

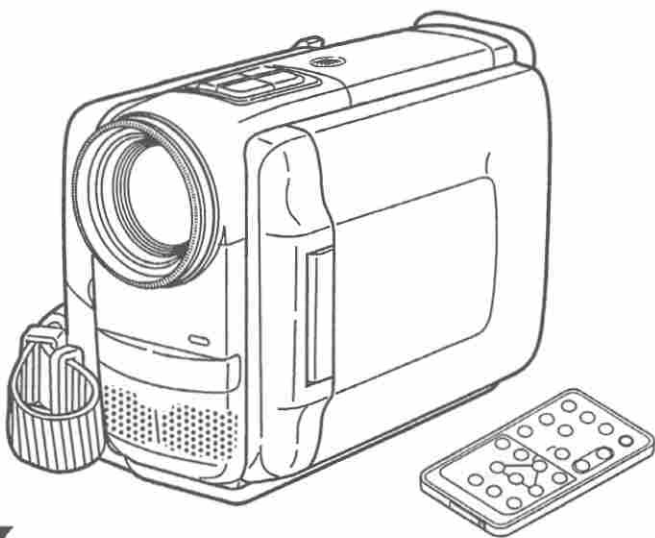
# Panasonic®

## Digital Palmcorder®

Camcorder

### PalmSight™

### Operating Instructions



Mini **DV**  
DIGITAL 6

## PV-DV710

Before attempting to connect, operate or adjust this product, please read these instructions thoroughly.

**Spanish Quick Use Guide is included.**

**Guía para rápida consulta en español está incluida.**

VQTS3390 ©

# Things You Should Know

## Thank you for choosing Panasonic!

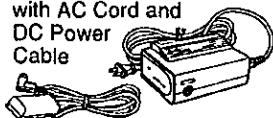
You have purchased one of the most sophisticated and reliable products on the market today. Used properly, we're sure it will bring you and your family years of enjoyment. Please take time to fill in the information at right. The serial number is on the tag located on the underside of your Palmcorder. Be sure to retain this manual as your convenient Palmcorder information source.

Date of Purchase
Dealer Purchased From
Dealer Address
Dealer Phone No.
Model No.
Serial No.

## Unpack your Palmcorder

These accessories are provided in order to set up or use your Palmcorder.

1 pc. AC Adaptor (PV-DAC7) with AC Cord and DC Power Cable



1 pc. Battery Pack (PV-DBP5)



1 pc. Docking Station (VSQS1511)



1 pc. Shoulder Strap (VFC2494)



1 pc. Remote Control (VSQS1510) with one Remote Control Battery (CR2025)



Remote Control has been loaded with battery. See page 25.

1 pc. DV Interface Cable (VJA1011K)



1 pc. Digital Video Cassette Tape (AY-DVM30EA)



1 pc. Wiping Cloth (VFCW0001)

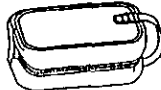


Use this wiping cloth to clean the display screen of finger prints and other smudges.

1 pc. Lens Cap (VYFS0122)



1 pc. Soft Carrying Case (VYCS1120)







## Safety Precautions

**WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.**

Your "IN" Palmcorder is designed to record and play back in Standard Play (SP) mode only.

This Palmcorder is equipped with the HQ System to provide excellent video pictures. It is recommended that only cassette tapes that have been tested and inspected for use in VCR machines with the "IN" mark be used.

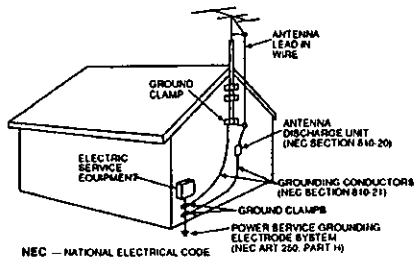
	<p><b>CAUTION</b></p> <p>RISK OF ELECTRIC SHOCK DO NOT OPEN</p>			<p>This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.</p>
<p><b>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK) NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL</b></p>				<p>This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.</p>

# Important Safeguards

1. **Read Instructions** — All the safety and operating instructions should be read before the unit is operated.
2. **Retain Instructions** — The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** — All warnings on the unit and in the operating instructions should be adhered to.
4. **Follow Instructions** — All operating and maintenance instructions should be followed.
5. **Cleaning** — Unplug this video unit from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a dry cloth for cleaning.
6. **Attachments** — Do not use attachments not recommended by the video product manufacturer as they may be hazardous.
7. **Water and Moisture** — Do not use this video unit near water — for example near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.
8. **Accessories** — Do not place this video unit on an unstable cart, stand, tripod, bracket, or table. The video unit may fall, causing serious injury to a child or adult, and serious damage to the unit. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the video unit. Any mounting of the unit should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
9. **Ventilation** — Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the video unit and to protect it from overheating. These openings must not be blocked or covered. Never place the video unit on a bed, sofa, rug, or other similar surface, or near or over a radiator or heat register. This video unit should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
10. **Power Sources** — This video unit should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For video units intended to be operated from battery power, or other sources, refer to the operating instructions.



11. **Grounding or Polarization** — This video unit may be equipped with either a polarized 2-wire AC (Alternating Current) line plug (a plug having one blade wider than the other) or 3-wire grounding type plug, a plug having a third (grounding) pin. The 2-wire polarized plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.  
The 3-wire grounding type plug will fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug.
12. **Power-Cord Protection** — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords of plugs, convenience receptacles, and the point where they exit from the unit.
13. **Outdoor Antenna Grounding** — If an outside antenna or cable system is connected to the video unit, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Part 1 of the Canadian Electrical Code, in USA Section 810 of the National Electrical Code, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.



14. **Lightning** — For added protection of this video unit receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the video unit due to lightning and power-line surges.

# Important Safeguards

15. **Power Lines** — An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
16. **Overloading** — Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
17. **Objects and Liquids** — Never push objects of any kind into this video unit through openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind onto the video unit.
18. **Servicing** — Do not attempt to service this video unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
19. **Damage Requiring Service** — Unplug this video unit from the wall outlet and refer servicing to qualified service personnel under the following conditions:
  - a. When the power-supply cord or plug is damaged.
  - b. If any liquid has been spilled onto, or objects have fallen into the video unit.
  - c. If the video unit has been exposed to rain or water.
  - d. If the video unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video unit to its normal operation.
  - e. If the video unit has been dropped or the cabinet has been damaged.
1. When the video unit exhibits a distinct change in performance — this indicates a need for service.
20. **Replacement Parts** — When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.
21. **Safety Check**— Upon completion of any service or repairs to this video unit, ask the service technician to perform safety checks to determine that the video unit is in safe operating order.

## Precautions

### USE & LOCATION

- **TO AVOID SHOCK HAZARD ...** Your Camcorder and power supply should not be exposed to rain or moisture. Do not connect the power supply or operate your Camcorder if it gets wet. Your Camcorder has been designed for outdoor use, however it is not designed to sustain direct exposure to water, rain, sleet, snow, sand, dust, or a direct splashing from a pool or even a cup of coffee. This action could permanently damage the internal parts of your Camcorder. Do not attempt to disassemble this unit. There are no user serviceable parts inside. Unplug your Camcorder from the power supply before cleaning.
- **DO NOT AIM YOUR CAMCORDER AT THE SUN OR OTHER BRIGHT OBJECTS**
- **DO NOT LEAVE THE PALMCORDER WITH THE EVF AIMED DIRECTLY AT THE SUN AS THIS MAY CAUSE DAMAGE TO THE INTERNAL PARTS OF THE EVF**
- **DO NOT EXPOSE YOUR CAMCORDER TO EXTENDED HIGH TEMPERATURE ...** Such as, in direct sunlight, inside a closed car, next to a heater, etc... This action could permanently damage the internal parts of your Camcorder.
- **AVOID SUDDEN CHANGES IN TEMPERATURE ...** If the unit is suddenly moved from a cold place to a warm place, moisture may form on the tape and inside the unit.
- **DO NOT LEAVE YOUR CAMCORDER OR THE POWER SUPPLY TURNED ON WHEN NOT IN USE.**
- **STORAGE OF YOUR CAMCORDER ...** Store and handle your Camcorder in a manner that will not subject it to unnecessary movement (avoid shaking and striking). Your Camcorder contains a sensitive pick-up device which could be damaged by improper handling or storage.

### CARE

- **TO CLEAN YOUR CAMCORDER ...** Do not use strong or abrasive detergents when cleaning your Camcorder body.
- **TO PROTECT THE LENS ...** Do not touch the surface of the lens with your hand. Use a commercial camcorder lens solution and lens paper when cleaning the lens. Improper cleaning can scratch the lens coating.
- **TO PROTECT THE FINISH OF YOUR CAMCORDER ...** Before handling your Camcorder, make sure your hands and face are free from any chemical products, such as suntan lotion, as it may damage the finish.

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## For Your Information

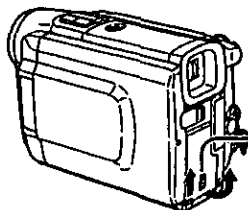
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# Quick Guide

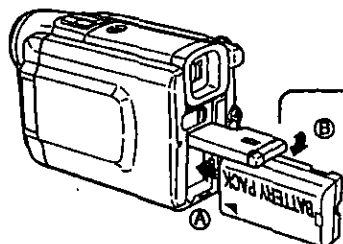
## Camera Recording

### Before you begin...

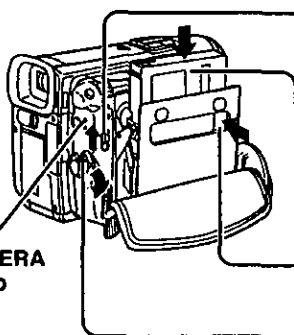
- Charge the Battery (see page 8).



- 1** Slide the **BATTERY DOOR OPEN Button** to open the Battery cover.



- 2** **A** Insert the **Battery** into the Battery Compartment until it locks with a click.  
**B** Close the Battery Cover.

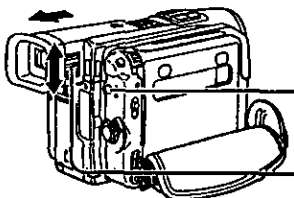


- 3** Slide the **TAPE EJECT** switch to open the door.  
• It takes a few seconds for the mechanism to eject.

- 4** Insert a cassette with its window side facing out.  
• Make sure record tab is closed.  
(see page 11).

- 5** Press here to close the door.

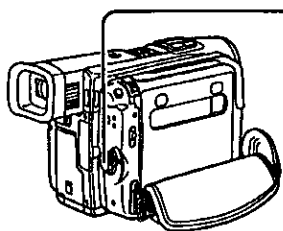
- 6** Set the **POWER** switch to **ON**.



- 7** Press **CAMERA/VCR**.  
The **CAMERA** lamp lights red.

- 8** Slide the **Viewfinder** to its fully extended position and adjust the **Vision Adjustment Control** to your eyesight.

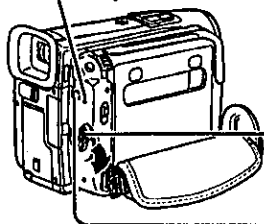
(Continued on next page.)



- 9** Press **RECORD/PAUSE** to start recording. Press **RECORD/PAUSE** again to **PAUSE** recording.

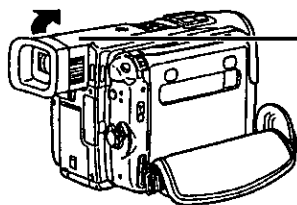
### To Watch Playback in the EVF (Electronic Viewfinder)

VCR Lamp



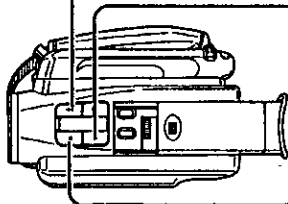
- 1** Set the **POWER** switch to **ON**.

- 2** Press **CAMERA/VCR**. The VCR lamp lights green.



- 3** Slide the **Viewfinder** to its fully extended position.  
• If desired, the Viewfinder can be swung up for an angled viewing position.

- 4** Press **REW** to rewind the tape.

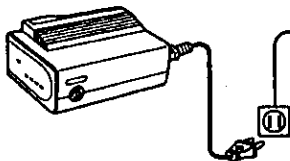


- 5** Press **PLAY** to start playback.

- 6** Press **STOP** to stop playback.

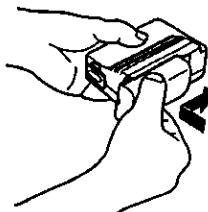
# Supplying Power

## Charge the Battery Pack on the AC Adaptor



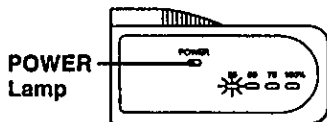
**1** Connect and plug in the Cords as shown.

- POWER Lamp will light.



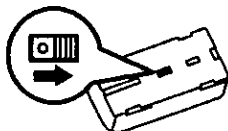
**2** Attach the battery as shown to charge.

- Charge lamps on the AC Adaptor will flash and then turn solid green to indicate current charge level. When all 4 lamps are constantly on, the battery is fully charged. (approx. 1 hour 20 minutes) Expect approx. 1 hour of operation when fully charged.



**3** Remove the Battery.

- Slide the Battery out and then lift up.



### Battery Charging Confirmation Marker

Use this marker as a reminder to yourself when the battery is fully charged or in need of a charge. This marker performs no function and is for your reference only.

- The Battery is no longer serviceable if the operation time is very short, even after a sufficient charge.

## Battery Care

### Caution:

- Charge only with specified charger.
- The Battery can be charged within a temperature range of 32° F (0° C) and 104° F (40° C).
- The Battery may be warm after charging or just after use. This is normal.
- Do not use an insufficiently charged or worn out Battery.
- In extreme cold surroundings, Battery charging time will increase.

### Safety precautions:

- Do not get the Battery near, or dispose of in fire.
- Do not directly connect (short circuit) the positive (+) and negative (-) terminals.
- Never attempt to disassemble or reassemble the Battery.

### To avoid damage to the Battery:

- Do not drop or jar the Battery.
- Use the Battery with specified models only.
- If the Battery is used in extremely high temperatures, a safety device will automatically prevent operation.

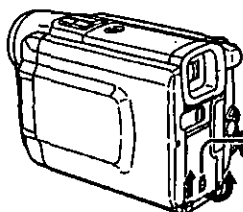
### To insure longer battery life:

- While not in use, remove Battery from the Palmcorder and AC Adaptor and store in a cool, dark, dry place. If you leave the Battery in the Palmcorder or on AC Adaptor, the Battery will no longer be rechargeable.
- Keep the Battery terminals clean.

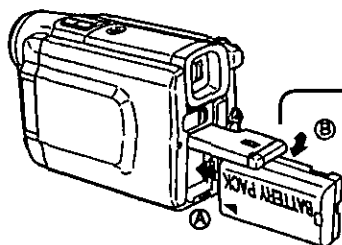


# Supplying Power

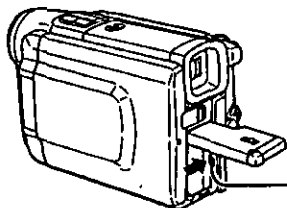
## Insert/Remove the Battery Pack



- 1** Slide the **BATTERY DOOR OPEN Button** to open the Battery cover.



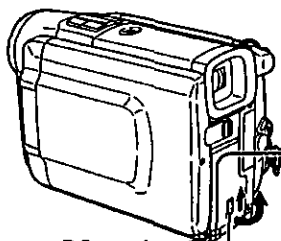
- 2** **A** Insert the Battery into the Battery Compartment until it locks with a click.  
**B** Close the Battery Cover.



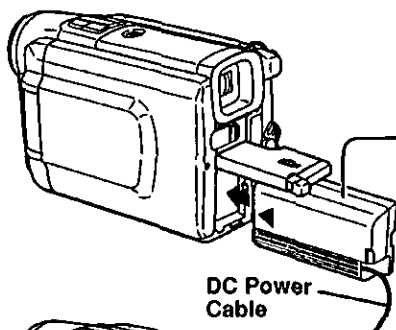
- To remove the Battery:**  
Follow step 1 above. Then, press the **BATTERY RELEASE** catch and remove.

# Supplying Power

## AC Adaptor

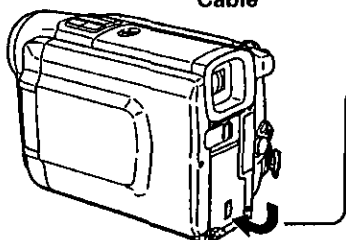


- 1** Gently extend the DC cord access piece downward.  
• To avoid damage, be careful not to pull it out too far.



