

# Video Camera Recorder

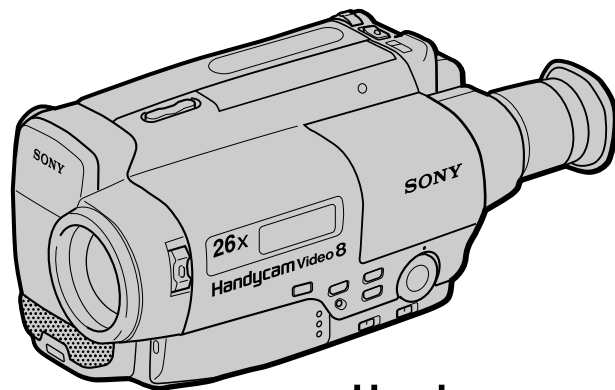
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## Operating Instructions

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

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**Handycam**  
CCD-TR402E

**Video 8**

CCD-TR401E/TR402E **8**

©1996 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.

**εÛÒÒÏËË**

**ÑÓ· Ó ÔÓËËÍÓ,†Ú, !**

èÓÁ%†,†íñÁ†,†ÒÒÒ ÉÓ· ÁÚÁÏËÁÏ  
 %†ííÏËË ,É%†ÁÓÍ†íÁ · Handycam®  
 ÚË ï° Sony. è ÓÓÍÓ~ Ç†-ÁË  
 ,É%†ÁÓÍ†íÁ · Handycam Ç· ÍÏËÁÚÁ  
 Á†ÔÁ~†ÚÍÁÚ, %Ó Ó, ÉÁ Ç†í ï, ï, ÁÏËñ  
 ÈËÁÏË Ó Ó Á, ÓÓÍÓ%†í ï†~ÁÓÚ, ÓÍ  
 ÉÁÓ· †ËÁÏËñ È Á, Ú†. Ç†-†  
 ,É%†ÁÓÍ†íÁ † Handycam ÓÓ†~ÁÏ†  
 ÚÓÓ, Á· ÁÏÓÚ, Ó, †íí~ÍË ÚÛÍ~ÉñËË, ïÓ  
 , ÚÓ ÉÁ, Áññ ÁÁ Ó~ÁÏ ïÁ, ïÓ  
 ÈÓÓÓÍ, ÁÓ, †Ú, . Ç· ÓÍÓ Á· Ú%†ÁÚÁ  
 ÓÓÁ%†, †Ú, ÓÁÏÁËÏ· Á, É%†ÁÓÁ†ÔËËË,  
 ÍÓÚÓ ïË ÍÏËÁÚÁ ï†ÓÍ†Ë%†Ú, Óññ ,  
 ÓÓÓÍÁ%†Ú, ËÁ, Ó%†.

**èèÖÑïèèÖÜÑÖçàÖ**

Ñññ Ò Á%†ÓÚ, †~ÁÏËñ, ÓÁ, Ó †ÏËñ ÈÏË  
 ÓÓ†ÍÓÓÓÚË ïÁÍÚ È~ÁÓÍÓ, ÓÚ%† †íÁ  
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 ÚÓÍÓÍ ïÁ ÓÚÏ~†Ú, ïÓ ÓÚÓ, á†  
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 ï, †ÏËÚËËË È Ó, †ííÓÍÚ Ó· ÓÍÚËËË, †~ÁÏÚ  
 ÓÁ ÓÓ†íÚ.



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## Before You Begin Using This Manual

èÄ Â%o ì†~†ÍÖİ ‡·ÓÚ°  
àÒÒÖÔÎ ÄÓ,†İËÄ  
%o†İÖ,Ö ÛÍÖ,Ó%oÒÚ,†

The instructions in this manual are for two models listed below. Before you start reading and operating, check your model number by looking at the bottom of your camcorder. The CCD-TR402E 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, “For CCD-TR402E 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.

àiÖÚ ÛÍËË, %o†İÖİ ÛÍÖ,Ó%oÒÚ,Ä  
Ô Â%oì†Äì†Äì° %oìfi %o,Ûı İËËÄÖ È,Ä%oÄìı  
İÖ%oÄİÄË. èÄ Ä%oÛÄİ, İ†İÇ° Ö ÊÖÛÖÊÛÄİ  
~ÛÄİË È ‡·ÓÚÄ, Ö Ö,Ä, ÛÄİÖİÄ Ç†ÄË  
İÖ%oÄİË, ÖÖÖİÖÚ Ä, İ† İËËÈ, Ö†İÄİ,  
Ç†ÄË È%oÄÖİ†İÄ °. äÖ%oÄİ, CCD-TR402E  
ËÖÖÖİÄÓ,†İ†, Èİİ, ÖÚ ‡ÛË,ıı° Äİfiıı. Ç  
Ëİıı ÖİÛ~†fi İ†ÈİÄİÖ,†İËÄ İÖ%oÄİË  
Ûİ†Ä°,†ÄÛÖfi İ† ÈÖÛİ†ıı. ä,°Ä ‡ÄİË~Ëfi ,  
‡·ÓÚÄ ~ÄÛÍÖ Ûİ†Ä†ı°, ÛÄİÖÛÄ, İ†İ  
İ†Ö ÈİÄ “İÖİ,İÖ %oìfi èèD-TR402E”.  
äÖ,%o†Ç°·Û%oÄÛÄÈÛ†Û, %o†İÖÄ ÛÍÖ,Ó%oÒÚ,Ó,  
ÛÈÛ°,†ÈÛÄ, ~ÚÖ İİÖÖİË È ÛÖÛ†İÖ,İË İ†  
È%oÄÖİ†İÄ Ä ÖÖİ†Ä†ı° Ä†,İ†,İËËÈ·Ûİ,†İËÈ.  
è Èİ. İÖÛ†İÖ,ÈÛÄ , İİ ~†ÛÄİ, POWER ,  
ÖÖİÖËÄİËÄ CAMERA. ÖÖİË İ† ÈÖÛİ†ıı  
Ûİ†Ä°,†ÄÛÖfi Äİ†ıı ♪, ÛÓ Ç° İÖËÄÛÄ Öİ~†Û,  
ÄÛİÄ İ°È Ä,ÛÍÖ,ÖÈ ÖËÈ,İ†ıı %oìfi  
ÖÖ%oÛ,Ä È%oÄİËfiÇ†ÄË ‡·ÓÚ°.

### Types of Differences

Model âÖ%oÄİ	Optical zoom éÖÛÈ~ÄÖİËËÛ ‡İÖÛÖİ†ÛÓ	Digital zoom ñÈÛ Ö,ÖËÛ ‡İÖÛÖİ†ÛÓ	Wide Mode òÈ ÖİÖÛÖ İ†Ûİ° ÄËËİ
CCD-TR401E	13x	—	—
CCD-TR402E	13x	26x	●

### Note on TV Colour Systems

TV colour systems are different depending on the countries. If you view the playback picture on a TV, you need a PAL system based TV or a SECAM system based TV with PAL-SECAM transcoder (as this is a PAL system based camcorder).

### 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.

### İËÈ° ‡ÄİË~ËË

è ÈİÄ~†İËÄ ÖÖ ÒÈÖÛÄİ†ıı °,ÄÛÍÖ,Ó  
ÛÄİÄ,È%oÄİËfi  
èÈÖÛÄİ° °,ÄÛİÖ,Ó ÛÄİÄ,È%oÄİËfi ‡İË~†ÛÖfi  
,Ä†ÈÖËİÖÖÛÈ ÖÛÖÛ ‡ıı. Nifi Ö ÖÖİÖÛ ‡  
,ÖÖÖ ÖËÄ,Ó%oÈİÖ,ÓËÄÖ. ‡ÈÄİËfi ÖÖ  
ÛÄİÄ,ËÄÖ ÛÇ†İÖÖİ†ıı°·ÈÛÖfiÛÄİÄ,ËÄÖ ,  
ÖÖİÖ,†İİ°È İ† ÈÈÖÛÄİÄ PAL, ÈİË ÛÄİÄ,ËÄÖ ,  
ÖÖİÖ,†İİ°È İ† ÈÈÖÛÄİÄ SECAM, Ö  
Û ‡İÖİÖ%oÄ Öİ PAL-SECAM (Û†İ İ†ıı ~ÚÖ  
È%oÄÖİ†İÄ ‡, ÖÖİÖ,†İİ†fi İ† ÈÈÖÛÄİÄ PAL).

### è Ä%oÖÖÛÄ ÄËÄİËÄÖ·†ÛÓ ÖİÖİÖ ‡Ä

İÄİÄ,ËÄÈÖİİ°Ä Ö Ö, ‡İİ°, İÈİÖÛÈİıı°,  
È%oÄÖİÄİÛ° È %o,ËÄ İ†ÛÄ È†ıı° İÖ,ÛÛ °Û,  
Ä†È~Äì° ‡,ÛÓ ÖİÈİ Ö ‡,Öİ.  
çÄÖ ‡,ÖİÖ~İ†fi Ä†ÖÈÖ, Û†İËıı İ†ÛÄ È†İÖ,  
İÖËÄÛÖ Ö ÖÛÈ,Ó ÄÈÛ, ÛÖİÖ,Ëfi Ä†İÖİ†ıı.  
†,ÛÓ ÖİÖİÖ ‡Ä.

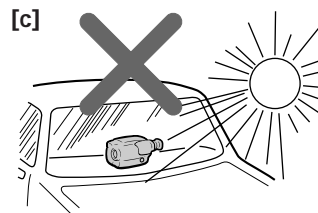
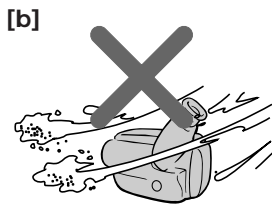
### Precautions on Camcorder Care

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

### ελληνικά

- Μην αφήνετε την κάμερα να βρεθεί βρεγμένη. Μην την αφήνετε να βρεθεί κάτω από βροχή ή θάλασσα. Μπορεί να προκαλέσει βλάβη και μερικές φορές η βλάβη δεν μπορεί να διορθωθεί. [α]
- Μην αφήνετε άμμο να εισέλθει στην κάμερα. Όταν χρησιμοποιείτε την κάμερα σε αμμώδη παραλία ή σε αμμώδη περιοχή, προστατέψτε την από την άμμο ή το σκόνη. Η άμμος ή το σκόνη μπορεί να προκαλέσει βλάβη και μερικές φορές η βλάβη δεν μπορεί να διορθωθεί. [β]
- Μην αφήνετε την κάμερα να μείνει σε θερμοκρασίες πάνω από 60°C (140°F), όπως σε ένα αυτοκίνητο που είναι παρκαρισμένο στον ήλιο ή σε άμεσο ηλιακό φως. [γ]

Before You Begin

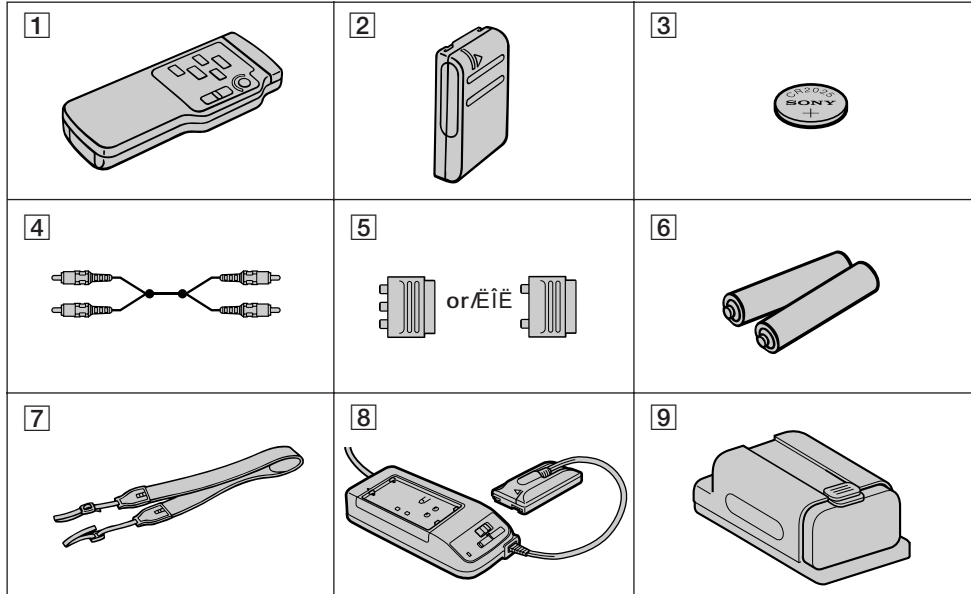


# Checking Supplied Accessories

Check that the following accessories are supplied with your camcorder.

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1 Wireless Remote Commander (1) (p. 22, 62)

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

3 CR2025 Lithium Battery (1) (p. 36)  
Already installed in the camcorder.

4 A/V connecting cable (1) (p. 20)

5 21-pin adaptor (1) (p. 21)

6 R6 (size AA) battery for Remote Commander (2) (p. 63)

7 Shoulder strap (1) (p. 62)

8 AC-V16/V16A AC power adaptor (1) (p. 7, 25)  
AC-V16A is not available in the United Kingdom.

9 Battery case (1) (p. 26)

1 Wireless Remote Commander (1) (p. 22, 62)

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

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## Getting Started

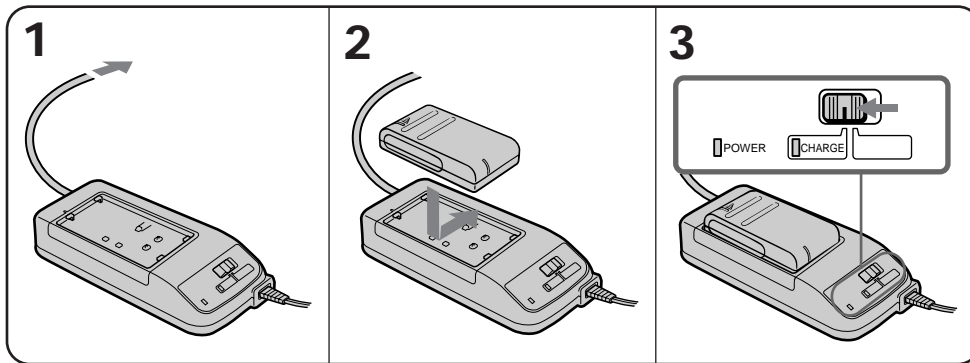
# Charging and Installing the Battery Pack

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-65/67	105
NP-66H/68	125
NP-77H/78	170
NP-90/90D/98	215

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

## Getting Started

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## Charging and Installing the Battery Pack

## á± fl%í± È ÙÒÚ±ÍÓ,Í± ·±Ú± ÁÈÍÓ,,Ó ·ÍÓÍ±

### Battery Life CCD-TR401E

Battery pack	Typical recording time**	Continuous recording time***
NP-33 (supplied)	50	90
NP-65/67	85	155
NP-66H/68	105	180
NP-77H/78	135	235
NP-90/90D/98	175	305

### CCD-TR402E

Battery pack	Typical recording time**	Continuous recording time***
NP-33 (supplied)	45	85
NP-65/67	85	155
NP-66H/68	100	175
NP-77H/78	130	230
NP-90/90D/98	170	300

\*\* 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.

#### 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.

### ë ÓÍ ÒÍÛÈ° ·±Ú± ÁÂÍ CCD-TR401E

Á±Ú± ÁÈÍ°È ·ÍÓÍ	Ç ÁÏñ ÙÈÓÈ°ÍÓÈ Á±ÒÈÓÈ**	Ç ÁÏñ ÍÃÓ Á °,ÍÓÈ Á±ÒÈÓÈ***
NP-33 (Ó ÈÏ±,±ÁÚÓñ)	50	90
NP-65/67	85	155
NP-66H/68	105	180
NP-77H/78	135	235
NP-90/90D/98	175	305


### CCD-TR402E

Á±Ú± ÁÈÍ°È ·ÍÓÍ	Ç ÁÏñ ÙÈÓÈ°ÍÓÈ Á±ÒÈÓÈ**	Ç ÁÏñ ÍÃÓ Á °,ÍÓÈ Á±ÒÈÓÈ***
NP-33 (Ó ÈÏ±,±ÁÚÓñ)	45	85
NP-65/67	85	155
NP-66H/68	100	175
NP-77H/78	130	230
NP-90/90D/98	170	300

\*\* è È·ÈÁÈÚÁÍ Ì±ñ Ó Ó%ÓÍÈÈÚÁÍ,ÍÓÓÚ, ,  
ÍÈÍÚÚ±Í Ó ÈÁ±ÒÈÓÈ,ÍÓ%±Ç°  
ÓÓ,ÚÓ ñÁÚÁÍ±±ÍÓ/ÓÓÚ±ÍÓ,Á±ÒÈÓÈ,  
Ú±ÍÓÚÓÍ±È È Ì±ÁÚÁ/  
·ÍÍ±ÁÚÁ,ÓÈÚ±ÈÁ. èÁ±Í°È Ó ÓÍ,  
ÓÍÛÈ° ·±Ú± ÁÈÍÓ,,Ó ·ÍÓÍ± ÍÓÈÁÚ ·Ú,  
ÍÓ ÓÁ.

\*\*\* è È·ÈÁÈÚÁÍ ÍÓÁ, ÁÏñ ÍÃÓ Á °,ÍÓÈ  
Á±ÒÈÓÈ,ÓÓÍÁ·ÁÍÈÈ.

#### Ç±ÈÍÓ!

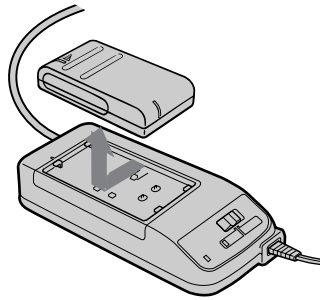
ãÓÓÓÍ ÁÚÈÚÁ Á± fl%·±Ú± ÁÈÍÓ,Ó ·ÍÓÍ±  
ÓÓÍÍÓÓÚ,, Ó ÁÈ%Á,·ÁÍ Ó ÈÓÚÚÓÈÚ,Í  
Á ÓÁ± fl%ÁÍ!  
èÁ Á%Á± fl%ÍÓÈ·±Ú± ÁÈÍÓ,Ó ·ÍÓÍ±  
Ú·Á%ÈÚÁÓ,·ÚÓÁ,ÓÁ± fl%ÓÓÍÍÓÓÚ,,  
ÈÓÓÓÍ ÁÓ±Í (ÍÓÍ ±Á ñÈÁÍ).  
èÓ,ÚÓ Ì±ñ Á± fl%ÍÓÈ,ÓÍÚ±Á±±ÓÚÈ°ÍÓ  
ÓÓÚ±·ÁÈÓñ ÁÍÍÓÓÚÈ Ó È,Ó%ÈÚÍÓÈÈÁÍÈ,  
ÁÍÍÓÓÚÈ, è%ÍÍÓ ÓÁ ÓÍ±±Í Ì±ñ ÁÍÍÓÓÚ,  
·±Ú± ÁÈ ÍÓÈÁÚ ·Ú, ÓÓÓÚ±ÍÓ,ÍÁÍ±, ÁÓÍÈ°  
Ç°ÓÓÍÍÓÓÚ,ÈÓÓÓÍ,ÁÚÁÚÁÁ± fl%·±Ú± ÁÈ  
È ÓÍÓ±ÁÁ ÓÓÍÍÓÓÚ, Á± fl%ÈÚÁ.  
Ñíñ ±Á fl%ÍÈ·±Ú± ÁÈÓÍÈÈÚÁÍ±ÓÓÁÚÈÈ  
ÓÁ Á%ÈÍ ÚÁ ÓÁ ÁÍ±ÚÁÍ, POWER,  
ÓÓÍÓÈÁÍÈÁCAMERAÓÈÓÓ%ÓÓÁ%ÈÍÁÍÓÈ  
·±Ú± ÁÁÈÓÓÚ±,ÚÁÈ%ÁÓÍ±Á Ú  
·ÍÍ±ÁÍÍÓÈ,%Ó ÚÁÍ ÓÓ,ÓÓÍ±,  
È%ÓÈÓÍ±ÚÁÍÁ ÍÁ Ì±ÍÚÚ,ÓÚÓ ÍÈ,±Ú,  
ÈÍ%ÈÍ±ÚÓ  È Í±ÓÍ±ñ Ì±ÍÓÓ±±.



**To Remove the Battery Pack**

Slide the battery pack in the direction of the arrow.

çîñúËÄ .±ú± ÄÈìÓ,Ó .ìóí±  
 èÄ Å%Èì,ÚÄ .±ú± ÄÈìÈ .ìóí,  
 ìò± ±,ìÄìËË ÒÙ ÄìË.



**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 cord and set the selector to CHARGE again.
- You cannot operate the camcorder using the AC power adaptor while charging the battery pack.

- è ÈìÄ±ìËñ ÒÓ Ä± ñ%íÄ .±ú± ÄÈìÓ,Ó .ìóí±
- ã±ìóóí±POWERÛ%ÄÛÄìóóó ÓÄ Äññ ÒÄÛËÛ Òñ,%±ÈÄ,ÄóìË.±ú± ÄÈìÈ .ìóí ÒññÛËÓÄÛÄ,ÓÈìÛ ÓúññÄìóóóìÄ Ä± ñ%ìË .±ú± ÄÈìÓ,Ó .ìóí±. ùóó ñ,ñÄÛòñ ìó ì±,ìí.
- òòìË±ìóóí±POWERÄÄ±,Ó ±ÄÛòñ, Ûóó±ìó,ËÛÓÄìÄìÛóóóìóÈÄìÈÄVTRDC OUTËÛóóóÄ%ÈìËÛÄÓ,Ó% ïÄìÛ ÓóÈÛ±ìËñ.è ÈìÄ ìóÄ ÄÄìÈìÛÛ ìó, Óó%óóÄ%ÈìËÛÄ Ó Ó,Ó% ïÄìÛ ÓóÈÛ±ìËñÈóòñÛ,Ûóó±ìó,ËÛÄ ÓÄìÄìÛóóóìóÈÄìÈÄCHARGE.
- Ç°ìÄìóÈÄÛÄÛó ±,ññÛ,È%Äóí±ìÄ ÓÈò Èóóóí,Áó,±ìÈÄì ÓÄÛÄ,Ó,Ó ±%±óóÄ ± ÓÄ Äì.Ûóí±,Ó, Äññ Ä± ñ%ìË .±ú± ÄÈìÓ,Ó .ìóí±.

Getting Started e0%0,0ú0,ìñ ìñ±ñÛ ±óó°

## Charging and Installing the Battery Pack

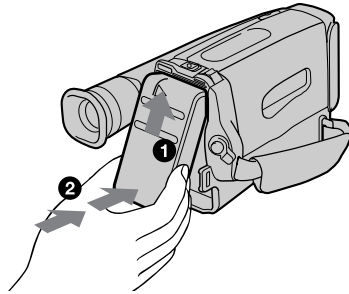
á± fl%Í± È ÙÒÚ±ìÓ,Í±  
·±Ú± ÂÈìÓ,,Ó ·ìÓÍ±

### Installing the Battery Pack

ìÒÚ±ìÓ,Í± ·±Ú± ÂÈìÓ,,Ó ·ìÓÍ±

- (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.

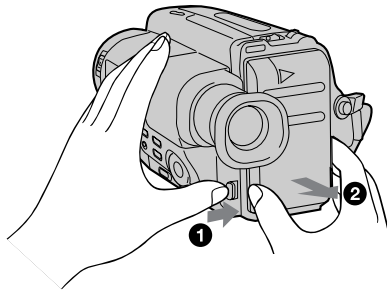
- (1) ÇÒÚ±, ÚÁ, Â ìÈÈ ÌÓÌÁ` ·±Ú± ÂÈìÓ,,Ó ·ìÓÍ±,,Á ìì,~±ÒÚ, ·±Ú± ÂÈìÓÈ ÙÒÚ±ìÓ,Ó·ìÓÈ ÒÓ,Â ìÒÓÚÈ.
- (2) ç±ÈìÈÚÁ ·±Ú± ÂÈìÈ·ìÓÍ,Ú±Í,~ÚÓ.° òì ·ì±%ÂÈìÓÓ ÈÒÓÁ%ÈìÀì.ì.Á%ÈÚÁÒ,,~ÚÓÇ°%,,±È%° ÚÓÌ~±ìÈ~ÁìÓÍ.



### To Remove the Battery Pack

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

èììÚÈÁ ·±Ú± ÂÈìÓ,,Ó ·ìÓÍ±  
è%Èì,ÚÁ·BATT·±Ú±ÁÒÓÚ·ìÈÚÁ±  
ìÈÈì,~±ÒÚ, ·±Ú± ÀìÓ,,Ó ·ìÓÍ±.



## Inserting a Cassette

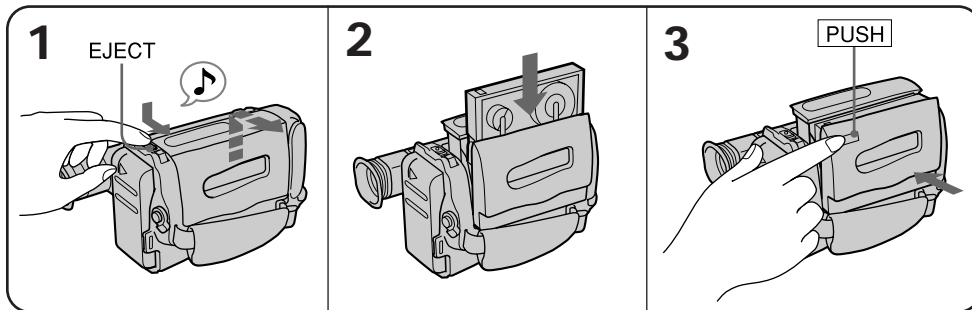
## ÇÒÚ±,Í± Í±ÒÒÁÚ°

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·À%ÈÚÁÒ, ÒÓÈÒÓÓ·ÍÈÍÒÈÚ±ÈÈÚÒÓÚ±ÍÓ,ÍÁÌ.

- (1) Ç±ÈÈÍ±Í±ÍÁÌ,ÍÚ,ÒÈÌ,ÍÌÒÓÍÚ,Ò%ÈÌ,ÚÁÈJEC±Ò ±ÍÁÌÈÈÒÚ ÁÌÈÈ.ÓÚÒÁÍ Í±ÒÒÁÚ° ±.ÚÓÍ±ÚÈ·ÁÓÍÈ ÓÚÍ °,±ÁÚÒÈÈ.
- (2) ÇÒÚ±, ÚÁÍ±ÒÒÁÚÚ(ÍÁÒ ÈÍ±,±ÁÚÒÈÈ) ÓÍÒ·ÍÓÍ, Ó· ±·ÁÌ·Í Í± ÚÈÚ.
- (3) ±ÈÍÈÚÁÁÚÍÚPUSH±ÓÚÒÁÍÁ±ÒÒÁÚ° %ÍÈÁ,ÒÁ±Í °ÚÈÈ.ÈÚÒÁÍÍ±ÒÒÁÚ° ±.ÚÓÍ±ÚÈ·ÁÓÍÈ Á±Í °,±ÁÚÒÈÈ.



### To Eject the Cassette

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

### To Prevent Accidental Erasure

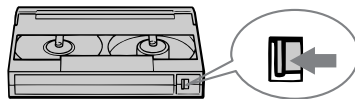
Slide the tab on the cassette to expose the red mark. If you insert the cassette with the red mark exposed and close the cassette compartment, the beeps sound for a while. If you try to record with the red mark exposed, the and indicators flash in the viewfinder, and you cannot record. To re-record on this tape, slide the tab back out covering the red mark.

ÑÍÈÈ, °Ú±ÍÈÈ,±ÌÈÈ Í±ÒÒÁÚ°

Ç±ÈÈÍ±Í±ÍÁÌ,ÍÚ,ÒÈÌ,ÍÌÒÓÍÚ,Ò%ÈÌ,ÚÁÈJEC±Ò ±ÍÁÌÈÈÒÚ ÁÌÈÈ.

ÑÍÈÈ Ò·À%ÓÓÚ, ±·ÁÌÈÈ ÒÌÚ·±ÈÍÓ,Ó ÓÚÈÈ ±ÈÈÈ


ÈÁ·À%ÈÌ, ÚÁÍÁÒÁÒÓÓÍÍ±Í±ÒÒÁÚÁ, ÒÓ·ÓÓÈÈ,ÈÍ±Ò, Í±ÒÍ±ÈÈ ÍÁÚÍ±.ÓÓÍÈÇ·,ÒÚ±,ÈÚÁÍ±ÒÒÁÚÚÒ È,°ÓÚ±,ÍÁÌÌÓÈ Í±ÒÍÒÈÁÚÍÁÈÁ±Í ÓÁÚÁÓÓÚÒÁÍÍ±ÒÒÁÚ°,ÚÓ Á±Á,Ú·ÈÚÁÚÍÁ Ì·ÈÒÈÈ,Ì±Í.ÓÓÍÈÇ·ÓÓÓ·Ú±ÁÚÁÒ, Á±ÒÈÒ°,±Ú, Ò È °ÓÚ±,ÍÁÌÌÓÈ Í±ÒÍÒÈ ÍÁÚÍÁ, ,È%ÒÈÒÍ±ÚÁÍÁ·Ú%ÓÓÚÍÈÈ,±Ú,ÈÈ%ÈÍ±ÚÓ ° È·,ÈÇ·ÍÁÒÍÒÈÁÚÁÒ ÓÈÁ,ÁÓÚÈ Á±ÒÈÒ°,ÑÍÈÈ ÓÁ ÁÁ±ÒÈÒÈÈ Í±%±ÍÚ, ÍÁÍÚÚ ÓÁ·À%ÈÌ, ÚÁÍÁÒÁÒÓÓÍÍ±Á±%, ÒÓ· Á±Í °Ú, Í±ÒÍÚ, ÍÁÚÍÚ.



