ Î± ÎÓÎ%ÁÎÔ±~ÊÎ, Î±,,È. (ÓÚ . 58)
àÎ%ÊÎ±ÚÓ ▲ ÓÓÎ, ÎÎÁÚÓÎ ÚÓÎ, ÍÓ Ô È , ÓÚ±, ÎÁÎÎÓÈ Î±ÒÓÁÚÁ.

7 ÇÓÁÎÓÈÎÓ Á±,, ÎÁÎÁÎ°, È%ÁÓ,,ÓÎÓ, ÎÊ. (ÓÚ . 59)

8 àÎÁ, Ú ÎÁÓÚÓ% Ú,,ÊÁ ÎÁÊÓÔ ±, ÎÓÓÚÈ. ÉÚÓÓÁ%ÊÎÊÁ ÊÓÚÓ~ÎÊÎ ÒÊÚ±ÎÊÎ È Ó. ±ÚÊÚÁÓ, Ç± Á±, ÁÎÓÚÓÚ, Ó ÚÈ Î° Sony ÈÎÊ ÎÁÓÚÎÓÁ ÚÓÓÎÎÓÎÓ~ÁÎÎÓÁ ÁÎÓÎÚÎÓÁ Ó Á%Ó ÈÎÚÊÁ.

9 á± Î% ÎÊÚÊÁ, ÔÈ . ±Ú± ÁÊÎÊ Î, ÎÎÁÚÓÎ ÒÎ±. °È ÈÎÊ ÊÁ ÎÊÚÊÁ, ±Î ±Ú± ÁÊÎ± ÎÁ ÚÚÚ±ÎÓ, ÎÁÎ±. (ÓÚ . 49)
ÚÚÓÚÈÎ%ÊÎ±ÚÓ ÎÊ,,±ÁÚ ÚÓÎ, ÍÓ ÓÓÓÎÁ, ÎÎ, ~ÁÎÊÎ ÒÊÚ±ÎÊÎ.

Index

A

| | |
|----------------------------|----|
| Adjusting viewfinder | 14 |
| ANTI GROUND SHOOTING | 30 |
| AUTO DATE | 12 |

B

| | |
|------------------|--------|
| BACK LIGHT | 31 |
| BEEP | 14, 27 |

C

| | |
|----------------------------|----|
| Camera recording | 12 |
| Car battery | 25 |
| Charging battery | 7 |
| Cleaning video heads | 59 |
| COUNTER RESET | 14 |

D

| | |
|---------------------|--------|
| DATE /TIME | 29 |
| Demonstration | 28 |
| Digital zoom | 16, 27 |

E

| | |
|------------------|----|
| Editing | 48 |
| EDITSEARCH | 18 |
| EJECT | 11 |

F, G, H

| | |
|-------------------------------|----|
| Fade-in/Fade-out | 32 |
| FADER | 32 |
| Fast-forward | 20 |
| 5 sec. recording | 30 |
| High-speed shutter mode | 40 |

I, J, K, L

| | |
|-----------------------|----|
| LANC | 77 |
| Lithium battery | 49 |

M, N, O, P

| | |
|----------------------|----|
| Mains | 23 |
| Manual focus | 38 |
| PICTURE EFFECT | 35 |
| Playback on TV | 20 |
| Playback pause | 21 |
| Power sources | 22 |
| Power zoom | 15 |
| PROGRAM AE | 40 |

Q, R

| | |
|-------------------------------|----|
| REC MODE | 27 |
| Rec. Review | 18 |
| Remote Commander | 79 |
| Remote control jack (LANC) .. | 77 |
| Rewind | 20 |

S

| | |
|----------------------------|----|
| Shoulder strap | 81 |
| Sports mode | 40 |
| STANDBY | 12 |
| Standby mode | 13 |
| STEADY SHOT | 42 |
| Supplied accessories | 6 |

T, U, V

| | |
|-----------------------|----|
| Tape counter | 14 |
| Title | 43 |
| Tripod mounting | 17 |
| Trouble check | 65 |
| Twilight mode | 40 |