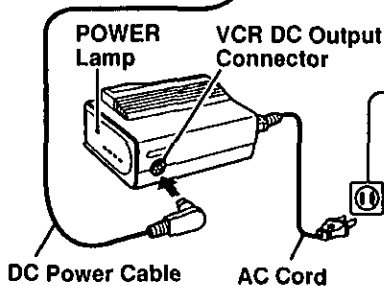
- 2** Slide the **BATTERY DOOR OPEN** button to open the Battery Cover.

- 3** Insert the DC Power Cable (battery shaped side) into the Battery Compartment.



- 4** Close the Battery Cover until it locks.  
• Make sure the DC Power Cable is not pinched.

- 5** Connect the other end of the DC Power cable to the AC Adaptor as shown.



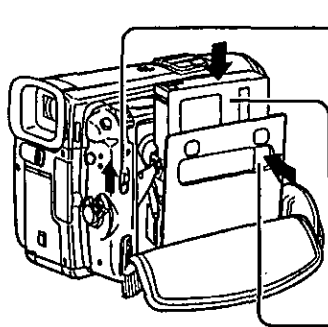
- 6** Plug in the AC Adaptor.  
The POWER Lamp lights up.

- Note:**  
• When not in use, unplug the AC Adaptor from the AC outlet. (AC Adaptor consumes 2W of electric power when plugged into an AC outlet even when not in use.)

# Cassette Information

## Cassette Insertion

Connect the Palmcorder to a power source.



**1** Slide the TAPE EJECT switch to open the cassette door.

**2** Insert a cassette (supplied) with its window side facing out.

**3** Press here only to close the door.

## Record Speed/Playback Time

Use only those tapes having the **Ⓜ** logo indicating the 6.35mm digital standard.

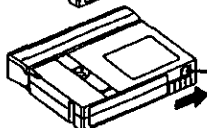
Cassette type	Record Speed/Playback time	
	SP	LP
AY-DVM30EA	30 minutes	45 minutes
AY-DVM60EA	60 minutes	90 minutes

## Erase Protection

Cassettes have a sliding record tab to ensure recordings are not accidentally erased.



**1** To prevent accidental erasure  
Slide the tab to the left (open).

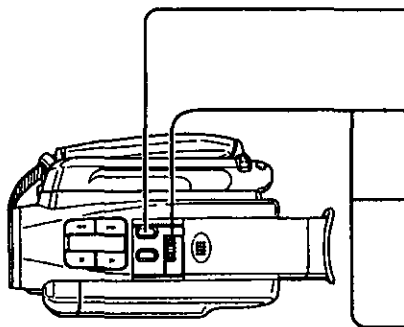


**2** To record again  
Slide the tab to the right (close).

# Setting the Clock

## Set the Date and Time

The date and time is calculated, including leap year, up to DEC 31 2089.



### Before you begin...

- Connect the Palmcorder to a power source.
- Set the POWER switch to ON.

- 1** Press **MENU** to display the Camera Mode menu screen (see page 13).
- 2** Rotate the **SELECT SET WHEEL** to select **CLOCK-SET**.
- 3** Press **SELECT SET WHEEL** down to select **CLOCK-SET ON**. The **DATE/TIME SETTING** menu appears.
- 4** Rotate the **SELECT SET WHEEL** to select the desired numbers, then, press **SELECT SET WHEEL** down to fix that portion and move to the next. Adjust the shaded items for the Year, month, day, hour, and minute.

EXAMPLE:

<b>YEAR</b>	:	1996	
↓			Rotate
<b>YEAR</b>	:	1997	
↓			Push
<b>MONTH</b>	:	JAN	

DATE/TIME SETTING

<b>YEAR</b>	:	1996
<b>MONTH</b>	:	JAN
<b>DAY</b>	:	14
<b>HOUR</b>	:	12AM
<b>MINUTE</b>	:	34

END : PUSH MENU KEY

When time setting is completed, press the **MENU** button to start the clock.

### Note:

If you should pass the current year, continue pressing down on the **SELECT SET WHEEL** until the year appears again.

# Using the Palmcorder Menu

The Palmcorder features two menu displays: one for camera mode (recording) and the other for VCR mode (Playback).

- While the Menu screen is displayed, you cannot record or play the tape.
- While recording, the Menu screen will not be displayed.
- While playback, the Menu screen can be displayed.

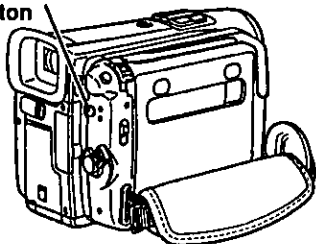
## Displaying the MENU

### Before you begin...

- Connect the Palmcorder to a power source.
- Set the POWER switch to ON.

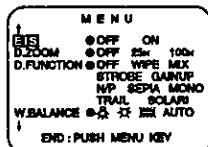
- 1 Press the MENU button to display the CAMERA menu.
- 2 Press CAMERA/VCR to change to the VCR menu if desired.

CAMERA/VCR Button



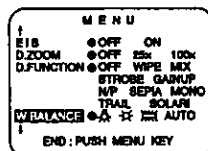
## Setting the MENU Items

- 1 Rotate the SELECT SET WHEEL to select a menu item.
  - Character color will change from white to green indicating your selection.



- 2 Press down on the SELECT SET WHEEL to set your selection.

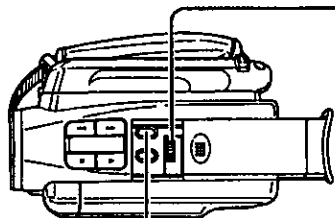
- The "●" mark will indicate your selection.



- 3 Press MENU to exit from the display.







### Note:

- The EVF or LCD Monitor can only display seven MENU items at a time. Rotate the SELECT SET WHEEL to display additional lines.



# MENU OSD

## Camera Mode Menu Screen

- |               |   |          |   |
|---------------|---|----------|---|
| ① EIS         | OFF   | ● ON     | ① EIS (page 32)   |
| ② D. ZOOM     | OFF ● 25x   | 100x     | Set to ON to stabilize the picture when the camera cannot be held stable.   |
| ③ D. FUNCTION | OFF WIPE MIX  |          | ② D. ZOOM (page 33)   |
|               | STROBE GAINUP   |          | OFF: Optical zoom from 1x to 10x.   |
|               | N/P SEPIA MONO  |          | 25x: Digital zoom from 10x to 25x.  |
|               | TRAIL SOLARI  |          | 100x: Digital zoom from 10x to 100x.  |
| ④ W.BALANCE   |    | ● AUTO   | ③ D. FUNCTION (page 36)   |
| ⑤ SHUTTER     | OFF   | ● ON     | Select from nine different digital effects while recording.   |
| ⑥ REC-SPEED   | ● SP  | LP       | ④ W.BALANCE (page 39)   |
| ⑦ AUDIO-REC   | ● 12bit   | 16bit    |  : When the source of illumination is a halogen lamp.    |
| ⑧ WIND-CUT    | ● OFF   | ON       |  : When shooting outdoors on a sunny day.                |
| ⑨ SELF-REC    | ● NORMAL  | MIRROR   |  : When the source of illumination is a florescent lamp. |
| ⑩ B.LIGHT     | ● NORMAL  | BRIGHT   | AUTO: Automatically maintains optimum color balance in most lighting conditions.  |
| ⑪ LCD-PANEL   | ● OFF   | ON       | ⑤ SHUTTER (page 34)   |
| ⑫ COUNTER     | OFF   | ● LINEAR | To hear a shutter sound effect when the digital photo shot is button is pressed.  |
|               | MEMORY  | T.CODE   | ⑥ REC-SPEED (page 11)   |
| ⑬ C.RESET     | ● OFF   | ON       | SP: Standard Play   |
| ⑭ DATE/TIME   | OFF ● D/T   | DATE     | LP: Long Play   |
| ⑮ REMOTE      | OFF ● VCR1  | VCR2     | ⑦ AUDIO-REC (page 40)   |
| ⑯ INDEX       | ● DAY   | 2HOUR    | 12 bit: 12 bit (32kHz) Audio Recording.   |
| ⑰ TALLY-LED   | OFF   | ● ON     | 16 bit: 16 bit (48kHz) Audio Recording.   |
| ⑱ CLOCK-SET   | ● OFF   | ON       | ⑧ WIND-CUT (page 21)  |
- Set to ON to reduce the wind noise of the microphone during recording.
- ⑨ SELF-REC (page 22)
- MIRROR: During Self-Recording, the picture on the LCD monitor will be horizontally reversed.
- ⑩ B.LIGHT (Back Light)
- NORMAL: To set the Brightness of the LCD monitor to standard.
- BRIGHT: To set the Brightness of the LCD monitor to bright.
- ⑪ LCD-PANEL (page 22)
- Adjusts the Brightness and Color of the LCD monitor.
- ⑫ COUNTER (page 16)
- Select the desired counter type indication.
- ⑬ C.RESET (Counter Reset) (page 43)
- To set or reset the counter to 0:00:00.

## VCR Mode Menu Screen

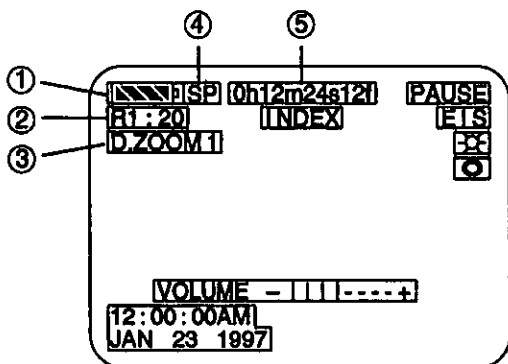
- ⑬ **DATE/TIME** (page 17)  
**OFF:** No date or time display.  
**D/T:** Display date and time.  
**DATE:** Display date only.
- ⑭ **REMOTE** (page 24)  
**VCR1:** Receives signal from the Remote Control set to VCR1.  
**VCR2:** Receives signal from the Remote Control set to VCR2.  
**OFF:** Will not respond to any signal from the Remote Control.
- ⑮ **INDEX** (page 29)  
**2 HOUR:** An invisible index mark is automatically placed on the tape at the beginning of the recording when there is an interval of 2 hours or more between recordings.  
**DAY:** An invisible index mark is automatically placed on the tape at the beginning of the first recording of each day.  
 Index marks are also placed on the tape in the following conditions:  
 The first recording after cassette is inserted.  
 The first recording after changing from VCR mode to CAMERA mode.
- ⑯ **TALLY-LED** (page 21)  
 Tally LED lights during recording when set to ON.
- ⑰ **CLOCK-SET** (page 12)  
 To set the clock, select ON.

- |                    |                   |                 |
|--------------------|-------------------|-----------------|
| ① <b>INDEX</b>     | ● <b>PHOTO</b>    | SCENE           |
| ② <b>B.SEARCH</b>  | ● <b>OFF</b>      | ON              |
| ③ <b>AUDIO</b>     | ● <b>ST1 ST2</b>  | MIX             |
| ④ <b>REC-SPEED</b> | ● <b>SP</b>       | LP              |
| ⑤ <b>A-DUB</b>     | ● <b>MIC</b>      | DV              |
| ⑥ <b>B.LIGHT</b>   | ● <b>NORMAL</b>   | BRIGHT          |
| ⑦ <b>LCD-PANEL</b> | ● <b>OFF</b>      | ON              |
| ⑧ <b>COUNTER</b>   | OFF               | ● <b>LINEAR</b> |
|                    |                   | MEMORY T.CODE   |
| ⑨ <b>C.RESET</b>   | ● <b>OFF</b>      | ON              |
| ⑩ <b>DATE/TIME</b> | OFF ● <b>D/T</b>  | DATE            |
| ⑪ <b>REMOTE</b>    | OFF ● <b>VCR1</b> | VCR2            |
| ⑫ <b>CLOCK-SET</b> | ● <b>OFF</b>      | ON              |

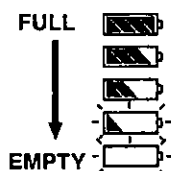
- ① **INDEX** (pages 29, 34)  
**PHOTO:** Searches for Photo Shot recordings.  
**SCENE:** Searches for indexed recordings.
- ② **B.SEARCH (Bookmark Search)** (page 23)  
 Select ON to go directly to a blank portion of the tape.
- ③ **AUDIO** (The following selection is for 12bit recording only) (pages 40, 41)  
**ST1:** Listen to the original sound only.  
**ST2:** Listen to the audio dubbed sound only.  
**MIX:** Listen to both the original sound and the dubbed sound.
- ④ **REC-SPEED** (page 11)  
 Same as ④ in the Camera mode menu.
- ⑤ **A-DUB** (pages 40, 42)  
**MIC:** Record sound from either the built-in microphone or an external microphone.  
**DV:** Record sound from another DV unit.
- ⑥ **B.LIGHT (Back Light)**  
 Same as ⑥ in the Camera mode menu.
- ⑦ **LCD-PANEL** (page 22)  
 Same as ⑦ in the Camera mode menu.
- ⑧ **COUNTER** (page 16)  
 Same as ⑧ in the Camera mode menu.
- ⑨ **C.RESET (Counter Reset)** (page 43)  
 Same as ⑨ in the Camera mode menu.
- ⑩ **DATE/TIME** (page 17)  
 Same as ⑩ in the Camera mode menu.
- ⑪ **REMOTE** (page 24)  
 Same as ⑪ in the Camera mode menu.
- ⑫ **CLOCK-SET** (page 12)  
 Same as ⑫ in the Camera mode menu.

# Electronic Viewfinder/LCD Monitor Indications

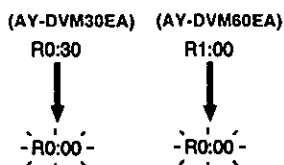
Here are some of the basic indications which appear in the Palmcorder EVF and LCD Monitor. These indications except the Date and Time will not be recorded on the tape.



## ① Battery Remaining



## ② Tape Remaining



- It will take several seconds for the tape remaining indicator to operate after the tape starts moving.

## ③ Digital Zoom (see page 33)

This display appears when the digital zoom function has been activated.

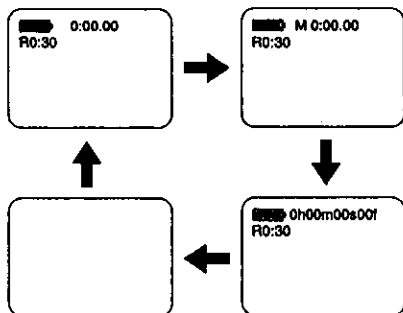
## ④ Tape Speed Indication (see page 14)

Indicates the tape speed (SP or LP).

## ⑤ Counter/Time Code

The indication switches as shown below when the desired "COUNTER" mode is selected from the menu (see page 14) or the COUNTER/TC button on the remote is pressed.

- Even if display off is selected the Tape Mode and Date and Time indication can be displayed.



## Memory Counter M 0:00.00

The Palmcorder will stop whenever it reaches the point where the counter was previously set to M 0:00.00 during audio or video dub, fast forward or rewind.

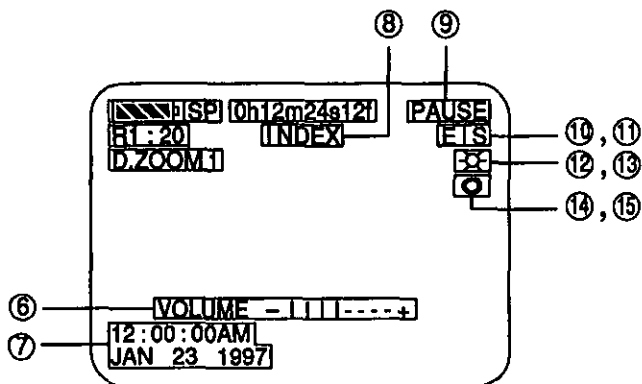
## Time Code 0h00m00s00f

The Palmcorder calculates and displays exactly where you are on any tape in terms of hours, minutes, seconds, and frames (30 frames = 1 second).

- This display can not be reset.

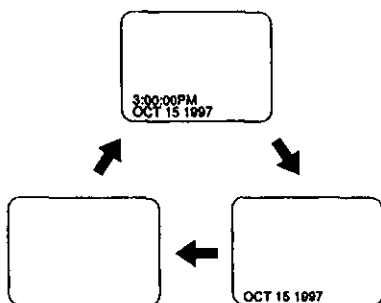


# Electronic Viewfinder/LCD Monitor Indications



- 6 Volume Display** (see page 27)  
The volume bar appears when the volume of the built-in speaker is adjusted.
- 7 Date and Time Indication** (see page 12)

As shown below, the date and time indication changes each time the DATE/TIME is selected from the Palmcorder's MENU (see page 14) or the DATE/TIME button is pressed on the remote.