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

When you use the camcorder for the first time, power on it and reset the date and time to your time (p. 38) before you start recording. When you reset the date and time, the date is automatically recorded for 10 seconds after you start recording (AUTO DATE feature). This feature works only once a day.


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

- (1) While pressing the small green button on the POWER switch, slide it to CAMERA.
- (2) Slide START/STOP MODE to .
- (3) Turn STANDBY up. The "STBY" indicator appears in the viewfinder.
- (4) Press START/STOP (red button). The camcorder starts recording and the "STBY" indicator changes to the "REC" indicator.

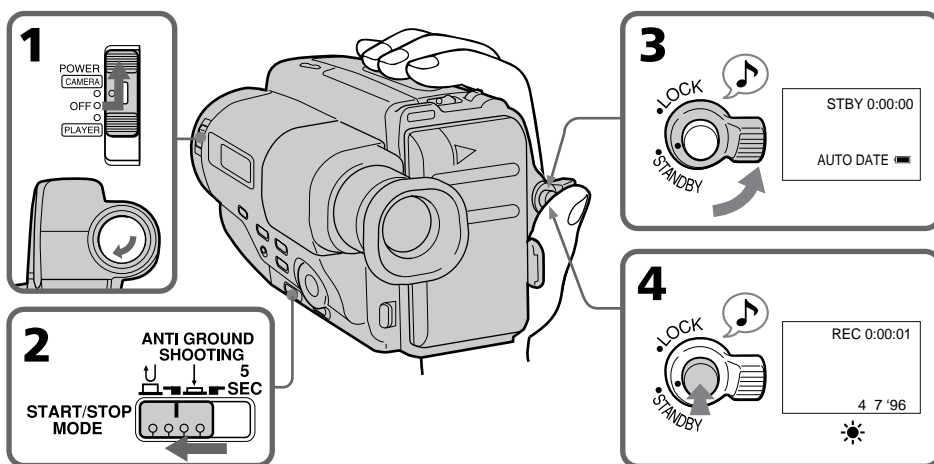
You can also select Recording mode, SP (standard play) mode or LP (long play) mode. Set REC MODE (p. 34) according to the length of your planned recording before you start.

ἰσχύρος ἢ ἀπὸ μπαταρίας ἢ ἀπὸ φορτιστήρα.

ὅταν χρησιμοποιήσετε για πρώτη φορά την κάμερα, ἔχετε ἔτοιμο ἰσχύρος ἢ ἀπὸ μπαταρίας ἢ ἀπὸ φορτιστήρα ἢ ἀπὸ μπαταρίας ἢ ἀπὸ φορτιστήρα ἢ ἀπὸ μπαταρίας ἢ ἀπὸ φορτιστήρα ἢ ἀπὸ μπαταρίας ἢ ἀπὸ φορτιστήρα ἢ ἀπὸ μπαταρίας ἢ ἀπὸ φορτιστήρα ἢ ἀπὸ μπαταρίας ἢ ἀπὸ φορτιστήρα.

- (1) Πιέζοντας το μικρό πράσινο κουμπί του διακόπτη ΠΛΗΡΗΣ ΔΙΑΚΟΜΗΣ, μετακινήστε το διακόπτη στην θέση ΚΑΜΕΡΑ.
- (2) Μετακινήστε το START/STOP MODE στο .
- (3) Περατώστε το STANDBY. Το "STBY" εμφανίζεται στην οθόνη.
- (4) Πιέξτε το START/STOP (κόκκινο κουμπί). Η κάμερα ξεκινάει να εγγραφεί και το "STBY" δείκτη αλλάζει στο "REC".

Επίσης, μπορείτε να επιλέξετε τον τρόπο εγγραφής, SP (standard play) ή LP (long play). Ρυθμίστε τον τρόπο εγγραφής (σ. 34) σύμφωνα με τη διάρκεια της εγγραφής που σχεδιάζετε πριν ξεκινήσετε.



**To Stop Recording Momentarily [a]**

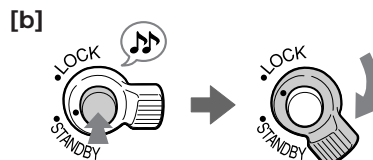
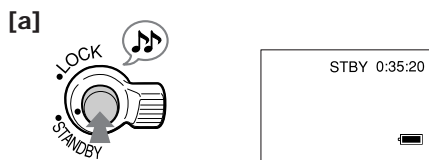
Press START/STOP again. The "REC" indicator in the viewfinder changes to the "STBY" indicator (Standby mode).

Νίπν , ΆίΆίίίόέ όόύπύό,ίέ Ά±όέόέ [a]  
 ç±έίέύά όόπύ, ίίόόίύ START/STOP. Ç  
 ,έ%οέέόί±ύΆίΆέί%οέί±ύό "REC"έΑίΆίέύόπνί±  
 έί%οέί±ύό "STBY"( Άέέί,όύό,ίόόέ ).

**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.

Νίπν όόίόί~πύέπν Ά±όέόέ [b]  
 ç±έίέύά ίίόόίύ START/STOP. εό,Ά ίέύά  
 όΆ Άίί ~±ύΆί, STANDBY ,ίέΆ έ ύόύπύό,έύά  
 , ίί, ~±ύΆί, POWER , όόίόέΑίέΆ OFF.  
 ά±ύΆί, ~ύόίίέύάί±όόάύύέ ύ%οπύέύά  
 ~±ύ± Άέί°έ ~ίόί.



**Note on Standby mode**

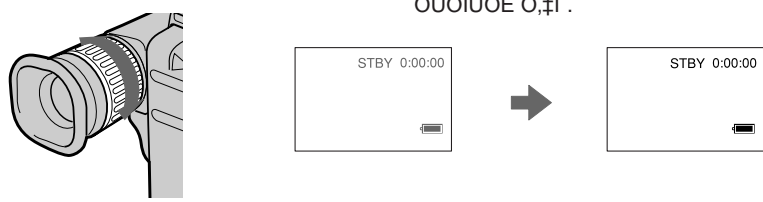
If you leave the camcorder for 5 minutes or more with a cassette inserted in Standby mode, the camcorder goes off automatically. This prevents wearing down the battery and wearing out the tape. To resume Standby mode, turn STANDBY down once and turn it up again. To start recording, press START/STOP.

έ έίΆ~πύέΆ ί Άέέίύ,όύό,ίόόέ  
 όόίέ Ç: όόύπ,ίπνύά, έ%οΆόί±ιά ύ ί± 5 ίέύύ  
 έίέ .όίΆά όό,όύ±,ίΆίίόέ ί±όόάύόέ, ΆέέίΆ  
 „όύό,ίόόέ, ύό ,έ%οΆόί±ιά ± ,ίί,~έύόπν  
 ±ύόπύέΆόίέ.ύύόό Ά%οόύ, ±±Áύ ±Á π%οίύ  
 ~±ύ± Άέ έ έΑίόό ίΆίύ°. Νίπν ,όάό,ίό,ίΆίέπ  
 Άέέί±,όύό,ίόόέέ%οέί ±Áόό,Άίέύά  
 όΆ Άίί ~±ύΆί, STANDBY ,ίέΆ έ όίό,±  
 όό,Ά ίέύά Ά,ό „Ά . Νίπν ί±~πύ± Ά±όέόέ  
 ί±έίέύά ίίόόίύ START/STOP.

**To Focus the Viewfinder Lens**

If the viewfinder is not in focus at all or when you use the camcorder after someone else has used it, focus the viewfinder lens. Move the viewfinder lens adjustment ring so that the indicators in the viewfinder come into sharp focus.

Νίπν ύόίύόέ ό,ίέ ό·Άίύέ,±  
 ,έ%οέέόί±ύΆίπ  
 όόίέ,έ%οέέόί±ύΆί, ,όó·Ά ίΆ ύόόίύόέ ό,±,  
 έίέΆόίέÇ·έόόόί,ΆύΆύ,έ%οΆόί±ιά ύόόόίΆ  
 ύό,ό,ί±ίΆέόόόί,Άό,ίίύό-ύό%ο ύ,όέ,ύό  
 ύόόίύόέ ύέύάό: Άίύέ,έ%οέέόί±ύΆίπ.  
 εΆ ΆίΆόύέύά Ά,ύίέ ό,όίόΑίόί,ό  
 ό·Άίύέ,± ,έ%οέέόί±ύΆίπ ύ±ί, ~ύό.  
 έί%οέί±ύό ° , ,έ%οέέόί±ύΆίΆ .ίέ ~Άύίό  
 ύόόίύόέ ό,±°.



## Camera Recording

Αντι-Γη, 5 SEC

**Note on the indicators in the viewfinder**  
The indicators appear in CAMERA mode only. They do not appear in PLAYER mode.

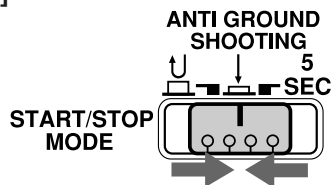
### Recording with the START/STOP button depressed

You can also make recording while pressing down the START/STOP button. To make the START/STOP button work this way, set START/STOP MODE to  $\frac{1}{2}$ . [c]

### Shooting scenery in several short takes

You can automatically make recording for about 5 seconds with the 5 SEC (p. 31). To make the START/STOP button work this way, set START/STOP MODE to 5 SEC. [d]

[c]



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

### Notes on recording mode

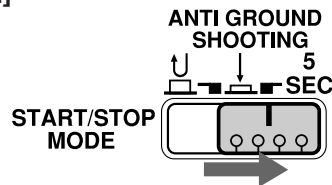
- This camcorder records and plays back in SP (standard play) mode and in LP (long play) mode. The playback quality in LP mode, however, will not be as good as that in SP mode.
- When a tape recorded on this camcorder in LP mode is played back on other types of 8mm camcorders or VCRs, the playback quality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

Αντι-Γη, 5 SEC  
Αντι-Γη, 5 SEC

Αντι-Γη, 5 SEC  
Αντι-Γη, 5 SEC

Αντι-Γη, 5 SEC  
Αντι-Γη, 5 SEC

[d]



Αντι-Γη, 5 SEC  
Αντι-Γη, 5 SEC

Αντι-Γη, 5 SEC  
Αντι-Γη, 5 SEC

**Notes on the tape counter**

- The tape counter indicates the recording time. Use it as a guide. There will be a time lag of several seconds from the actual time. To set the counter to zero, press COUNTER RESET.
- If the tape is recorded in SP and LP modes mixed, the tape counter shows incorrect recording time. When you intend to edit the tape using the tape counter 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 (p. 67). Note that the beep sound is not recorded on the tape. If you do not want to hear the beep sound, set BEEP to "OFF" (p. 34).

**Note on the AUTO DATE feature**

The clock is set to London for the United Kingdom models and Paris for other European models at the factory. You can reset the clock (p. 38).

The AUTO DATE feature shows the date automatically once a day. However, the date may automatically appear more than once a day when:

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

**When moving from indoors to outdoors (or vice versa)**

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

**ε ÈĪ~τĭÈŋ í Ò~ÁÚ~ÈĪÚ ĪĀĪÚ°**

- ε~ÁÚ~ÈĪ ĪĀĪÚ° ÚĪ~Á°,~τĀÚ, Áĭŋ Á~τÖÈÖÈ. àÖÖÓĪ,ÁÚÈÚÁĀ,Ó,Ī~ÁÖÚ,Á ÚĪÓ,Ó%ÖÚ,τ. τĭĪ·Ú%ÁÚ ÖÚÖÚτ,τĭÈĀ ÖÖ, ÁĪĀĪÈ Ī~ĪÀÖĪÓĪĪÓ ÒĀĪÚĪ%ÖÚ Ú~τĪÚÈ~ÁÖĪÓ,,Ó, ÁĪĀĪÈ. Νĭŋ ÚÖÚτĪÓ,ĪÈ Ò~ÁÚ~ÈĪτ Īτ ĪŪĪ, Ī~τĭÈĪÈÚĀ ĪĪÖĪÚ COUNTER RESET.
- ÖÖĪÈ ĪĀĪÚτ Á~τÖÈÖτĭτ, Ó·ÖÈĪ: ÁÈÈĪτ, SP È LP, Ò~ÁÚ~ÈĪ ĪĀĪÚ° ·Ú%ÁÚ ÖÖĪτĀ°,τÚ, ĪĀÖ τ,ÈĪ,ĪÓĀ, Áĭŋ. ÖÖĪÈ, τĭĪĪÁ,τĀÚĀÖ. Ö ÖÈĀ,ÁÖÚÈĪÓĪÚτÈ ĪĀĪÚ° Ò ÈÖÖÓĪ,ÁÓ,τĭÈĀĪ Ò~ÁÚ~ÈĪτ ĪĀĪÚ°, Ī~ÁÖÚ,Á ÚĪÓ,Ó%ÖÚ,τ. Ö ÖÈĀ,Ó%ÈÚĀÁ~τÖÈÖ, ÚÖĪ ÈĀ ÁÈÈĪĀ (SP ÈĪÈ LP).

**ε ÈĪĀ~τĭÈĀ í ÁÚĪĀ ĪÖĪÚ Á,ÚĪÓ,ÖĪÚ**

ÖÈ,,ĪτĪÚ  
 äĭĪ ÚĪ~τĀτĪÓ Ò ÖÖĪÓ° · ♪ Īτ ÈÖŪĪĪτ, Ó%ÈĪ  
 ÁÚĪĀ Ī~È ÒÈ,,ĪτĪ Á,Ú~ÈÚ, ĪÓ,,%τ Ç°  
 Ī~ÈĪτĀÚĀ Á~τÖÈÖ, È %,,τ ÁÚĪĀ Ī° ÒÈ,,ĪτĪτ  
 Á,Ú~τÚ, ĪÓ,,%τ Ç° Á~τĪτĪÈ,τĀÚĀ Á~τÖÈÖ,,  
 ÖÖ%Ú,Á È%τŋ ÚĀĪ Ö~τĪĪ τ·ÖÚÚ. çĀÖĪÓĪ,ĪÓ  
 ÁÚĪĀ Ī° ÒÈ,,ĪτĪÓ, Ú~τĭÈĀ Á,Ú~ÈÚ,  
 Ī~ÁÖÚ,Á Ò Á%ÚÖ ÁÈ%ĀĪÈŋĪτĪÓ,,Ó-ĪÈ·Ó  
 ĪĀĪÓ ĪτĪĪÓ,,Ó ÖÖÖÚÓŋĪÈŋ,È%ÁÖĪτĪĀ ° (ÖÚ .  
 67). äĭĪÁÚ ÚĀ, ~ÚÓ ÁÚĪĀ Ī~È Á,ÚĪÓ,ÓÈ  
 ÖÈ,,ĪτĪ ĪĀ Á~τÖÈÖ,τĀÚÖŋ Īτ ĪĀĪÚÚ. ÖÖĪÈ, τĪ  
 ĪÖÚÈÚĀ ÖĪ~τÚ, ÁÚĪĀ Ī~È ÖÈ,,ĪτĪ, ÚÓ  
 ÚÖÚτĪÓ,ÈÚĀ "BEEP", ÖÖĪÓÈĀĪÈĀ "OFF" (ÖÚ .  
 34).

**ε ÈĪĀ~τĭÈĀ í ÚŪĪĪ~ÈÈ AUTO DATE**

ó~τÖ° ÚÖÚτĪÓ,ĪĀĪ° Á~τ,Ó%ÖĪÈ-ÈĀ,ÖÚÓ,ÈÚĀĪĀĪ  
 ÖÖĪÓĪ%ÖĪÖĪÓĪÚ, ÁĪĀĪÈ %ŋĪ ĪÓ%ĀĪĀÈ  
 εÖĀ%ÈĪĪĪÖ,,Ó äÖ ÖĪĀ,ÖÚ,τÈ ÖÖÖτ ÈÈÖĪÓĪÚ  
 , ÁĪĀĪÈ %ŋĪ% Ú,,ÈĪ,Ā, ÖÖĀÈÖĪÈĪ,ĪÓ%ĀĪĀÈ.  
 Ç° ĪÖÈĀÚĀ, °ÖÖĪÈÚ, ÖÖ,ÚÓ ĪŪ, ÚÖÚτĪÓ,ĪÚ  
 ~τĭÖÓ,(ÖÚ .38).

ĪŪĪĪ~Èŋ AUTO DATE τ,ÚÖĪτÚÈ~ÁÖĪÈ  
 ÖÖĪτĀ°,τĀÚ%τÚÚ Ö%ÈĪ τĀ, %ĀĪ,·ε%ĪτĪÓ,  
 %τÚτĪÖÈĀÚ ÖÖŋ,ÈÚ, Öŋτ,ÚÖĪτÚÈ~ÁÖĪÈ·ÓĪĀĀ  
 Ö%ÖĪ,Ó τĀτ, %ĀĪ, ÁÖĪÈ:

- Ç° Ö· ÖÖÈÚĀ%τÚÈÈ, Áĭŋ.
- Ç° ,ÚÖĪĪĀÚĀ ĪτÖÖĀÚÚ È, ÖÚτ,ÈÚĀ ĀĀ ÖĪÓ,τ.
- Ç° ÖÖÚτĪÓ,ÈÚĀ Á~τÖÈÖ,, Ö Á%ĀĪτĪ 10 ÖĀĪÚ%.

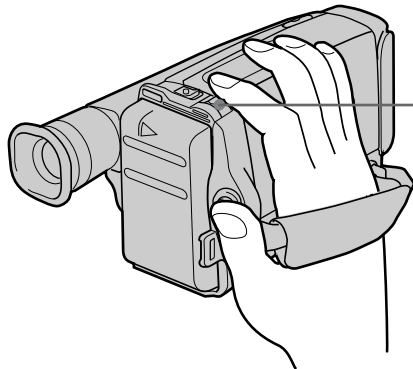
ε È, τĪ%Ā ÈĀ ÖÖĪĀ~ĀĪÈŋ Īτ ÚĪÈ~Ú (ÈĪÈ ĪτÖ·Ó ÚÚ)

εÓ,Ā ĪÈÚĀ ÖĀ ĀĪĪ~τÚĀĪ, STANDBY ,,Ā Ī È Īτ,Á%ÈÚĀ, È%ÁÖĪτĪĀ Ú Īτ·ĀĪ~È Ö·ĀĪÚ ÖÈ·ĪÈĀÈÚĀĪ,ĪÓ Īτ 15 ÖĀĪÚ% ÚτĪ, ~ÚÓ°·ĀĪ~È·τĭĪÓ°·Ī ÖÚ Á,,ÚĪÈ Ö,τĪ Ö τ,ÈĪ,ĪÓ.

**Using the Zoom Feature**

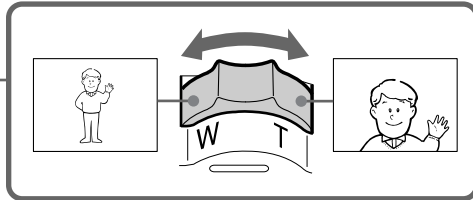
Zooming is a recording technique that lets you change the size of the subject in the scene. For more professional-looking recordings, use the zoom sparingly.

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



àöóóí.Áó,±iÈÄ Ùùíí~ÈÈ i±ÁÁ%o±  
,É%oÁóί±iÁ °

ç±ÁÁ%o ,É%oÁóί±iÁ ° η,íñÁÙòñ ÙÁìÈ~ÁóíÈí  
ò ÈÁíóíÁ±òÈòÈ,íóúó °È öóÁ,óíñÁÙ,±í  
ÈÁíÁíñÚ, ±ÁíÁ Ò·ÁíÚ±, i±%o Á. çÁ  
Áíóúóóú Á·íñÈÚÁ ~ÚÈíò ÈÁíóí,ÁóíÈ,íóúÈÚÁ,  
~Úó.° Ç±È Á±òÈòÈ °,íñ%oÁíÈ ·óíÁÁ  
ò óúÁóóÈóí±í,ó.  
ëúó óí±í: %oíñ ÙÁíÁÙóóú (ó·ÁíÚ  
ò È·iÈÈ±ÁÙòñ)  
ëúó óí±W: %oíñ È öíó,ó Ù,í± ò·ÁíÈÈ  
(ó·ÁíÚ Ù%o±íñÁÙòñ)



**Zooming Speed**

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, turn the power zoom lever towards 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 about 1 cm (about 1/2 inch) in the wide-angle position.

ëíó óóú, i±ÁÁ%o± ,É%oÁóί±iÁ °  
èóííóóú, öó,Á iÈÚÁ °±, ò È,ó%oíó,ó  
Ù ±íòùóí±úó ±%oíñ·óú ó,ó i±ÁÁ%o±  
,É%oÁóί±iÁ °, öó,Á iÈÚÁ Á,ó óíÁ,,í± %oíñ  
iÁ%oíÁííó,,ó i±ÁÁ%o± ÙÁíÁí±iÁ °

äó,,%o±, ° òiÈí±ÁÚÁ ó·ÁíÚ, Èöóóí,ÁÙñ  
i±ÁÁ%o, ÁÈÈiÁ ÙÁíÁÙóóú  
öóíÈ ° iÁ ióÈÁÚÁ öóíÚ·ÈÚ, ~ÁúíóÈ  
úóíúóÈ ó,íÈ,ó, Áíñ í ±ÈiÁ,,ó i±ÁÁ%o±,  
ÁÈÈiÁ ÙÁíÁÙóóú, úó öó,ó ±È,±ÈÚÁ °±,  
ò È,ó%oíó,ó Ù ±íòùóí±úó ±,óúó óíÙW,%oó  
ÙÁíóó, öóí±iÁ öóíÚ·ÈÚÁ ~ÁúíóÈ  
úóíúóÈ ó,íÈ.  
ç·íóÈÁÚÁ ò óÈÁ,ÁóúÈ ò Áííúò Á%oíÁÙ±,  
íóúó °È öó iÁì, ~ÁÈ iÁ Á i±,ó%oÈÚóñ  
ò È·iÈÁÈÚÁí,íò i± ±òóóóñiÈÈ 80 óíóú  
óó,Á ñíóóúÈ ó·ÁíÚÈ,±, öóíóÈÁiÈÈ  
ÙÁíÁÙóóú, ÈiÈ 1 óí, öóíóÈÁiÈÈ È öíó,,ó  
Ù,,í±.



### Notes on Digital Zoom -CCD-TR402E only

You can select 13 x (optical) or 26 x (digital) of zooming.

- More than 13 x zoom is performed digitally, and the picture quality deteriorates as you go toward the T side. If you do not want to use the digital zoom set the ZOOM function to x13 (p. 34).
- The right side [a] in the power zoom indicator shows the digital zooming zone, and the left side [b] shows the optical zooming zone. If you set the ZOOM function to x13, the [a] zone disappears.

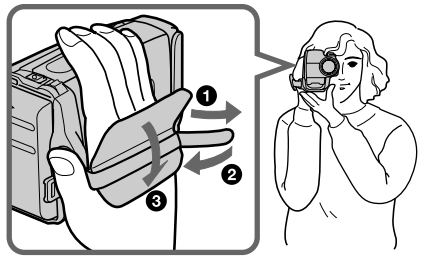
è ÈiÄ~±iÈñ Ò Ó ^ÈÙ Ó,ÓiÛ  
 Ú ±iÛÓ±iÛÓ Û  
 – ÚÓi,ÍÓ %oññ iÖ%oÄiÈ CCD-TR402E  
 Ç° iÓÉÁÚÁ ,° ±Ú, Ú ±iÛÓi±È, 13i  
 (ÓÓÚÈ~ÁÓiÛ) ÈiÈ 26i (^ÈÙ Ó,Ú).  
 • i ±iÛÓi±Èñ .ÓiÁÁ, ^Ái 13i,  
 Ò ÓÉÁ,Ó%ÈÚÓñ ÈÙ Ó, iÖÓÓÓ.Ói,È  
 i±ÁÓÚ,ÓÉÁÓ. ±ÈÁiÈñÚiÚ%±ÁÚÓñÓÓiÁ Á  
 ÓÁ ÁiÁ~ÁiÈñ , ÓÚÓ ÓiÛ i. ÓÓiÈ Ç° iÁ  
 iÓÚÈÚÁÈÓÓi,ÁÓ,±Ú, ÈÙ Ó,ÓÈ  
 Ú ±iÛÓi±iÚÓ ,ÚÓÚ±iÓ,ÈÚÁ ÚÚiÈ ZOOM  
 ,ÓÓiÓÈÁiÈÁ i13 (ÓÚ . 34)  
 • è ±ññiÛÓ Ói± [a]Èi%Èi±ÚÓ ±ÈÈ,Ó%iÓ,Ó  
 Ú ±iÛÓi±iÚÓ ±ÓÓi±Á,±ÁÚÁÓiÛ ÈÙ Ó,ÓÈ  
 Ú ±iÛÓi±ÈÈ, ±iÁ,ññÓÚÓ Ói± [b]  
 ÓÓi±Á,±ÁÚÁÓiÛÓÓÚÈ~ÁÓiÓÈ  
 Ú ±iÛÓi±ÈÈ.ÓÓiÈÇ° ÚÓÚ±iÓ,ÈÚÁ  
 ÚÚiÈ ZOOM i± i13, ÚÓ ÁÓi± [a]  
 ÈÓ~ÁÁiÁÚ.



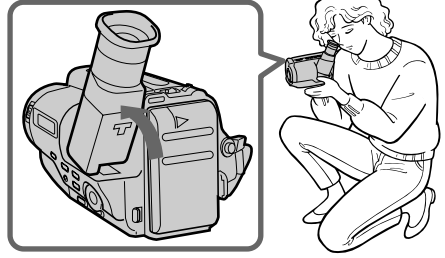
### Hints for Better Shooting

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

[a]



[b]



## Hints for Better Shooting

ëÓ,ÂÚ° %ífl îÚ~ÂÈ Ò`ÂÏË

- Hold the camcorder firmly and secure it with the grip strap so that you can easily manipulate the controls with your thumb. [a] (p. 17)
- Place your right elbow against your side.
- Place your left hand under the camcorder to support it. Do not cover the microphone with your fingers.
- Place your eye firmly against the viewfinder eyecup.
- Use the viewfinder frame as a guide to determine the horizontal plane.
- You can also record in a low position to get an interesting recording angle. Turn the viewfinder up for recording from a low position. [b] (p. 17)

### Place the camcorder on a flat surface or use a tripod

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

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

### Cautions on the viewfinder

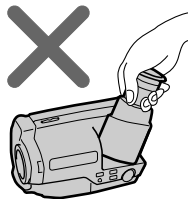
- Do not pick up the camcorder by the viewfinder. [c]
- Do not place the camcorder so as to point the viewfinder toward the sun. The inside of the viewfinder may be damaged. Be careful when placing the camcorder under sunlight or by a window. [d]

- ç±%ãÈìó%ã ÈÈÚÁ,È%ãÁóí±iÁ ÚÈ Ó`Á%óí, ±íflÈÚÁ ÁÁ Ó`ÓÓÍÓ`... ÁiÁiìó,,Ó Á±,±ú± ú±í, ~ÚÓ Ç` ÓÍÓÈÁÚÁ iÁ,,íÓ Ì±iÈÓÚiÈ Ó,±ú, Á,ÚíflÚÓ ±iÈ Ó` ÓÓÍÓ`.. Ç±-Á,,Ó`-Óí`-Ó`Ó` Ó±í`±. [a] (ÓÚ . 17)
- è±òÓÓíÓÈÈÚÁ Ç±-Ó`±, È`iÓíÓÚ, Ì±Ó ÓÚÈ, Ç±-Á,,Ó`-Óí±.
- è±òÓÓíÓÈÈÚÁ Ç±-Ú`iÁ,Ú. ÚíÚ ÓÓ% È%ãÁóí±iÁ ÓÈ%íflÁÁ ÓÓ%ã`Á ÈiÈ . çÁ Á±i ÓÈÚÁ iÈi ÓÚÓi Ç±-ÈiÈ Ó±í, ±iÈ .
- è±òÓÓíÓÈÈÚÁ Ç±-í±Á ÚÓ`íÓ Ì±Ó ÓÚÈ, ÓíÚífl ±,È%ãÓÈÓi±ÚÁífl.
- àÓÓÓi,ÁÚÈÚÁ,ÈÁÈ iÚ. ±íiÚ,È%ãÓÈÓi±ÚÁífl, ±±ÁÓÚ,Á ÚiÓ,Ó%ÓÚ,±%ífl ÓÓ`Á%ãiÁiÈfl „Ó`ÈÁÓiÚ±í,íÓ,,Ó` Ói±±.
- Ç` Ú±iÈÁ`iÓÈÁÚÁ ÓÓÚ`ÁÓÚ,íflÚ. Á±ÓÈÈ, ÈÁ iÈÈiÁ,,Ó` ÓÓÍÓÈÁiÈfl %ífl ÓÓiÚ`ÁiÈfl ÈiÚÁ ÁÓiÓ,ÓÚ,Ì±±ÓÈÓÈ. èÓ`Á iÈÚÁ È%ãÓÈÓi±ÚÁi, „Á` í%ífl Á±ÓÈÈÈÈÁ iÈÈiÁ,,Ó` ÓÓÍÓÈÁiÈfl. [b] (ÓÚ . 17)

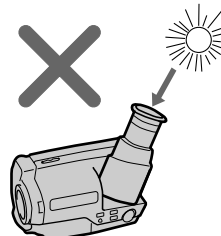
è±òÓÓi±,±ÈÚÁ,È%ãÁóí±iÁ Ú`±` ÓiÓÓiÓÈ ÓÓ,Á` iìÓÓÚÈ ÈiÈ ÈÓÓÓi,ÁÚÈÚÁ Ú`ÁiÓÈiÈi ÈÚ± ±ÈÚÁÓ, ±ÓÓi±,±Ú, È%ãÁóí±iÁ Ú`±` ÓÚÓiÁiÈÈ%Ú,ÓÈÓiÓÓiÓÈÓÓ,Á` iìÓÓÚÈ ÓÓ%í%ífl`ÁÈ,`ÓÓÚ`. ÓÓiÈ Ú`Ç±ÓÈiÁÁÚÓífl Ú`ÁiÓÈiÈi%íflÚÓÓÚÓ`ÓÓ± ±Ú±, Ç` iÓÈÁÚÁ ÈÓÓÓi`ÁÓ,±Ú. Á,Ó`È`%ífl,È%ãÁóí±iÁ . è`È`Ó`Èi`ÁÓiÁiÈÈiÚ`ÁiÓÈiÈiÚ, ÓÚiÈ`iÓiÚ ÓÚ`ÚÈ`i` Sony Ú`-Á%ãÈÚÁÓ, ~ÚÓ`í`ÁÓÁÈi`È`ÈiÚ`Ú`ÁiÓÈiÈi±` íÓ`Ó`Á`6,5`íi. Ç` Ó`ÓÚÈ,íÓi`ÓiÚ`±Á,ÈiÚ`iÓÈÁÚ`ÓÓ, Á%ãÈÚ, iÚÚ`ÁiìÈÁ %ãÁÚ±iÈ,È%ãÁóí±iÁ .