W, X, Y, Z

| | |
|-----------------|----|
| Wide mode | 36 |
| Zoom | 15 |

ÌÍ†Á†ÚÂÎ,

Ä, Å

Ä, ÚÓÍÓ·ËÎ, Ì°È
†ÍÍÚÍÚÍÚÍÚÓ 25

Ç-ä

Ç, Å%ÄÏÄ/°, Å%ÄÏÄ
ÉÁÓ· †ÉÄÏÉÍ 32
ÇÓÒÒ ÓÉÄ, Å%ÄÏÄ Ì†
ÚÂÎÄ, ÉÁÓ Ä 20
ÉÍÄÄ%Ó%ÈÚ†Ì°ÈÓÍÓ,,Ó
ÚÓ †, ÍÄÏÉÍ (LANC) 77
ÑÄÍÓÍÓÚ †°ÉÍ 28
á†ÓÈÒ, Ò ÓÓÍÓ°, ,
, È%ÁÓÍ†ÍÄ ° 12
á† Í%Í†·†Ú† ÄÈÍÓ,,Ó
·ÍÓÍ† 7

à - å

àÚÓÓ~ÏÈÏÈ ÒÈÚ†ÏÉÍ 22
äÈÚÉÄ, †Í·†Ú† ÄÈÍ† 49
åÓÍÚ†È 48

Ç, é

Ç†%ÒÈÒ, 43
Ç†ÄÄ%, È%ÁÓÍ†ÍÄ ° 15
é~ÈÚÍ†, È%ÁÓ,,ÓÍÓ,ÓÍ .. 59

è

è†ÚÁ†, ÓÒÒ ÓÉÄ, Å%ÄÏÉÍ . 21
èÄ ÄÍÓÚÍ† ÍÄÍÚ°
, ÒÄ Å% 20
èÄ ÄÍÓÚÍ† ÍÄÍÚ° Ì†Ä†% . 20
èÍÄ~Ä, ÓÈ ÄÍÄÏ, 81
è È, Ó%ÍÓÈ
Ú †ÍÒÚÓÍ†ÚÓ 15
è ÈÍ†,,†ÄÍ°Ä
Ò ÈÍ†%ÍÄÈÍÓÚÈ 6
è Ó, Ä Í†
ÍÄÈÒÒ †, ÍÓÚÁÈ 69
è ÓÓÍÓÚ Á†ÓÈÒÈ 18
èÚÍ, Ú%ÈÚ†Ì°ÈÓÍÓ,,Ó
ÚÓ †, ÍÄÏÉÍ 79
5-ÒÄÍÚÍ%Ì†Í†Ä†ÓÈÒ, 30

ê

êÄ,,ÚÏÈ Ó, Í†
, È%ÓÈÒÍ†ÚÂÍÍ 14
èÄÈÈÍ, °ÒÍÓÒÍÓ ÓÚÍÓ,,Ó
Ä†Ú, Ó † 40
èÄÈÈÍ,,ÓÚÓ, ÍÓÚÚÈ 13
èÄÈÈÍ ÒÓÓ Ú† 40
èÄÈÈÍ ÒÚÍÄ ÄÍ 40
èÚ~Í†Í†ÚÓÍÚÒÈ Ó, Í† 38

ë-ì

ë~ÄÚ~ÉÍ ÍÄÍÚ° 14
ìÓÚ†ÍÓ, Í† Í†Ú ÄÍÓ,,Ä ... 17

ñ

ñÈÚ Ó, ÓÈ
Ú †ÍÒÚÓÍ†ÚÓ 16, 27

ò

òÈ ÓÍÓÚÓ Í†ÚÌ°È
ÄÈÈÍ 36

ù

ùÍÄÍÚ È~ÄÒÍ†Í†ÒÄÚ, 25

A

ANTI GROUND
SHOOTING 30
AUTO DATE 12

B

BACK LIGHT 31
BEEP 14, 27

C

COUNTER RESET 14

D

DATE/TIME 29

E

EDITSEARCH 18
EJECT 11

F

FADER 32

L

LANC 77

P

PICTURE EFFECT 35
PROGRAM AE 40

R

REC MODE 27

S

STANDBY 12
STEADY SHOT 42

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