- 8 INDEX** (see page 29)  
This display appears when an index signal is being recorded.
- 9 Tape Mode Indications**
- REC** Recording.
  - PAUSE** Paused during recording.
  - PLAY** Playback.
  - R PLAY** Repeat Playback.
  - FF** Fast forward.
  - REW** Rewind.
  - SEARCH** Book Mark Search.
  - Mirror feature recording.
  - II Paused during Mirror feature recording.
- 10 Digital EIS Indications** (see page 32)
- 11 Zoom Magnification Level** (see page 33)
- 12 Manual Focus Indication** (see page 37)
- 13 White Balance Indication** (see page 39)
- 14 PROGRAM-AE Indication** (see page 35)
- 15 Backlight indication** (see page 39)

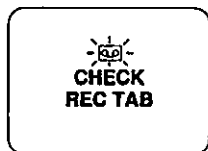
## Electronic Viewfinder/LCD Monitor Indications

The following warning displays appear in the EVF and the LCD monitor.

### Warning Indications



If the Palmcorder is in CAMERA mode without a cassette inserted, "⏏" will flash and "TAPE NOT INSERTED" will appear for 5 seconds. Recording will not start.



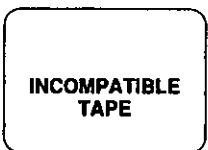
If the Palmcorder is in CAMERA mode with the cassette sliding record tab opened, "⏏" will flash and "CHECK REC TAB" will appear for 5 seconds. Recording will not start.



When Audio dub is performed and the sliding record tab is open, or a blank portion of tape is detected.



When the tape is about to end in REC mode, "⏏ END" will flash and "TAPE END" will appear for 5 seconds.



When a pre-recorded tape other than NTSC format is inserted for play.



If the video heads require cleaning.



When the Palmcorder and remote are not set to the same mode (VCR1 or VCR2). "CHECK REMOTE MODE" will also appear for 5 seconds when the Palmcorder is first turned on.

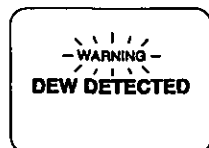
## Electronic Viewfinder/LCD Monitor Indications



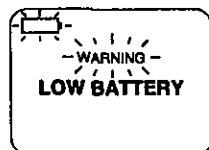
When an AUDIO DUB is attempted on a pre-recorded LP tape.



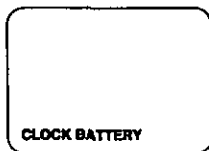
When the DV connection is not securely connected. Check the connections.



If excessive moisture condenses in the unit, "WARNING" will flash, "DEW DETECTED" will appear, and the Palmcorder will automatically turn OFF in 15 seconds. In this case, wait until the indicator no longer flashes when your Palmcorder is turned on again.



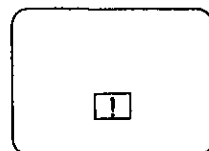
When a battery recharge is necessary, "WARNING" will flash, "LOW BATTERY" will appear, and the Palmcorder will automatically turn OFF in 15 seconds. (see page 16).



When the built-in lithium clock battery is discharged. To re-charge the lithium clock battery, connect the AC Adaptor to the Palmcorder and turn ON. Recharging takes approx. 4 hours. Reset the clock after charging.

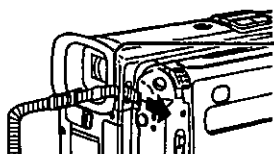


When you attempt to copy a protected copy-guarded tape.



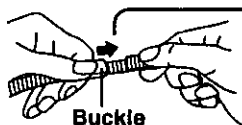
When the LCD monitor is rotated 180° so that it faces the same direction as the lens, the "!" mark indicates that a warning message exists. To view the warning, return the LCD monitor to the original position.

## Attaching the Shoulder Strap



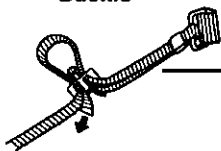
**1** Thread one of the strap ends through the strap attachment slot on the Palmcorder.

- You may need to jiggle the strap a little to get it to go through.



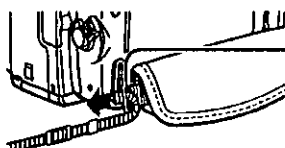
Buckle

**2** Fold the strap end over and slide the clasp over and up to the Palmcorder attachment slot.



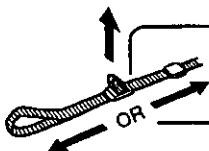
**3** Pull a large loop of the strap loose from the Buckle and thread the strap end through the Buckle as shown.

- Make sure the strap is not twisted.



**4** Attach the other strap end to the strap attachment ring located on the hand strap following steps 1-3.

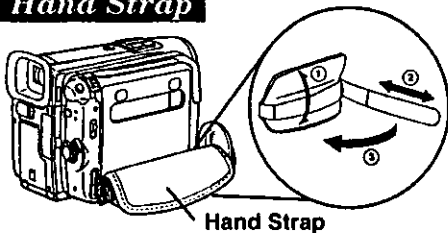
## Adjust the Length



**1** Loosen the strap from the Buckle and create a loop.

**2** Pull the strap firmly through the Buckle to shorten or lengthen the strap.

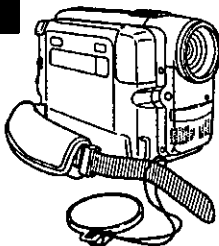
## Hand Strap



Hand Strap

Adjust the length of the Hand Strap to the size of your hand as illustrated.

## Lens Cap



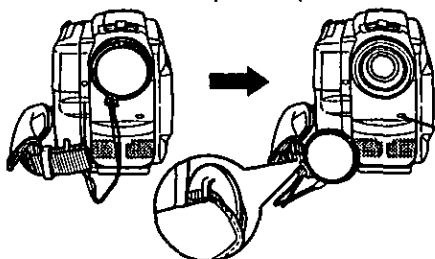
### Attaching the Lens Cap Cord to the Hand Strap

Remove the Hand Strap from the front clasp and run the Strap through the Lens Cap Loop. Reattach the Hand Strap.

# Camera Recording

## Simple Recording

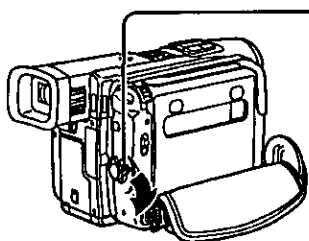
Remove the lens cap and clip it to the hook.



## Before you begin...

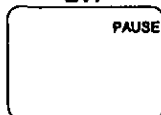
- Connect the Palmcorder to a power source.
- Insert a cassette with record tab closed (see page 11).

**Tally Lamp**  
Flashes during Remote Control operation (see page 24).



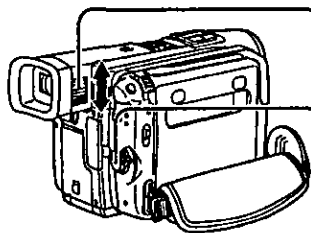
- 1** Set **POWER** to **ON**.  
The **CAMERA** lamp lights red.

**EVF**



Record/Pause mode.

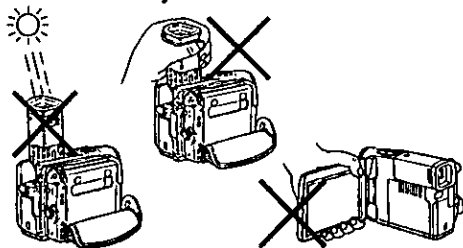
- 2** With the Viewfinder Eye Cup up to your eye, adjust the Vision Adjustment Control to your eyesight.



- 3** Press **RECORD/PAUSE** to start recording.  
The Tally Lamp will be on.  
To turn the Tally Lamp off, see **TALLY-LED** on page 14.  
Press **RECORD/PAUSE** again to pause recording.

## WARNING:

- Do not leave the Palmcorder with the EVF aimed directly at the sun as this may cause damage to the internal parts of the EVF.
- Do not lift or carry the Palmcorder by the EVF or by the LCD Monitor.



- To reduce microphone wind noise, set the **WIND-CUT** to **ON** (see **WIND-CUT** on page 14).

- When Palmcorder is aimed at excessively bright objects, or bright lights, a vertical bar may appear in the picture. This is a normal characteristic of the CCD pick-up device. Try to avoid this whenever possible.

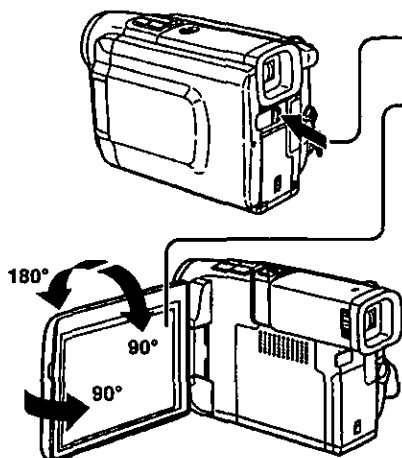
## To conserve power

After 5 minutes, the Record/Pause mode will automatically change to Standby mode. To resume recording, set **POWER** to **OFF** and then **ON** again.

# Camera Recording

## Using the LCD Monitor

The LCD (Liquid Crystal Display) monitor can be used while recording.



## Before you begin...

- Connect the Palmcorder to a power source.
- Insert a cassette with record tab closed (see page 11).

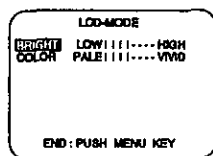
- 1** Press the LCD-OPEN button to unlock the LCD monitor.
- 2** Swing the LCD monitor fully open and adjust the angle.
  - The LCD monitor will automatically turn on.
  - When the LCD monitor is completely closed, it will shut off automatically to save power.
  - Adjust the LCD monitor if necessary according to at left.
- 3** Start recording (see page 21).
  - Using the LCD monitor reduce battery operating time.

## Note:

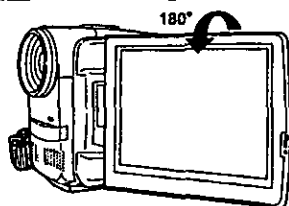
- Using the LCD monitor reduce battery operating time.
- Close the LCD monitor completely when not in use.

## Adjusting the LCD Monitor

- 1** Press the MENU button, located on the top of the Palmcorder, to display the menu screen.
- 2** Rotate the SELECT SET WHEEL to select LCD-PANEL from the menu screen (see pages 14, 15).
- 3** Press the SELECT SET WHEEL to display the LCD monitor adjustment screen.
- 4** Press the SELECT SET WHEEL to select BRIGHT or COLOR, then rotate the SELECT SET WHEEL to adjust them.
- 5** Press the MENU button twice to exit this mode.



## Self Recording



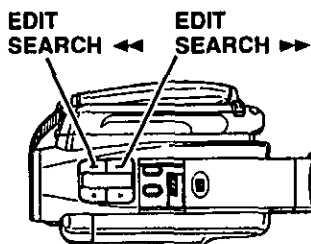
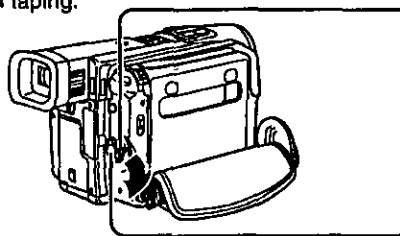
Rotate the LCD monitor 180 degrees so that it faces in the same direction as the lens, while in the CAMERA mode, to record yourself.

The picture in the LCD Viewfinder will appear reversed. Select SELF-REC MIRROR in the Camera mode screen to see the picture as it is actually being recorded.

# Camera Recording

## Edit Search

You can visually search for scenes during CAMERA mode to maintain proper continuity when taping.



**1** Set POWER to ON.

**2** In RECORD/PAUSE mode, hold down EDIT SEARCH >> to perform a forward visual search and EDIT SEARCH << to perform a reverse visual search. Releasing the button stops the search.

**3** Press RECORD/PAUSE to continue recording.

### Record Review:

Press EDIT SEARCH << once while in Record/Pause mode to review the last few seconds of your recording.

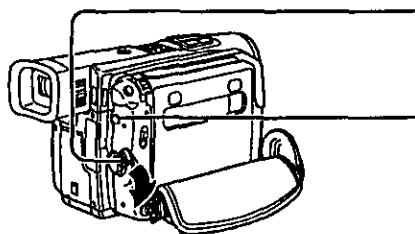
### Note:

- During Edit Search, the picture will become mosaic and the sound will be muted.
- Make sure the SP/LP tape speed setting is the same as the recording to eliminate distortion during edit search.



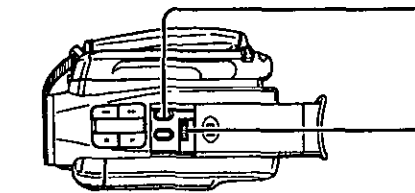
## Book Mark Search

You can go directly to a blank portion of tape and start recording exactly where you left off.



**1** Set the POWER switch to ON.

**2** Press CAMERA/VCR. VCR lamp lights (green lamp).



**3** Press MENU to display the menu screen. Then rotate the SELECT SET WHEEL to select B.SEARCH (see page 15).

**4** Press the SELECT SET WHEEL to select ON. The Palmcorder will start a forward Book Mark Search.

# Remote Control

## Remote Control Operation

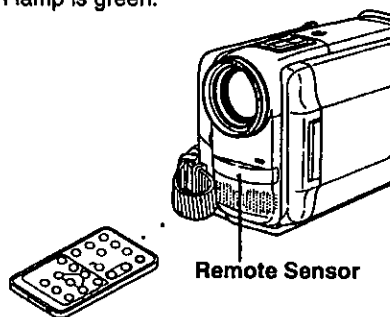
You can operate the major functions of your Palmcorder from up to approximately 16 feet (5 m) away (indoors). Aim the Remote Control toward the front of the Palmcorder and press the desired buttons (sensor is located under the lens).

### To operate Camera functions:

Set the POWER switch to ON and make sure CAMERA lamp is red.

### To operate VCR functions:

Set the POWER switch to ON, press CAMERA/VCR button, and make sure the VCR lamp is green.



### Controlled Functions

Rec/Pause (see page 21)  
Tele (Zoom) (see page 33)  
Wide (Zoom) (see page 33)  
Date/Time (see page 17)  
Reset (see page 43)  
Photo Shot (see page 34)  
Display (see page 31)  
Counter/Time Code (see pages 16, 43)  
Audio Dubbing (see page 40)  
Record (see page 45)  
Menu (see page 13)  
Play (see page 26)  
FF/Search (see page 26)  
REW/Search (see page 26)  
Pause/Select (see page 28)  
Stop/Set (see page 26)  
Slow/Frame Advance (Forward) (see page 28)  
Slow/Frame Advance (Backward) (see page 28)  
Index Search (Forward) (see page 29)  
Index Search (Backward) (see page 29)  
Top Scan (see page 29)  
Speaker Volume (see page 27)

## Remote Controlling Two Palmcorders

You can control any two PV-DV710's with one Remote control. In order for the remote to distinguish between the two units, it is necessary to set one of the Palmcorders to VCR 2. On the remote, press VCR 1 or VCR 2 to control the desired Palmcorder.

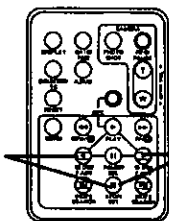
**1** Display the menu and select REMOTE VCR 2 on one Palmcorder (see pages 14 and 15). Leave the other Palmcorder set to VCR1.

**2** Set the Remote Control to VCR 1 or VCR 2 to correspond with the Palmcorder you wish to control. (See illustration at left.)

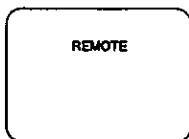
### Note:

- When the Palmcorder and remote are not set to the same mode (VCR1 or VCR2), "CHECK REMOTE MODE" will also appear for 5 seconds when the Palmcorder is first turned on.

For VCR 2 :  
Press these  
buttons at  
same time.



For VCR 1 :  
Press these  
buttons at  
same time.

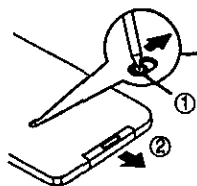


- After replacing the Remote Control Battery, the remote will default to VCR 1.



# Remote Control

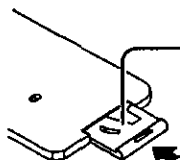
## Replace the Battery



**1** Insert a slender, pointed object, such as the tip of a ball-point pen into the slot so that it fits into the hole (as shown) ①. Then, while sliding to the right, pull the battery holder out with your fingernail.



**2** Insert the battery into the Battery Tray with the ⊕ mark facing up. Do not reverse the polarity.



**3** Replace the Battery Tray.

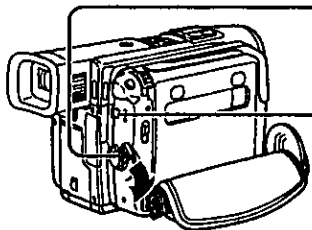
Replace battery with Panasonic PART NO. VSBW0004 (CR2025) only. Use of another battery may present a risk of fire or explosion. Caution-battery may explode if mistreated. Dispose of used battery promptly. Keep away from children. Do not recharge, disassemble or dispose of in fire.