ã`ã` Ó`Á%ãÓÓÚÓ`ÓÈiÓÓÚÈÈ`È`Ó`±`ÁiÈÈÈ`Ó`È%ãÓÈÓi±ÚÁiÁi`  
 • çÁ`ÓÓ%íflÈi±ÈÚÁ,È%ãÁóí±iÁ Ú, %ã`È±ÁÁÁ±,È%ãÓÈÓi±ÚÁi, [c]  
 • çÁ`±ÓÓÓi±,±ÈÚÁ,È%ãÁóí±iÁ Ú`Ú±iÈi`Ó`±ÁÓi, ~ÚÓ`È%ãÓÈÓi±ÚÁi, .`i` Ì±Ó`±`iÁi, ÓÚÓ`ÓiÚ`ÓÓiì`±, úÚÓ`iÓÈÁÚ`Ó`È,ÁÓÚÈi`%ãÁÚÓ`±`ÈÈ,iÚÚ`ÁiìÈi`±ÓÚÁÈ,È%ãÓÈÓi±ÚÁiífl.ÁÚ%ã,ÚÁ`ÓÓÚÓ`ÓÈi`ÓÓÚ±,íflfl,È%ãÁóí±iÁ Ú`±`ÓÓiì`Á`ÈiÈ,ÓÁiÁ`Óiì±. [d]

[c]



[d]



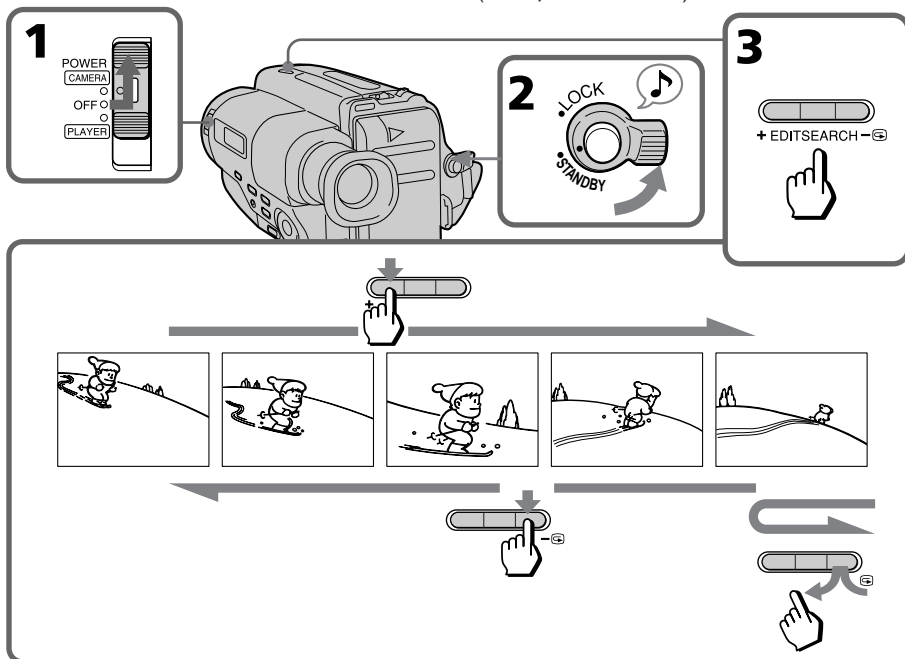
# Checking the Recorded Picture

# Ελέγχοντας την Εμφάνιση του Ηχογραφήματος

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

- (1) While pressing the small green button on the POWER switch, slide it to CAMERA.
- (2) Turn STANDBY up.
- (3) Press EDITSEARCH. Press the - (⊖) side momentarily, the last few seconds of the recorded portion plays back (Rec Review). Hold down the - side of EDITSEARCH until the camcorder goes back to the scene you want. The last recorded portion is played back. To go forward, hold down the + side (Edit Search).

- (1) Πατώντας το μικρό πράσινο κουμπί που βρίσκεται στο διακόπτη ΠΡΩΤΟΒΑΡΙΑΣ, μετακινήστε το διακόπτη στην θέση ΚΑΜΕΡΑ.
- (2) Μετακινήστε το διακόπτη STANDBY προς τα πάνω.
- (3) Πατήστε το κουμπί EDITSEARCH. Πατήστε το - (⊖) για λίγο, οι τελευταίες δευτερόλεπτα του ηχογραφημένου τμήματος παίζουν πίσω (Rec Review). Κρατώντας πατημένο το - (⊖) του κουμπιού EDITSEARCH μέχρι να επιστρέψετε στην σκηνή που θέλετε, οι τελευταίες δευτερόλεπτα του ηχογραφημένου τμήματος παίζουν πίσω. Για να προχωρήσετε, κρατήστε πατημένο το + (Edit Search).



**To Stop Playback**  
Release EDITSEARCH.

Για να σταματήσετε την επανάληψη, απελευθερώστε το κουμπί EDITSEARCH.

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

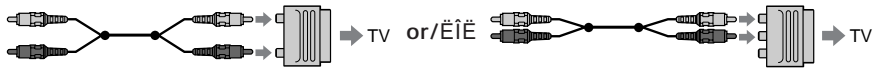
Για να αρχίσετε να ηχογραφείτε ξανά, πατήστε το κουμπί START/STOP. Η επαναγράφιση ξεκινά από το σημείο που απελευθερώσατε το κουμπί EDITSEARCH. Εάν δεν αφαιρέσετε το κασετό, η μετάβαση μεταξύ της τελευταίας σκηνής που ηχογράφησατε και της επόμενης θα είναι ομαλή.

Basic Operations ελεγχοντας την εμφάνιση του ηχογραφημένου τμήματος



**If Your TV/VCR has a 21-pin Connector (EUROCONNECTOR)**  
Use the supplied 21-pin adaptor.

ÖÖÏË Ç±- ÚÂÏÄ,ËÁÓ /äÇå ËÏÄÂÚ 21-  
-Ú° ,ÍÓ,°È ÖÓÄ%ÈÏËÚÄÏ,  
(EUROCONNECTOR)  
àÖÖÓÏ,ÁÚËÚÄ Ò ËÏ±,±ÄÏ°È 21-Ú° ,ÍÓ,°È  
±%±ÖÚÄ.



**To connect a TV or a VCR without Video/Audio input jacks**  
Use an RFU adaptor (not supplied).

ÑÏÏ ÖÓ%ÏÏ~ÄÏËÏ í ÚÂÏÄ,ËÁÓ Û ËÏË äÇå  
·ÄÄ ,ÍÓ%Ï°Ï/°Ï%Ï°Ï ,ÏÄÄ% ,Ë%ÄÓ/  
±Ú%ËÖ  
Ç°ÖÓÏËÚÄ ÖÓ%ÏÏ~ÄÏËÄ Ò ÈÖÖÓÏ,ÁÓ,±ÏËÄÏ  
±%±ÖÚÄ ±RFU (ÏÄÖ ËÏ±,±ÄÚÖÏ).

## Playing Back a Tape

## ÇÓÒÓ ÓÉÁ,Â%ÀÏËÄ ÎÂÏÚ°

You can monitor the playback picture in the viewfinder. You can also monitor on the TV screen, after connecting the camcorder to the TV/VCR (p. 20).

You can control playback using the supplied Remote Commander.

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

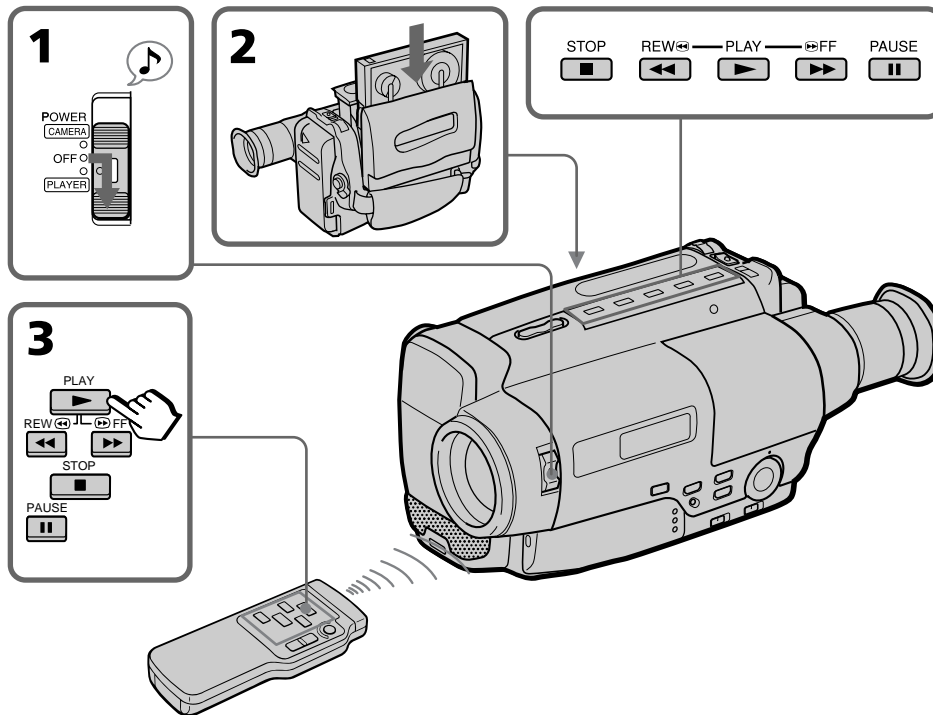
Ç° ÍÓÉÁÚÄ ,°ÓÓÏËÜ. ÍÓÏÚ ÓÏÏ°È  
Ó ÓÓÏÚÓ ,ÓÓÓ ÓÉÁ,Ó%ÈÏÓ,ÓÉÁÓ. †ÈÄÏËñ,  
,È%ÓÈÏÓ†ÚÄÏÄ. Ç° Ú†ÏËÄ ÍÓÉÁÚÄ ,°ÓÓÏËÜ,  
Ó ÓÓÏÚÓ Ï† ÍÄÚÄÏÄ,ÉÁÓ †ÓÓÏÄ  
ÓÓ%Ï,~ÄÏËñ ,È%ÁÓÏ†ÏÄ° Í ÚÄÏÄ,ÉÁÓ Û/  
äÇá(ÓÚ ,20).

Ç° ÍÓÉÁÚÄ ÍÓÏÚ ÓÏÈ Ó,†Ú  
,ÓÓÓ ÓÉÁ,Â%ÀÏËÄÓÈÓÓÏ,ÁÓ,†ÏËÄÏ  
Ó È†,†ÄÏÓ,ÓÓÏÏ,Ú†%ÈÓÚ†ÈÓÏÏÓ,ÓÓÚÓ †,  
ÏÄÏËñ.

(1) Ç†ÈËÏ†ñ ††ÄÏ,ÏÚ, ÁÄÏÄÏÚ, ÏÏÓÏÏÚ Ï†  
,ÏÏ,†ÚÄÏÄ POWER, ÓÄ Á%,ÈÏ,ÚÄ Á,,Ó,  
ÓÓÏÓÈÄÏËÄPLAYER.

ä†,,Ó †,ÚÓñ ÏÏÓÏË ÓÄ ÄÏÄ~ÄÏËñ ÏÄÏÚ°.  
(2) ÇÓÚ†,ÚÄ Á†ÓÈÓ†ÏÏÚ, ÏÄÏÚÓ ÓÏÓ-ÏÓÏ,  
Ó. †~ÄÏ°Ï Ï† ÚÈÚ.

(3) Ç†ÈËËÚÄ ►. Ç†ÏÄÚÓñ,ÓÓÓ ÓÉÁ,Â%ÀÏËÄ.



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

Ñññ ÓÓÚ†ÏÓ,ÏÈ ,ÓÓÓ ÓÉÁ,Â%ÀÏËñ Ï†ÈËËÚÄ  
■.  
Ñññ ÚÓÏÓ ÄÏÏÈÈ ÓÄ ÄÏÓÏËÈ ÏÄÏÚ° Ï†Á†%  
Ï†ÈËËÚÄ ◀◀.  
Ñññ ÚÓÏÓ ÄÏÏÈÈ ÓÄ ÄÏÓÏËÈ ÏÄÏÚ° ,ÓÄ Á%  
Ï†ÈËËÚÄ ▶▶.

### Using the Remote Commander

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

#### 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.

### Various Playback Modes

#### To view a still picture (playback pause)

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

#### To locate a scene (Picture Search)

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

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

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

#### Notes on playback

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

àÒÒÓÍ,ÁÓ,†ÈÄ ÔÚÍ Ú†  
 %ÈÓÚ†ÈÓÍÓ,Ó ÚÓ †,ÍÀÈ†  
 Ç°ÍÓÈÁÚÁ ÚÓ †,†Ú, ÓÓÒ ÓÈÁ,Á%ÀÈÄ†  
 ÈÓÓÓÍ,ÁÓ,†ÈÄ†È†,†Á†Ó,Ó ÓÚÍ,Ú†  
 %ÈÓÚ†ÈÓÍÓ,Ó ÚÓ †,ÍÀÈ†. èÁ Á%Ú††ÍÓ†  
 ÈÓÓÓÍ,ÁÓ,†È†ÓÚÍ Ú†%ÈÓÚ†ÈÓÍÓ,Ó  
 ÚÓ †,ÍÀÈ†,ÓÚ†,ÚÁ .†Ú† ÁÈÈ R6  
 (†Á†Á Ó†Á).

è È†Ä~†ÈÄ Í Í °†Á Ó·ÁÍÚÈ,†  
 ä °† Ó·ÁÍÚÈ,† ÍÁ ÓÚÍ °,†ÁÚÒ†, ÁÒÈÈ  
 °Í†ÚÁ†, POWER ÚÒÚ†ÍÓ,ÍÁ†,  
 ÓÓÍÓÈÁÈÄ PLAYER. çÁ ÓÚÍ °,†ÈÚÁ Í °ÍÚ  
 Ó·ÁÍÚÈ,†, Ú†ÍÚ. .ùÚÓ ÍÓÈÁÚ Ó È,ÁÓÚÈ Í  
 ÍÁÈÓÓ †ÍÓÓÚÈ.

è†ÁÈÈ~ì°Á ÁÈÈ†°,ÓÒÒ ÓÈÁ,Á-  
 %ÀÈÈ†%†ÍÓ ÓÓÍÓÚ †ÍÁÓÓ%,ÈÈÍÓ,Ó

àÁÓ. †ÈÄÈ†(Ó†ÚÁ†,ÓÓÒ ÓÈÁ,Á%ÀÈ†)  
 ç†ÈÈÚÁ †ÍÓÓÍÚ ††,Ó, Á††  
 ,ÓÓÒ ÓÈÁ,Á%ÀÈÈ†. †††,ÓÁÓ-ÍÓ,ÍÀÈ†  
 ,ÓÓÒ ÓÈÁ,Á%ÀÈÈ††ÈÈÚÁ †ÍÓÓÍÚ ††ÈÈ▶.

††† ÓÚ°Ó††È† ÈÁ††Á†Ó,Ó Ú †,ÍÀÍÚ†  
 (ÓÓÈÓÍ ÈÁÓ. †ÈÄÈ†)  
 †Á È†Ú, †È†ÚÓÈ †ÍÓÓÍÚ ◀◀ ÈÈÈ ▶▶ Ó  
 , Á††,ÓÓÒ ÓÈÁ,Á%ÀÈÈ†. †††,ÓÁÓ-ÍÓ,ÍÀÈ†  
 ÍÓ ††ÍÓ,Ó,ÓÓÒ ÓÈÁ,Á%ÀÈÈ†ÓÚÓÚÓÚÈ,  
 †ÍÓÓÍÚ.

††† ÍÓÍÚ Ó†† ÈÁÓ. †ÈÄÈ† ††, °ÓÍÓÈ  
 ÓÍÓ ÓÓÚÈ,Ó, Á†† ÚÓÍÓ Á††ÈÈ ÓÁ ÁÍÓÚÈÈ  
 ÇÓÁ Á%ÈÈÈ†††% (ÓÓÈÓÍÍÁÚÓ%Ó†  
 Ó Ó,Ó††)  
 †Á È†Ú, †È†ÚÓÈ †ÍÓÓÍÚ ◀◀,Ó, Á††  
 ÓÁ ÁÍÓÚÈÈ ÍÁÍÚ° †††% ÈÈÈ †ÍÓÓÍÚ ▶▶,Ó  
 , Á†† ÓÁ ÁÍÓÚÈÈ ÍÁÍÚ°,ÓÁ Á%. †††  
 ,ÓÁÓ-ÍÓ,ÍÀÈ† ÍÓ ††ÍÓ,Ó  
 ,ÓÓÒ ÓÈÁ,Á%ÀÈÈ††È†Ú, †ÍÓÓÍÚ ▶.

è È†Ä~†È† Í Í °ÓÒ ÓÈÁ,Á%ÀÈÈ,  
 • Ç †ÁÈÈ~ì°, ÁÈÈ††,ÓÓÒ ÓÈÁ,Á%ÀÈÈ ††  
 ††ÍÁ ÍÓ,ÚÚ ÓÓ†,ÈÚ,Ó† ÓÓÍÓÓ È Á,ÚÍ  
 .Ú%ÁÚÓ È,ÍÚ-Á†.  
 • ÓÓÍÈ ÁÈÈ†ÍÁÓÓ%ÈÈÍÓ,ÓÈÁÓ. †ÈÄÈ†  
 Ó Ó%ÓÍÈ†ÁÚÒ† ÓÍÓÍÓ 5 †ÈÍÚÚ ÈÈÈ .Ó†-Á,  
 È%ÁÓ††ÍÁ ††.ÚÓ††ÚÈ-ÁÓÍÈ ÓÁ ÁÍÓ%ÈÚ,  
 ÁÈÈ† ÓÓÚ†ÍÓ,ÍÈ.

**Advanced Operations**

**Using Alternative Power Sources**

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

Place	Power source	Accessory to be used
Indoors	Mains	Supplied AC power adaptor
Outdoor	Battery pack	Battery pack NP-33 (supplied), NP-65/67, NP-66H/68, NP-77H/78, NP-90/90D, NP-98
	LR6 (size AA) Sony alkaline battery	Battery case
In the car	12 V or 24 V car battery	Sony DC pack DCP-77

**Note on power sources**

Disconnecting the power source or removing the battery pack during recording or playback may damage the inserted tape. If this happens, restore the power supply again immediately.



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

**Using Alternative Power Sources**

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

Place	Power source	Accessory to be used
Indoors	Mains	Supplied AC power adaptor
Outdoor	Battery pack	Battery pack NP-33 (supplied), NP-65/67, NP-66H/68, NP-77H/78, NP-90/90D, NP-98
	LR6 (size AA) Sony alkaline battery	Battery case
In the car	12 V or 24 V car battery	Sony DC pack DCP-77

Disconnecting the power source or removing the battery pack during recording or playback may damage the inserted tape. If this happens, restore the power supply again immediately.

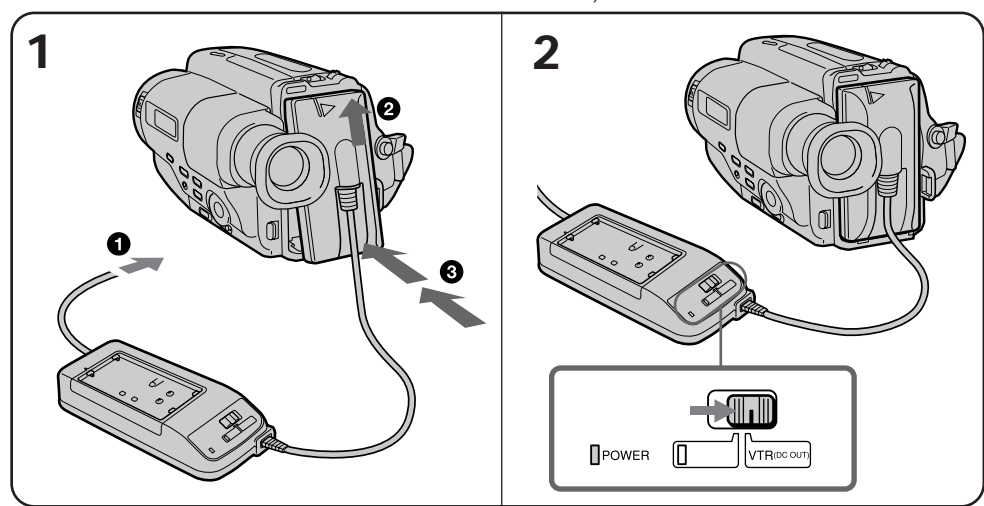


This mark indicates that this product is a genuine accessory for Sony video products. When purchasing Sony video products, Sony recommends that you purchase accessories with this "GENUINE VIDEO ACCESSORIES" mark.



### 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**  
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.

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

**To remove the adaptor**  
The adaptor is removed in the same way as the battery pack (p. 10).

### àÒÒÓÍ,ÁÓ,±ÈÄ ¹ÁÍÚ È~ÁÓÍÓÈ ÒÀÚÈ

- Νίη ÈÒÒÓÍ,ÁÓ,±Èñ Ò Èί±,±ÁÍÓ,,ÒÒÁÚÁ,Ó,Ò ±%±ÒÚÁ ±ÒÁ ÁÍ,ÚÓί±:
- (1) ÈÒ%ÒÒÁ%ÈÈÚÁÒ Ó,Ò%Ò ¹ÁÍÚ ÒÒÈÚ±ÈñÍ ¹ÁÍÚ È~ÁÓÍÓÈ ÒÁÚÈ. ÇÓÚ±, ÚÁ, Á íÈÈ ÍÓÍÁ~ÒÒÁ%ÈÈÈÚÁÍ, ΙÒÈ Òί±ÒÚÈí~ÒÁÚÁ,Ó,Ó ±%±ÒÚÁ ±ÒÁ ÁÍ, ÚÓί±, Á íí, ~±ÒÚ, ±Ú± ÁÈÍÓÈÚÓÚ±ÍÓ,Ò,ΙÓÈÒÒ,Á,ΙΙÓÓÚÈ, Ç±ÈÈÚÁ í± ÒÒÁ%ÈÈÈÚÁÍ, ΙÚ, Òί±ÒÚÈÍÚ, Ú±í, ÚÓ~Òί± Ò ÈÒÒÁ%ÈÈÈí±Ò, í±%ÁÈÍÓ, í~Á%ÈÚÁÒ,, ~ÚÓ Ç° %,,±È%° ÚÓί±~±È ÁÍ~Òί.
  - (2) ίÓÚ±ÍÓ,ÈÚ, ÒÁÍÁÍÚÓ, ÒÓÍÓÈÁÍÈÄ VTR (DC OUT).

ÈÈÒÑíÈÈÈÛÑÒçàÒ ÈÁÚÁ,ÒÈ Ò Ó,Ò%Ò ÍÁ%ÒÚÁÚ Á±ÍÁñÍÚ, ÚÓί, ΙÓ, Ι±ÒÚÁ ÒίÓÈ ί,±íÈÚÈ~È Ó,±ííÓ,,Ò Ò~ÒίÚÈÈ~±íÈñ.

ÈÈÒÑíÈÈÈÛÈÛÒçàÒ Ν±ííÈ ±ÒÒ± ±Ú ÍÁ ÒÚíí~±ÁÚòñ ÒÚ ÈÓÚÓ~ÍÈí±ÈÈÚ±ÈñÒÁ ÁÍ,ÚÓί±, ÒÓί±Òί ÒÒÁ%ÈÈÁì Ò ¹ÁÍÚ È~ÁÓÍÓÈ ÒÁÚÈ,,%±ÈÄ, ÁÒíÈ Ò±í ±ÒÒ± ±Ú ÒÚíí~ÁÍ.

- È ÈÍÁ~±íÈñ í Í±ÍÓÓ~ÍÁ POWER**
- à±ÍÓÓ~Í± POWER~Ú%ÁÚ ÒÓÚ±,±Ú Òñ „ Ò ñ~ÁÈ í±ÍÓÁ~ÚÓ, Áññ, %±ÈÄ, ÁÓÍÈ ±ÒÒ±±Ú~Ú%ÁÚÓÓÒÁ%ÈÈÁÒÓÓÍÁ ÈÒÒÓÍ,ÁÓ,±Èñ. ùÚÓ ñ,ññÁÚòñ ΙÓ í±í,í.
  - ÒÓÍÈ í±ÍÓÓ~Í± POWER ÍÁ Á±, Ò ±ÁÚòñ, ÒÓÚÓÁ%ÈÈÈÚÁÒÁÚÁÓÈ Ò Ó,Ò%ÒÁ ÁÁÓ%òÚ ÍÈÍÚÚÓÍÓ,±Ò%ÒÒÁ%ÈÈÈÚÁÒÁÚÁ,ÒÈ ÒÓÓ%Ò

Νίη ÒññÚÈññ±%±ÒÚÁ ± Á%±ÒÚÁ ÒíÈí±ÁÚòñ Ú±íÈíÈÄ Ò. ±ÁÓί, í±íÈ~±Ú± ÁÈíÈ~íÓί (ÓÚ . 10).

## Using Alternative Power Sources

## ÀÒÒÓÍ,ÁÓ,±ÌÈÀ ±Í,ÚÀ Ì±,ÚÈ,Ì,Ì ÈÓÚÒÌÈÍÓ,ÒÈÚ±ÌÈÈÌ

### Using the Battery Case

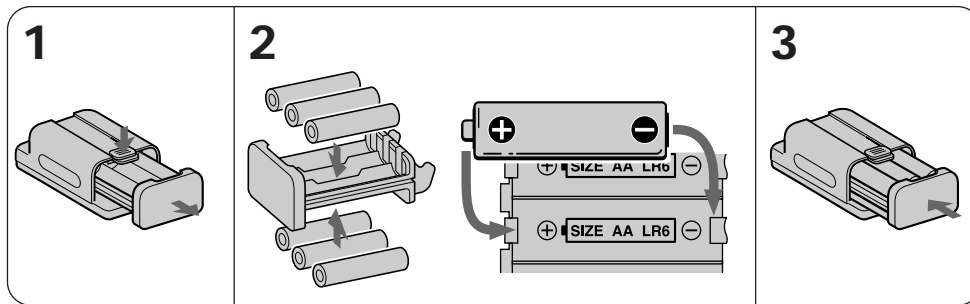
Use the supplied battery case and six LR6 (size AA) Sony alkaline batteries (not supplied).

- (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 battery mounting surface of the camcorder in the same way as the battery pack.