# Playback Your Recordings

## Playback using the EVF

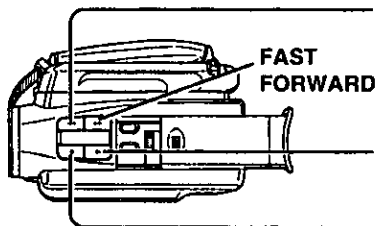
### Before you begin...

- Connect the Palmcorder to a power source.
- Insert a recorded cassette.



**1** Set the POWER switch to ON.

**2** Press CAMERA/VCR.  
VCR lamp lights.

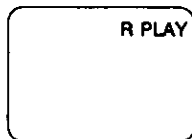


**3** Press REWIND/SEARCH to rewind the tape.

**4** Press PLAY to start playback.

**5** Press STOP to stop playback.

- When the tape reaches its beginning during rewind or rewind search, it will stop automatically.
- If you press PLAY for more than 5 seconds, the Palmcorder will start the Repeat Playback mode when the tape reaches its end. The letter "R" will appear in the EVF. To exit the Repeat mode, turn the Palmcorder OFF.



### Note:

- When a tape recorded in LP mode on another digital video camera is played back on this unit, the picture may appear mosaic.

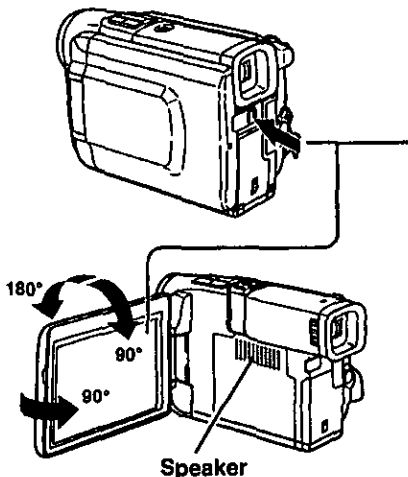
# Playback your Recordings

## Playback using the LCD Monitor

You can also use the LCD monitor to playback your recording.

### Before you begin...

- Connect the Palmcorder to a power source.
- Insert a recorded cassette.
- Set the Power switch to ON.



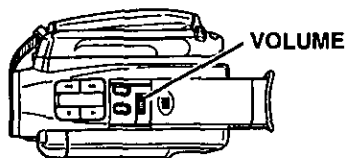
**1** Press the LCD-OPEN button to unlock the LCD monitor and swing open.

**2** Playback the tape (see page 26).

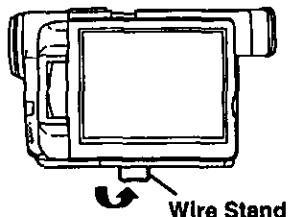
### To adjust the volume:

Hold down the VOLUME wheel until the volume setting screen appears. Then rotate the wheel to adjust the volume of the built-in speaker.

- Adjust the picture on the LCD monitor if needed. (see page 22)



You can place the Palmcorder on a table, etc. for viewing. Rotate the LCD Monitor 180° and swing it up against the Palmcorder body as shown. Then, to attain the proper viewing angle, swing out the wire stand.



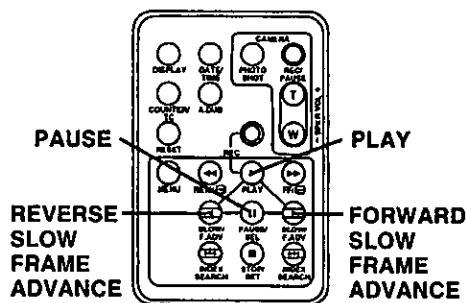
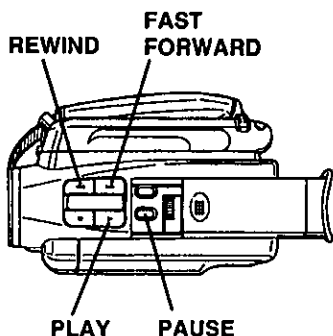
### Note:

- Using the LCD monitor reduces battery operating time.

# Playback Your Recordings

## Special Effect Features During Playback

(Sound is muted during all special effects)



## Fast Forward/Rewind Check

Monitor normal picture playback during fast forward or rewind.

- Hold down the **FAST FORWARD/SEARCH** during fast forward.
- Hold down the **REWIND/SEARCH** during rewind.
- The picture will appear for as long as the button is held down.

## Rapid Visual Search

During playback, hold down **FAST FORWARD/SEARCH** or **REWIND/SEARCH** buttons.

The search will continue for as long as the button is held down.

OR

Press **FAST FORWARD/SEARCH** or **REWIND/SEARCH** buttons once for a continuous rapid visual search. Press **PLAY** to release.

**Note:**

- When executing a rapid visual search, the picture may become bluish for an instant or mosaic. This is normal during this mode.



## STILL Picture

Press **PAUSE** during playback.

Press **PLAY** or **PAUSE** to release.

**Note:**

- To protect the tape and video heads, your Palmcorder's operating modes will revert as follows:

STILL → STANDBY after 5 minutes.

STANDBY → POWER OFF after 5 minutes when using a Battery Pack.

## Slow Motion Playback

Forward Slow = Press **▶ SLOW/F.ADV** during play.

Reverse Slow = Press **◀ SLOW/F.ADV** during play.

Press **PLAY** to release. (During reverse slow motion playback, time code indication may not change regularly.)

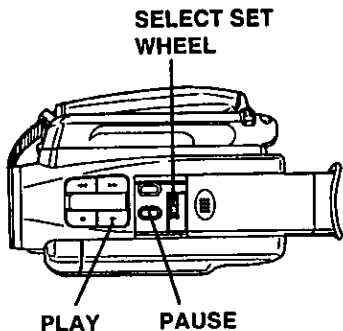
**Note:**

- Palmcorder will automatically STOP when in slow motion for more than 10 minutes.
- During slow motion playback, picture may move up and down. This is normal.
- When you start or stop slow motion playback, the picture may become bluish for an instant.

# Playback Your Recordings

## Special Effect Features During Playback Continued

(Sound is Muted during all special effects)



## Frame by Frame Advance

Press **PAUSE** during playback.

Press **▶ SLOW/F.ADV** to do a frame by frame advance.

Press **◀ SLOW/F.ADV** to do a frame by frame reverse.

Press **PLAY** to release.

### Note:

- If you hold down **SLOW/F.ADV**, you can see a continuous series of still images at a slower speed than normal slow mode.
- During frame by frame advance, a few frames may move automatically, and the picture may become bluish for an instant.

## Jog Frame by Frame Search

(Palmcorder only)

During Still mode, rotate the **SELECT SET WHEEL** to advance or reverse the picture one frame at a time.

## Index Forward/Reverse Search

(Remote Control only)

Search for a particular scene by using the electronic index marks placed at the beginning of each recording. (See page 15 for details on the two different kinds of index marks.)

1 Place Palmcorder in the **VCR STOP** mode.

2 Press the **INDEX SEARCH** fast forward or rewind buttons the number of recordings (indexes) forward or back to want to view. The Palmcorder will advance or rewind to the desired recording and automatically **PLAY**.

- The number of times you press the button is displayed in the EVF and the LCD monitor if you set **INDEX** on the VCR menu to **SCENE** (see page 15). (Ex., if you press the button three times, "S3" will appear.)
- If the interval between scenes is less than 1 minute, index search may not operate properly.

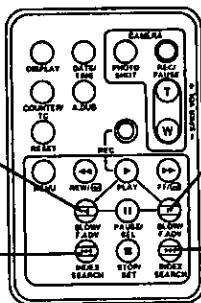
### Top Scan

If you hold down the **INDEX SEARCH** button more than 2 seconds, the Palmcorder will scan for scenes (or photo shots) and playback the first few seconds of each.

To cancel this function, press **PLAY** or **STOP**.

REVERSE  
SLOW  
FRAME  
ADVANCE

INDEX  
SEARCH  
(rewind)



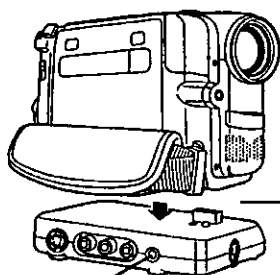
FORWARD  
SLOW  
FRAME  
ADVANCE

INDEX  
SEARCH  
(fast  
forward)

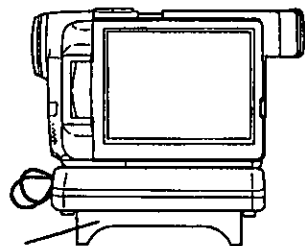
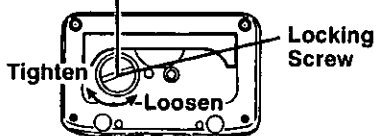
# Playback Your Recordings

## Install the Docking Station for TV Viewing

Your Palmcorder may be connected to a TV to play back tapes or to view what you are recording by connecting to the Docking Station.



PHONES Jack



Built-in Stand

### Before you begin...

- Connect the Palmcorder to a power source.
- Connect the Palmcorder to your TV as illustrated at left.

### IMPORTANT:

Turn off the Palmcorder and Docking Station before power connecting.

**1** Place the Palmcorder onto the Docking Station.

**2** Tighten the Locking Screw located on the bottom of the Docking Station.

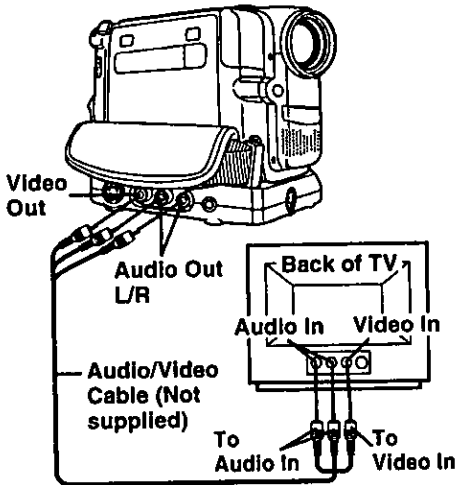
### Note:

- Use an AC Adaptor PV-DAC7 (included) so that you do not have to worry about depleting the battery.
- After the Palmcorder is connected to the Docking Station, you can place the unit on a table, etc. for viewing. Rotate the LCD Monitor 180° and swing it up against the Palmcorder body as shown. Then, to attain the proper viewing angle, swing out the built-in stand.
- Connect earphones (not supplied) to the PHONES jack.

# Playback Your Recordings

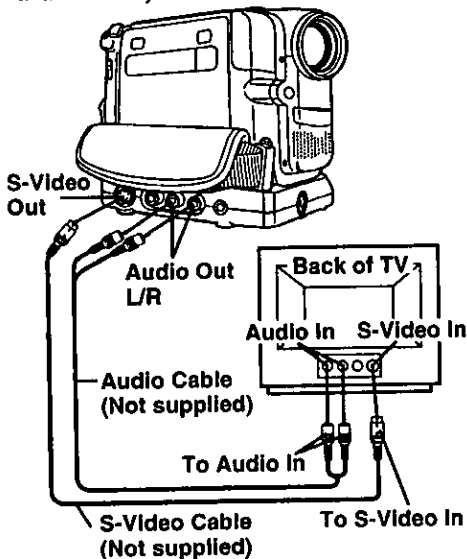
## Connections

### TV with AUDIO/VIDEO IN Jacks.



### TV with S-VIDEO IN Jacks.

For best Chrominance and Luminance it is suggested to use the S-Video connection if available on your TV.



- 1** Set the **POWER** switch to **ON**. The **CAMERA** lamp lights. You can now view what the Palmcorder is recording on your TV. Or, to playback a tape, press the **CAMERA/VCR** button. The **VCR** lamp lights. You can now playback a recorded tape on your TV.

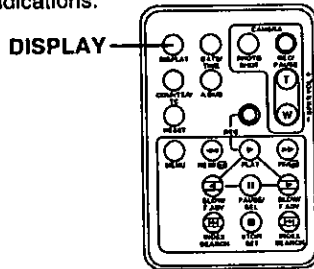
- 2** Turn your TV **ON** and set it to **LINE INPUT** or **S-VIDEO**. Check your TV operating instructions for further information.

- 3** Start playback or begin a recording.

#### Note:

- Make sure the Palmcorder and TV are turned off while connecting.

You can display the various EVF indications on your TV by pressing **DISPLAY** on remote control. Press again to remove the indications.



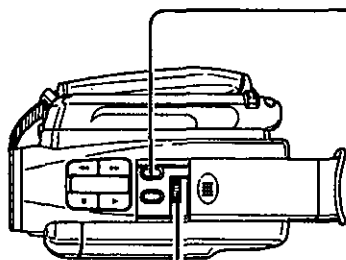
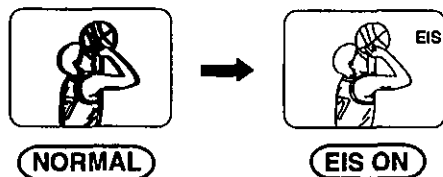
### CATV System Installer

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC in USA (and to the Canadian Electrical code in Canada) that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

## Special Features

### Digital Electronic Image Stabilization System (D.E.I.S.)

This feature helps stabilize the picture in situations such as walking or shooting from a moving vehicle.



SELECT SET  
WHEEL

### Before you begin...

- Set the POWER switch to ON.

**1** Press MENU to display the menu screen.

**2** Rotate and press the SELECT SET WHEEL to select EIS and set ON (see page 14).

- Picture flicker may be observed when taping under fluorescent lighting conditions.
- Turn D.E.I.S. OFF during recording when using a tripod.

**3** Set EIS OFF to cancel.

- Be sure that the D.E.I.S. is turned off when not needed.

### D.E.I.S. may not function when...

- Palmcorder movement is too extreme.
- Recording a subject with distinct horizontal or vertical stripes.
- Recording in low light situations.
- Recording a subject under a great amount of fluorescent light.
- Recording a scene with very fast motions.

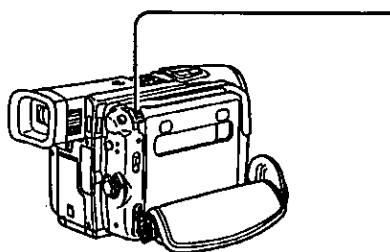


# Special Features

## Zoom

You can gradually zoom in for close ups or zoom out for wide angle shots.

The zooming speed ranges from a slow 15 seconds to a fast 3.7 seconds according to the amount of pressure applied to the zoom buttons.



**Zoom slowly** by lightly moving the power zoom switch toward the "T" (Telephoto) or the "W" (Wide Angle).

**Zoom quickly** by applying more pressure.

## Digital Zoom

To enable this feature:

Display the CAMERA mode menu (see page 14). Rotate the SELECT SET WHEEL to select D. ZOOM. Press down on the SELECT SET WHEEL to select 25x (D.ZOOM1) or 100x (D.ZOOM2).

Zoom In ("T")



Zoom Out ("W")

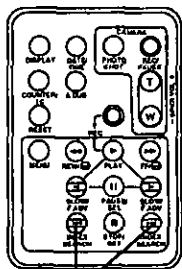
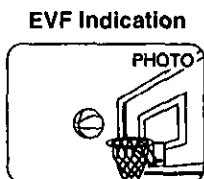
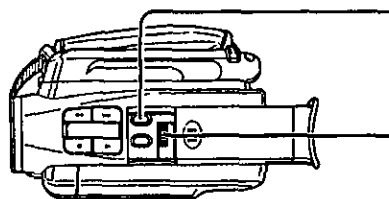
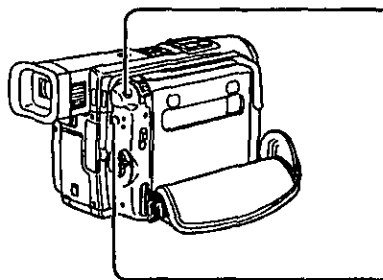
D.ZOOM1

- The normal optical zoom functions from 1x to 10x.
- D.ZOOM1 functions from 10x to 25x.  
D.ZOOM2 functions from 10x to 100x.
- The magnification level is displayed in the EVF or the LCD monitor.
- Because the image is enlarged digitally, the picture may become distorted when higher magnification levels are used.
- When the level falls below 10x, the normal zooming function will resume.
- Focus length becomes 4 feet (1.2m) if the lens is in full telephoto.

# Special Features

## Digital Photo Shot

Use this feature to record a seven second (approx.) still image from the current camera picture. Audio is also recorded for on the spot narration. Or, you can add narration later with the Audio Dubbing feature to make an interesting slide show, etc. (see pages 40, 42).



INDEX SEARCH Button

### Before you begin...

- Set the POWER switch to ON.