### ÀÒÒÓÍ,ÁÓ,±ÌÈÀ ±Í,Ú± ÀÈÌÒÈ Ì±ÌÀ

ÀÒÒÓÍ,ÁÓ,±ÌÈÀ Ò ÈÌ±,±ÀÌÚ, ±Í,Ú± ÀÈÌÚ, Ì±ÌÀ Ú È,ÀÓÚ, ±ÀÍÒÌÌ, ±Í,Ú± ÀÀÌ Sony LR6 ( ±ÀÌÀ ÒÌÀÀ ) (ÌÀ Ò ÈÌ±,± ÚÒÈÌ).

- (1) ÈÌÈÌÈÚÀ, ±Í,Ú± ÀÈÌ È %À È±ÚÀÌ, Ò ±Í,Ú± ÀÈÌÒÈ Ì±ÌÀ .
- (2) ÇÓÚ±, ÚÀ, ±ÀÓÚ, ±ÀÍÒÌÌ, ±Í,Ú± ÀÀÌ, ±Í,Ú± ÀÈÌ È %À È±ÚÀÌ, ÒÌÀ %ÒÈÌ ÒÒÌÀÚÌ±Ì Ì± %À È±ÚÀÌÀ, ÒÒ %Ò,À È %ÒÈÌ, ±Ú Ò ±Í,Ú± ÀÈÌÈ ÚÓÚ±ÌÓ,ÌÀÌ , Ò ±ÈÌ,ÌÒÌ Ì± Ò ±ÌÀÌÈÈ.
- (3) ÌÓÚ±ÌÓ,ÈÚÀ ±Í,Ú± ÀÈÌ È %À È±ÚÀÌ, ÒÒ ±ÀÍÒÌÌÈÈ ±Í,Ú± ÀÈÌ±ÌÈ.
- (4) ÌÓÚ±ÌÓ,ÈÚÀ ±Í,Ú± ÀÈÌÚ Ì±ÌÀ Ú ÒÒ ±ÀÍÒÌÌÈÈ ±Í,Ú± ÀÈÌ±ÌÈ Ì± ±Í,Ú± ÀÈÌÚ, ÚÓÚ±ÌÓ,ÒÌÚ, ÒÒ,À ÌÌÓÓÚ, È %Ò,ÁÓÌ±ÌÀ Ú±ÌÈÌ ÈÀ Ò ±ÀÓÌ, Ì±Ì È ±Í,Ú± ÀÈÌ È ÌÓÌ.



### Battery Life

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

Model	Typical recording time	Continuous recording time
CCD-TR401E	70 min.	130 min.
CCD-TR402E	70 min.	125 min.

### Notes

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

### To remove the battery case

The battery case is removed in the same way as the battery pack (p. 10). When you replace the batteries, be sure to remove the battery case from the camcorder to prevent malfunction.

È ÒÌ ÒÌÚÈ. ±Í,Ú± ÀÀÌ È ÈÒÒÓÍ,ÁÓ,±ÌÈÀÌ ±ÀÍÒÌÌ, ±Í,Ú± ÀÀÌ Sony Ò È 25°è (77°F)

ÀÒ %ÒÀÌ,	Ç ÀÌÈ ÚÈÒÈ-ÌÓÈÀ±ÒÈÒÈ	Ç ÀÌÈ ÌÀÒ À-ÌÓÈ À±ÒÈÒÈ
CCD-TR401E	70 min.	130 min.
CCD-TR402E	70 min.	125 min.

È ÈÌÀ ±ÌÈÈÌ

- Ç, ±ÀÓ È,À %ÒÀÌÌÀ Ò ÒÌÈ ÒÌÚÈ. ±Í,Ú± ÀÀÌ Ò ±ÀÌÀÌ Ò ÈÌÈÀÈÚÀÌ,ÌÓ. È ÒÌ ÒÌÚÈ. ±Í,Ú± ÀÀÌ ÌÓÈÀÚ, ±Ú, ÌÓ ÒÀ, À±,ÈÓÈÌÓÓÚÈ ÒÚÚÓÌÓ,ÈÈ, ±ÌÀÌÈÈÌ ±Í,Ú± ÀÀÌ %ÒÒÓÌÚÓÈÈÈÓÚÀÌÒÀ ±ÚÚ.
- Ç ÌÀ %ÒÌÈÌÈÈÈ ÈÒÒÓÍ,ÁÓ,±Í,Ú± ÀÈÌÚ, Ì±ÌÀ Ú, ÌÒÌÒ %ÒÌÌ ÒÒÌÓ,ÈÈÌ.

ÑÌÈÌ ÒÌÈÚÈÈÌ ±Í,Ú± ÀÈÌÒÈÈ Ì±ÌÀ . À±Ú± ÀÈÌÈÈÌ Ì±ÌÀ ± ÒÈÈ±ÀÚÒÈÌ Ú±ÌÈÌ ÈÀ Ò ±ÀÓÌ, Ì±Ì È ±Í,Ú± ÀÈÌ È ÌÓÌ (ÓÚ . 10). È È À±ÌÀÌÀ ±Í,Ú± ÀÀÌ ÌÀ À±,Ú %Ò, ÚÀ, ÌÓÚ, ÈÀ È %Ò,ÁÓÌ±ÌÀ . ±Í,Ú± ÀÈÌÚ, Ì±ÌÀ Ú %ÒÈÌ Ò À %ÒÓÚ, ±ÀÌÈÈÌ± Ò ±ÀÌÈÈÈ, ±ÓÚÀ.

### Using a Car Battery

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.

#### To remove the DC pack

The DC pack is removed in the same way as the battery pack (p. 10).

### Recording with the Date or Time

### Recording with the Date or Time

Before you start recording or during recording, press DATE(+) or TIME(NEXT). You can record the date or time displayed in the viewfinder with the picture. You cannot record the date and time at the same time. Except for the date or time indicator, no indicator in the viewfinder is recorded.

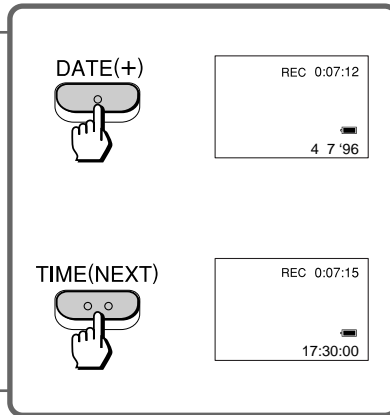
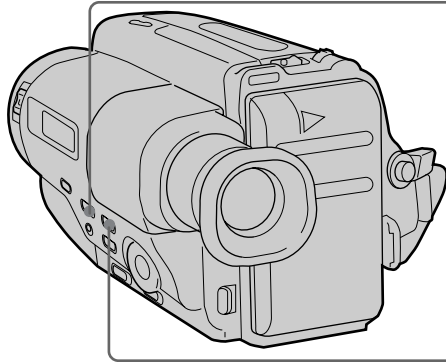
The clock is set to London for the United Kingdom models and Paris for other European models at the factory.

Use Sony DCP-77 Sony (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 (p. 10).

### Recording with the Date or Time

Before you start recording or during recording, press DATE(+) or TIME(NEXT). You can record the date or time displayed in the viewfinder with the picture. You cannot record the date and time at the same time. Except for the date or time indicator, no indicator in the viewfinder is recorded.



#### To Stop Recording with the Date or Time

Press DATE(+) or TIME(NEXT) again. Recording continues.

#### Note

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

Press DATE(+) or TIME(NEXT) again. Recording continues.

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

# Using the PROGRAM AE Function

# 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.

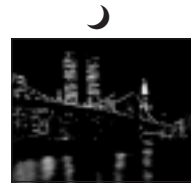
PROGRAM AE (Auto Exposure) modes to suit your shooting situation. When you use PROGRAM AE, you can capture high-speed action or night views.

## Selecting the Best Mode

## PROGRAM AE

Select the best mode by using the following examples.

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



### Sports mode

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

### High-speed shutter mode

### 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

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

- 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

### Twilight mode

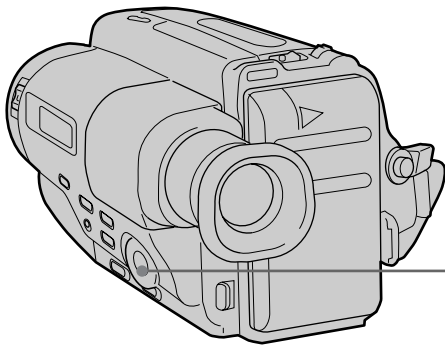
- Recording night views, neon signs or fireworks

### Twilight mode

- Recording night views, neon signs or fireworks

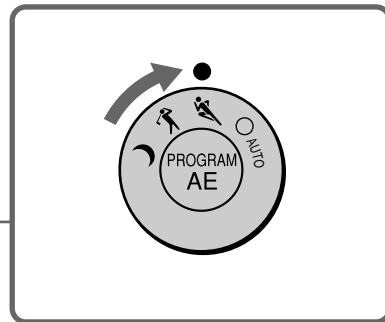
**Using the PROGRAM AE Function**

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



**PROGRAM AE**

●, 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


PROGRAM AE  
 1/50 to 1/500  
 1/4000  
 1/50  
 1/50

## Shooting with Backlighting

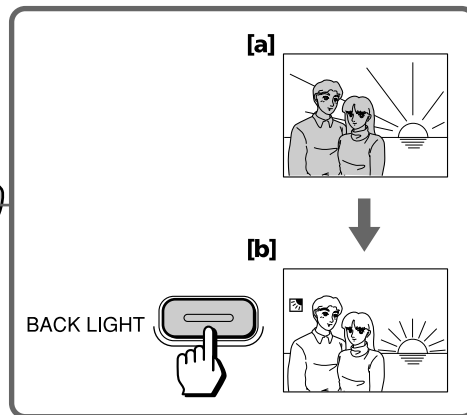
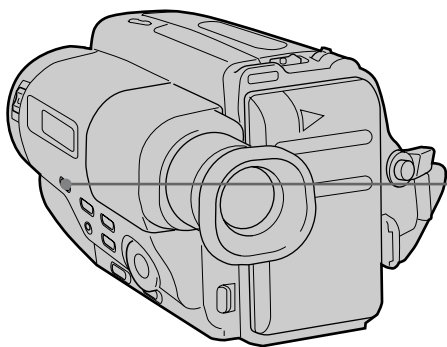
## επιβάλλοντας φωτισμό από το πίσω μέρος

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

Όταν τραβήξετε φωτογραφία με το φως να βρίσκεται πίσω από το θέμα ή με θέμα που έχει φωτεινό φόντο, χρησιμοποιήστε το BACK LIGHT.

Press BACK LIGHT. The  indicator appears inside the viewfinder.


Πατήστε το BACK LIGHT. Το  εμφανίζεται μέσα στο οπτικό πεδίο.




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

- [a] Το θέμα είναι πολύ σκοτεινό λόγω φωτισμού από το πίσω μέρος.
- [b] Το θέμα γίνεται φωτεινό με την επανορμολόγηση του φωτισμού από το πίσω μέρος.

### After Shooting

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

επιβάλλοντας φωτισμό από το πίσω μέρος  
 Πατήστε ξανά το BACK LIGHT, το  θα σβήσει σε κανονικές συνθήκες φωτισμού. Διαφορετικά, η φωτογραφία θα είναι πολύ φωτεινή σε κανονικές συνθήκες φωτισμού.

This function is also effective under following conditions:

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

- Σε χιόνι, π.χ. στα σκι
- Στην παραλία με έντονο ηλιακό φως
- Ένα θέμα με πηγή φωτός κοντά ή με καθρέφτη που αντανακλά το φως
- Ένα λευκό θέμα με λευκό φόντο.  
 Ειδικά όταν τραβήξετε φωτογραφία με κάποιον που φοράει λαμπερά ρούχα από μεταξοστόχο ή συνθετικό υλικό, το πρόσωπό του μπορεί να γίνει σκοτεινό αν δεν χρησιμοποιήσετε αυτή τη λειτουργία.

## Selecting the START/STOP Mode

## 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.

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

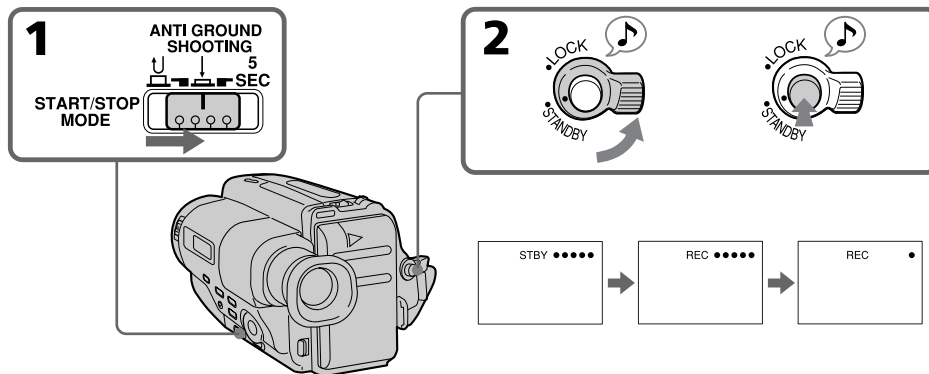
**ANTI GROUND SHOOTING** : The camcorder records only while you press down START/STOP so that you can avoid recording unnecessary scenes.

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

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

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

If you selected **ANTI GROUND SHOOTING**, the camcorder records as long as you hold down START/STOP.



### To Extend the Recording Time in 5 SEC Mode

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

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

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

**ANTI GROUND SHOOTING** : 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 about 5 seconds and then stops automatically.

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

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

# Superimposing a Title

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

## To Superimpose from the Beginning

- (1) 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.

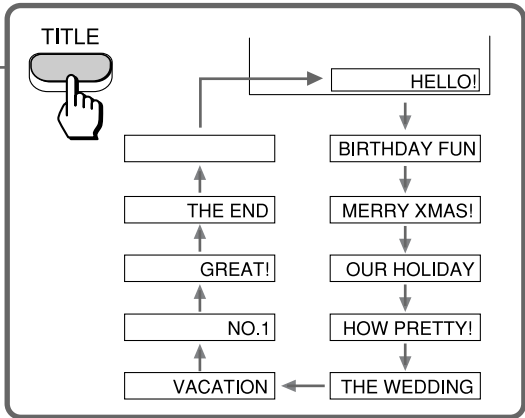
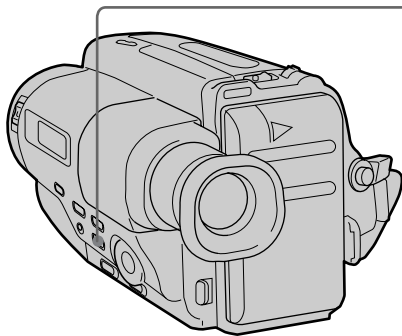
## To Superimpose On the Way of Recording

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

Ç° İÖÊÄÚÄ, ÿ.Ë ±Ú, ËÄ %ÄÒÍÚË  
 Ó Ä%±, ËÚÄÍ İÓ ÚÓÚ±İÓ, İÄİİ° İ±%ÖËÖÄË  
 %İİ İ±İÖÊÄİËİİ Ëİ İ± ËÄÓ. ±ËÄİËÄ, Ó, Äİİ  
 Ä±ÖËÖË. ä±Ë%Ë ±Ä, İÓ, %± Ç° İ±ËËİ±ÄÚÄ  
 İİÓÍÚ TITLE, Ó Ä%±, ËÚÄÍ, İÓ  
 ÚÓÚ±İÓ, İÄİİ° Ä İ±%ÖËÖË ÓÓİİ, İİ, ÚÒİ Ó%İ± Ä±  
 %Ü, ÖË

- Ñİİ İ±İÖÊÄİËİİ ÓÚ İ±~±İ±
- (1) ËÄ Ä%±, Ëİ ÚÄ ÓÄ Äİİ, ±ÚÄİ, POWER, ÓÓİÖÊÄİËÄ CAMERA.
  - (2) ËÓ, Ä İËÚÄ STANDBY, „Ä İ.
  - (3) ÇÄÓ%İÓÍ ±ÚİÓ İ±ËËİ±ËÚÄ TITLE, ÓÓİ± İÄ ÓÓİİ, ËÚÓİİ ËÄİ±Äİ±İİ İ±%ÖËÖ, Ç±%ÖËÖ, Ú%ÄÚİË, ±Ú.
  - (4) Ç±ËİËÚÄ START/STOP %İİ İ±~±İ± Ä±ÖËÖË.
  - (5) Ç±ËİËÚÄ TITLE, İÓ, %± Ç° Ä±İÓÚËÚÄ, İİ, ÿ.Ë Ú, İ±%ÖËÖ.

- Ñİİ İ±İÖÊÄİËİİ, Ó ÓÄÒÒÄ Ä±ÖËÖË
- (1) ÇÄÓ%İÓÍ ±ÚİÓ İ±ËËİ±ËÚÄ TITLE, ÓÓİ± İÄ ÓÓİİ, ËÚÓİİ ËÄİ±Äİ±İİ İ±%ÖËÖ, Ç±%ÖËÖ, Ú%ÄÚİË, ±Ú.
  - (2) äÓ, %± İ±%ÖËÖ, ÓÄ ÄÓÚ±İÄÚİË, ±Ú, İ±ËİËÚÄ TITLE. Ç±%ÖËÖ, ËÓ ÄÄİÄÚ.
  - (3) Ç±ËİËÚÄ START/STOP %İİ İ±~±İ± Ä±ÖËÖË.
  - (4) Ç±ËİËÚÄ TITLE, İÓ, %± Ç° ÓÓËÄİ±ÄÚÄ İ±İÖËËÚ, İ±%ÖËÖ.
  - (5) Ç±ËİËÚÄ TITLE, İÓ, %± Ç° Ä±İÓÚËÚÄ, İİ, ÿ.Ë Ú, İ±%ÖËÖ.



**Note on selecting a title**  
 You cannot select a title during recording.

Ë ËİÄ~±İËÄ İ, ÿ.Ó Ú İ±%ÖËÖË  
 Ç° İÄ İÖÊÄÚÄ, ÿ. ±Ú, İ±%ÖËÖ, Ó, Äİİ  
 Ä±ÖËÖË



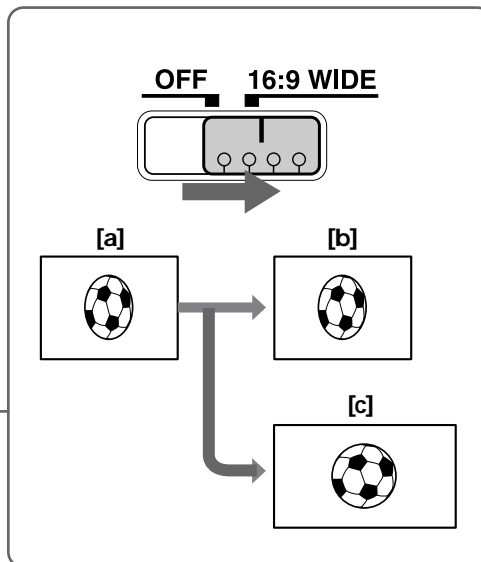
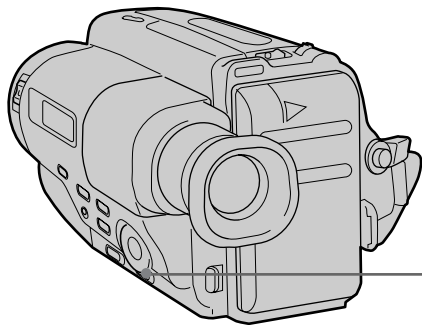
## Using the Wide Mode Function

### - CCD-TR402E only

You can record a 16:9 wide picture to watch on the 16:9 wide-screen TV.

### Using the Wide Mode Function

Set 16:9 WIDE to 16:9 WIDE.  
The picture in the viewfinder [a] or on a normal TV [b] is horizontally compressed. You can watch the picture of normal images on a wide-screen TV [c].



**To Release the Wide Mode**  
Set 16:9 WIDE to OFF.

#### Notes on wide mode

- When you record in 16:9 WIDE 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.

àÒÒÓÎ ÁÓ,†ÌÈÄ ÙÙÌíÈÈ  
È ÓÍÓÚÓ Ì†ÚÍÓ,,Ó ÄÈÈÌ†

— íÓÍ,ÍÓ CCD-TR402E

Ç° ÌÓÈÁÚÄ Á†ÔÈÒ° †Ú, È ÓÍÓÚÓ Ì†ÚÍÓÄ  
ÈÁÓ. †ÈÄÌÈÄ 16:9%ííÓ ÓÓÍÓÚ ††  
È ÓÍÓÍ †ìíÓ ÙÄÌÄ,ÈÁÓ Ä 16:9.

àÒÒÓÎ ÁÓ,†ÌÈÄ ÙÙÌíÈÈ  
È ÓÍÓÚÓ Ì†ÚÍÓ,,Ó ÄÈÈÌ†

ìÓÚ†ÍÓ,ÈÚ, 16:9 WIDE , ÓÓÍÓÈÄÌÈÄ 16:9  
WIDE.  
àÁÓ. †ÈÄÌÈÄ, È%ÓÈÓÌ†ÚÄÌÄ [a] ÈÌÈ Ì†  
Ó.~ÍÓÍÚÄÌÄ,ÈÁÓ Ä [b].Ú%ÄÚÓÈ†ÚÓÓÓ  
Ó ÈÁÓÍÚ†ÌÈ. Ç° ÌÓÈÁÚÄ Ó ÓÓÍÓÚ È,†Ú,  
ÍÓ Ì†Í ÍÓÄ, ÈÁÓ. †ÈÄÌÈÄ Ì†  
È ÓÍÓÍ †ìíÓ ÙÄÌÄ,ÈÁÓ Ä [c].

Ñííí, °íí~ÄÌÈíí ÙÙÌíÈÈ  
È ÓÍÓÚÓ Ì†ÚÍÓ,,Ó ÄÈÈÌ†  
ìÓÚ†ÍÓ,ÈÚ, 16:9 WIDE , ÓÓÍÓÈÄÌÈÄ OFF.

- è ÈÌÄ~†ÌÈíí Ì È ÓÍÓÚÓ Ì†ÚÍÓÍÚ ÄÈÈÌÚ
- ÓÓÍÈÇ° Ó ÓÈÄ,Ó%ÈÚÄ Á†ÔÈÒ°, ÄÈÈÌÄ  
16:9 WIDE, ÚÓ ÈÌ%ÈÌ†Èíí %Ó†Ú° ÈÌÈ, ÄÌÄÌÈ  
Ú%ÄÚ †ÓÈ ÄÌ† Ì† È ÓÍÓÍ †ìíÓ  
ÙÄÌÄÈÁÓ Ä.
- ÓÓÍÈÇ° ÓÄ ÄÁ†ÔÈÒ° †ÄÚÄÌÄÌÚÚ, ÚÓÍÓÓÈíí  
ÌÄÌÚ° Ú%ÄÚ, °ÓÓÍÄÌ†, Ù†ÍÓÍ ÈÄ  
ÄÈÈÌÄ, Ì†ÍÈÈÓÍ%Ì†íí Á†ÔÈÒ°.

## Changing the Mode Settings

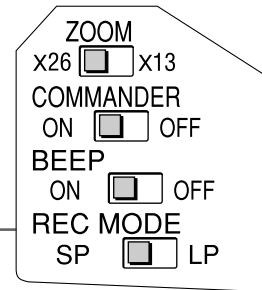
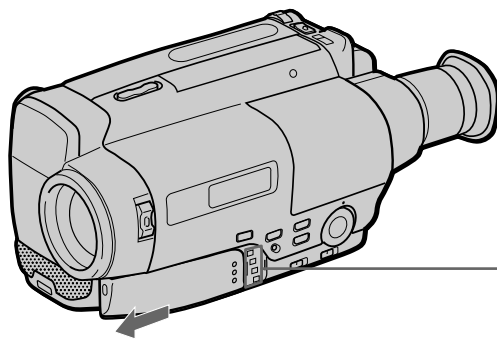
## ÀÁÏÀÏÀÏËÄ ÅÊËÏ° Ì ÛÒÙ±ÌÓ,ÓÍ

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

- (1) Slide the cover to the left. You will find the mode switches.
- (2) Set the mode switches to the desired mode.
- (3) Close the cover.

Ç° ÌÓËÄÛÄ ÈÁÏÀÏÙ, ÛÒÙ±ÌÓ,ÏË ÅÊËÏ°, %òíñ Ì±ÒÍ±Ë%òíñ %òòòòíËÛÄÏ,Ï°ÏË Ó,ÓËÓÙ,±ÏË È ÛÒÏí°ËñÏË.

- (1) èÄ Å%ò,ËÏ ÛÄ Ì°ÏÙ, ÏÄ,Ó. Ç° Û,Ë%ËÛÄ ÓÄ ÁÏ,±ÙÄÏË ÅÊËÏ°.
- (2) ìÒÙ±ÌÓ,ËÛÄ ÓÄ ÁÏ,±ÙÄÏË ÅÊËÏ°, Ì± ÈÁÏ±ÁÏ°Ë ÅÊËÏ.
- (3) áÍ ÒËÛÄ Ì°ÏÙ.



### Selecting the Mode Setting of Each Item

#### ZOOM <x26/x13> (CCD-TR402E only)

- Set to x26 to activate digital zooming.
- Set to x13 otherwise. The zooming ability becomes x13.

#### COMMANDER <ON/OFF>

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

#### BEEP <ON/OFF>

- Set to ON to turn the beep sound on.
- Set to OFF to turn the beep sound off.

#### 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.

### Ç°Ó ÛÒÙ±ÌÓ,ÏË ÅÊËÏ± ÓÓ Ì±Ë%òíÛ ÒÛÏÏÛÛ

ZOOM <x26/x13> (ÛÓÍ,ÏÓ %òíñ ÌÓ%ÄÏË CCD-TR402E)

- ìÒÙ±ÌÓ,ËÛÄ, ÓÓÍÓËÄÏËÄ Ì26, ±ÙÓ° Ä±%ÄËÓÙ,Ó,±Ù, ±ËÛ Ó,Û Û ÌÒÙÓÍ±Ë.
- Ç° Û,Ë%ËÛÄ ÒÍÛ°ñ, ÛÒÙ±ÌÓ,ËÛÄ, ÓÓÍÓËÄÏËÄ Ì13. ÇÓÁÏÓËÏÓÙ, Û ÌÒÙÓÍ±ËË ÓÛ±ÌÓ,ËÛÓñ Ì13.

#### COMMANDER<ON/OFF>

- ìÒÙ±ÌÓ,ËÛÄ, ÓÓÍÓËÄÏËÄ ON Ó È ÉÓÓÓÍ, ÁÓ,±ËË Ó ÈÏ,±ÁÏÓ,Ó ÓÛÍ,Û± %òËÓÛ±ËÓÏÏÓ,Ó ÛÓ ±,ÏÄÏËñ %òíñ È%òÄÓÍ±Ä°.
- ìÒÙ±ÌÓ,ËÛÄ, ÓÓÍÓËÄÏËÄ OFF, ÁÓÏË ÓÛÍ,Û %òËÓÛ±ËÓÏÏÓ,Ó ÛÓ ±,ÏÄÏËñ ÏÄ ÉÓÓÓÍ, ÁÛÄÛÓñ %òíñ, È%òÄÓÍ±Ä°.

#### BEEP<ON/OFF>

- ìÒÙ±ÌÓ,ËÛÄ, ÓÓÍÓËÄÏËÄ ON %òíñ ÏÏ°ÏËñ ÁÛÏÄ ÏÓ,Ó Á,ÛÍÓ,Ó,Ó ÒË,,Ï±Ï±.
- ìÒÙ±ÌÓ,ËÛÄ, ÓÓÍÓËÄÏËÄ OFF %òíñ ÏÏ°ÏËñ ÁÛÏÄ ÏÓ,Ó Á,ÛÍÓ,Ó,Ó ÒË,,Ï±Ï±.

#### REC MODE <SP/LP>

- Ç° Ä ËÛÄ SP %òíñ Ä±ÓËËÈ ÏÄÏÛ°, ÅÊËÏÄ SP(ÒÛ±%± ÛÍÓ,Ó,ÓÓÓ ÓËÄ,Å%òÄÏËñ).
- Ç° Ä ËÛÄ LP %òíñ Ä±ÓËËÈ ÏÄÏÛ°, ÅÊËÏÄ LP(Û%òËËÄÏÏÓ,Ó,ÓÓÓ ÓËÄ,Å%òÄÏËñ).

# Editing onto Another Tape

αΌιΰ±Ê ì± %ο ΰ,,ΰ, ÌÀiΰΰ

You can create your own video programme by editing with any other 8 mm, Hi8 Hi8, VHS VHS, S-VHS S-VHS, VHS-C VHSC, S-VHS-C S-VHSC, Betamax VCR that has video/audio inputs.

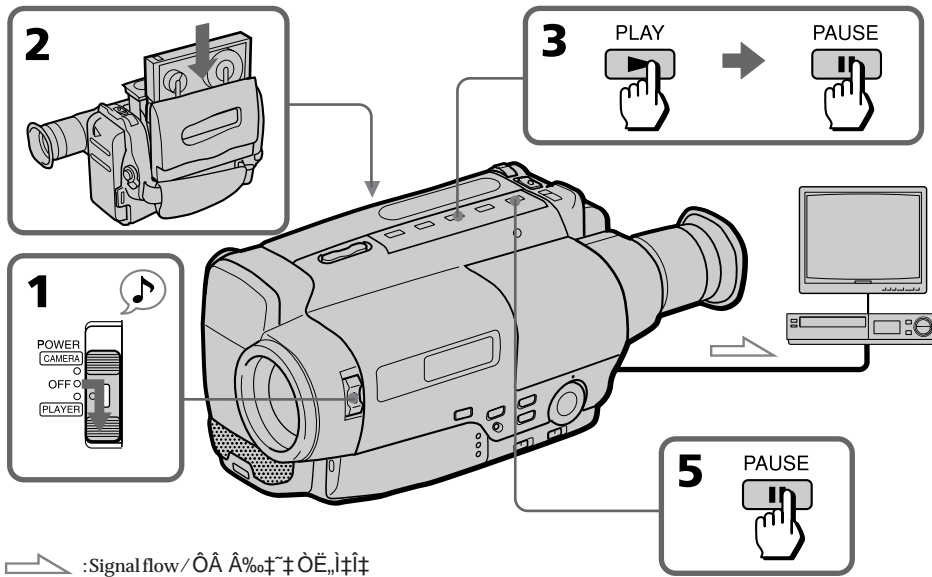
After connecting the camcorder to the VCR,

- (1) Slide the POWER switch to PLAYER.
- (2) Insert a blank tape (or a tape you want to record over) into the recording VCR. Then insert your recorded tape into the camcorder.
- (3) Play back the recorded tape on the camcorder until you locate the point where you want to start editing. Then press **II** to set the camcorder to playback pause mode.
- (4) Set the recording VCR to recording pause mode.
- (5) Press **II** on the camcorder and then on the VCR to start editing.

Ç° iÓÉÁÚÀ ÓÓÁ%ο±ΰ, Ç±ΰ ÓÓ·Óΰ,Àiΰΰ, Ê%ο·ÁΟÓ Ó,, ±iΰΰ ÓΰΰÀiΰiΰ±Ê±i±%ο ΰ,,ÓÉ àÇà Ò 8-Ì ÌÀiΰÓÉ, Hi8 Hi8, ÌÀiΰÓÉ VHS VHS, S-VHS S-VHS, VHS-C VHSC, S-VHS-C S-VHSC ÈiÈ ÌÀiΰÓÉ 8 Betamax, ÍÓΰÓ °È ÈiÁÁΰ, iÓ%ο °, Ê%ο·ÁΟ±ΰ%οÈÓ.

èÓÓiÁ ÓÓ%οÓÓÁ%οÈiÀiÈfi, Ê%ο·ÁΟi±iÁ ° íaÇà.

- (1) èÁ Á%ο, Èi ΰÀ ÓÁ ÁiÌ, ±ΰÁi, POWER, ÓÓiÓÈÁiÈÁ PLAYER.
- (2) ÇÓΰ±, ΰÀ ÌÁÁ±ÓÈÓ±iΰ, ÌÀiΰΰ (ÈiÈ ÌÀiΰΰ, ÌiΰiΰÓ Ó, Ç° iÓÚÈΰÁ Ó ÓÈÁ, ÁÓΰÈ Á±ÓÈÓ), Á±ÓÈÓ ± ÈÈ àÇà, à±ΰÁi Óΰ±, ΰÀ Ç±ΰ Á±ÓÈÓ±iΰ, ÌÀiΰΰ, Ê%ο·ÁΟi±iÁ ΰ.
- (3) ÇÓÓ ÓÈÁ, Ó%οÈΰÁ Á±ÓÈÓ±iΰ, ÌÀiΰΰ Ìi± Ê%ο·ÁΟi±iÁ Á, ÓÓi±iÁ Óΰ~ÁΰÁiÁÓΰ, %ο·Á Ç° iÓÚÈΰÁ Ì±±ΰ, ÍÓiΰ±È, à±ΰÁi ÌÈÈΰÁ **II** %οifi ΰÓΰ±iÓ, ÌÈ Ê%ο·ÁΟi±iÁ °, ÁÈÈi Ó±ΰÁ°.
- (4) iÓΰ±iÓ, ÈΰÁ Á±ÓÈÓ°, ± ÈÈ àÇà, ÁÈÈi Ó±ΰÁ Á±ÓÈÓÈ.
- (5) Ç±ÈiÈΰÁ **II** Ì± Ê%ο·ÁΟi±iÁ Á, ± Á±ΰÁi Ì± àÇà %οifi Ì±±i± ÍÓiΰ±È±.



### To Edit More Scenes

Repeat steps 3 to 5.

### To Stop Editing

Press **II** on the camcorder and VCR.


Ñifi Ìiΰiΰ±È± ·Ói, ~Á,, Ó iÓiÈ~ÁÓΰ, ± Ó ÈÁΰÓ, èÓ, ΰÓ ÈΰÁ Óΰiΰiΰ° Ò 3 ÓÓ5.

Ñifi ÓÓΰ±iÓ, ÌÈ Ìiΰiΰ±È± Ç±ÈiÈΰÁ ÌiÓiΰ **II** Ì± Ê%ο·ÁΟi±iÁ Á È àÇà.

**Additional Information**

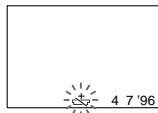
## Changing the Lithium Battery in the Camcorder

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

The lithium battery for the camcorder lasts for about 1 year under normal operation. (The lithium battery that comes installed at the factory may not last 1 year.)

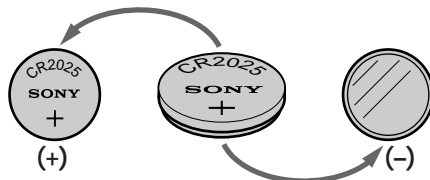
Ç±± ,È%ÁÓÏ±ÏÄ ± Òì·ÈÀì± ÙÓÙ±ÍÓ,ÏÄÏÒÈ ÌEUEA,OE ·±Ú± ÁÈÏË. ÓÓÏË ·±Ú± ÁÈÏ±ÓÙ±IAÚ Óì±·ÓÈ ÈÏË ÓÓÏÓÓÙ, ±Á flÈÀÏÒÈ, ÈÏ%ÈÏ±ÚÓ Ì±·Ù%ÁÚÏÈ,±Ú ,È%ÓÈÒÏ±ÚÄÏÄ, ÚÄ·ÁÏÈÁ5ÓÁÏÚÏ%,ÍÓ,±Ç·ÙÓÙ±ÍÓ,ÈÜÄ ,ÏÏ·±ÚÄÏ, POWER , ÓÓÏÓÈÁÏÈÁ CAMERA. Ç Ú±ÍÓÏÏÏÙ±Á Á±IAÏÈÜÄ ·±Ú± ÁÈÏÚ Ì± ÌEUEA,Ú. ·±Ú± ÁÈÏÚ Sony CR2025. àÓÓÓÏ,ÁÓ,±ÏÈÁ % Ú,ÓÈ ·±Ú± ÁÈÏË ÏÓÈÁÚ ÒÈ,ÁÓÙÈ Ì ÈÓÏÚ,ÓÓÓÏ±IAÏÈfl ÈÏË ,Á ,±. àÈÜÈÁ,±fl ·±Ú± ÁÈÏ± %fl,È%ÁÓÏ±ÏÄ ±·ÓÙ±ÁÚÓÈÈÈÁÈÜÄÏ,ÚÄ·ÁÏÈÁ1,Ó%± ÒÈ ÌÓ Ì±ÏÏÏ ÙÓÏÓÈfl, ÏÓÏÏÙ±Ú±ÈÈ. (àÈÜÈÁ,ÓÈ ·±Ú± ÁÈÏË, ÌÓÚÓ ±fl ·Ï± ÙÓÙ±ÍÓ,ÏÄÏ Ì± Á±,Ó%Á, ÏÓÈÁÚ ÏÄ Ì,±ÚÈÜ, Ì± 1,Ó%.)



### 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 metal tweezers, otherwise a short-circuit may occur.
- Note that the lithium battery has a positive (+) and a negative (-) terminal as illustrated. Be sure to install the lithium battery so that terminals on the battery match the terminals on the camcorder.

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

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## Changing the Lithium Battery

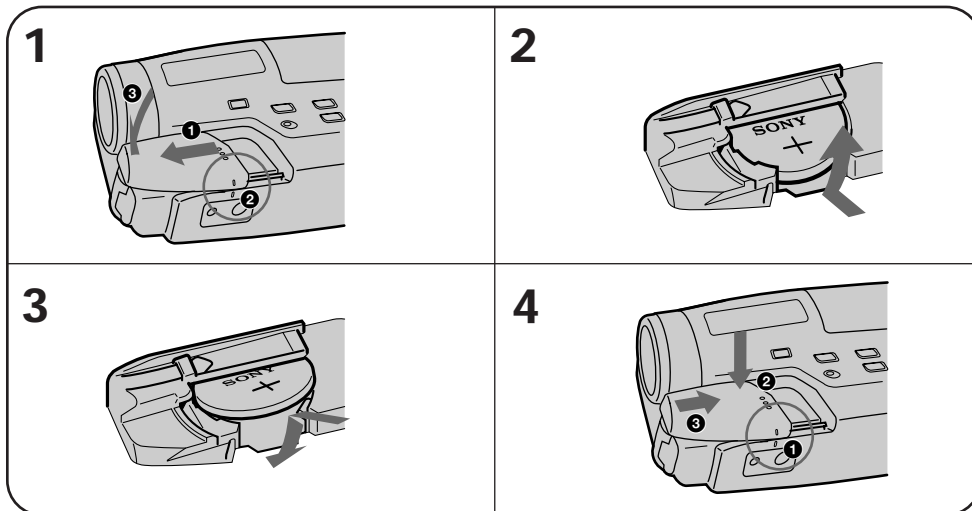
When replacing the lithium battery, keep the battery pack or other power source attached. Otherwise, you will need to reset the date and time.

- (1) Slide the cover and align the mark of the cover to that of the body. Press down the cover.
- (2) Push the battery in once and pull it out from the holder.
- (3) Install the lithium battery with the positive (+) side facing out.
- (4) Align the mark of the cover to that of the body. Press the cover until it clicks and slide the cover.

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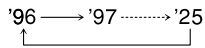
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- (2) ç†ËËËÚÄ ·†Ú† ÄËËÚ Ó%Èİ †Ä È ,İ,ÚÄ ÄÄ ÈÄ%Ä È†ÚÄİİ.
- (3) İÓÚ†İÓ,ËÚÄ İÉÚËÄ,Ú ·†Ú† ÄËËÚ ÓÓİÓËËÚÄİ,İÓË(+),ÓÚÓ ÓİÓË†ÚËË.
- (4) èÓ,İÄÓÚËÚÄ İÄÚÍÚ İ·İË Ò İÄÚÍÓË İÓ ÓÚÓ†. ç†ËËËÚÄ İ·İÚ, ÓÓİ† Óİ† İÄ Ä†ÄİİİÄÚÓİ È Ó%È,Èİ,ÚÄ İ·İÚ.





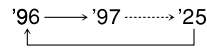
**The year indicator changes as follows:**



**Note on the time indicator**

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

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## Playback Modes ê Â Ê Ë Ì ° ,ÓÒÔ ÓÈÁ,Â%òÂìÈñ

The playback mode is selected automatically according to the recording system (SP/LP mode) in which the tape was recorded.

**Foreign 8 mm video**

You cannot playback tapes recorded on a different TV colour system. Because the TV colour systems differ from country to country, you may not be able to playback 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

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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.

### When to Replace the Battery

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

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

When the  indicator in the viewfinder disappears and the battery lamp flashes rapidly, turn 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 after the battery pack has been replaced.

**Note 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 the remaining battery indicator (not supplied). The indicator of the battery pack is more accurate.

**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.

**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.

When the remaining battery indicator reaches the lowest point, the  indicator appears and starts flashing in the viewfinder. When the  indicator in the viewfinder disappears and the battery lamp flashes rapidly, turn 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 after the battery pack has been replaced.

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## Tips for Using the Battery Pack

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### How to Use the Switch on the Battery Pack

When the switch is supplied with the battery pack ( [a] on p. 43) you can use it to find whether the battery pack is charged or not. Set the switch to the “nomark” position when charging is completed. Set the switch to the “redmark” 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 lamp 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.

## 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 1 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.

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
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- á ± Ì % Ó Ì Ì Á · Á Ó È, Ó % Ì Ó, Ó · ± Û ± À È Ì Ó, Ó · Ì Ó Î ± Ó È, Ó % È Û Ì Ó Ì È È Á Ì È, Á Ì Ì Ó Ó Û È · ± Û ± À È Ì Ó, Ó · Ì Ó Î ±, Ó Ì Ì Ó Ó Û, ± Û ± À È Ì Ó, Ó · Ì Ó Î ±, Ì Ó È Á Û · ° Û, Ó Ó Ó Û ± Ì Ó, Ì Á Ì ±, Á Ó Ì È Ç · Ó Ó Ì Ì Ó Ò Û, ± Á Ì % È Û Á È, Ì Ó, Á ± Ì È Û Á Á, Ó.

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### 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.

#### Be Sure to Observe the Following

- To prevent an accident caused by a short circuit, do not allow metal objects such as a necklace to touch the battery terminals. Carry the battery pack attaching to the terminal cover. [b]
- Keep the battery pack away from fire.
- Keep the battery pack dry.
- Do not open nor try to disassemble the battery pack.
- Do not expose the battery pack to any mechanical shock.

[a]

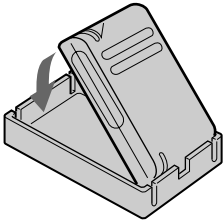


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[b]



### Notes on the Battery Case

- Use only with alkaline batteries. You cannot use the battery case with manganese batteries or R6 (size AA) rechargeable NiCd batteries.
- Using with Sony alkaline batteries is preferable.
- Battery life is remarkably shorter in a cold environment (lower than 10 °C/50 °F).
- Keep the metal part clean. If it gets dirty, wipe it with a soft cloth.
- Do not disassemble or convert the battery case.
- Do not expose the battery case to any mechanical shock.
- During recording, the battery case heats up. This is not cause for concern.
- Prevent the electrode in the battery case from coming in contact with a metal object.
- If you will not use the battery case for a long time, detach the battery case from the camcorder and remove the batteries from the battery case.

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## Tips for Using the Battery Pack

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### Notes on Alkaline Batteries

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

- Be sure to insert the batteries in the correct direction.
- Alkaline 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.

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


# Maintenance Information and Precautions

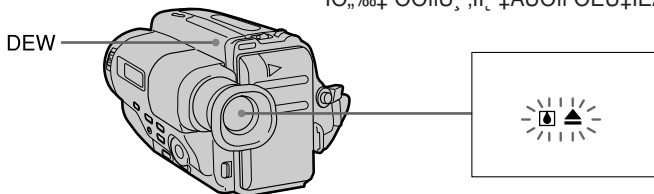
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## Moisture Condensation

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 unit 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

If there is moisture inside the camcorder, the beep sounds and the DEW lamp or the  indicator flashes. If this happens, none of the function except cassette ejection will work. Open the cassette compartment, turn off the camcorder, and leave it about 1 hour. When the  indicator flashes at the same time, the cassette is inserted in the camcorder. Eject the cassette, turn off the camcorder, and leave also the cassette about 1 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 1 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 has reached the temperature surrounding it (after about 1 hour).

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ÒÓÈÈ,È%ÒÒÓÚÓ Æ±,ÌÀÒÀÌ±ÌÀÒÓÒÒ Æ%ÒÒÓ,ÀìÒÈÁ,ÌÒìÓ%ìÓ,ÒìÀÒÓ±,ÚÀÒìÒÀ,,ìÚÚ È,È%ÒÒÓÚÓ Æ±,ÌÒÈÁÚ òìÒ%ÀìÒÈ Ò,±Ú,Òñ,Ì±,±,± Ú±ÌÈÁ ì± ÒÒ,À ìÒÒÙÈ ÌÀìÚ° ÈìÈ ì±Ò,ÀìÚÈ,À,ÒÓÈÈ “ÙÒ Ò ÓÈÁÒ-ÌÒ,ÌÀìÚ±ÌÒÈÁ Ò ÈìÈÒìÚÚ,Ì,±,±,±ìÚ,ÒìÒ,ÌÈ È.Ù%ÒÀÚ ÒÒ,Æ%ÒÒì±ÈÈÈÈ Æ%ÒÒÓÚÓ Æ±,ÌÒÈÁÚ ±,ÒÚ±Ú,ÌÀÒ ±,È,ÌÒ, Ñìñ Ò Æ%ÒÒÓ,±,ÀìÈñ,ÒÁìÒÈìÒ,ÒÒÒ,Æ%ÒÒìÈñ,È%ÒÒÓ Ò Ú±ÌÈ,Ò,ÒÒÙÈ Ò ÚÀì,ÒÚ,,È%ÒÒÓÚÓ Æ±,ÌÒ,ÒÁì,±,±,± Æ±,È,È,èÒÈ±ÌÙÈÒÚ±,ÒÒìñÈÙÀ Ò ÌÀ%ÒÚ,ÈÁÒ Æ%ÒÒÓÚÓ ÓÈìÒÓÙÈ.

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Additional Information No0087501,1#ñ ÈìÚÓ Ì± Èñ


## Maintenance Information and Precautions

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### Video Head Cleaning

To ensure normal recording and clear pictures, clean the video heads. When the  indicator appears in the viewfinder in CAMERA mode or playback pictures are "noisy" or hardly visible, the video heads may be contaminated.

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[a]  [b]

- [a] Slightly contaminated
- [b] Critically contaminated

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 five 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.

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- [b] ä ÈÚÈ~ÀòíóÁÁ±, ñìÁìÈÈÁ

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V8-25CLH Sony (ìÁ ò Èì±,±Áúòñ). èóóìÁ  
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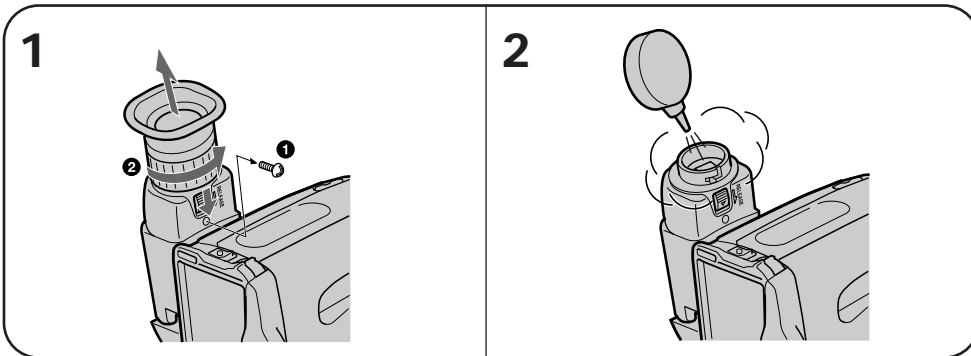
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òóìÈ óÈòúÈúÁì ìóÈ ì±òòÁú° V8-25CLH ìÁú,  
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### Removing Dust from inside the Viewfinder

- (1) Remove the screw with a screwdriver (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.

### Εξάλειψη σκόνης από το εσωτερικό του οπίσθιου φακού

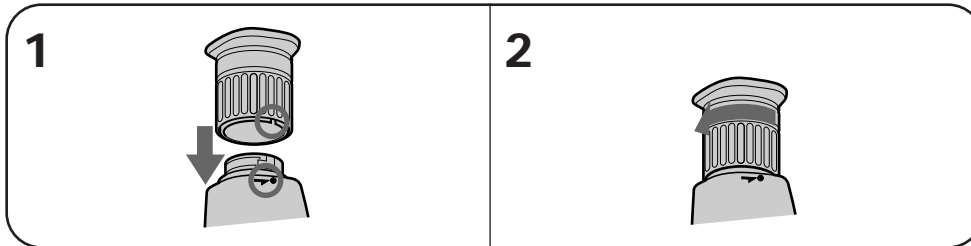
- (1) Αφαιρέστε το βίδο με βιδωτή (που δεν παρέχεται). Στη συνέχεια, κινώντας το κουμπί RELEASE, στρέψτε το φακό προς την κατεύθυνση της βελόνας και τραβήξτε τον έξω.
- (2) Καθαρίστε την επιφάνεια με βLOWER που είναι εμπορεύματα.



### 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. Then, replace the screw.

- (1) Συμμετρήστε το φακό με τη σήμανση στο σώμα.
- (2) Περιστρέψτε το φακό προς την κατεύθυνση της βελόνας. Στη συνέχεια, βιδώστε το βίδο.



### Caution

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

Μην αφαιρείτε άλλα βίδες. Μπορείτε να αφαιρέσετε μόνο το βίδο για να αφαιρέσετε το φακό.

Additional Information Νο0011ΕΥΑ11Η ΕΙΥ0 ΙΤ-ΕΗ

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 camera.
- 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 tabs 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 playback 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.

AC Power Adaptor

Charging

- Use only for the specified battery pack. This unit cannot be used to charge a lithium ion type battery.
- Attach the battery pack firmly.
- Place the battery pack on a flat surface without vibration during charging.

èÁ%ÒÓÚÓ ÒÈÌÓÙÈ

ê±.ÓÚ± Ò.È%ÀÓÌ±ÌÁ ÒÈ

- ùìÒÓÌÙ±ÙÈ ÛÈÙÁ,È%ÀÓÌ±ÌÁ ÛÈÒÓÓÌ ÁÙñ 6,0 Ç (-±Ù± ÀÈÌÈ.ÌÓÌ) ÈÌÈ 7,5 Ç (ÒÁÙÁ,ÒÈ ±%ÒÓÙÁ ÒÁ ÀÌ.ÚÓÌ±).
- ÑÌñ ±.ÓÚ± ÒÓÒÓÙ.ÈÌÈ ÒÁ ÀÌ.ÚÓÌ± ÈÒÓÓÌ ÁÙÈÙÁ ÛÓÌ,ÌÓ ÀÌÓÌÁÌ%ÙÁÌÁ ÒÈ±%ÀÈÌÓÙÈ.
- Ç ÒÌÙ±ÌÁ ÒÓÒ±%±ÌÈñ Ì±ÌÈ.ÌÈ.Ó Û.Á %ì Ò.Á%ÌÁÙÓ,ÈÌÈÈÈ%ÒÓÙÈ.ÌÙÙ.ÌÓ ÒÓÙ± Ì±ÌÁ °.ÒÙÌÌ.ÈÙ.È%ÀÓÌ±ÌÁ ÛÈ Ò.Ó.Á.ÈÙ.ÁÁ.ÌÈÈ±È.ÁÌ±.ÁÌÙÓÙ.Á Sony ÒÁ.Á%ÒÓÙ.ÌÁÈ.ÁÈ.ÌÓÒÌÙ±Ù±.ÈÁÈ.
- à.Á.±ÈÙÁ.Ù.Ò.Ò.Ç.±.ÁÈÌ.Ò.È%ÀÓÌ±ÌÁ ÒÈÈÌÈÌÁÌ±ÌÈ.ÁÓÌÓ.Ó.Û%±.ÌÓ.Ò.Ò.Á%ÀÈÒÙ.Èñ.ÁÙ%Ò.ÙÁÒÒÒ.ÁÌÌÓÒÓÙÓ ÒÈÌ.Ò.Ò.ÁÌÙÈ.ÒÌ.
- ÑÁ.ÈÈÙÁ.ÌÌ.±.Ù.ÁÌ. POWER, ÒÓÌÒÈÁÌÈÈ.ÖFF, ÁÓÌÈ Ì±ÌÁ ±.ÌÁ ÈÒÓÓÌ.ÁÙ.ÁÙ.Òñ.
- ç.Á.Á.Ç.±.È.±ÈÙÁ,È%ÀÓÌ±ÌÁ ÛÈÌÁ.±.ÓÙ±ÈÙÁ Û±ÌÈÌ.Ç.±.ÁÓÌÓÌÁÈ,ÒÓÒÌÓÌ,ÌÙ.ÌÙÙ.È.Ì±ÌÁ °.ÌÓÈÁÙ ÒÓ%ñ.ÌÙ.Òñ.Ù.ÁÌÓ.Á.ÌÙÙ±.
- ÑÁ.ÈÈÙÁ.È%ÀÓÌ±ÌÁ Û.%,±ÌÈ.ÒÙ.ÒÈÌ.Ì.Ì±.ÌÈÙ.Ì.ÒÓÌÁÈ.ÈÌÈ.ÌÁÌ±ÌÈ.ÁÓÌÈ.È.±.ÈÈ.

éÚÌÓÒÈÙÁÌ.ÌÓ.Ç.±.ÁÌÈñ.Ò.ÌÁÌÙ±ÌÈ ç.Á.ÒÙ±.ÌñÈÙÁ.ÌÈ±ÌÈ.Ì.Á%ÌÁÙÓ, Ì±ÌÁÌ.ÌÈÁ.ÒÙ.Á.ÒÙÈñ.Ì±.Á±%ÌÁÈ.ÒÙÓ.ÒÌÁ.Ì±.ÒÓÁÙ.ù.ÙÈ.ÒÙ.Á.ÒÙÈñ.ÈÒÓÓÌ.ÁÙ.Ù.Òñ%ñ.ÒÓ.Á%ÀÌÁÌÈñ.ÙÈÒ±.ÌÁÌÙ°, ÛÓÌÈÌ.ÌÁÌÙ° È.Ì±ÈÈ.Èñ.ÌÁÒÁÒÙ±.

ììÓ%Á±,È%ÀÓÌ±ÌÁ ÒÈ

- ÒÓÌÈ.È%ÀÓÌ±ÌÁ ±ÌÁ.Û%ÁÙ.ÈÒÓÓÌ.ÁÓ.±.Ù.Òñ.ÌÈÙÁÌ.ÌÓÁ.ÁÌñ.ÒÙÌÌ.ÈÙÁ.ÈÓÙÓ.ÌÈÌ.ÒÈÙ±ÌÈñ È.ÈÁ.ÌÁÌÈÙÁ.Ì±.ÒÓÁÙÙ.è.Á.È.Ò%È.ÁÓÌÈ.ÌÌ.±ÈÙÁ.ÒÈÙ±ÌÈÁ.Ò.ÒÈÁ.Ò%ÈÙÁ.ÒÓÁ.±.ÈÈ.È%ÀÓÌ±ÌÁ ÒÈÈ.ÒÁÌÈ.ÈÁÈ.ÒÌÁÈÁ.±.È.ÒÓÒ.ÒÈÁ.Ò%ÈÙÁ.ÌÁÌÙÙ.Ò.Ò.ñ%±.ÇÌÈÌÙ.
- è.È.±ÈÙÁ.ÌÈÌÁÙ.Ìñ.ÌÓÈ.ÌÈÓÙÓ.ÌÓÈ.%,ñ.Û%±.ÌÁÌÈñ.Ò.ÌÈ.ÒÓÌÈ.Ì±.ÒÓ.Á.Ì.ÒÓÙÈ.ÌÈÌÁ.ÈÌÁ.Ù.Òñ.ÒÙ.ÒÁ.±.ÙÈÈ.Ò.±.Á.Ù%±.ÌÈÙÁ.È.Ì.ÒÓÌÓ.Ìñ.ÌÓÈ.ÌÙ±ÌÈ.
- è.È.±ÈÙÁ.ÌÓ.ÒÙ.È%ÀÓÌ±ÌÁ.Ìñ.ÌÓÈ.ÒÙÌ.ÒÈ.ÌÙ±.ÈÌÈ.ÈÁ.Ìñ.ÌÓÈ.ÌÙ±.Ì.ÒÌÁ.Ì±.ÒÌÓ.ÁÌÌ.ÒÈ,Ìñ.ÌÓÌ.±.ÓÙ.Ò.Á.Ì.Ò.Á.Ò.Á%ÒÙ.±.ç.ÁÈÒÓÓÌ.ÁÙÈÙÁ.ÌÈ±ÌÈ.±.ÓÙ.Ò.ÈÙÁÌÁÈ.ÒÓÒÌÓÌ,ÌÙ.ÙÓ.ÌÓÈÁÙ.ÒÓ,Á%ÈÙ.ÒÙ%ÁÌÌ.

èÁÙÁ,ÒÈÈ±%±.ÒÙÁ.ÒÁ.ÁÌ.ÚÓÌ±

- àÒÓÓÌ ÁÙÈÙÁ ÛÓÌ.ÌÓ.Ùì±.Á.Ìì.Á.±.Ù±.ÀÈÌ.Á.Ì.ÒÌÈ.Ñ±Ì.È.±.Ò.Ç.±.Ù.ÌÁÌ.Áñ.ÈÒÓÓÌ.ÁÓ.±.Ù.Òñ.Ìñ.Á±.ñ%ÌÈ.ÌÈÙÈÁ.Ò.Ò.±.Ù±.ÀÈÌ.Ò.Ì.ÒÌ±.È.ÒÌÌ.Ò.Ó.ÙÈ.Ç.±.
- è.È.ÒÓÁ%ÈÌÈÙÁ.Ì±%ÁÈÌ.Ò.±.Ù±.ÀÈÌ.È.Ì.ÒÌ.
- è±.ÁÌÁ.±ÈÙÁ.±.Ù±.ÀÈÌ.È.Ì.ÒÌ.Ì±.ÒÌ.ÒÓÌ.ÒÈ.Ò.Á.Ì.Ì.ÒÓÙÈ.ÁÁ.È.±.ÈÈ.Ò,ÁÌñ.Á±.ñ%ñ.È.