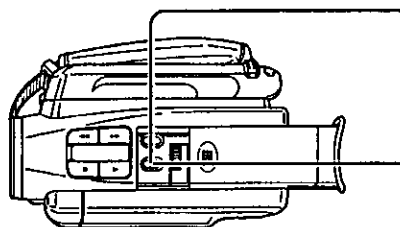
- 1** Press PHOTO SHOT in Record/Pause mode.  
"PHOTO" will appear in the EVF or the LCD monitor.
  - If SHUTTER on the menu screen is set to ON, a sound effect similar to the shutter of a film camera will be heard when the PHOTO SHOT button is pressed.
- 2** Press the CAMERA/VCR button to change to the VCR mode.
  - Lamp should be green.
- 3** Press MENU to display the VCR mode menu screen in the EVF or the LCD monitor.
- 4** Rotate the SELECT SET WHEEL to select INDEX and press down to select PHOTO.
- 5** Press one of the INDEX SEARCH buttons on the remote control to advance or rewind the tape to playback a photo shot scene.
  - To view the next photo shot, the INDEX SEARCH button must be pressed again.

### Notes:

- The picture quality will deteriorate slightly.
- The tape remaining indicator will not appear while PHOTO SHOT feature is used.
- When the AUDIO-REC mode is changed, the shutter sound effect may not be able to be heard even when SHUTTER is set to on.

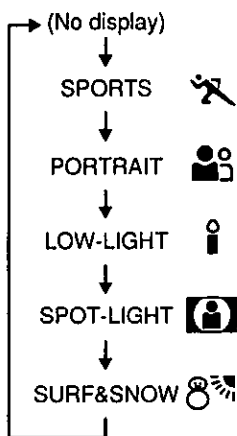
## Program AE

The Auto Exposure feature can be used to make quality recordings in a variety of scene situations.



**1** In camera mode, press PROGRAM AE repeatedly to select one of the five modes shown below.

**2** Press PROGRAM AE and select no display to cancel this feature.



### Sports mode

For recording fast actions scenes.

### Portrait mode

For recording only subjects in the foreground, while ignoring subjects in the background.

### Low-light mode

For recording in extreme low light conditions.

### Spot-light mode

Recording in situations where subjects are under a spotlight(s).

### Surf & Snow mode

For recording in locations with a high degree of "Dazzle", such as snow slopes and the seashore.

### Notes:

#### SPORTS mode

- The recorded images will not be so blurred when they are viewed later using slow or still picture playback.
- When playing back a sports mode recording, the movement may appear slightly jerky.
- Do not use this mode when recording under fluorescent, mercury or sodium lighting. These types of lights will affect the color and brightness of the images.
- A vertical band of light might appear when recording objects that are brightly illuminated or which are highly reflective.
- If the amount of light is insufficient, the SPORTS "A" indicator will flash in the EVF or the LCD monitor.
- The image may flicker if this mode is used indoors.

#### PORTRAIT mode

- The image may flicker if this mode is used indoors.

#### LOW-LIGHT mode

- Scenes recorded in extremely low light levels may not come out properly.

#### SPOT-LIGHT mode

- If the recorded subject is extremely bright, the picture may appear whitish.

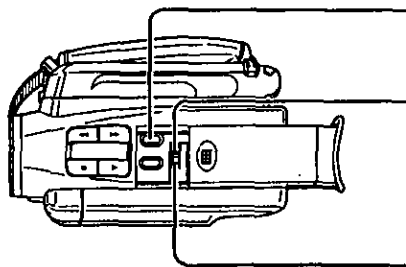
#### SURF&SNOW mode

- If the recorded subject is extremely bright, the picture may appear whitish.
- If you selected GAIN UP in the Digital function camera menu, SPORTS mode and PORTRAIT mode can not be selected.

# Special Features

## Digital Functions

Use the following features to add interest and professionalism to your recordings. Select from nine special effects.



**1** In Camera mode, press **MENU** to display the menu screen.

**2** Rotate the **SELECT SET WHEEL** to select **D.FUNCTION**. Then, press down on the **SELECT SET WHEEL** repeatedly to select one of the Digital Functions listed below.

**3** To cancel the Digital Function, press down on the **SELECT SET WHEEL** to select **OFF**.

• The **EIS** and **Digital Zoom** features must be turned off in order to use Digital Functions.

## Types of Digital Effects

### WIPE

Successive scenes are separated in a way which simulates the drawing of a curtain.

### MIX

The current scene is mixed in with the following scene during scene changes.

### STROBE

The recording appears as a sequence of still frames.

### GAIN UP

Picture sensitivity is increased.  
• Only Manual Focus is available.

### N/P (Neg/Pos)

The recorded picture is inverted to appear as a film negative.

### SEPIA

The picture is recorded in sepia, brownish color, giving it an antique look.

### MONO (Monotone)

The picture is recorded in black-and-white.

### TRAIL

The subject being recorded creates a trail when in motion.

### SOLARI (Solarization)

The scene takes on a appearance similar to an oil painting.

### To use the WIPE:

- In Camera mode, set the "D.FUNCTION" item in the menu screen to "WIPE" (page 14).
- Press the **RECORD/PAUSE** to start recording.
- Press the **RECORD/PAUSE** to pause the recording. The last scene will be memorized.
- Press the **RECORD/PAUSE** to start recording again. The new scene will take the place of the memorized scene.

### To use the MIX:

Perform steps a-d above. The memorized scene and the new scene will appear mixed as the scene changes from one to the other.

# Special Features

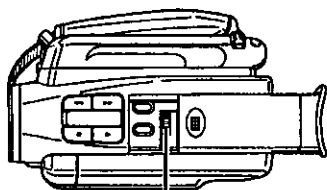
## Auto Focus

The Palmcorder automatically adjusts the focus over the entire zoom range.

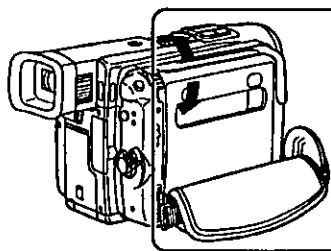
## Manual Focus

Use Manual Focus (MF) when recording ...

- a subject through glass.
- a scene where the subject is far from the Palmcorder and there are objects in the foreground.
- a subject with distinct horizontal stripes.
- a subject not centered in the Viewfinder.
- subjects with shiny surfaces.
- an obliquely angled subject.
- a bright, flat subject such as a white wall.
- in low light situations.
- a scene with fast motions, like a golf swing.
- **Re-focusing may be required** when your Palmcorder is aimed at a new scene.

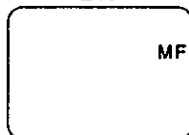


SELECT SET  
WHEEL



- 1** Press down on the **SELECT SET WHEEL** until "MF" (Manual Focus) appears in the EVF.

EVF



- 2** Slide the **POWER ZOOM** switch to the "T" side (Full Telephoto) until the lens is zoomed in all the way (subject at maximum size).

- 3** Rotate the **SELECT SET WHEEL** until the picture is in focus.

- 4** Slide the **POWER ZOOM** switch to "W" or "T" as desired.
  - The subject will remain in focus over the entire zooming range.
  - It may be necessary to back away from the subject to focus the image properly.

## Macro Focus (for close-ups)

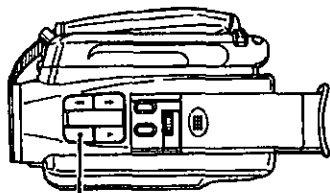
Press the "W" side of the **POWER ZOOM** switch to the wide angle position.

Auto Focus will function with the subject as close as 1 inch (25mm) in front of the lens.

## Special Features

### Audio/Video Fade In/Out

This feature allows you to make smoother scene transitions for a more professional look.



FADE

#### Fade In:

Starting the first scene with "fade in" is very effective.

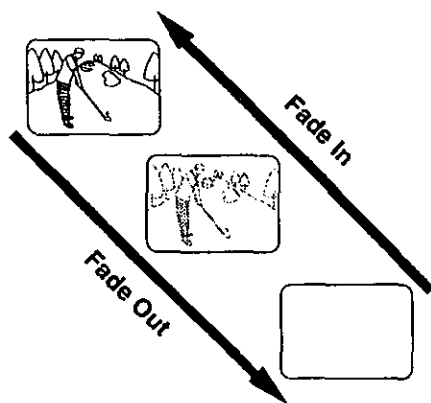
**In Record/Pause mode, hold down FADE until the picture and sound fade out. Then, press RECORD/PAUSE to start recording.**

**Release FADE and the picture and sound will gradually fade in.**

#### Fade Out:

Use to create a soft ending or (together with fade in) for a soft transition from one scene to the next.

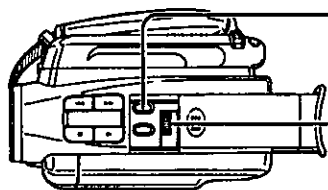
**During recording, hold down FADE until the picture and sound fade out. Then, press RECORD/PAUSE to pause the recording.**



# Special Features

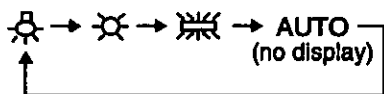
## White Balance

Auto White Balance automatically maintains optimum color balance in most lighting conditions. However, when using Digital functions, etc., you may get better results using the manual adjustment.



### Auto/Manual White Balance Set

- 1** Press **MENU** to display the camera mode menu in the EVF or the LCD monitor.
- 2** Rotate the **SELECT SET WHEEL** to select **W.BALANCE**, and then press down on the **SELECT SET WHEEL** repeatedly to select **AUTO**, Indoor halogen lamp "☀", Outdoors "☀☀", or Indoor fluorescent lamp "☀☀☀".

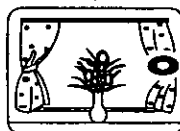
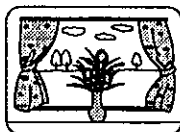


- ☀: When the source of illumination is a halogen lamp.
- ☀☀: When shooting outdoors on a sunny day.
- ☀☀☀: When the source of illumination is a fluorescent lamp.

**AUTO:** Automatically maintains optimum color balance in most lighting conditions.

## Backlight

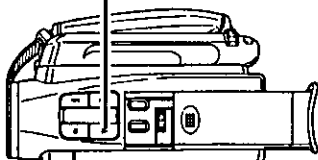
Use when recording a subject that is darker than the surrounding scene, in a shadowed area or when the light source is in back of your subject.



EVF or LCD monitor Indication.

Hold down the **BACKLIGHT** button to activate the Backlight feature. The Indicator "●" will appear in the EVF or LCD monitor.

When the **BACKLIGHT** button is released, this feature will be cancelled.



### Note:

- The Indicator "●" will not appear in the EVF or LCD monitor when **OFF** is selected in the **COUNTER** menu.

## Special Features

### Audio Dubbing using the External or Built-in Microphone

The original sound can be replaced with new sound using the built-in Palmcorder microphone or an external microphone.

The AUDIO setting in CAMERA MENU mode should be as follows:

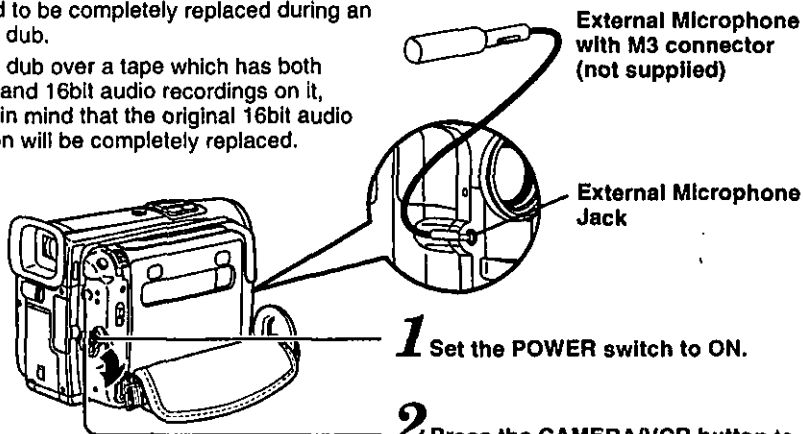
**12bit** The original sound is recorded on ST (Stereo) 1, and the new sound will be recorded on ST (Stereo) 2.

**16bit** The original sound is replaced with the new sound.

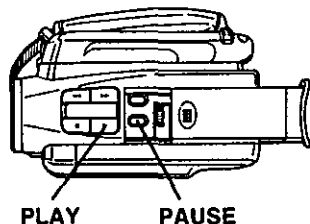
- Select 12bit if you do not want the original sound to be completely replaced during an audio dub.
- If you dub over a tape which has both 12bit and 16bit audio recordings on it, keep in mind that the original 16bit audio portion will be completely replaced.

#### Before you begin...

- Connect the external Microphone (if used).
- Turn On the Palmcorder.
- Insert a pre-recorded tape to be dubbed.

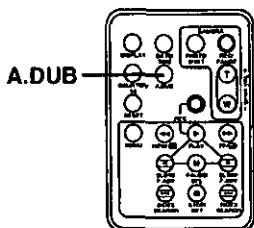


**1** Set the POWER switch to ON.



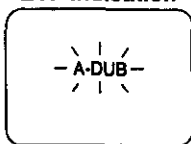
**2** Press the CAMERA/VCR button to change to VCR mode (green lamp). Press MENU and set the A-DUB item in the VCR mode menu (see page 15) to MIC.

**3** Press PLAY. Then press PAUSE where you want dubbing to begin.



**4** Press A.DUB on the remote control to put the Palmcorder in the Audio Dub mode.

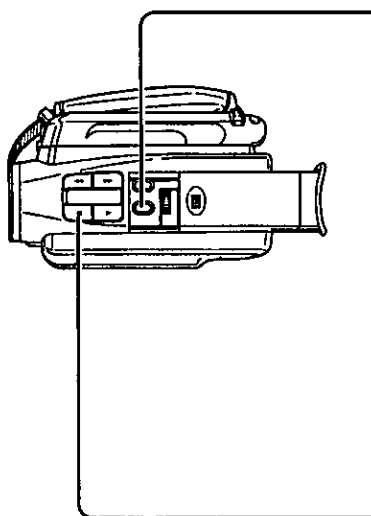
#### EVF Indication



(Continued on next page.)



## Special Features



- 5** Press **PAUSE** to start Audio Dubbing. Connect Palmcorder to TV in order to monitor the sound. (see page 30)

A-DUB

Only NTSC (National Television Standards Committee) recorded tapes can be audio dubbed. The following screen appears if the tape was not recorded in NTSC format.

INCOMPATIBLE  
TAPE

- 6** Press **STOP** to stop Audio Dubbing.

To listen to the desired audio sound, set the **AUDIO** setting of the VCR mode **MENU** (see page 15) as follows:

- AUDIO** (The following selections are available 12bit **AUDIO** dubbed recording only)
- ST1** Set this position to listen to the original sound.
- ST2** Set this position to listen to the audio dubbed sound.
- MIX** Set this position to listen to both the original sound and the audio dubbed sound.

**Note:**

- 16bit dubbed sound completely erases the original 16bit recorded sound.
- If you select 12bit **AUDIO** recording and dubbed the sound with the **AUDIO-MIX** on, the sound will be stereo regardless of the **AUDIO-OUT** setting.
- If you recorded in **LP** mode, you can not use the **A-DUB** feature.
- Refer to page 43 for **Memory-Stop Editing**.
- If the microphone used for dubbing, gets too near the speaker of your TV, a howling noise (feedback) may occur.
- If the tape position lies or starts in a blank section, you can not use the **A-DUB** feature.

# Special Features

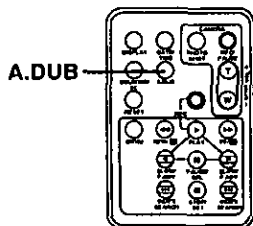
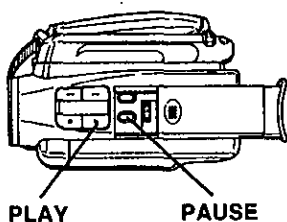
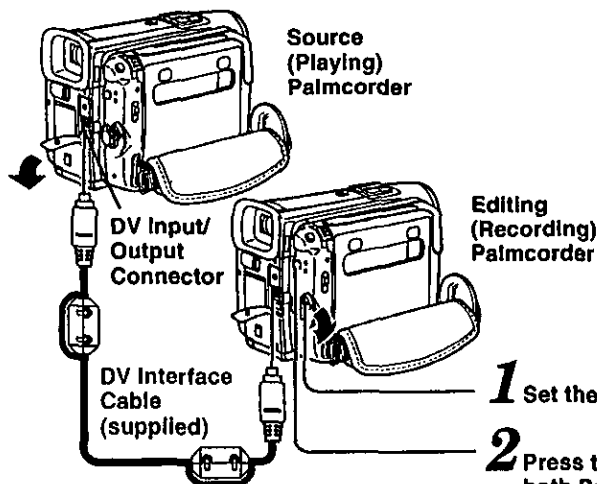
## Audio Dubbing using the DV Terminal

Your own sound track may be substituted onto a tape using a DV terminal. Connect the Palmcorder to Digital Equipment with the DV Output Terminal using DV cable (supplied).