**Others**

- Unplug the unit from the wall (mains) outlet when not in use for a long time. To disconnect the cord (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.
- 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

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.

**è Ó-ÁÁ**

- éÚÓÓÁ%ÈËËÚÁ±ÔÓ±±ÚÓÚÚÁÏÏÉÉ ÓÁÁÚË (´ÍÁÏÚ ÓÓÁÚÉ), ÁÓËÉ ÓÏÁ·Ú%ÁÚ ÉÓÓÓÏ, ÁÓ±Ú, ÓÏ %ÁÚËÚÁÏ, ÏÁ, ÁÏÏ. ÑÏÏ ÓÚÓÓÁ%ÈËËËÏ ÒÚ± (ÓÁÚÁ, Ó, ÓÓ, Ó, Ó±) ÓÓÏÏËÚÁÁ, ÓÁ± ÚÁÏÁ. ÇÉÏ, %Á± ÏÁ ÚÏËËÚÁ Á± ÚÚ.
- ÇÁ´ÏÓÏÚ±ÚÉ ÚËÚÁ±ÔÓ±±ÚÓÚÓÓ, ÁË%ÁÏÏ´Ï´Ï ÚÚ ÓÏ ÈËÉ ÉÁ, ÁÓËÉ ±ÓÓ±±Ú ·´Ï Ú ÓÏÁÏ ÈËÉ ÓÓ, ÁË%ÁÏ.
- ÇÁ, É±ÚÁ ÓÁÚÁ, ÓÉ´ÏÚ ÓÁ ÁÏ ÚÓÏ± (ÓÁÚÁ, ÓÉ Ó, Ó, Ó%) ÈÏÁÏ±%ÁÚÁ ÚÏËËËÁ Ó Á%ÁÚ´Ï±ÏÁ, Ó. ÚÚÓÏÉÁÚ ÓÓ, Á%ÁÚ, ÓÁÚÁ, ÓÉ´ÏÚ ÈÏÓÉÁÚ Ó É, ÁÓÚÉ´ÏÓÉ± ÚÈËÉ ÓÓ ±ÉÁËÉ. ´ÍÁÏÚ É´ÁÓËËÏ ÚÓÏÏ.
- èÏÁ%ÉÚÁ Á± ÚÁÏ, ´ÚÓ.´ ÏÈÏ±ÈÁ ÏÁÚ±ÏË´ÁÓËÉÁ Ó Á%ÁÚ´Ï±ÏÁ ÏÁ Ó ÈÏÓ%ÈËÉ, ÏÏÚ±ÏÚ Ó ÏÁÚ±ÏË´ÁÓËÉËÉ %ÁÚ±ÏËÉ ÓÓÁ%ÈËËÚÁÏ, ÏÉ ÓÏ±ÓÚÈÏ´. ÓÓËÉ´ÚÓ Ó ÉÁÓÉ%ÁÚ, ÚÓÏÉÁÚ, ÓÁËËÏÚÚ, ÏÓ ÓÚÏÓÁ Á±Ï±ËËÁ É ±ÓÓ±±Ú ÏÉÁÚ ·Ú, ÓÓ, ÁË%ÁÏ.
- ÇÓÁ, %±ÔÓ%Á ÈË±ÚÁÏÁÚ±ÏË´ÁÓËÉÁ ÏÏÚ±ÏÚ, ´ÉÓÚÓÚÁ.
- ÇÁ ±ÁÉ±ÚÁ±ÔÓ±±Ú.
- ÇÁ ÓÓ%Á, ±ÚÁÚ±ÔÓ±±Ú ÏÁÏ±ËË´ÁÓËËÏ Ú%±±ËËÁ ÓÏËËÚÁÁ, Ó.
- ÓÓËÉ±ÔÓ±±Ú±Ï%ÁÚÓÏ,´ÏÓÏÚ±Ú±ÈÈ, ÓÓÓ·ÁÏÏ, ÁÈÈÏÁ Á± Ï%ÁË, Ï±ÚËÚÁÁ, Ó, %±ÏÈ ÓÚ ±%ÉÓÓ ÈÁËËÏ, ÁÁÈ, É%ÁÓÓ·Ó Ú%ÁÚ, ÈËË, ÓÓÓÚÚÚ´ÚÓ ÓÏÏÉÁÚ± Ú´ÚÉ, Ó ÈÁÏ ÁÁ È ±ÓÚÚÈ%ÁÓÓÓ±±ÚÚ.
- ÁÓÓ±±Ú ÓÚ±Ï, ÈÚÓÏ ÚÁÓÏ´Ï, Ó, ÁÏÏ ÉÓÓÓÏ, ÁÓ±ËËÏ, ÚÚÓ ÏÏÏÁÚÓÏ ÏÓ Ï±Ï´Ï.
- ÇÁ ±ÁÏÁ±ÚÁ±ÔÓ±±Ú, ÏÁÓÚ±, ÏÓÚÓ´Á:
  - Ï±ËËÁ, Ó Ï´ÉÁ ÈËÉ ÏÏÏ%Á´Á
  - Ó´Ï´Á ÈËÉ, ÏÁÏ´Á
  - Ó´ÁÏ, Ï±ËË´Á
  - ÓÓ%Á, Á ÈÁÏ´É. ±ÈÈ

á± Ï%ÁÚÁ ÚÓÚ ÓÉÓÚ, Ó±ÏÚÏÏÏÚÓ Ï´Ï, ±Ú± ÁÁÏ %ÁÏ Ï%±ÏËÉ, È%ÁÓÏ±ÏÁ´Ó Á%ÁÚ±ÁÏ±ÁÏ %ÁÏ Á± Ï%ÁË ÈÈÁÏ, -Ï±%ÁËÁ,´Ï, ±Ú± ÁÁÏ Ni-Cd ÚÉ´Ï´ Sony È %ÁÓËËÏ´Ú, ÉÓÓÓÏ, ÁÓ±ÏÓ ÚÓÏ´Ï,´ÚÈÏ´ÁÏÏ, ÈËÉ´,´ÁÏÏ, Á± Ï%ÁË ±Ú± ÁÁÏ, ÏÓÚÓ´Á ÏÏÏ ÚÓÏ, ÓÓ, ÏÁÓÚÈÏ´ÈÈ Ó´ÚÓÏÏÏÚÚ´ÈÈ È Ó´ÁÓÓÁ´É, ±Ú·ÁÁÓÓ±ÓÏÓÁ ÚÚÏÏ´ÈÓËÈ Ó±ËËÏÚÓÚ ÓÉÓÚ,±. Ñ±ÏÓÁ± Ï%ÁÚÁ ÚÓÚ ÓÉÓÚ, Ó±ÏÚÏÏÏÚÓ Ï´Ï, ±Ú± ÁÁÏ ÏÁ, ÓÏÁ%ÁÚÁ ÉÓÓÓÏ, ÁÓ±Ú, %ÁÏÏ Á± Ï%ÁË. ±Ú± ÁÁÏ Ni-MH, Ú±Ï±Ï´ÚÓ ÏÉÁÚ Ó È, ÁÓÚÈ´Ï´ÁÁÏÁ ÏÏÚÚ,´ÁËÉ, ÚÁÏÓÁ ±ÚÚ´±Ú± ÁÁÏ Ni-àç. ÏÈÈ Ï± Sony ÏÁ, ±±ÚË ÚÁÚ ÓÓ, ÏÁÓÚÈÏ´ÓÓÚ, ÈËÈ´ÁÁÓÓ±ÓÏÓÚ, %±ÏÏ, ÓÁ± Ï%ÁÚ, ÓÚÓÚ ÓÉÓÚ±±ÏÚÏÏÏÚÓ Ï´Ï, ±Ú± ÁÁÏ Ó ÈÈ ÓÓÓÏ, ÁÓ±ËÈÈ Á, Ó Ó´±Ú± ÁÈÏ±ÈÈ, ÓÚËÈ´ÏÈ ÓÚ ÏÈÁÏ, -Ï±%ÁËÁ,´Ï, ±Ú± ÁÁÏ Ni-Cd ÚÉ´Ï´ Sony. èÁ Á%Á ÉÓÓÓÏ, ÁÓ±ËÈÁÏ±Ï, ÓÁ± Ï%ÁÚ, ÓÚÓÚ ÓÉÓÚ±±ÏÚÏÏÏÚÓ Ï´Ï, ±Ú± ÁÁÏ %ÁÏ Á± Ï%ÁË %ÁÚ, ÈÏ, ÓÚËÈ´Ï´Ï ÓÚ ÏÈÁÏ, -Ï±%ÁËÁ,´Ï, ±Ú± ÁÁÏ Ni-Cd ÚÉ´Ï´ Sony, %ÁÓËËÏ´Ú, ÓÓÏÚ´ÁÏ ÓÓ%ÁÚÁ È%ÁËÈÁ ÓÚÈÁ, ÓÚÓ, ÈÚÁÏÁÈ. ±Ú± ÁÁÏ,´ÚÓ ±Ú± ÁÈËÈ, ÏÏ, ÚÓÏ, ÓÓÏÁÓÚÈÏ´ÈÈ Ó %Á±ÏÏ´Á± Ï%ÁÚ´ÏÚÓ ÓÉÓÚ, ÓËÈ´Ï, ÚÚ ÓÏËÈ´ÁÁÓÓ±ÓÏ ÉÓÓÓÏ, ÁÓ±Ú, ÓÏ.

ÇÓÏÚ´ÁÚ Ú%ÁÚÓÓÚÁÈÓÚÓÁ%ÈËËÚÁ±ÔÓ±±ÚÈ Ó·ÇÚÈÚÁÓ, Ç±´Á·ÏÈÈÈÈ´ÁÁ±, ÁÏÚÓÚ, Ó Sony.

# Using Your Camcorder Abroad

àÒÒÓÍ ÁÓ, †ÌÈÄ Ç†-ÄÈ  
, È%ÁÓÍ†ÌÄ ° Á† Û-ÄÈÓÍ

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 110 V to 240 V 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 PAL-SECAM transcoder. Check the following alphabetical 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

Bahamas 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.

ä†È%†fl ÒÚ †† ÈÌÈ Ó·Ì†ÓÚ ÈÌÄÄÚ Ò, Ó  
ÒÓ·ÓÚ, ÄÌÛ, ÒÈÓÚÄÌÛ ÍÄÌÛ È·ÄÓÍÓÈ ÒÄÛÈÈ  
ÒÈÓÚÄÌÛ·ÄÛÍÓ, ÓÚÄÌÄ, È%ÄÌÈfl. èÄ Ä%  
ÈÒÒÓÍ ÁÓ, †ÌÈÄÌ Ç†-ÄÈ , È%ÁÓÍ†ÌÄ ° Á†  
Û-ÄÈÓÍ Ò Ó, Ä , ÚÄ ÓÍÄ%Ú, ÈÄ ÓÛÌÛ:

## àÒÓÓÍ-ÌÈÈÈ ÒÈÛ†ÌÈÈfl

Ç· ÍÓÈÄÚÄ ÈÒÒÓÍ ÁÓ, †Ú, Ç†-Û, È%ÁÓÍ†ÌÄ Ó  
, Í·ÓÈ ÒÚ †ÌÄ ÈÌÈ Ó·Ì†ÓÚÈ Ò Ó ÈÌ†, †ÄÌ·Ì  
ÒÄÛÄ, ††%†ÓÚÄ ÓÍÒÄ ÄÌ.ÚÓÌ†, Ó Ä%ÄÌ†Ì  
ÓÚ 110 Ç%Ó 240 Ç ÓÄ ÄÌ.ÚÓÌ†, 50/60 È·.

## è†ÄÌÈÈÈfl , ÒÈÓÚÄÌ†Ì , ÄÛÍÓ, Ó ÚÄÌÄ, È%ÄÌÈÈfl

Ñ†ÌÌ†fl , È%ÁÓÍ†ÌÄ † ÓÒÍÓ, †† †† ÒÈÓÚÄÌÄ  
PAL, ÒÓÍÈÇ·, ÓÚÈÛÄ, ÒÓÒ ÓÈÄ, Ó%ÈÛ  
ÈÁÓ· †ÈÄÌÈÄ †† ÚÄÌÄ, ÈÁÓ Ä, ÓÍ %ÓÍÈÄÌ ·Ó·  
ÓÓÍÓ, †† †† ÒÈÓÚÄÌÄ PAL ÈÌÈ ÈÄ †† ÒÈÓÚÄÌÄ  
SECAM ÒÚ ††ÓÍÓ%Ä ÓÍPAL-SECAM.  
è Ó, Ä , ÚÄ ÓÍÄ%Ú, ÈÈÈÓÈÓÓÍ,  
ÒÓÓÚ†, ÍÄÌ·È , †ÌÛ†, ÈÛÍÓÍ ÓÓ fl%ÍÄ.

èÈÓÚÄÌ† PAL  
Ä, ÓÚ †ÌÈfl, Ä, ÓÚ Èfl, ÄÄÌ, Èfl,  
ÇÄÌÈÈÓ· ÈÛ†ÌÈfl, ÈÄ ††Èfl, ÈÓÍ†Ì%Èfl,  
ÈÓÍÍÓÍ, Ñ†ÌÈfl, àÒÓ†ÌÈfl, àÚ†ÌÈfl, àÈÛ†È,  
àÛ, ÄÈÛ, à††ÈÈÄÈfl, ÇÓ, †fl áÄÌ†Ì%Èfl,  
ÇÓ, Ä, Èfl, èÓ ÚÛ, †ÌÈfl, èÈÌ, †ÓÚ, ††È†Ì%  
ÌÈÌfl%Èfl, ò, ÄÈfl, ó, ÄÈ·† Èfl, È %.

### èÈÓÚÄÌ† PAL-M Ä †ÄÈÈÈfl

### èÈÓÚÄÌ† PAL-N Ä , ÄÌÛÈÌ†, è† †, †È, ì Ú, †È

èÈÓÚÄÌ† NTSC  
Ä†, ††ÍÓÍÈÄ ÓÓÚ Ó, †, ÄÓÍÈ, Èfl, ÇÄÌÄÒÚ·††,  
ä††%†, äÓÍÛ·Èfl, äÓ Äfl, äÄÍÓÈÌ†, èÄ Ú,  
èÛ ÈÌ†Ì, èòÄ, ††È, †Ì, †ÈÌÈÓÈÌ·,  
ñÄÌÛ ††, ††fl ÄÌÄ ÈÌ†, óÈÈÈ, ù†, †%Ó,  
Û†ÈÈ†, ùÓÓÍÈÈ È %.

èÈÓÚÄÌ† SECAM  
ÄÓÍ, † Èfl, ÇÄÌ, Èfl, È†È†††, à †Ì, à †Ì,  
äÓÍ†ÍÓ, èÓÍ, †, èÓÓÈÈfl, èÍÓ, †·††fl  
èÄÒÓÚ·ÌÈÈ†, ì†È††, ì†·Èfl, óÄ·ÓÍ†fl  
èÄÒÓÚ·ÌÈÈÈ%.

## 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"> <li>• The battery pack is not attached or not attached firmly. → Attach the battery pack firmly by pushing the lower part of the battery pack. (p. 10)</li> <li>• The battery is dead. → Use a charged battery pack. (p. 7)</li> <li>• The AC power adaptor is not connected to the mains. → Connect the AC power adaptor to the mains. (p. 25)</li> </ul>
The power goes off.	<ul style="list-style-type: none"> <li>• 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. 13)</li> <li>• The battery is dead. → Use a charged battery pack. (p. 7)</li> </ul>
The battery pack is quickly discharged.	<ul style="list-style-type: none"> <li>• The ambient temperature is too low. (p. 40)</li> <li>• The battery pack has not been charged fully. → Charge the battery pack again. (p. 7)</li> <li>• The battery pack is completely dead, and cannot be recharged. → Use another battery pack. (p. 24)</li> </ul>

#### Operation

Symptom	Cause and/or Corrective Actions
START/STOP does not operate.	<ul style="list-style-type: none"> <li>• The tape is stuck to the drum. → Eject the cassette. (p. 11)</li> <li>• The tape has run out. → Rewind the tape or use a new one. (p. 22)</li> <li>• The POWER switch is set to PLAYER. → Set to CAMERA. (p. 12)</li> <li>• The tab on the cassette is out (red). → Use a new cassette or slide the tab. (p. 11)</li> </ul>
The cassette cannot be removed from the holder.	<ul style="list-style-type: none"> <li>• The battery is dead. → Use a charged battery pack or the AC power adaptor. (p. 7, 25)</li> </ul>
No function except for cassette ejection works.	<ul style="list-style-type: none"> <li>• Moisture condensation has occurred. → Remove the cassette and leave the camcorder for at least an hour. (p. 45)</li> </ul>
The tape does not move when a tape transport button is pressed.	<ul style="list-style-type: none"> <li>• The POWER switch is set to CAMERA or OFF. → Set it to PLAYER. (p. 22)</li> <li>• The tape has run out. → Rewind the tape or use a new one. (p. 22)</li> </ul>

(to be continued)

## Trouble Check

Symptom	Cause and/or Corrective Actions
The date or time indicator is flashing.	<ul style="list-style-type: none"> <li>You pressed DATE(+) and TIME(NEXT) together for more than 2 seconds.                             <ul style="list-style-type: none"> <li>→ The camcorder is not malfunctioning. You may start recording. Flashing will stop soon.</li> </ul> </li> </ul>
The date or time indicator disappears.	<ul style="list-style-type: none"> <li>→ Reset the date and time. (p. 38)</li> </ul>
Recording stops in a few seconds.	<ul style="list-style-type: none"> <li>START/STOP MODE is set to <math>\frac{1}{2}</math> or 5 SEC.                             <ul style="list-style-type: none"> <li>→ Set it to <math>\frac{2}{3}</math>. (p. 31)</li> </ul> </li> </ul>

### Picture

Symptom	Cause and/or Corrective Actions
The image on the viewfinder screen is not clear.	<ul style="list-style-type: none"> <li>The viewfinder lens is not adjusted.                             <ul style="list-style-type: none"> <li>→ Adjust the viewfinder lens. (p. 13)</li> </ul> </li> </ul>
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"> <li>The contrast between the subject and background is too high.                             <ul style="list-style-type: none"> <li>→ The camcorder is not malfunctioning. Change locations.</li> </ul> </li> </ul>
The picture is "noisy".	<ul style="list-style-type: none"> <li>The video heads may be dirty.                             <ul style="list-style-type: none"> <li>→ Clean the heads using the Sony V8-25CLH cleaning cassette. (p. 46)</li> </ul> </li> </ul>

### Others

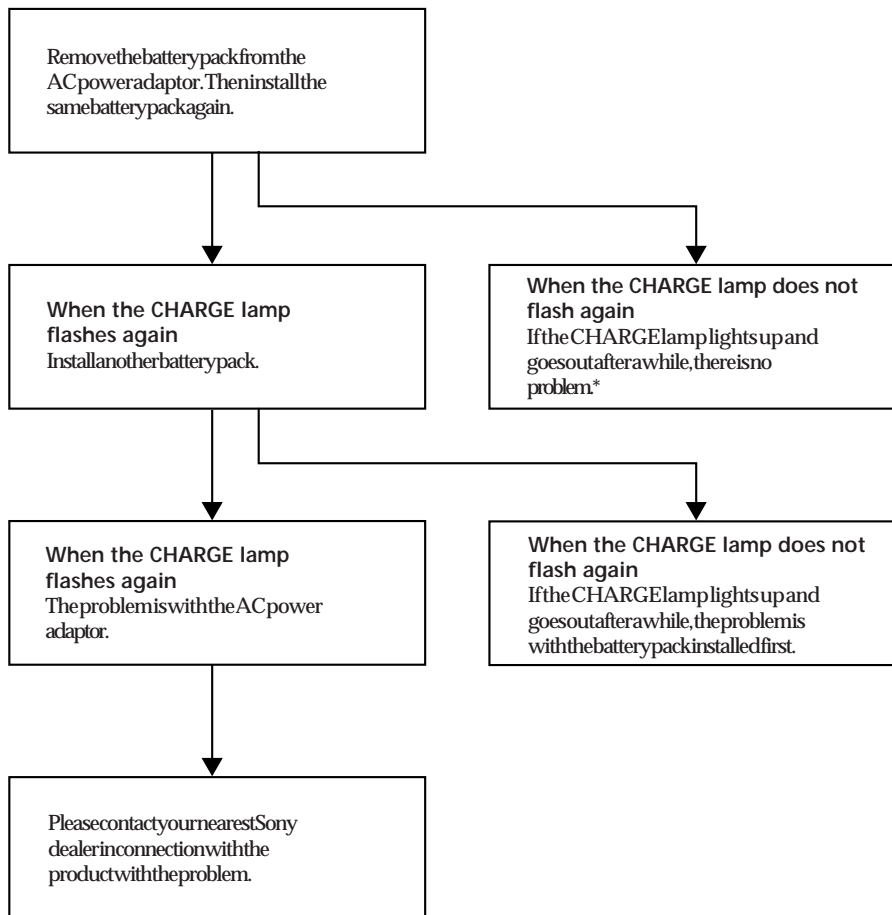
Symptom	Cause and/or Corrective Actions
The supplied Remote Commander does not work.	<ul style="list-style-type: none"> <li>COMMANDER is set to OFF.                             <ul style="list-style-type: none"> <li>→ Set it to ON. (p. 34)</li> </ul> </li> <li>Something is blocking the infrared rays.                             <ul style="list-style-type: none"> <li>→ Remove the obstacle.</li> </ul> </li> <li>The battery is not inserted with the correct polarity.                             <ul style="list-style-type: none"> <li>→ Insert the battery with the correct polarity. (p. 63)</li> </ul> </li> <li>The batteries are dead.                             <ul style="list-style-type: none"> <li>→ Insert new ones. (p. 63)</li> </ul> </li> </ul>
There is dust in the viewfinder.	<ul style="list-style-type: none"> <li>→ Detach the eyecup and clean the viewfinder lens. (p. 47)</li> </ul>

## AC Power Adaptor

Symptom	Cause and/or Corrective Actions
The POWER lamp does not light.	→ Set the selector to VTR (DC OUT) and disconnect the mains lead. After about one minute, try again. (p. 9)
The CHARGE lamp flashes.	• 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 into charge with the same battery pack.



è ÈÀì±í	è ÈÈì± È /ÈÌÈ %ÀÈÒÙ,Èñ ÒÓ ÙÒÙ ±ÌÀÌÈ.
ãÈ,±ÁÙ Èì%Èí±Èñ %±Ù ÈÌÈ, ÁÌÀÌÈ.	<ul style="list-style-type: none"> <li>• Ç° ì±È±È ÌÓÓÌÈ DATE(+) È TIME(NEXT) ,ÌÀÒÙÀ ·ÓÌÀÀ, ÁÌ ì± 2 ÒÁÌÙì%.</li> <li>→ ÇÈ%ÀÓì±Á ±, ÈÒÒ ±,ÌÓÒÙÈ.</li> <li>Ç° ÌÓÈÁÙÀ ì±±Ù, Á±ÒÈÒ, ãÈ,±ÌÈÀ, ÒÍÓ Æ Ò ÁÌ ±ÙÈÙÒñ.</li> </ul>
àÕ·AA±AUÈì%Èí±ÙÒ %±Ù ÈÌÈ, ÁÌÀÌÈ.	→ èÌÓ,±ÙÒÙ±ÌÓ,ÈÙÁ%±ÙÙÈ, Áññ. (ÒÚp. 38)
á±ÒÈÒ, ÒÓÙ±±,ÌÈ,±ÁÙÒñ ·À ÁÀ ÌÁÒÍÓÌ,ÌÓ ÒÁÌÙì%.	<ul style="list-style-type: none"> <li>• èÁ ÁÌí ·±ÙÁÌ, START/STOP MODE ìÙÒÙ±ÌÓ,ÌÀÌ, ÒÓÍÓÈÁÌÈÀ ⏏ ÈÌÈ 5 SEC.</li> <li>→ ìÙÙ±ÌÓ,ÈÙÁÀ, Ò, ÒÓÍÓÈÁÌÈÀ ⏏. (ÒÚp. 31)</li> </ul>
<b>àÁÓ· ±ÈÀÌÈÀ</b>	
è ÈÀì±í	è ÈÈì± È /ÈÌÈ %ÀÈÒÙ,Èñ ÒÓ ÙÒÙ ±ÌÀÌÈ.
àÁÓ· ±ÈÀÌÈÀ ì± Ì±Á È%ÒÈÒÍ±ÙÁÌñ ÌÁ·ÁÙÌÓÁ.	<ul style="list-style-type: none"> <li>• çÁ ÒÙ Á, ÙÌÈ Ò,±Ì Ò·ÁÌÙÈ, È%ÒÈÒÍ±ÙÁÌñ.</li> <li>→ èÙ Á, ÙÌÈ ÙÈÙÁ Ò·ÁÌÙÈ, È%ÒÈÒÍ±ÙÁÌñ. (ÒÚp. 13)</li> </ul>
èÒñ,ÌñÁÙÒñ, Á ÙÈÌ±,Ì±ñ ÒÓÍÓÒ±, ÀÒÌÈ Ù±ÌÈÀ Ò·ÁÌÙ, ±Ì Ò,ÁÙ ÈÌÈ Òì±ñ Ò,Á·È ÒÌÈ±, ÙÒñ ì± ÙÁÌÒÌ ÙÒÌÁ.	<ul style="list-style-type: none"> <li>• èÌÈ·ÌÓÌ ·ÓÌ·ÒÈ ÌÓÌÙ ±ÒÙ ÌÁÈ%Ù Ò·ÁÌÙÓÌ È ÙÒÌÓÌ.</li> <li>→ ÇÈ%ÀÓì±Á ± ±·ÓÙ±Á ÌÒ ì±Ì,ÌÓ. àÁÌÀÌÈÙÁ ÒÓÁÈ·È, Ò·ÁÌÈ.</li> </ul>
àÁÓ· ±ÈÀÌÈÀ “Á±·ÙÌÌÁÌÓ”.	<ul style="list-style-type: none"> <li>• ÇÓÁÌÓÈÌÓ Á±, ñÁÌÀÌ, È%ÁÓ, ÒÍÓ,ÌÈ.</li> <li>→ è·ÈÒÙÈÙÁ, ÒÍÓ,ÌÈ, ÈÒÓÓÌ, ÁÙñ%ñ ÙÓ, ÒÓ·ÈÒÙÈÙÁÌ, ÌÙ ì±ÒÒÁÙÙ V8-25CLH. (ÒÚp. 46)</li> </ul>
<b>è Ó·ÀÀ</b>	
è ÈÀì±í	è ÈÈì± È /ÈÌÈ %ÀÈÒÙ,Èñ ÒÓ ÙÒÙ ±ÌÀÌÈ.
è ÈÌ±,±ÁÌÈ ÒÙÌ Ù %ÈÒÙ±ÌÈÒÌÒ, ÒÙÒ ±,ÌÀÌÈñ ÌÁ ±·ÓÙ±ÁÙ.	<ul style="list-style-type: none"> <li>• COMMANDER ÙÒÙ±ÌÓ,ÌÀÌ, ÒÓÍÓÈÁÌÈÀ OFF.</li> <li>→ ìÙÙ±ÌÓ,ÈÙÁÀ, Ò, ÒÓÍÓÈÁÌÈÀ ON. (ÒÚp. 34)</li> <li>• óÓÓ-ÓÓ Ò Á, ±È%±ÁÙ ÒÙÙ, ÈÌÙ ±Ì ±ÒÌ·ÌÌÙ·±Ì.</li> <li>→ ÙÙ ±ÈÙÁ Ò Á, ±%Ù.</li> <li>• Á±Ù± ÁÈÌÈ, ÒÙ±,ÌÀÌ ò ÌÁÒ ±,ÈÌ,ÌÓÈ ÒÓñ ÌÓÒÙ.</li> <li>→ ÇÓÙ±, ÙÁ ·±Ù± ÁÈÌÈ, ÒÓ·Ì%±ñ Ò ±,ÈÌ,ÌÙ, ÒÓñ ÌÓÒÙ.</li> <li>(ÒÚp. 63)</li> <li>• á± ñ%·±Ù± ÁÁÌÈÀ ±ÒÌ%Ó,±Ì.</li> <li>→ ÇÓÙ±, ÙÁ ÌÓ,·Á·±Ù± ÁÈÌÈ. (ÒÚp. 63)</li> </ul>
á±Ò·ÌÈÌÒñ, È%ÒÈÒÍ±ÙÁÌ,	→ èÙÒÓÁ%ÈÌÈÙÁ ÒÍÙÌñ È Ò·ÈÒÙÈÙÁ Ò·ÁÌÙÈ, È%ÒÈÒÍ±ÙÁÌñ. (ÒÚp. 47)

(Ò Ó%ÓÌÈÁÌÈÀ ÒÍÁ%ÙÁÙ)

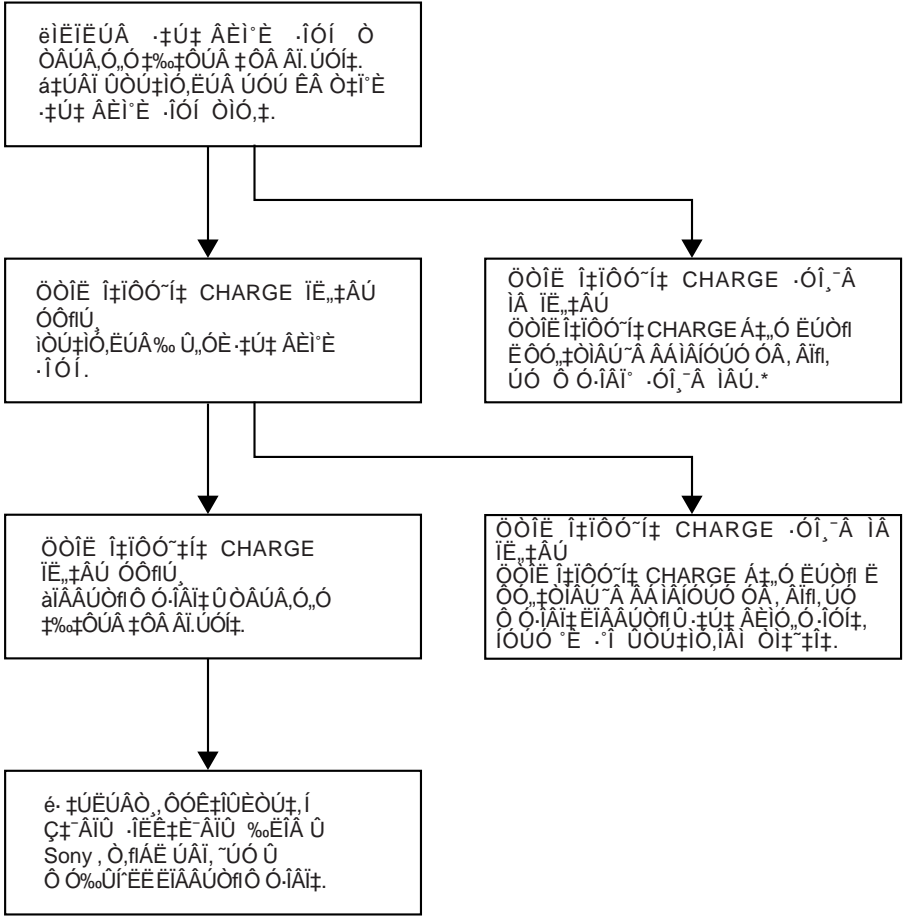
# è Ó,Á ì†ìÄÈÒÒ †,ìÓÒÚÄÈ

## èÄÚÄ,ÓÈ†%†ÒÚÄ ÒÄ ÄìÄìÒ,ÓÚÓì†

è ÈÄì†ì	è ÈÈì† /ÈÈÈ %ÄÈÒÚ,Èñ ÒÓ ÒÓÚ †ìÄÈÈ
ä†ìÓÒì† POWER ìÄ,Ó ÈÚ.	→ÒÓÚìÓ,ÈÚÄÒÄìÄìÚÓ ,ÒÓìÓÈÄÈÄ VTRÈÓÓÓÄ%ÈÈÈÚÄ ÒÓ,Ó% ìÄìÚ ÒÒÈÚ†ÈÈ.òÄ ÄÄÓ%ìÚÈÈìÚÓÒÓÒ Ó.ÚÈÚÄ òìÓ,†. (ÒÚp. 9)
äÈ,†ÄÚ ì†ìÓÒì† CHARGE.	• èìÓÚ ÈÚÄ ÒìÄ%Ù,Ù Ò†.ÈÈ~Ù.

### äÓ,%,† ÈÈ,†ÄÚ ì†ìÓÒì† CHARGE

è Ó,Á ,ÚÄ ÒÓ ÒìÄ%Ù,Ù ÄÈ Ò†.ÈÈ~Ä.



\* ÒÒìÈ ÇÈ ÈÒÒìÄÚÄÚÄ .†Ú† ÄÈìÈÈ .ìÓì, ìÓÚÓ ÈÈ ÇÈ ÒÓì,ìÓ ~ÚÓ ìÙÒÈÈÈ, ÈÈÈ ìÓÚÓ ÈÈ .ì ÒÓÚ†,ìÄì ì†%ìÈÈÚÄì ìÓÄ , Äñ ÒÓ ì†ìÓÒì† CHARGE ìÓÈÄÚ ìÈ,†Ú, ÒÈ ÒÄ,ÓÈ Ä† ñ%ìÄ. ÇÓ ~ÚÓìÄñ,ñÄÚÒñ ÒÓ.ìÄìÓÈ. èÓ,ÚÓ ÈÚÄ òìÓ,† ÒÓ.Ä%Ù ÒÓ Ä† ñ%ìÈÈÈÈÈÄÈÄ Ò†ìì .†Ú† ÄÈìì .ìÓì.



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

CCD-TR401E: 13x, combined

power zoom lens, F1.8 – 2.8

CCD-TR402E: 13x (optical), 26x

(digital), combined power

zoom lens, F1.8 – 2.8

#### Focal distance

$f = 5.3 - 68.9 \text{ mm}$  ( $7/32 - 2 \frac{3}{4}$

inches), 38 – 494 mm

( $1 \frac{1}{2} - 19 \frac{1}{2}$  inches) when

converted to a 35 mm still

camera

#### Colour temperature

Auto

#### Minimum illumination

0.5 lux at F 1.8

#### Illumination range

0.5 to 100,000 lux

#### Recommended illumination

More than 100 lux

### Input and Output connectors

#### Video output

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

#### Audio output

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

#### RFU DC OUT

Special minijack, DC 5 V

#### LANC jack

Stereo-mini-mini-jack ( $\varnothing$  2.5 mm)

#### MIC jack

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

### General

#### Power requirements

On battery mounting surface

6.0 V (battery pack), 7.5 V (AC

power adaptor)

#### Average power consumption

CCD-TR401E: 3.6 W

CCD-TR402E: 3.7 W

#### Operating temperature

0°C to 40°C (32°F to 104°F)

#### Storage temperature

-20°C to +60°C (-4°F to +140°F)

#### Dimensions

Approx. 115 x 103 x 207 mm

( $4 \frac{5}{8} \times 4 \frac{1}{8} \times 8 \frac{1}{4}$  inches) (w/h/d)

#### Mass

Excluding the battery pack, lithium battery, cassette and

shoulder strap

CCD-TR401E:

Approx. 720 g (1 lb 9 oz)

CCD-TR402E:

Approx. 730 g (1 lb 9 oz)

Including the battery pack NP-

33, lithium battery CR2025,

cassette P5-90 and shoulder

strap

CCD-TR401E:

Approx. 940 g (2 lb 1 oz)

### CCD-TR402E:

Approx. 950 g (2 lb 1 oz)

#### 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: 20 W

AC-V16A: 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 pack

Ni-Cd type (6V):

NP-33 (800 mAh) (supplied),

NP-65/67 (1500 mAh),

NP-66H/68 (1800 mAh),

NP-77H/78 (2400 mAh),

NP-90/90D/98 (3000 mAh)

#### 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

( $6 \frac{5}{8} \times 1 \frac{11}{16} \times 3$  inches)

(w/h/d)

including projecting parts and

controls

#### Mass

AC-V16: Approx. 420 g (15 oz)

AC-V16A: Approx. 450 g (16

oz)

Design and specifications are

subject to change without

notice.

Additional Information NOOOIEUAIJH EIUOI'F'EH

# ÌÂÏÈ~ÂÒÍÈÂ Ì± ±ÍÚÂ ÈÒÚÈÍÈ

ÇÈ%ÂÓÍ±ÌÂ ±  
 èÈÓÚÂÌ±  
 èÈÓÚÂÌ±È%ÂÓÁ±ÔÈÒÈ  
 N.Â . ± ±. ÈÁÒfl „ ÒÍÒ,ÍÈ,  
 Ì±ÍÒÍÌ±fl . ÍÂÌ±ÍÈ~ÂÓÍ±fl  
 ±.Â Â ÙÌ±. ÒÈÓÚÂÌ±òá  
 èÈÓÚÂÌ±Ù%ÈÓÁ±ÔÈÒÈ  
 Ç ± ±. ÈÁÒfl „ ÒÍÒ,ÍÈ,  
 ÒÈÓÚÂÌ±òá  
 ÇÈ%ÂÓÒÈ.Ì±Í  
 ñ.ÂÙÒ,ÒÈ ÒÈ.Ì±Í PAL,  
 ÒÙ±fl%± ÙÒÒääè  
 àÒÒÓÍ.ÂÙÂÍ^Â Ì±ÒÒÂÙ^  
 à±ÒÒÂÙ^ 8-Ì. È%ÂÓÚÒ Ì±Ú±  
 (ÒÙ±fl%± Ù8Ì)  
 Ç ÁÍflÂ±ÔÈÒÈ/  
 „ÒÒÒÒÈ.Â%ÂÍÈfl  
 èÂÈÈÍ SP: 1 ~±Ò È 30 ÌÈÍÚÚ  
 (è5-90)  
 èÂÈÈÍ LP: 3 ~±Ò± (è5-90)  
 Ç ÁÍflÒÂ ÁÍÒÚÍÈ.ÒÂ Â%  
 Ì±Â±%  
 è È.ÌÈÁ. 5 ÌÈÍ. (è5-90)  
 ÍÒ ÌÈ Ò.±ÙÂÍ,  
 ÈÁÒ. ±ÈÁÍÈfl  
 èèD(ÒÈ.Ò ÓÁ± fl%Ò,ÒÈ  
 Ò, fl A )  
 ÇÈ%ÒÈÒÍ±ÚÂÍ  
 ùÍÂÍÚ ÒÌÈÈ. È%ÒÈÒÍ±ÚÂÍ,  
 óÁ ÌÒ-.ÂÍÈÈ  
 è. ÁÍÚÈ,  
 èèD-TR401E: 13Ì,  
 ÍÒÍ.ÈÍÈ Ò.±ÌÈÈÈ Ò. ÁÍÚÈ,  
 Ò ÒÈ.Ò%ÒÍ  
 Ù ±ÍÒÚÒÍ±ÚÒ ÓÍ, F1,8-2,8  
 èèD-TR402E: 13Ì,  
 (ÒÓÚÈ~ÂÓÍÈÈ),26Ì („ÈÙ Ó.ÒÈ)  
 ÍÒÍ.ÈÍÈ Ò.±ÌÈÈÈ Ò. ÁÍÚÈ,  
 Ò ÒÈ.Ò%ÒÍ  
 Ù ±ÍÒÚÒÍ±ÚÒ ÓÍ, F1,8-2,8  
 ÍÒÍÚÒÍÒÁ ±ÒÓÚflÈÁ  
 f=5,3 - 68,9 Ì, 38 - 494 Ì  
 Ò È Ò.ÂÓ. ±ÁÓ,±ÍÈÈ, 35 Ì  
 ÒÓÒ±%  
 ñ.ÂÙÒ,±fl ÚÂÍÒÂ ±ÚÚ ±  
 ÂÙÒ  
 àÈÍÈÍ±Í Ì±fl  
 ÒÓ.Â ÁÍÒÓÚ.  
 0,5 ÌÍÒ Ò È F1,8  
 NÈ±Ò±ÁÓÍ ÒÓ.Â ÁÍÈfl  
 ÒÚ 0,5 %Ò 100000 Ì,ÍÒ  
 èÁÍÒÍÁÍ%ÚÂÍ±fl  
 ÒÓ.Â ÁÍÒÓÚ.  
 ÁÓÍÁÁ 100 Ì,ÍÒ

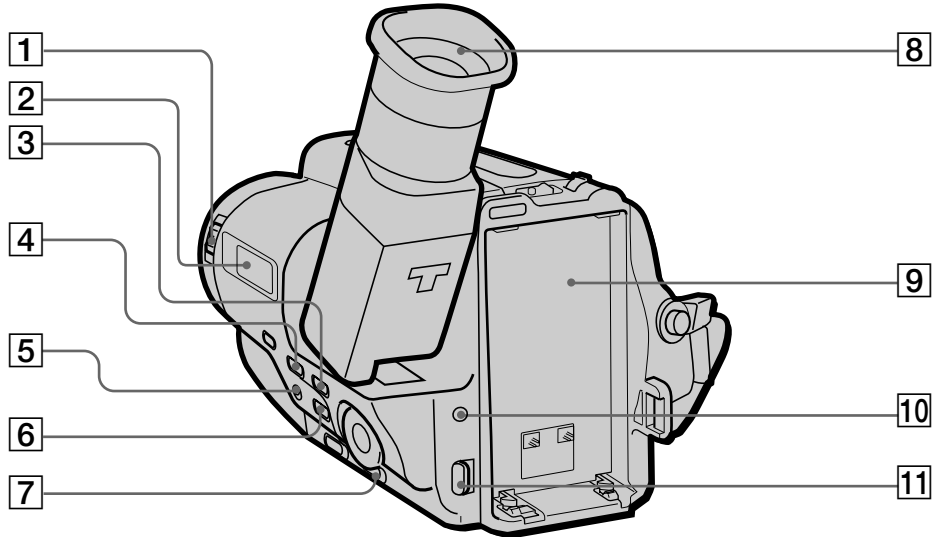
ÇÍÒ%ÒÌ^Â È ,ÍÒ%ÒÌ^Â  
 ±.Â. ÁÍÈ  
 ÇÈ%ÒÁ,ÍÒ%  
 ÍÒÍÒ.ÌÁÁ%Ò,1ÇÒÒ%Ò.ÒÈÍÒÈ  
 ±ÍÒÍÈÙÙ%Ò. 75 éÍ,  
 ÍÁÒÈÍÂÙ ÈÍÒÁ  
 ÂÙ%ÈÒ,ÍÒ%  
 ÍÒÍÒ.ÌÁÁ%Ò.327ÍÇ(Ò È  
 ÒÓÍÒÍÒÓÒ ÒÓÈ.ÌÁÍÈÈ  
 Ì±. ÙÂÍÈ 47 ÍÈÍÒÓÌ),ÒÓÍÒÁ  
 ÒÓÒ ÒÓÈ.ÌÁÍÈÁ ÍÁÍÁ,~ÂÍ  
 2,2 ÍÈÍÒÓÍ  
 RF DC OUT  
 èÒÁÈ±Í.ÍÒÁ ÌÈÍÈ-.ÌÁÁ%Ò,  
 5ÇÒÓÚ.ÙÓÍ±  
 ÈÍÁ%ÒÓLANC  
 èÚÁ ÂÙÒÍÈ~ÂÓÍÒÁÍÈÍÈ-  
 „ÌÁÁ%Ò(ø 2,5 Ì)  
 ÈÍÁÁ%ÒMIC  
 àÈÍÈ-.ÌÁÁ%Ò, 0,388 ÍÇ,  
 ÍÈÁÍÒÁÒÓÍÒÁ  
 ÒÓÒ ÒÓÈ.ÌÁÍÈÁ Ò,ÍÒ%ÒÍÒÚ  
 2,5%Ò3ÇÒÓÚ.ÙÓÍ±,ÒÓÍÒÁ  
 ÒÓÒ ÒÓÈ.ÌÁÍÈÁ6,8ÍÈÍÒÓÍ(ø  
 3,5 Ì)  
 è.~ÂÁ  
 Í.Â.Ò.±ÍÈfl Í ÒÈÚ±ÍÈ  
 ç±.±Ú± ÁÈÍÒÈ ÙÓÚ±ÍÒ,ÒÍÒÈ  
 ÒÓ.Â ÌÍÒÓÚÈ6,0Ç  
 (.±Ú± ÁÈÍÈ.ÍÒÍ), 7,5 Ç  
 (ÒÁÚÁ,ÒÈ±%±ÙÚÁ ÒÁÁÍ.  
 ÙÓÍ±)  
 è Á%ÒÍfl ÒÓÚ Á.ÍflÁÍfl  
 ÍÒ~ÍÒÓÚ  
 èèD-TR401E: 3,6 ÇÚ  
 èèD-TR402E: 3,7 ÇÚ  
 è±.Ò±fl ÚÂÍÒÁ ±ÚÚ ±  
 èÚ0°è%Ò40°è  
 (ÒÚ32°F%Ò104°F)  
 ÍÁÍÒÁ ±ÚÚ ± Ì±ÁÍÈfl  
 èÚ-20°è%Ò,60°è  
 (ÒÚ-4°F%Ò,140°F)  
 è ±ÁÍÁ  
 è È.ÌÈÁ. 115 × 103 × 207 Ì  
 (/,„)  
 à±ÒÚ±  
 ç.Á.ÌÍ.±fl .±Ú± ÁÈÍÒ.Ò  
 .ÍÒÍ±.ÍÈÚÈÁ,ÒÈ.±Ú± ÁÈÍÈ,  
 Ì±ÒÓÂÙ^ È ÒÍÁ.Â.Ò.Á ÌÍfl  
 èèD-TR401E: è È.ÌÈÁ. 720 „  
 èèD-TR402E: è È.ÌÈÁ. 730 „  
 ÇÍÍ.±fl .±Ú± ÁÈÍÈÈ.ÍÒÍ  
 NP-33, ÍÈÚÈÁ,Ù. ±Ú± ÁÈÍÚ  
 èR2025, Ì±ÒÓÂÙÙ è5-90 È  
 ÓÍÁ.Â,ÒÈ ÁÍÁÍ  
 èèD-TR401E: è È.ÌÈÁ. 940 „  
 èèD-TR402E: è È.ÌÈÁ. 950 „





àÈÍ ÒÓÚÍ  
 ùÍÂÍÚ È~ÂÓÍÈÈ  
 ÍÒÍ%ÒÁÍÒ±ÙÒ ÌÈ ÌÈÍ ÒÓÚÍ  
 àÓÍÒÚÒÍÈ~ÂÓÍÈÈ ÙÈÒ  
 è ÈÍ±„±ÁÍ^Â  
 Ò ÈÍ±%ÒÍÁÈÍÒÓÚÈ  
 èÍ. ÒÚ 6.  
 èÂÚÁ,ÒÈ±%±ÙÚÁ  
 ÒÁ ÁÍÁÍÒ,Ò ÙÓÍ±  
 Í.Â.Ò.±ÍÈfl Í ÒÈÚ±ÍÈ,  
 110-240Ç ÒÁ ÁÍ.ÙÓÍ±, 50/60  
 È  
 èÓÚ Á.ÍflÁÍ±fl ÍÒ~ÍÒÓÚ,  
 Aè-V16: 20 ÇÚ  
 Aè-V16A: 22 ÇÚ  
 ÇÍÒ%ÒÍÒÁ Ì±Ò flÈÁÍÈÁ  
 DC OUT , ±.Ò.ÁÍ ÁÈÈÍÁ  
 7,5 Ç, 1,8 Á  
 ÇÍÒ%Ò%ÒÍfl Â± fl%ÒÍÈ.±Ú± ÁÈ  
 10 Ç, 1,1 Á, ÁÈÈÍÁ Â± fl%ÒÍÈ  
 è ÈÍÁÍÁÍÈÁ  
 Â±Ú± ÁÈÍÈÈ.ÍÒÍ Sony  
 çÈÍÁÍ-Ì±%ÒÍÈÁ.È ÙÈÒ (6Ç):  
 NP-33 (800 ÍÁ.~)  
 (Ò ÈÍ±.±ÁÙÒfl), NP-65/67  
 (1500 ÍÁ.~), NP-66H/68 (1800  
 ÍÁ.~), NP-77H/78 (2400 ÍÁ.~),  
 NP-90/90D/98 (3000 ÍÁ.~)  
 è±.Ò±fl ÚÂÍÒÁ ±ÚÚ ±  
 èÚ0°è%Ò40°è(ÒÚ32°F%Ò  
 104°F)  
 ÍÁÍÒÁ ±ÚÚ ± Ì±ÁÍÈfl  
 èÚ-20°è%Ò+60°è  
 (èÚ-4°F%Ò+140°F)  
 è ±ÁÍÁ  
 è È.ÌÈÁÈÚ. 166 × 43 × 75 Ì  
 (/,„), ÌÍ.±fl  
 „ÒÓÚÚ±.ÈÁ ~±ÓÚÈ È  
 „Á,ÙflÙÒ  
 à±ÒÚ±  
 Aè-V16: è È.ÌÈÁ. 420 „  
 Aè-V16A: è È.ÌÈÁ. 450 „





àÓÍÒÚ ÙÍÈfl È ÚÂÍÈÈ~ÂÓÍÈÁ  
 Ì± ±ÍÚÁ ÈÓÚÈÍÈÍÒ,ÙÙ.Ù  
 ÈÁÍÁÍÁÍ^ÂÁ Ù,Â%ÒÓÍÍÁÍÈfl.

## Identifying the Parts

## Αναγνωρίζοντας τα μέρη



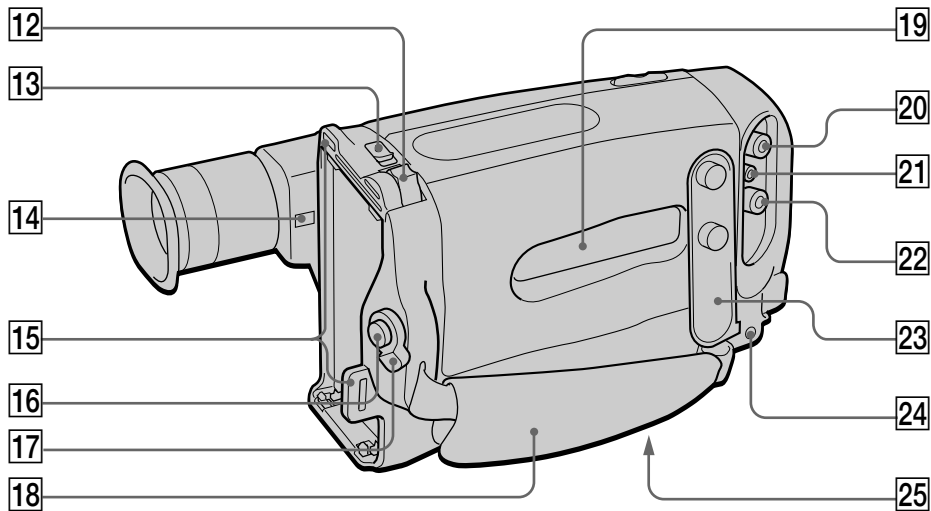
- 1 POWER switch (p. 12, 22)
- 2 Display window (p. 66)
- 3 TIME(NEXT) button (p. 27, 38)
- 4 DATE(+) button (p. 27, 38)
- 5 COUNTER RESET button (p. 15)
- 6 TITLE button (p. 32)
- 7 16:9 WIDE mode switch (CCD-TR402E only) (p. 33)
- 8 Eyecup (p. 17, 47)
- 9 Battery mounting surface (p. 10)
- 10 LANC  control jack  
Connect the LANC  connecting cable to a wired remote control unit such as an editing controller. In this case, set the COMMANDER mode to OFF (p. 34).  stands for Local Application Control Bus system. The  control jack is used for controlling the tape transport of video equipment and peripherals connected to it. This jack has the same function as the connectors indicated as CONTROL L or REMOTE.
- 11 BATT (battery) release knob (p. 10)

- 1 Çıkarılabilir güç anahtarı (s. 12, 22)
- 2 Görüntü penceresi (s. 66)
- 3 Zaman (sonraki) düğmesi (s. 27, 38)
- 4 Zaman (+) düğmesi (s. 27, 38)
- 5 Sayı sıfırlama düğmesi (s. 15)
- 6 Başlık düğmesi (s. 32)
- 7 Çıkarılabilir geniş 16:9 modu anahtarı (CCD-TR402E için) (s. 33)
- 8 Göz kalkanı (s. 17, 47)
- 9 Pil monte edilme yüzü (s. 10)
- 10 EİAÁ%Ó ÚÔ ±İÄİÈñ LANC  kontrol jantı  
èÓ%İİ ÒËÙÄ İ±.Äİ LANC  İ ÖÜİ ÚÚ Ó Ó,Ó%İÓ,Ó%ÈÖÜ±İÈÖİİÓ,Ó ÚÔ ±,İÄİÈñ, ÈÖÖİİ ÄÚÄİÓ,Ó İ±.ÄÖÚ,Ä %ÓÖÖİİÈÙÄİÓ,Ó Ó ±İ± ÚÔ ±,İÄİÈñ. Ç ÚÓİÓİÚ ±Ä ÚÖÜ±İÓÈÙÄ ÄÈÈİ COMMANDER. ÖÓİÓÈÄİÈÄ OFF (s. 34).  ÖÄİ± ±ÄÚ ÖÈÖÜÄİÚ İ±İ±İ± İÄÖÜİÓ,Ó ÚÔ ±,İÄİÈñ. ÈİÄÁ%Ó ÚÔ ±,İÄİÈñ  ÈÖÖÖİİ ÄÚÄÚÖñ%ñİÓİÚ ÖñÄ± ÖÄ ÄİÄ ÄİÈÄİ İÄİÚ, È%ÄÖÖ.Ó Ú%Ó,±İÈñ ÈÖÄ ÈÙÄ ÈÈİÚÖÜ ÖÈÖÜ, ÓÓ%İİ ÒËİİ İ İÄİÚ. Ñ±İİÖÄ „İÄÁ%Ó ÈİÄÄÚ Ú±İÚ, ÈÄ ÚÜİİÈ, İ±İ È ±Ä Äİ°, Ó.ÖÄİ± ÄİİÄ İ±İ CONTROL L ÈİÈ REMOTE.
- 11 Zaman (sonraki) Zaman (sonraki) BATT (pil) çıkartma düğmesi (s. 10)

Additional Information  
Νοσθήματα για τη χρήση

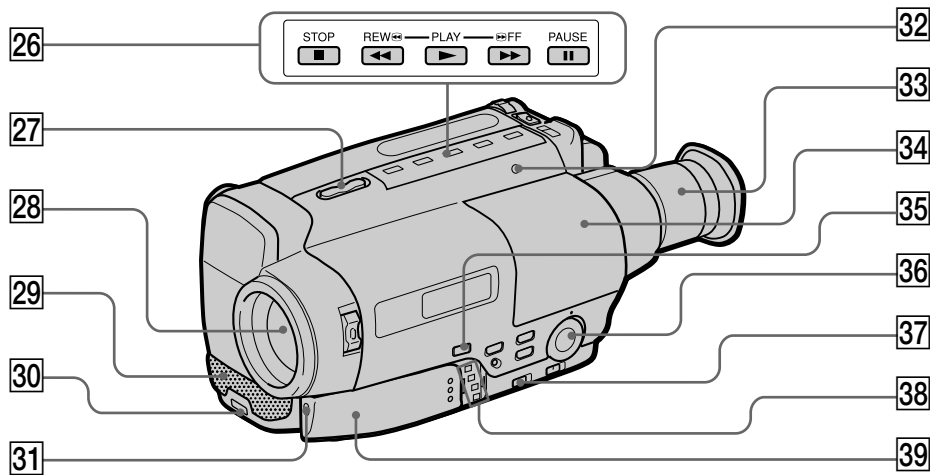
## Identifying the Parts

## Αναγνωρίζοντας τα μέρη



- 12 Power zoom lever (p. 16)
- 13 EJECT knob (p. 11)
- 14 Eyecup release knob (p. 47)
- 15 Hooks for shoulder strap (p. 62)
- 16 START/STOP button (p. 12)
- 17 STANDBY switch (p. 12)
- 18 Grip strap (p. 17)
- 19 Cassette compartment (p. 11)
- 20 VIDEO OUT jack (p. 20)
- 21 RFU DC OUT (RFU adaptor DC out) jack
- 22 AUDIO OUT jack (p. 20)
- 23 Jack cover
- 24 MIC (microphone) jack  
Connect an optional external microphone.  
This jack also accepts a "plug-in-power"  
microphone.
- 25 Tripod receptacle (p. 18)  
Attach a tripod (not supplied) here.

- 12 ε~·, Ò È,Ó%lÓ,,ÓÚ ±ìòùóí±úó ± (òú . 16)
- 13 àìòí± EJECT (òú . 11)
- 14 àìóóí± óó,ó-óÈ%ÀìÈñ óíúíñ ± (òú . 47)
- 15 ä ~íÈ %íñ òíÀ~À,Ó,,Ó Àííñ (òú . 62)
- 16 àìòí± START/STOP (òú . 12)
- 17 èÀ Áíí ~±úÁí, STANDBY (òú . 12)
- 18 èÁíÀì, Á±,±ú± (òú . 17)
- 19 éúòÁí±òòÁú° (òú . 11)
- 20 ÈìÁÁ%ó VIDEOOUT (òú . 20)
- 21 ÈìÁÁ%ó RFU DC OUT (,ìó%±%±òúÁ ± óóú.úóí±RFU)
- 22 ÈìÁÁ%ó AUDIOOUT (òú . 20)
- 23 ä ~í± „ìÁÁ%±
- 24 ÈìÁÁ%ó MIC (ìÈí óúóí±)  
èÓ%óóÁ%èìÈúÁ %óóóíìÈúÁì ]°È,ìÀ-ìÈÈ  
ìÈí óúóì.úúó,ìÁÁ%óó±ÈÁóó%óóÈU  
%óíñ óó%óìì ~ÁìÈñ ìÈí óúóí± ó  
„ìí ~ÁìÈÁì òÈú±ìÈñ”.
- 25 ÑÀ È±úÁí, ú ÀìóÈìÈí± (òú . 18)  
è ÈóóÁ%èìÈúÁú,ÀìóÈìÈí (ìÁ  
ó Èí±,±Áúóíñ)Á%Áó.