The original sound can be replaced with new sound using the DV In/Out Terminal Jack.

### Before you begin...

- Turn on both Palmcorders.
- Insert the pre-recorded tape in the recording Palmcorder.
- Uncover the DV Input/output connectors on both Palmcorders and connect with the supplied DV cable.

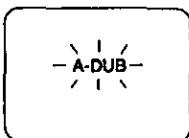


- 1** Set the POWER switch to ON.
- 2** Press the CAMERA/VCR button on both Palmcorders to change to VCR mode (green lamp). Press MENU and set the A-DUB item in the VCR mode menu (see page 15) to DV.

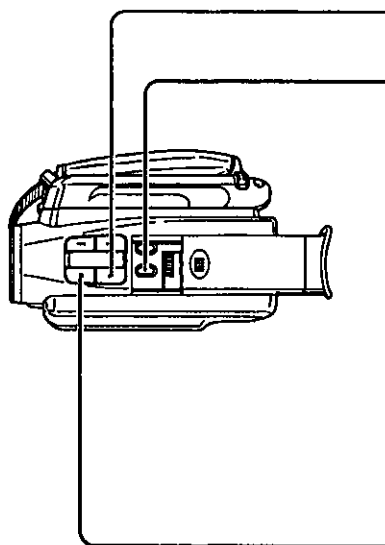
- 3** Press PLAY on the recording Palmcorder. Then press PAUSE where you want dubbing to begin.

- 4** Press A.DUB on the remote control to put the recording Palmcorder in the Audio Dub mode.

### EVF Indication

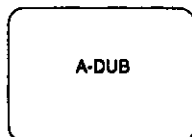


## Special Features



**5** Press **PLAY** on the playing Palmcorder.

**6** Press **PAUSE** to start Audio Dubbing.



Only NTSC (National Television Standards Committee) recorded tapes can be audio dubbed. The following screen appears if the tape was not recorded in NTSC format.



**7** Press **STOP** to stop Audio Dubbing.

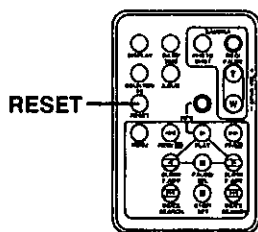
### Note:

- If you recorded in LP mode, you can not use the A-DUB feature.
- If two Palmcorders are used for dubbing, recording speed on both units must be the same.
- If two Palmcorders are used for dubbing, set one of the Palmcorders to VCR2 to avoid mis-operation.
- Apparatus Claims of U.S. Patent Nos. 4,631,603, 4,577,216, and 4,819,098, licensed for limited viewing uses only.

- This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

### Memory-Stop Editing

You can set an automatic Edit stopping point.



**Before step 4**, locate the point at which you want the dubbing to stop.

Press **MENU** and set **COUNTER** to **MEMORY** (page 15).

Then, press **RESET** on the remote control to reset the Counter Memory to **M 0:00:00**.

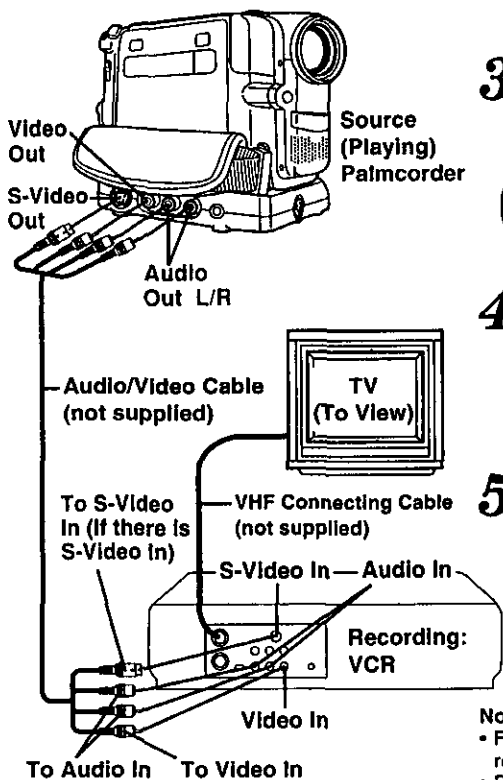
Now, **rewind** to the editing start point, and continue with steps 3-6. The tape will now stop automatically at "M 0:00:00".

# Special Features

## Copying your Tapes to S-VHS or VHS Cassette

### Before you begin...

- Connect the Palmcorder and the Docking Station (see page 30).
- Connect the Palmcorder to a VCR as illustrated below.
- Turn ON both units.
- Set the recording VCR's Input Signal Selector to LINE.
- Set the Palmcorder CAMERA/VCR button to VCR.



**1** Insert a pre-recorded tape into the source (playing) Palmcorder and a blank tape with record tab in place into the target VCR (Recorder).

**2** Press **PLAY** on the Palmcorder. When the tape reaches the point you want to start dubbing, press **PAUSE**.

**3** Press **REC** or simultaneously **REC** and **PLAY** (depends on VCR) and then pause the recorder.



**4** Simultaneously, press **PAUSE** on the both units to begin the copying.

**5** Press **STOP** on both units when dubbing is complete.

### Notes:

- For technical reasons, dubbing a tape may reduce its quality.
- Press **DISPLAY** on the Palmcorder remote control to eliminate EVF/LCD Monitor indications to be recorded on the tape. Eliminate all OSD functions on the VCR as well.
- If the Time Code is displayed in the EVF or LCD monitor, this display cannot be reset.

### CAUTION:

Unauthorized exchanging and/or copying of copyrighted recordings may be copyright infringement.

### Monitor with your TV

- Turn the TV ON and select its VCR channel (either CH3 or CH4).
- Set the VCR/TV Selector on the recording VCR to VCR.

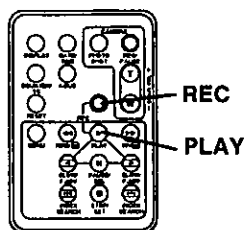
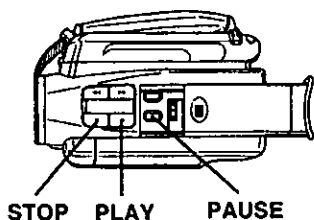
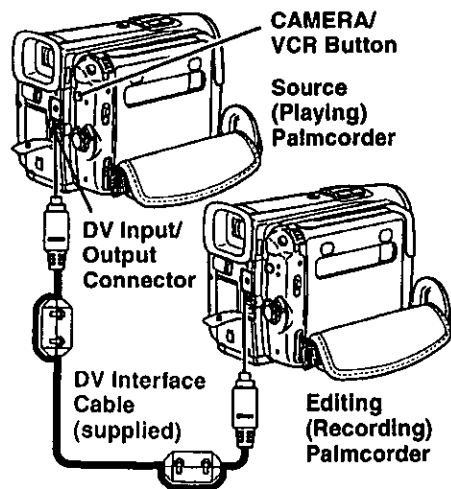
# Special Features

## Copying from Digital Equipment (dubbing)

High quality digital-to-digital copying can be accomplished if both Palmcorders incorporate the digital in/out IEEE1394 interface (DV cable is supplied).

### Before you begin...

- Connect both Palmcorders to their power sources.
- Connect the two digital Palmcorders using the supplied DV interface cable.
- Turn both Palmcorders ON.



- 1** Insert a pre-recorded tape into the source (playing) Palmcorder, turn on, and press **CAMERA/VCR** button to set into the VCR mode (green lamp).
- 2** Insert a blank tape with the record tab in place into the target (recorder) Palmcorder turn on, and press **CAMERA/VCR** button to set into the VCR mode (green lamp).
- 3** Press **PLAY** on the source Palmcorder. When the tape reached the point you want to start dubbing, press **PAUSE**.
- 4** On the remote control, hold down the **REC** button and press **PLAY**. Press **PAUSE** to pause the tape at the starting point of the dub.
- 5** Simultaneously, press the **PAUSE** buttons on both units to begin the copying.
- 6** Simultaneously, press the **STOP** buttons on both units to end the copying.

### Notes:

- When two Palmcorders are used for dubbing, it is recommend that the remote control VCR1 or VCR2 setting be used to avoid mis-operation.
- When two Palmcorders are connected using the supplied DV interface cable, a Video Editing Controller cannot be used.

### CAUTION:

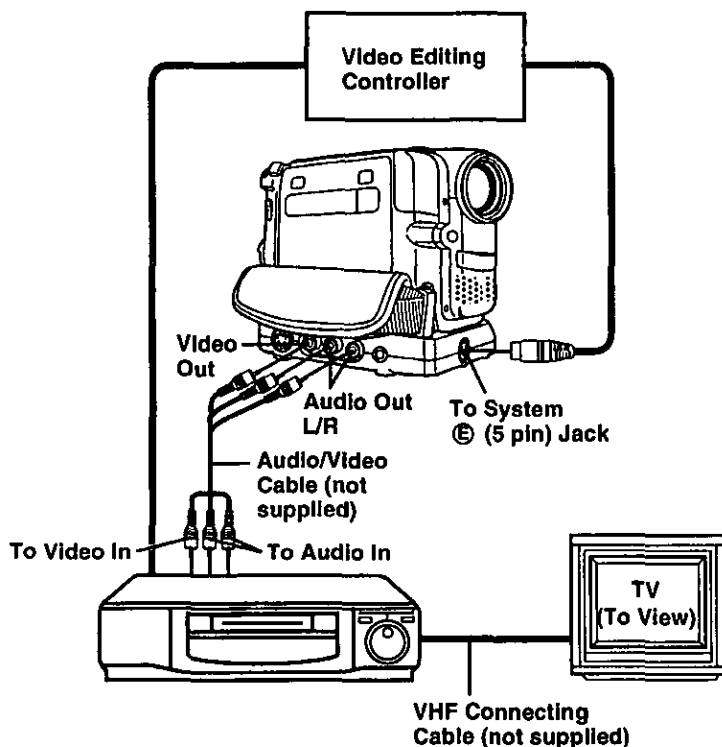
Unauthorized exchanging and/or copying of copyrighted recordings may be copyright infringement.

## System $\text{\textcircled{E}}$ (5 pin) Jack

This jack allows for easy connection to stand-alone controllers, or computer interface devices.

The following is an example for the connection to a video editing controller (not supplied).

"For further information regarding video editing controllers and the Panasonic PV-S4690 and PV-S7680 editing VCR's with 5 pin control, please call your dealer or contact Panasonic Customer Service Center at 800-222-4213 (9am-9pm 7 days a week, EST)."



# System $\text{\textcircled{E}}$ (5 pin) Jack

## Product Information for Edit Controllers and 5-Pin VCRs/Camcorders.

COMPANY	MODEL	CONSUMER INFORMATION
Panasonic PBTS Edit Controller	AG-A96* only	800-524-1448 Product Information
MCEC 5-Pin VCRs and Camcorders	PV-S4690/PV-S7680 PV-DV700/DV710 PV-D607	201-348-9090 Product Information

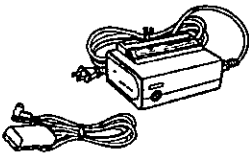

\*All control Functions of AG-A96 are not available for all consumer models.

COMMAND	PV-S4690/PV-S7680	PV-DV700/DV710	PV-D607
STOP	YES	YES	YES
EJECT	YES	YES	-----
REWIND/LOCKING REVIEW	YES	YES	YES
FF/LOCKING CUE	YES	YES	YES
REVIEW	YES	YES	YES-in Play mode
CUE	YES	YES	YES-in Play mode
STILL/PAUSE	YES	YES	YES
RECORD	YES	YES	YES
SLOW SPEED UP	YES	-----	-----
SLOW SPEED DOWN	YES	-----	-----
ASSEMBLE INSERT	YES	YES-Camera mode only	-----
ASSEMBLE RECORD	YES	YES-Camera mode only	-----
ASSEMBLE PLAY	YES	YES	YES
POWER ON/OFF	YES	-----	-----
COUNTER RESET	YES	YES	YES
ASSEMBLE A-DUB	YES	YES-Camera mode only	-----
ASSEMBLE A/V INSERT	YES	YES-Camera mode only	-----
REHEARSAL A-DUB	YES	YES-Camera mode only	-----
REHEARSAL A/V INSERT	YES	YES-Camera mode only	-----
REHEARSAL INSERT	YES	YES-Camera mode only	-----
REHEARSAL RECORD	YES	YES-Camera mode only	-----
FRAME REQUEST	YES	YES	YES
NOP (CONNECT)	YES	YES	-----
NOP (CONNECT)	YES	YES	YES
PLAY	YES	YES	YES
REVERSE PLAY	YES	YES	-----
FRAME ADVANCE	YES	YES	one frame every 20
FRAME REVERSE 1/60	YES	YES	-----
FORWARD SLOW 1/9	YES	-----	-----
<b>JOG SHUTTLE CONTROL</b>			
SHUTTLE ON STILL	YES	-----	-----
REVERSE SLOW 1/5	YES	-----	-----
FORWARD SLOW 1/5	YES	-----	-----
REVERSE PLAY	YES	-----	-----
FORWARD PLAY	YES	-----	-----
REVERSE SLOW SPEED 5X	YES	-----	-----
CUE 5X	YES	-----	-----
REVERSE HIGH SPEED 9X	YES	-----	-----
CUE 9X	YES	-----	-----
REVERSE SLOW 1/59	YES	-----	-----
FORWARD SLOW 1/59	YES	-----	-----
REVERSE SLOW 1/9	YES	-----	-----
FORWARD SLOW 1/9	YES	-----	-----
JOG ON/OFF	YES	-----	-----

Special Features

## ***Palmcorder Accessory System***

For ordering instructions, see the Accessory Order Form page.

<b>Accessory #</b>	<b>Figure</b>	<b>Description</b>	<b>Price</b>
<b>PV-DAC7</b>	 A rectangular power adapter with a power cord on the left and a DC power cable on the right.	<b>AC Adaptor with DC Power Cable</b>	<b>\$140.00</b>
<b>PV-DBP5</b>	 A small, rectangular battery pack with a latch on the top edge.	<b>1.25Ah Battery Pack</b>	<b>\$100.00</b>



# Palmcorder Accessory Order Form

Please photocopy this form when placing an order.

1. Palmcorder Model # \_\_\_\_\_

2. Items Ordered

Accessory #	Description	Price Each	Quantity	Total Price

Subtotal

Your State & Local Sales Tax

Shipping & Handling

5.00

Total Enclosed

3. Method of payment (check one)

- Check of Money Order enclosed (NO C.O.D. SHIPMENTS)
- VISA                      Credit Card # \_\_\_\_\_
- MasterCard              Expiration Date \_\_\_\_\_
- Discover                      Customer Signature \_\_\_\_\_

Make Check or Money Order to: MATSUSHITA ACCESSORIES

(Please do not send cash)

4. Shipping Information (UPS delivery requires complete street address)

Ship To:

Mr.

Mrs.

Ms.

First \_\_\_\_\_ Last \_\_\_\_\_

Phone #:

Day ( ) \_\_\_\_\_

Street Address \_\_\_\_\_

Night ( ) \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

TO OBTAIN ANY OF OUR OMNIMOVIE/PALMCORDER ACCESSORIES YOU CAN DO ANY OF THE FOLLOWING:

VISIT YOUR LOCAL PANASONIC DEALER

OR

LOCATE YOUR AUTHORIZED ACCESSORY STOCKING DISTRIBUTOR AT 1-800-545-2672

OR

CALL PANASONIC'S ACCESSORY ORDER LINE AT 1-800-332-5368 [6 AM-6 PM M-F, 6-10:30 SAT PACIFIC TIME]

OR

MAIL THIS ORDER TO: PANASONIC SERVICES COMPANY ACCESSORY ORDER OFFICE  
20421 84th Avenue South Kent, WA. 98032

For Your Information

# Notes Regarding Operations

## Rough Values of Brightness

Your Palmcorder has been designed for normal scene illumination of 150 footcandles (1500 lx). However, the Palmcorder may be used at F1:1.6, if illumination is more than 0.5 footcandles (5 lx).

The table below shows the color temperature for reference.

PALMCORDER SETTINGS	NATURAL LIGHT CONDITIONS	KELVIN COLOR TEMPERATURE	ARTIFICIAL LIGHT SOURCE	COLOR TINT MIXTURE
	• Fair weather, blue sky	10,000	• Color television	Bluish
	• Slightly cloudy sky	8,000		
	• Cloudy or rainy sky	7,000		
	• Sunlight in clear weather at midday	6,000	• Fluorescent lamp (Daylight)	Whitish
	• Average sunlight in clear weather	5,500	• Camera flash bulb	
	• Sunlight 2 hours after sunrise and before sunset	4,500	• Blue lamp for photography	
	• Sunlight 40 min. after sunrise and before sunset	3,200	• Fluorescent lamp (White)	
	• Sunlight 30 min. after sunrise and before sunset	2,800	• Normal flash bulb	Yellowish
	• Sunlight 20 min. after sunrise and before sunset	2,000	• Fluorescent lamp (Off-white)	
			• Tungsten lamp for photography	
		• Halogen lamp		
		• Iodine lamp		
		• Tungsten lamp	Reddish	
		• Acetylene lamp		
		• Kerosene lamp		
		• Candlelight		

**FCC Warning:** Any unauthorized changes or modifications to this equipment would void the user's authority to operate.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**Note:** This equipment has been tested and found to comply with Part 15 and part 18 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when operated in a residential environment.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, use the equipment in another location and/or utilize an electrical outlet different from that used by the receiver.

If necessary, consult the dealer or an experienced radio/TV technician for help. You may find the booklet, 'Something About Interference' available from FCC local regional offices helpful.

# Specifications

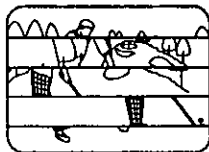
<b>Power Source:</b>	Digital Video Camera: 7.2V DC (Battery) 8.4V DC (AC Adaptor) AC Adaptor: 110/120/220/240V AC, 50/60 Hz Battery: Lithium-Ion Type DC 7.2V
<b>Power Consumption:</b>	Digital Video Camera: 7.2V DC (Battery) 9W 8.4V DC (AC Adaptor) 9W AC Adaptor: 20W 2W (when not in use.)
<b>Video Signal:</b>	EIA Standard (525 lines, 60 fields) NTSC color signal
<b>Video Recording System:</b>	2 rotary heads. helical scanning system
<b>Audio:</b>	12bit (32kHz) 4 tracks 16bit (48kHz) 2 tracks
<b>Pick-Up System and Device:</b>	One integral color filter Charge Coupled Device (CCD) (RGB color filter)
<b>Lens:</b>	10:1 zoom lens, F1:1.4 with auto iris control Focal length: 4.7mm - 47mm Power zoom function Lens filter diameter: 30.5mm
<b>Viewfinder:</b>	0.5 inch (12.7mm) Liquid Crystal Color Electronic Viewfinder
<b>LCD Monitor:</b>	3.8 inch (96.5mm) Liquid Crystal Display
<b>Minimum Illumination Required:</b>	7 lx (F1:1.4) 0.7 footcandles
<b>Operating Temperature:</b>	32°F~104°F (0°C~40°C)
<b>Operating Humidity:</b>	10%~75%
<b>Weight:</b>	Digital Video Camera: 1.46 lbs. 0.66 kg AC Adaptor: 0.39 lbs. 0.18 kg
<b>Dimensions:</b>	Digital Video Camera: 3-1/16 (W) × 3-3/4 (H) × 5-3/16 (D) inch 78 (W) × 95 (H) × 132 (D) mm AC Adaptor: 3-7/8 (W) × 1-5/8 (H) × 2-7/8 (D) inch 97 (W) × 43 (H) × 73 (D) mm

Weight and dimensions shown are approximate.

Designs and specifications are subject to change without notice.

## Before Requesting Service

### Cleaning Care for Video Heads



Clogged Video Head

(a) **Video Head Cleaning:** Normally, your Palmcorder will not normally require head cleaning. However, it is possible that the heads may become clogged due to dust in the air, damaged tape, long term use, etc. If "CLOGGED HEAD" flashes and "NEED HEAD CLEANING" appears for 5 seconds in the EVF, the heads may require cleaning.

(b) **Cleaning the Heads:** It is recommended that head cleaning be performed by a qualified service technician. Please contact your nearest Panasonic Service Center. An alternate solution is to obtain a head cleaning cassette. Please use Panasonic cleaning cassette (AY-DVMCL). Be sure to follow the cleaning instructions carefully. Excessive use of the cleaning cassette could shorten head life.

Use this cassette only when a head clogging symptom occurs.

Refer servicing to qualified service personnel.

### Caution for Tape Operations

- When you go from function to function (PLAY, FF, REW etc.), please note that the unit will not accept a new function operation until the previous operation is complete.
- The CAMERA/VCR Button, and all function buttons, (PLAY, FF, REW, etc.) are only operational after the tape has been completely loaded:

## Before Requesting Service

If you have a problem with your Palmcorder, it may be something you can correct yourself. Check the list below for symptoms and corrections.

Symptom	Correction
No picture in the EVF or LCD Monitor ...	<ul style="list-style-type: none"><li>• Make sure the Power Source is connected. (pp. 6, 10)</li><li>• Make sure the POWER switch is set to ON. (pp. 21, 26)</li><li>• Check the Dew Indicator. (p. 19)</li><li>• Make sure the battery is fully charged. (p. 8)</li><li>• Make sure all necessary cables are connected correctly and firmly. (p. 10)</li><li>• Make sure the Lens Cap is removed. (p. 21)</li></ul>
Video cassette can't be inserted ...	<ul style="list-style-type: none"><li>• Make sure the Power Source is connected. (pp. 6, 10)</li><li>• Insert the cassette with the window side facing out. (p. 11)</li></ul>
Video cassette can't be removed ...	<ul style="list-style-type: none"><li>• Make sure the Power Source is connected. (pp. 6, 10)</li></ul>
No operation starts when operation buttons are pressed ...	<ul style="list-style-type: none"><li>• Check the Dew Indicator. (p. 19)</li></ul>
Recording cannot be done ...	<ul style="list-style-type: none"><li>• Make sure the record tab is closed. (p. 11)</li><li>• Check the Battery Indicator. (p. 16)</li><li>• Check the Dew Indicator. (p. 19)</li></ul>
Auto Focus does not operate ...	<ul style="list-style-type: none"><li>• Make sure the FOCUS is set to AUTO. (p. 37)</li><li>• Make sure the unit is ON with CAMERA mode. (p. 21)</li></ul>
Sound from microphone can't be monitored ...	<ul style="list-style-type: none"><li>• Make sure the unit is set to REC or Record/Pause mode.</li></ul>
Sound can't be heard ...	<ul style="list-style-type: none"><li>• Make sure the Audio on the VCR MENU is set to ST1. (p. 15)</li></ul>

# ***Request for Service Notice***

Please photocopy this form when making a request for service notice.

## **Request for Service Notice:**

In the unlikely event this product needs service.

- Please include your **proof of purchase**.  
(Failure to do so will delay your repair.)
- To further speed your repair please provide an explanation of what is wrong with the unit and any symptom it is exhibiting.

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Mail this completed form and your Proof of Purchase along with your unit to:  
Panasonic Services Company  
1705 N. Randall Road  
Elgin, IL. 60123-7847  
Attn: Camcorder Repair

# Index of Controls

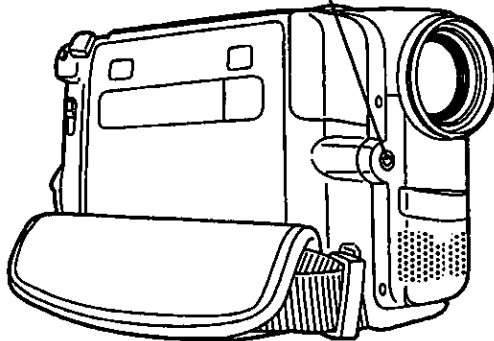
## Front View

**Tally-LED**  
See pages 15, 21.

**Remote Sensor**  
See page 24.

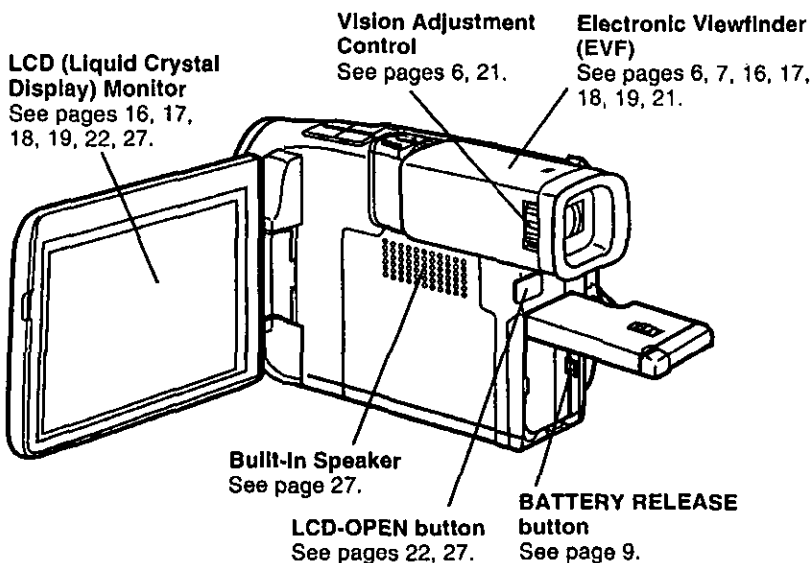
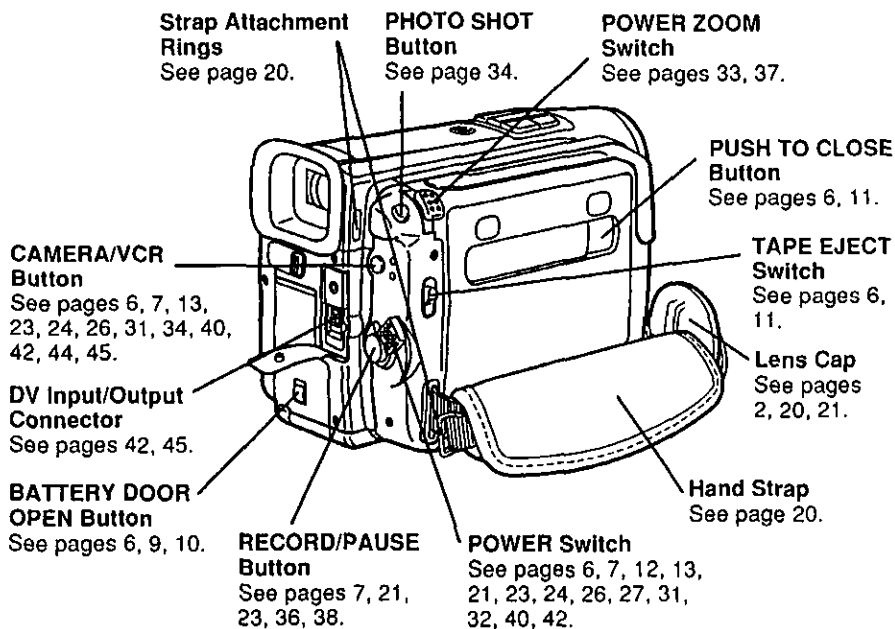
**Built-In Triple Capsule  
2-Way Microphone System**

**External  
Microphone Jack**  
See page 40.



# Index of Controls

## Rear View





# Index of Controls

## Top View

**REWIND/EDIT  
SEARCH ◀◀  
Button**

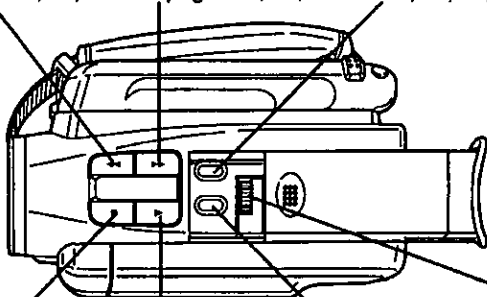
See pages 7, 23,  
26, 28.

**FAST FORWARD/  
EDIT SEARCH ▶▶  
Button**

See pages 23, 26, 28.

**MENU Button**

See pages 12, 13, 22, 23,  
24, 29, 32, 33, 34, 36, 39,  
40, 41, 42, 43.



**SELECT SET  
WHEEL**

See pages 12, 13,  
22, 23, 29, 32, 33,  
34, 36, 37, 39.

**VOLUME Button**

See page 27.

**FOCUS Button**

See page 37.

**STOP Button**

See pages 7, 26,  
29, 41, 43, 44, 45.

**FADE Button**

See page 38.

**PLAY Button**

See pages 7, 26, 28,  
29, 40, 42, 43, 44, 45.

**BACK LIGHT Button**

See page 39.

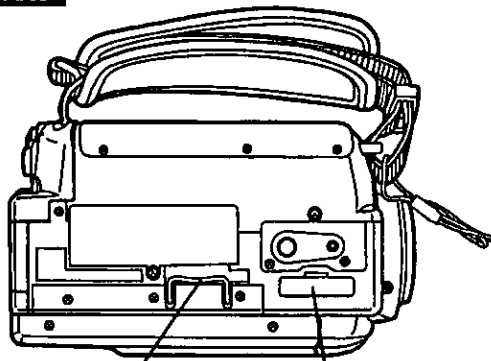
**PAUSE Button**

See pages 28, 29, 40,  
41, 42, 43, 44, 45.

**PROGRAM AE Button**

See page 35.

## Underside View



**Wire Stand**

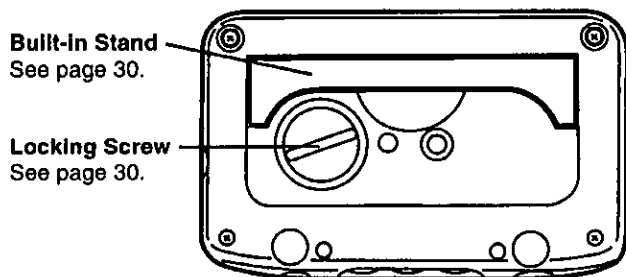
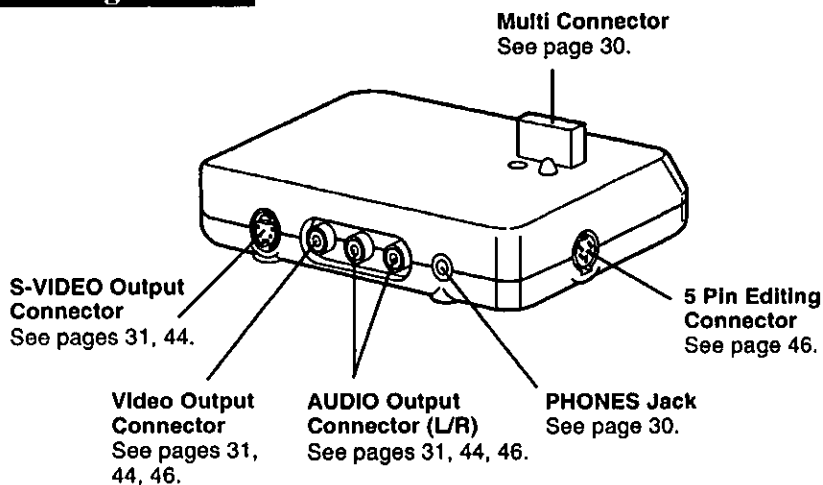
See page 27.

**Multi Connector**

See page 30.