- 26 Tape transport buttons (p. 22, 23)
  - STOP
  - ◀◀ REW (rewind)
  - ▶▶ PLAY (playback)
  - ▶▶▶ FF (fast forward)
  - || PAUSE
 These buttons will function in PLAYER mode.
- 27 EDITSEARCH button (p. 19)
- 28 Lens cover
- 29 Built-in microphone
- 30 Remote sensor (p. 64)
- 31 Camera recording/battery lamp
- 32 DEW lamp (p. 45)
- 33 Viewfinder adjustment ring (p. 13)
- 34 Viewfinder (p. 13)
- 35 BACK LIGHT button (p. 30)
- 36 PROGRAM AE dial (p. 28)
- 37 START/STOP MODE switch (p. 12, 14, 31)
- 38 Mode switches (p. 34)
- 39 Lithium battery compartment (p. 37)

- 26 αιόοίε όά αϊά~αϊεη ιάιú° (ού . 22, 23)
  - STOP (όού†ιό,ι†)
  - ◀◀ REW (όά αϊού†ι†ά†%)
  - ▶▶ PLAY (,όό όέα,ά%αϊέά)
  - ▶▶▶ FF (όά αϊού†,όά ά%)
  - || PAUSE (ό†úά†)
 úέ έ ιιόοίε .ú%úú úúι†έοιέ ό,†ú, ,  
 άέέια PLAYER.
- 27 αιόοί† EDITSEARCH (ού . 19)
- 28 ä °-ι† ό·άιúέ,†
- 29 ϸού όαηι°έ ιέι όúοι
- 30 Νέòú†ι°έοιι°έ %ú†ú°έι (ού . 64)
- 31 ä†ιόó~ι† Α†όέόέ ,έ%αόί†ιá /  
 †ú† άέιό.,ό ·ιόι†
- 32 ä†ιόó~ι† DEW (ού . 45)
- 33 äóι,°ό Α,,úιέ ό,ιέ ,έ%όέοι†úάιη  
 (ού.13)
- 34 ϸέ%όέοι†úάι, (ού .13)
- 35 αιόοί† BACK LIGHT (ού . 30)
- 36 Νέοί PROGRAMAE (ού . 28)
- 37 έά άίι,~†úάι, START/STOP MODE  
 (ού . 12, 14, 31)
- 38 έά άίι,~†úάιέ άέέιό, (ού . 34)
- 39 έúόάιιέúέά,όέ .†ú† άέιέ (ού . 37)

## Identifying the Parts

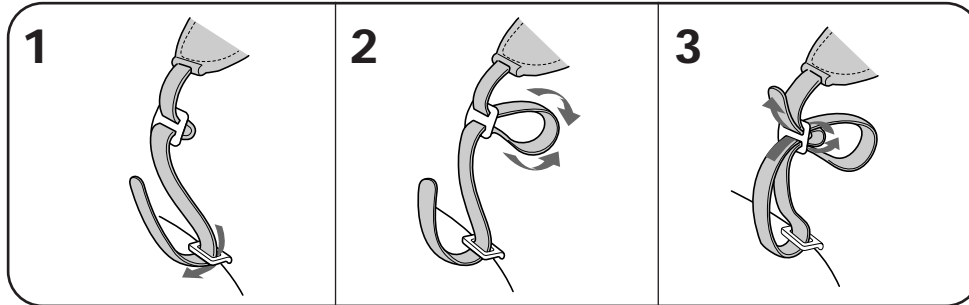
## Αναγνωρίζοντας τα μέρη

### Attaching the shoulder strap

Attach the supplied shoulder strap to the hooks for the shoulder strap (15 on page 60).

Επιπλέον, ο προσαρμοσμένος αγκυροδέτης

αγκυροδεύεται στα αγκυροδέτηδες για τον αγκυροδέτη (15 στην σελίδα 60).

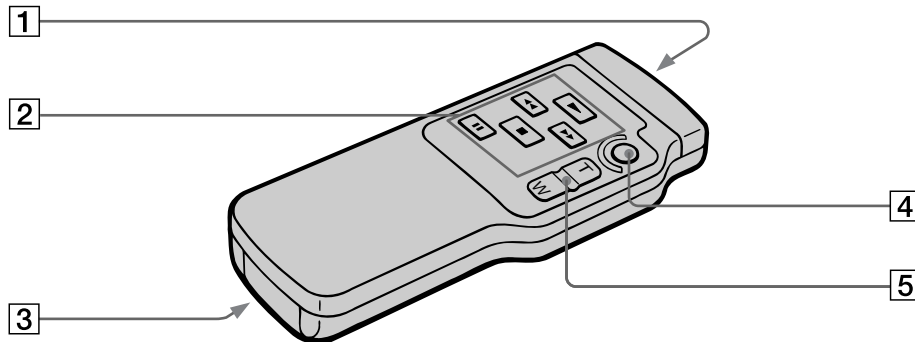


### Remote Commander

### Απομακρυσμένος Έλεγχος

The buttons that have the same name on the Remote Commander and on the camcorder function identically.

Οι κουμπιά που έχουν το ίδιο όνομα στο τηλεχειριστήριο και στην κάμερα λειτουργούν με τον ίδιο τρόπο.



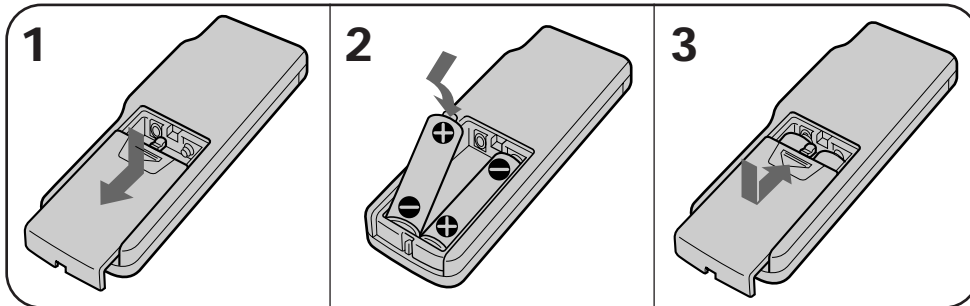
- 1 **Transmitter**  
Point toward the remote sensor to control the camcorder after turning on the POWER switch on the camcorder.
- 2 **Tape transport buttons** (p. 22, 23)
- 3 **R6 (size AA) battery holder** (p. 63)
- 4 **START/STOP button**
- 5 **Power zoom button**  
The zooming speed is unchangeable on the Remote Commander.

- 1 **Απομακρυσμένος Έλεγχος**  
Πομπή που χρησιμοποιείται για τον έλεγχο της κάμερας μετά την ενεργοποίηση του διακόπτη POWER στην κάμερα.
- 2 **Κουμπιά μεταφοράς ταινίας** (σελ. 22, 23)
- 3 **Καθίσμα μπαταρίας R6 (τύπου AA)** (σελ. 63)
- 4 **Κουμπί START/STOP**
- 5 **Κουμπί ζουμ**  
Η ταχύτητα ζουμ είναι αμετάβλητη στο τηλεχειριστήριο.

### Preparing the Remote Commander

To use the Remote Commander, you must insert two R6 (size AA) batteries. Use the supplied R6 (size AA) batteries.

- (1) Remove the battery cover from the Remote Commander.
- (2) Insert both of the R6 (size AA) batteries with correct polarity.
- (3) Put the battery cover back onto the Remote Commander.



#### Note on battery life

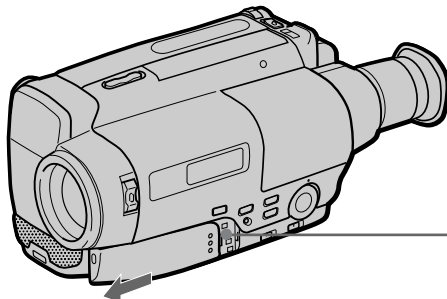
The batteries for the Remote Commander last about 6 months under normal operation. When the batteries become weak or dead, the Remote Commander does not work.

#### To avoid damage from possible battery leakage

Remove the batteries when you will not use the Remote Commander for a long time.

#### Using the Remote Commander

Make sure that the COMMANDER mode is set to ON (p. 34).



èÓ%,,ÓÚÓ,Í± ÔÛÍ,Ú± %ÈÓÚ±í^ÉÓìÒ,,Ó  
ÚÓ ±,ÍÁÍÈñ

ÑñÈÓÓÍ,ÁÓ,±ÈñÒÛÍ,Ú±%ÈÓÚ±í^ÉÓìÒ,,Ó  
ÚÓ ±,ÍÁÍÈñ Ç° %ÓÍÈÍ° ,ÓÚ±,ÈÛ, %,,Á  
±Ú± ÁÈÍÈR6 ( ±ÁÍÁ ÓÍÁÁ).

ÇÓÓÓÍ,ÁÈÛÁÓ, Ó ÈÍ±,±ÁÍ^È ±Ú± ÁÈÍ±È  
R6 ( ±ÁÍÁ ÓÍÁÁ).

(1) èÍÈÈÛÁ Í ^ÍÛ ÓÛÓÁÍ± ±Ú± ÁÁÍ Ó  
ÓÛÍ,Ú±%ÈÓÚ±í^ÉÓìÒ,,ÓÚÓ ±,ÍÁÍÈñ.

(2) ÇÓÚ±, ÚÁ Ó.Á.±Ú± ÁÈÍÈR6 ( ±ÁÍÁ ÓÍÁÁ)  
Ó Ó ±ÈÍ ÍÓÈ ÓÓñ ÍÓÓÛ.

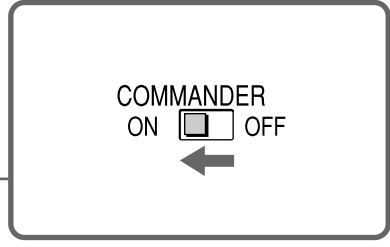
(3) ìÓÚ±íÓ,ÈÛÁ Í ^ÍÛ Í± ÓÛÍ,Ú  
%ÈÓÚ±í^ÉÓìÒ,,ÓÚÓ ±,ÍÁÍÈñ.

è ÈÍÁ~±ÈÁ ÓÛÍÓÈÛÁÍ,ÍÓ Ó ÓÍ± ÓÍÛÈ°  
±Ú± ÁÁÍ

Á±Ú± ÁÁÍ%ñÒÛÍ,Ú±%ÈÓÚ±í^ÉÓìÒ,,Ó  
ÚÓ ±,ÍÁÍÈñ ,±Ú±ÁÛ Ó ÈÍÁ ìÓ Í± 6 ÍÁÓñ^Á,  
Ó ÈÍÓ Í±Í,ÍÓÈ ^ÍÓÓÍÚ±Ú±ÈÈ. ÓÓÍÈÁ± ñ%  
±Ú± ÁÁÍÓÚ±ÍÁÛÓÍ±. ^ÈÈÈÁ ±ÓÍÓ%ÚÁÛÓñ  
ÓÓ,ÓÁÍ, ÓÛÍ,Ú±%ÈÓÚ±í^ÉÓìÒ,,ÓÚÓ ±,ÍÁÍÈñ  
ÓÁ ÁÓÚ±ÍÁÛÚÛÍ^ÈÓÍÈ Ó,±Ú.

ÇÓ ÈÁ.ÁÈ±ÈÁ ÓÓ, ÁÈ%ÁÈñ,ÓÍÁ%ÓÛ,ÈÁ  
,ÓÁÍÓÈÍÓÈ ÚÚÁ^È ÓÓ%Á ÈÈÍÓ,,Ó ±Ú± ÁÁÍ  
ì%±ÍÈÛÁ ±Ú± ÁÈÍÈ,ÁÒÍÈ Ç° ÍÁ.Ú%ÁÛÁ  
ÈÓÓÓÍ,ÁÓ,±Ú, ÓÛÍ,Ú±%ÈÓÚ±í^ÉÓìÒ,,Ó  
ÚÓ ±,ÍÁÍÈñ %ÈÛÁÍ,ÍÓÁ , Áññ.

àÒÓÓÍ,ÁÓ,±ÈÁ ÓÛÍ,Ú±  
%ÈÓÚ±í^ÉÓìÒ,,Ó ÚÓ ±,ÍÁÍÈñ  
ì.Á%ÈÛÁÓ,,ÚÓ ÁÈÈÍCOMMANDER  
ÚÓÚ±íÓ,ÍÁÍ,ÓÓÍÓÈÁÍÈÁ ON (ÓÛ . 34).



Additional Information    Νόσοι/Εύαι,Ιπñ ÈÌÙÓ Í±^Èñ

## Identifying the Parts

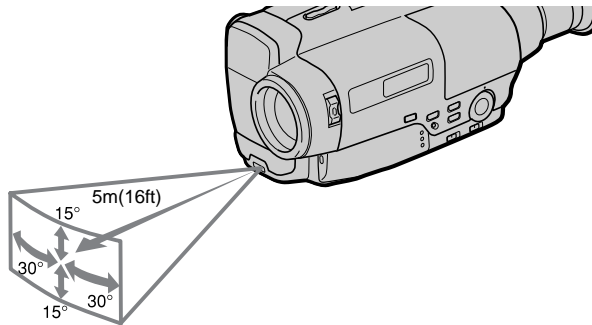
## ζτÈÏÀÏÓ,†ÌÈÁ %ÁÚ†ÎÈ

### Remote Control Direction

Aim the Remote Commander to the remote sensor within the range as shown below.

### ζτÈÏÀÏÓ,†ÌÈÁ ÓÙÏ,Ú† %ÈÒÚ†ÌÈÓÏÏ,Ó ÛÓ,†ÎÈÈ†

ζτÈÏ, ÚÁ ÓÙÏ,Ú† %ÈÒÚ†ÌÈÓÏÏ,Ó ÛÓ,†ÎÈÈ† Ì† %ÈÒÚ†ÌÈÓÏÏÈ %†ÚÈÏ, Ó Á%ÁÏ† %È†Ó†ÁÓÏ†,ÓÓÏ†ÁÏÏ,ÓÏÈÈÁ.



### Notes on the Remote Commander

- 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.

è ÈÏÁ-†ÌÈ† ÓÙÏÓÒÈÚÁÏ,ÏÓ ÓÙÏ,Ú† %ÈÒÚ†ÌÈÓÏÏ,Ó ÛÓ,†ÎÈÈ†

- è†ÓÓÓÏ†,†ÈÚÁ %ÈÒÚ†ÌÈÓÏÏÈ %†ÚÈÏ, %†ÏÈ ÓÙ ÓÈÏ,Ï† ÈÓÓÓÏÈÏÓ, Ó,ÁÚ†, Ú†ÏÈÏ, Ì†Ï Ó ÏÏÓÈ ÓÓÏÁÏÈ Ó,ÁÚ ÈÏÈ ÈÏÏ,ÏÈ†È†. Ç Ó ÓÚÈ,ÏÓÏ ÓÏÚ†Á %ÈÒÚ†ÌÈÓÏÏÁ ÛÓ,†ÎÈÈÁÏÈÈÁ ÌÁ Ó†Ú°,†Ú,.
- Ï.Á%ÈÚÁÓ, ~ÚÓ ÏÁÈ%Ú %ÈÒÚ†ÌÈÓÏÏÈ %†ÚÈÏÏÏÏ È ÓÙÏ,ÚÓÏ ÛÓ,†ÎÈÈ† ÌÁ ÓÁÓÏÓÓÈ†.
- Ñ†ÏÏ†,È%ÁÓÏ†Ï† ††.ÓÚ†ÁÚ, ÁÈÈÏÁ ÓÙÏ,Ú† ÛÓ,†ÎÈÈ† VTR 2 (àÇá 2). èÁÈÈÏ ÓÙÏ,Ú† ÛÓ,†ÎÈÈ† (1, 2 È 3) ÈÓÓÓÏ,ÁÚ,ÚÓÏ %†ÏÏ ÓÙÏÈÈ†%†ÏÏÈÈ,È%ÁÓÏ†ÏÁ ° ÓÚ %Ú,ÈÏ àÇá ÛÈ Ï Sony, ~ÚÓÈÈÁ-ÁÈ†Ú, ÌÁÓ†ÈÏ,Ó Ó†Ú°,†ÌÈÈ ÓÈ %ÈÒÚ†ÌÈÓÏÏÏ ÛÓ,†ÎÈÈÈ. ÓÓÏÈ ÇÈÈÈÓÏ,ÁÚÁÚÁ %Ú,ÈÁ àÇá ÛÈ Ï Sony, ÁÈÈÏÁ ÓÙÏ,Ú† ÛÓ,†ÎÈÈ† VTR 2 (àÇá 2), ÁÏÏÏ%ÚÁÚÓÏÈÁÏÈÈ, ÁÈÈÏ† ÓÙÏ,ÚÁ ÛÓ,†ÎÈÈÈ ÈÏÈ Á†Ï Û, %ÈÒÚ†ÌÈÓÏÏÈ %†ÚÈÏ àÇá ÁÏÈ.Ú†,ÓÈ.




### To Watch the Demonstration

You can watch a brief demonstration of pictures with titles.


If the demonstration appears when you turn on the camcorder for the first time, exit the Demo mode to use your camcorder.

### To enter Demo mode


- (1) Eject the cassette and slide the POWER switch to OFF.
- (2) Turn STANDBY up.
- (3) While holding down , slide the POWER switch to CAMERA. Demonstration starts. The demonstration stops when you insert the cassette.


Note that once you enter Demo mode, this mode is retained as long as the lithium battery is in place. Therefore, demonstration starts automatically 10 minutes later every time you slide the POWER switch to CAMERA, or after you eject the cassette.

### To exit Demo mode

- (1) Slide the POWER switch to OFF.
- (2) Turn STANDBY up.
- (3) While holding down , slide the POWER switch to CAMERA.

Νίηφ ό όόίού †%Άίόίού †ΈΈ  
 Ç° ίόέάύά ό όόίού άύ, ίό όύίύ  
 %Άίόίού †Έ Έάό. †έΆίέέ ό †%όέόηέ.  
 όόίέ %Άίόίού †Έη όόη,ήηάύόη, ίό, %†Ç°  
 έόόόί, άύάύά, έ%άόί†ιά ύ, όά, †έ †ά, ύό  
 ύ ά·ύάύόη, †έύέέά %Άίόίού †Έόίό, ό  
 Άέέ† †%ίη έόόόί, άό, †ίέη, έ%άόί†ιά °.

Νίηφ , ίό%†, %Άίόίού †Έέόί·έ Άέέί  
 (1) Ç°ύόήέύά†όόάύύέέόό, Άίέύά  
 , ίί, †ύΆί, POWER , όόίόέΆίέά OFF.  
 (2) έό, Άίέύά STANDBY „Ά ι.  
 (3) Ç†έέί†† , όά Ά%ο, έί, ύά , †ί, †ύΆί,  
 POWER , όόίόέΆίέά CAMERA.  
 ΝΆίόίού †Έη †έ†άύόη. ΝΆίόίού †Έη  
 Ά†ί†ί·έ, †άύόη, ίό, %†Ç° , όύ†, έύά  
 †όόάύύ.  
 έ· †ύέύά , †έ†ίέά, †ύό άόίέ Ç° „Άίέ  
 %Άίόίού †Έέόί·έ Άέέί, ύό †ύόύ Άέέί  
 όόί †ηηάύόη%όύάιόό, όό†ύόύ†ίό, ίά†  
 ίέύέά, †η †ύ† Άέί†. ††έί ό· †άόί,  
 %Άίόίού †Έη †έ%έ †ά†, ύό††ύέ·άόίέ  
 †έ†άύόη·ά άά 10 ίέίύύόόόιάύό, ό, ††  
 Ç° όό, Ά ίάύά , †ί, †ύΆί, POWER ,  
 όόίόέΆίέά CAMERA έίέέόόίά  
 , ύ†ίέ, †ίέη †όόάύ·.

Νίηφ , ίό%† έά %Άίόίού †Έέόίό, ό  
 Άέέί†  
 (1) έά Ά%ο, έί, ύά , †ί, †ύΆί, POWER ,  
 όόίόέΆίέά OFF.  
 (2) έό, Άίέύά STANDBY „Ά ι.  
 (3) Ç†έέί†† , όά Ά%ο, έί, ύά , †ί, †ύΆί,  
 POWER , όόίόέΆίέά CAMERA.

Additional Information Νόόήέύά††η έίύό ††ή

## Identifying the Parts

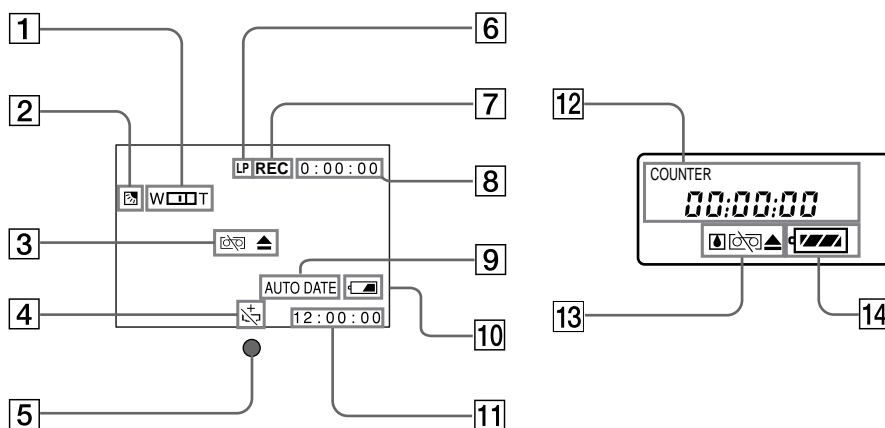
## Επισημαίνοντας τα μέρη

### Operation Indicators

### Επισημαστικά

The indicators in the display window appear in CAMERA mode only.

Αυτά τα επισημαστικά εμφανίζονται μόνο στην οθόνη της κάμερας.



**1** Power zoom indicator (p. 17)  
CCD-TR402E only

**2** Backlight indicator (p. 30)

**3** Warning indicator (p. 67)

**4** Lithium battery indicator (p. 36)

**5** Recording lamp/battery lamp (p. 12)

**6** Recording in LP mode (p. 12)

**7** Tape transport mode (p. 12)

**8** Tape counter (p. 15)

**9** AUTO DATE indicator (p. 12)

**10** Remaining battery indicator (p. 40)



**11** Date, Time or Title (p. 27, 32)

**12** Tape counter (p. 15)

Date or time indicator (p. 27)

**13** Warning indicator (p. 67)

**14** Remaining battery indicator (p. 40)



**1** Ηλεκτρομαγνητικό φως (μόνο για την κάμερα CCD-TR402E)

Ηλεκτρομαγνητικό φως μόνο για την κάμερα CCD-TR402E

**2** Ηλεκτρομαγνητικό φως (π. 30)

**3** Ένδειξη προειδοποίησης (π. 67)

**4** Ηλεκτρομαγνητικό φως μπαταρίας (π. 36)

**5** Λάμπα ηχογράφησης/λάμπα μπαταρίας (π. 12)

**6** Ηχογράφησης, λειτουργία LP (π. 12)

**7** Ένδειξη λειτουργίας μεταφοράς ταινίας (π. 12)

**8** Ένδειξη αριθμού ταινιών (π. 15)

**9** Ηλεκτρομαγνητικό φως AUTO DATE (π. 12)

**10** Ηλεκτρομαγνητικό φως υπολοίπου μπαταρίας (π. 40)



**11** Ημερομηνία, ώρα ή τίτλος (π. 27, 32)

**12** Ένδειξη αριθμού ταινιών (π. 15)

Ηλεκτρομαγνητικό φως ημερομηνίας/ώρας ή τίτλου (π. 27)

**13** Ένδειξη προειδοποίησης (π. 67)

**14** Ηλεκτρομαγνητικό φως υπολοίπου μπαταρίας (π. 40)



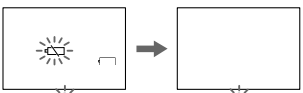
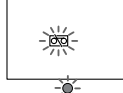







# Warning Indicators

All indicators appear only when you use the camcorder in CAMERA mode. If indicators flash in the viewfinder, or a caution lamp on the camcorder flashes, check the following:

♪: You can hear the beep sound when BEEP is set to ON (p. 34).

ÇÒÄ Èì%ÒÈí±ÚÓ ° ÓÓñíñ, ÙÒñÚÓí íÓÚÓ,,%±, íÓ,,%± Ç° ÈÓÓÓí, ÁÚÁÚÁ, È%ÒÁÓí±ÌÁ Ù, ÁÈÈÌÁ CAMERA. ÓÓíÈ , È%ÒÈÓí±ÌÁÌÁ ÌÈ,,±Ú Èì%ÒÈí±ÚÓ ° ÈíÈ í±, È%ÒÁÓí±ÌÁ Á ÌÈ,,±ÁÚ ÒÈ,,í±í, í±ñ í±íÓÓ-í±, Ó Ó,Á, ÚÁ ÓíÁ%ÒÚ ° ÁÁ:

♪: Ç° íÓÈÁÚÁ Óí~±Ú, ÁÚíÁ ìÈ Á,ÚíÓ,ÓÈ ÓÈ,,í±í Ó È ÚÓÚ±íÓ,íÁ BEEP, ÓÓíÓÈÁìÈÁ ON(ÓÚ .34).

<p>1</p> 	<p>2</p> 	<p>3</p> 
<p>4</p> 	<p>5</p> 	<p>6</p> 
<p>7</p> 	<p>8</p> 	<p>9</p> 

- 1 **Battery Remaining**  
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. 45).**  
▲ indicator appears only when the cassette is inserted.
- 7 **The video heads may be contaminated (p. 46).**
- 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 the lithium battery is not installed (p. 36).**  
This indicator flashes just only after powering on.

- 1 èÓÚ±, ÈÈÒñÁ± ñ%Ò, ±Ú± ÁÈ áÁ%íÁìíÓÁìÈ,,±ìÈÁ: Á± ñ%Ò, ±Ú± ÁÈ Óí±, ° È. Á°ÓÚ ÓÁìÈ,,±ìÈÁ: Á± ñ%Ò, ±Ú± ÁÈ ÈÁ ±ÓíÓ%Ó,±í.
- 2 äÁìÚ± Ó È-ìÈÈ±ÁÚÒñ í íÓí:Ú.
- 3 äÁìÚ± Á±íÓí~Èí±Ó,.
- 4 çÁ ,ÓÚ±,íÁì± í±ÒÒÁÚ±.
- 5 ç±í±ÒÒÁÚÁÓÓÚÓÚÓÚÓ,ÚÁÚíÁÒÁÒÓÚÓí Ó Á%Òí, ±ìÁìÈñÁ±ÓÈÓÈÓÚÓÚÈ ±ìÈñ (í ±Óí°È) (ÓÚ . 11).
- 6 è ÓÈÁÓ-í± íÓí%ÒÁìÒ±~Èñ, í±,,È (ÓÚ . 45). àì%ÒÈí±ÚÓ ▲ ÓÓñíñ, ÙÒñÚÓí, íÓÓ È ,ÓÚ±,íÁìíÓÈ í±ÒÒÁÚÁ.
- 7 ÇÓÁíÓÈíÓ Á±, ñÁìÁì° ,È%ÒÁÓ,,ÓíÓ,íÈ (ÓÚ .46).
- 8 äíÁ, ÚíÁÒÓÓ % Ú,,ÈÁ ÌÁÈÒÒ ±,ìÓÓÚÈ. éÚÓÓÁ%ÒÈìÈÚÁÈÓÚÓíÈíÓÈÚ±ìÈñÈ Ó, ±ÚÈÚÁÓ, Ç±-Á ±,,ÁìÚÓÚ,Ó ÚÈ ì° Sony ÈíÈ íÁÓÚíÓÁ ÚÓÓííÓí°-ÁìíÓÁ ÁíÓííÓÁÓ Á%ÒÈñÚÈÁ.
- 9 á± ñ%Ò ÌÈÚÈÁ,ÓÈ -±Ú± ÁÈíÈ ñ,íñÁÚÒñ Óí±-í ÈíÈ ÈÁ ÌÈÚÈÁ,±ñ -±Ú± ÁÈí± ÌÁ ÚÓÚ±íÓ,íÁì± (ÓÚ . 36). ùÓÚÓÈì%ÒÈí±ÚÓ ÌÈ,,±ÁÚÓÚí, íÓÓÓÓíÁ, íì,~ÁìÈñ ÒÈÚ±ìÈñ.

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