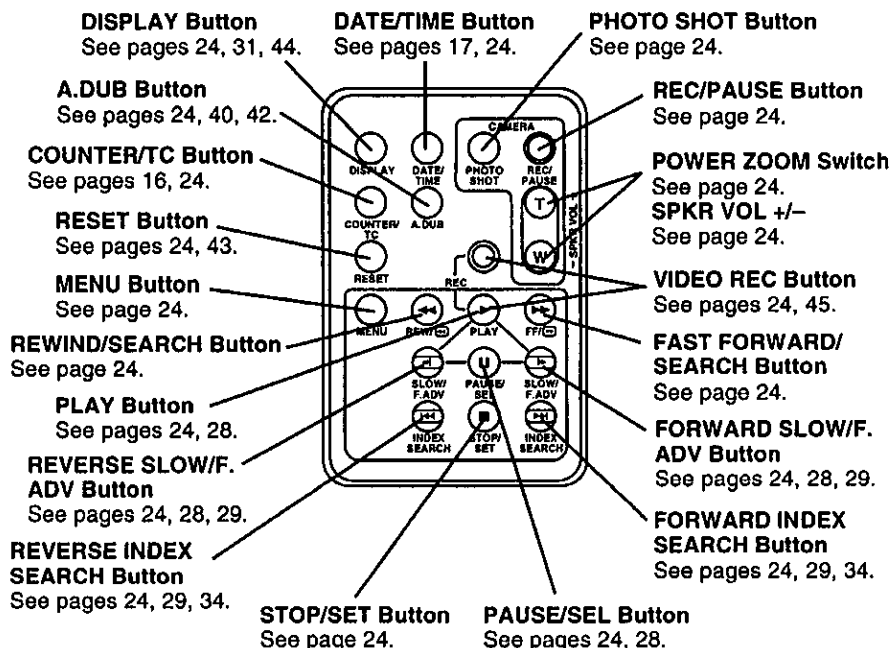
# Index of Controls

## Docking Station

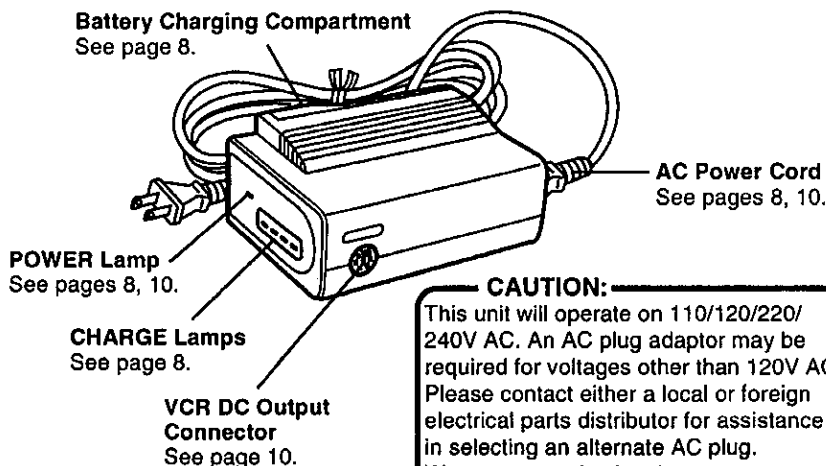


# Index of Controls

## Remote Control



## AC Adaptor



### CAUTION:

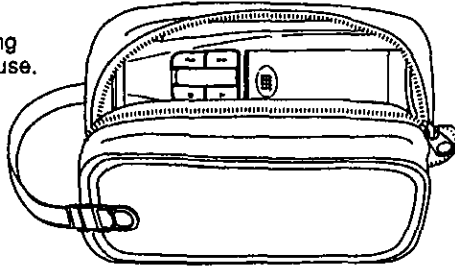
This unit will operate on 110/120/220/240V AC. An AC plug adaptor may be required for voltages other than 120V AC. Please contact either a local or foreign electrical parts distributor for assistance in selecting an alternate AC plug. We recommend using the accessory power plug adaptor (VJSS0070) in an area which has special AC outlets.

# Carring Case

To carry and store the Palmcorder.

## Soft Carring Case

Keep the Palmcorder in the Soft Carring Case, with the lens facing the hand strap end when not in use.



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**Panasonic Consumer Electronics Company, Division of Matsushita Electric Corporation of America**  
 One Panasonic Way Secaucus, New Jersey 07094

**Panasonic Sales Company, Division of Matsushita Electric of Puerto Rico, Inc.**  
 Ave. 65 de Infantería. Km. 9.5  
 San Gabriel Industrial Park, Carolina, Puerto Rico 00985

## PANASONIC/QUASAR Video Products Limited Warranty

Panasonic Consumer Electronics Company or Panasonic Sales Company (collectively referred to as "the Warrantor") will repair this product with new or refurbished parts, free of charge, in the USA or Puerto Rico, in the event of a defect in materials or workmanship as follows (all time periods commence from the date of the original purchase):

PRODUCT	PARTS	LABOR
CAMCORDER	ONE (1) YEAR, EXCEPT CCD IMAGE SENSOR CCD IMAGE SENSOR - SIX (6) MONTHS	NINETY (90) DAYS NINETY (90) DAYS
VCR	ONE (1) YEAR	NINETY (90) DAYS
A/V MIXER	ONE (1) YEAR	NINETY (90) DAYS
MONITOR-VCR	ONE (1) YEAR, EXCEPT CRT CRT - TWO (2) YEARS	NINETY (90) DAYS CRT - NINETY (90) DAYS CUSTOMER PAYS ALL LABOR CHARGES AFTER 90 DAYS

**Monitor-VCR In-home or carry-in Service: 19" (diagonal) CRT / LCD and Larger**

**Monitor-VCR Carry-in Service: 18" (diagonal) CRT / LCD and smaller**

**Batteries** (if included) - New rechargeable batteries in exchange for defective rechargeable batteries for ten (10) days. Non-rechargeable batteries are not warranted.

**Tapes** (if included) - New video cassette tape in exchange for a defective video cassette tape for five (5) days.

In-home, carry-in or mail-in service, as applicable, in the USA can be obtained during the warranty period by contacting a Panasonic Services Company (PASC) Factory Servicenter listed in the Service Directory. Or call toll free 1-800-545-2672, to locate an authorized PASC Servicenter. Carry-in or mail-in service in Puerto Rico can be obtained during the warranty period by calling the Panasonic Sales Company telephone number listed in the Servicenter Directory.

This warranty is extended only to the original purchaser. A purchase receipt or other proof of the date of the original purchase is required before warranty service is rendered.

This warranty only covers failures due to defects in materials and workmanship which occur during normal use and does not cover normal maintenance, including, but not limited to, video and audio head cleaning. The warranty does not cover damage which occurs in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, modification, faulty installation, set-up adjustments, improper antenna, inadequate signal pickup, maladjustment of consumer controls, improper operation, power line surge, improper voltage supply, lightning damage, commercial use such as hotel, office, restaurant, or other business or rental use of the product, or service by anyone other than a PASC Factory Servicenter or a PASC authorized Servicenter, or damage that is attributable to acts of God.

### LIMITS AND EXCLUSIONS

There are no express warranties except as listed above. THE WARRANTOR SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING, WITHOUT LIMITATION, DAMAGE TO TAPES) RESULTING FROM THE USE OF THIS PRODUCTS, OR ARISING OUT OF ANY BREACH OF THE WARRANTY. ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, ARE LIMITED TO THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE. Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions or limitations may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

If a problem with this product develops during or after the warranty period, you may contact your dealer or Servicenter. If the problem is not handled to your satisfaction, then write to the Customer Satisfaction Center at the Panasonic Consumer Electronics Company address above.

**SERVICE CALLS WHICH DO NOT INVOLVE DEFECTIVE MATERIALS OR WORKMANSHIP AS DETERMINED BY THE WARRANTOR, IN ITS SOLE DISCRETION, ARE NOT COVERED. COSTS OF SUCH SERVICE CALLS ARE THE RESPONSIBILITY OF THE PURCHASER.**

warvid 2/11/97

# Warranty

## PRODUCT INFORMATION • OPERATION ASSISTANCE • LITERATURE REQUESTS • DEALER LOCATIONS

Customer Service Center 2F-3, One Panasonic Way, Secaucus, NJ 07094 (Headquarters)  
201-348-9090 (9:00am-8:00pm Monday-Friday, EST)

## ACCESSORY PURCHASES

1-800-332-5368 (Consumer Orders Only)  
Panasonic Services Company 20421 84th Avenue South Kent, WA 98032  
(6 am to 6 pm Monday-Friday; 6 am to 10:30 am Saturday; PST)  
(Visa, Mastercard, Discover card, American Express, Check)

## AUTHORIZED SERVICENTERS • PARTS DISTRIBUTOR LOCATIONS

To locate an independent authorized servicenter or parts distributor in your area, within the USA dial toll free 1-800-545-2672, 24 hours a day, 7 days a week.

## PRODUCT REPAIRS

## Centralized Factory Servicenter

MAIL TO :

Panasonic Services Company  
1705 N. Randall Road,  
Elgin, IL 60123-7847

Attention: Camcorder Repair

Please carefully pack and ship, prepaid and insured, to the Elgin centralized repair Factory Servicenter. While there will be added handling delays, you may bring your unit to one of the following locations who will then forward the unit to Elgin for repair.

Customer's in Puerto Rico, please ship or carry in to location below ("Service in Puerto Rico").

### Factory Servicenters

**CALIFORNIA**  
6550 Katella Avenue  
Cypress, CA 90630  
Phone (714) 373-7426  
Fax (714) 894-8534  
800 Dubuque Avenue  
S. San Francisco, CA 94080  
Phone (415) 871-6373  
Fax (415) 871-6840  
20201 Sherman Way  
Suite 102  
Canoga Park, CA 91306  
Phone (818) 709-1775  
Fax (818) 709-2165  
3878 Ruffin Road  
Suite A  
San Diego, CA 92123  
Phone (619) 560-9200  
Fax (619) 560-1831

**COLORADO**  
1640 South Abilene Suite D  
Aurora, CO 80012  
Phone (303) 752-2024  
Fax (303) 752-0810

**FLORIDA**  
3700 North 29th Avenue  
Suite 102  
Hollywood, FL 33020  
Phone (954) 925-2880  
Fax (954) 925-5224

**GEORGIA**  
8655 Roswell Road  
Suite 100  
Atlanta, GA 30350  
Phone (770) 518-6301  
Fax (770) 518-6308

**HAWAII**  
99-859 Iwalea Street  
Aiea, Hawaii 96701  
Phone (808) 488-1996  
Fax (808) 488-4369

**ILLINOIS**  
1703 North Randall Road  
Elgin, IL 60123  
\*12:30 to 4:30, Mon-Fri\*  
Phone (847) 468-5464  
Fax (847) 468-5465

9060 Golf Road  
Niles, IL 60714  
Phone (847) 608-1010  
Fax (847) 288-1710

**MARYLAND**  
62 Mountain Road  
Glen Burnie MD 21061  
Phone (800) 973-4071  
Fax (410) 760-3779

**MASSACHUSETTS**  
60 Glacier Drive, Suite G  
Westwood, MA 02090  
Phone (617) 328-4280  
Fax (617) 329-0586

\*Pick-up/drop-off only

**MICHIGAN**  
37048 Van Dyke Avenue  
Sterling Heights, MI 48312  
Phone (810) 939-2060  
Fax (810) 939-2638

**MINNESOTA**  
7850-12th Avenue South  
Airport Business Center  
Bloomington, MN 55425  
Phone (612) 854-8624  
Fax (612) 854-2089

**OHIO**  
2238 Waycross Road  
Cincinnati, OH 45240  
Phone (513) 851-4160  
Fax (513) 851-8443

**PENNSYLVANIA**  
2221 Cabot Boulevard West  
Suite B  
Langhorne, PA 19047  
Phone (215) 741-0661  
Fax (215) 741-0521

Charliers Valley Shopping  
Center  
1025 Washington Pike  
Bridgeville, PA 15017  
Phone (412) 257-4522  
Fax (412) 257-4650

**TENNESSEE**  
919-8th Avenue South  
Nashville, TN 37203  
Phone (615) 244-4434  
Fax (615) 244-6713

**TEXAS**  
7482 Harwin Drive  
Houston, TX 77036  
Phone (713) 781-1528  
Fax (713) 781-0843

13815 Welch Road  
Suite 101  
Farmers Branch, TX 75244  
Phone (972) 385-1975  
Fax (972) 980-7628

**WASHINGTON**  
20425-84th Avenue South  
Kent, WA 98032  
Phone (206) 872-7922  
Fax (206) 872-0918

### Service in Puerto Rico

Matsushita Electric  
of Puerto Rico, Inc.  
Panasonic Sales Company/  
Factory Servicenter  
Ave. 65 de Infantaria, Km. 9.5  
San Gabriel Industrial Park  
Carolina, Puerto Rico 00985  
Phone (787) 750-4300  
Fax (787) 768-2810

## REPAIR INQUIRIES

## Regional Customer Care Department

**EAST (PCE)**  
2221 Cabot Boulevard West  
Suite A  
Langhorne, PA 19047  
Phone (215) 741-0676  
Fax (215) 750-0492  
Covers:  
CT, DE, ME, MD, MA, NH, NJ,  
NY, PA, RI, VT, VA, DC, WV

**EAST (PCE)**  
1225 Northbrook Parkway  
Suite 2-390  
Suwanee, GA 30174  
Phone (770) 338-6860  
Fax (770) 338-6548  
Covers:  
AL, FL, GA, MS, NC, SC, TN

**CENTRAL (PCC)**  
1707 North Randall Road  
Elgin, IL 60123  
Phone (847) 468-5530  
Fax (847) 468-5528  
Covers:  
AR, IL, IN, IA, KS, KY, LA, MI,  
MN, MO, NE, ND, OK, SD, TX,  
WI, OH

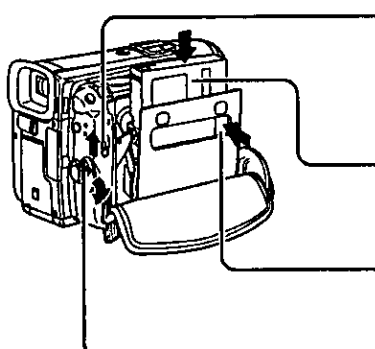
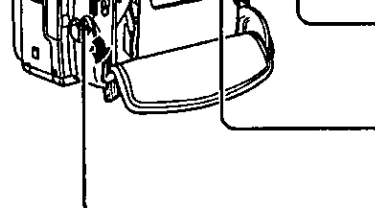

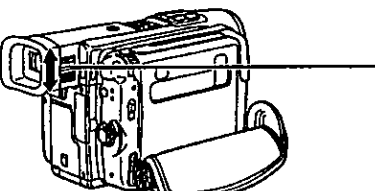
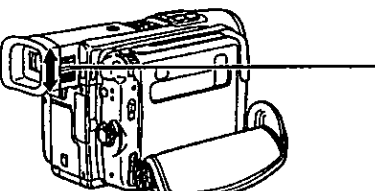
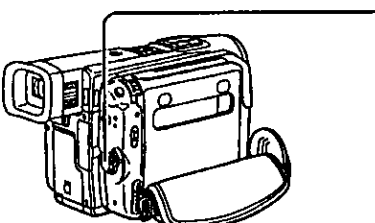
**WEST (PCW)**  
6550 Katella Avenue  
Cypress, CA 90630  
Phone (714) 373-7440  
Fax (714) 373-7447  
Covers:  
AK, AZ, CA, CO, ID, MT, NM,  
OR, UT, WA, WY, HI

# Spanish Quick Use Guide/Guía Para Uso Rápido

## PREPARATIVOS

- Conectar la videocámara a una fuente de alimentación (batería, adaptador de CA o cable para batería de coche).

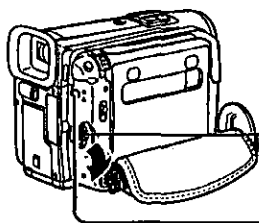
## GRABACION A CAMARA

- 
- 1** Deslice el botón TAPE EJECT para abrir la tape.
- 
- 2** Introduzca una cinta con el lado de la ventanilla hacia fuera.
- 
- 3** Presione aquí para cerrar la tape.
- 
- 4** Fije el conmutador de power a la posición de ON. La luz indicador se enciende a color rojo.
- 
- 5** Deslice todo el visor y ajuste el control de ajustamiento de la vision.
- 
- 6** Oprimir RECORD/PAUSE para iniciar la grabación. Volver a oprimir RECORD/PAUSE para hacer una pausa en la grabación.

# Spanish Quick Use Guide/Guía Para Uso Rápido

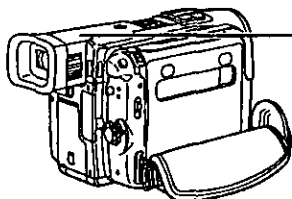
- Conectar la videocámara a una fuente de alimentación (batería, adaptador de CA o cable para batería de coche).
- Introducir una cinta de video en el compartimiento de cinta.

## REPRODUCCION USANDO EL VISOR



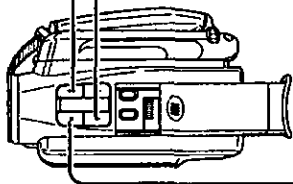
**1** Fije el botón POWER hacia ON.

**2** Oprima CAMERA/VCR. Se enciende la luz indicador de VCR.



**3** Deslice todo el visor.

**4** Oprima REW para rebobinar la cinta.



**5** Oprima PLAY para iniciar la reproducción.

**6** Oprima STOP para parar la reproducción.

## REPRODUCCION CON EFECTOS ESPECIALES

### PARA LOCALIZAR RAPIDAMENTE UNA ESCENA ESPECIFICA

- Oprimir el botón de localización (SEARCH).

### PARA CONGELAR UNA IMAGEN

- Oprimir el botón de pausa/imagen fija (PAUSE/STILL).
- Oprimir nuevamente el botón cuando se desea continuar reproduciendo.

Panasonic Consumer Electronics  
Company, Division of Matsushita  
Electric Corporation of America  
One Panasonic Way Secaucus,  
New Jersey 07094

Panasonic Sales Company,  
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Puerto Rico, Inc. ("PSC")  
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Carolina, Puerto Rico 00985

