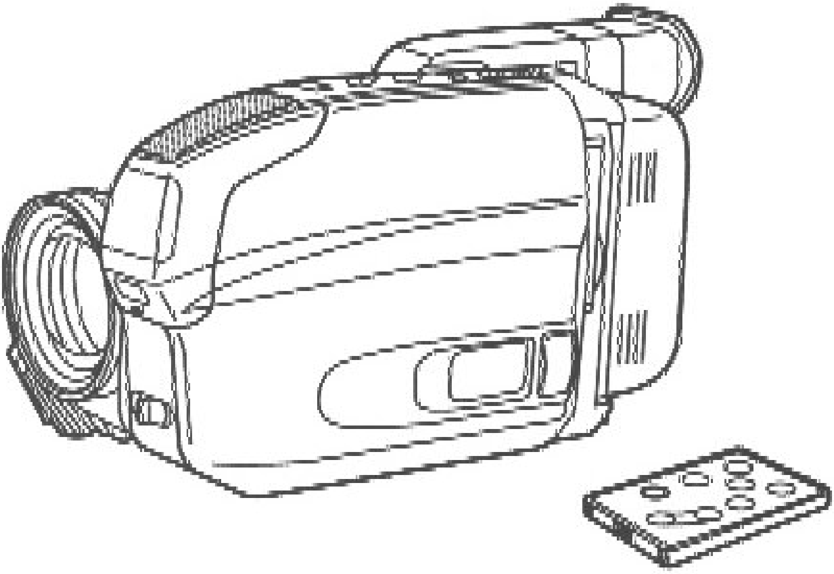
Panasonic®

Palmcorder IQ®

Camcorder

Operating Instructions



VHS C

PV-D776

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

Spanish Quick Use Guide is included.

Guia para rápida consulta en español está incluida.

VQTW050209

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. ______________________

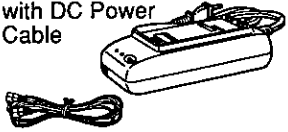
Model No. ______________________

Serial No. ______________________

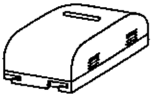
Unpack your Palmcorder

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

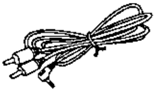
1 pc. AC Adaptor
(PV-A17)
with DC Power
Cable



1 pc. Battery Pack
(PV-BP18)

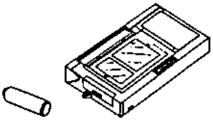


1 pc. Audio/Video
Cable (VJAW0032)

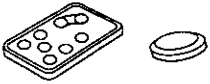


1 pc. Shoulder Strap
(VYCW0108)

1 pc. VHS PlayPak
(PV-P1/VYMW0009)
and one "AA" battery



1 pc. 9-Function Remote
(VSQW0031 or VSQW0033)
with one CR2025 Battery



Remote has been loaded with battery and comes stored in Palmcorder. See page 23.

1 pc. CR2025 Clock
Battery (VSBW0004)
(installed in Palmcorder)

Safety Precautions

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

Your Compact VHS Palmcorder is designed to record and play back in Standard Play (SP) and Super Long Play (SLP) modes. You can also play a Compact VHS Palmcorder recording on your VHS VCR using the VHS PlayPak supplied.

This Palmcorder is equipped with the **HQ** System to provide excellent video pictures, and is compatible with standard VHS equipment.
It is recommended that only cassette tapes that have been tested and inspected for use in VCR machines with the VHS C and/or VHS mark be used.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

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

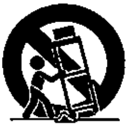
This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.

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.

The above markings are located on the appliance bottom cover.

Important Safeguards

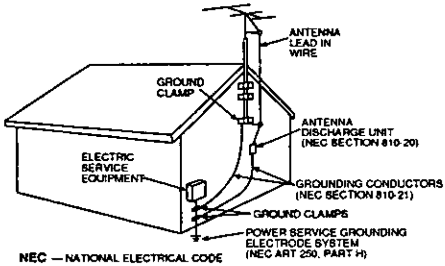
1. Read Instructions — All the safety and operating instructions should be read before the unit is operated.
2. Retain Instructions — The safety and operating instructions should be retained for future reference.
3. Heed Warnings — All warnings on the unit and in the operating instructions should be 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.


ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)
NEC — NATIONAL ELECTRICAL CODE

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.
    f. 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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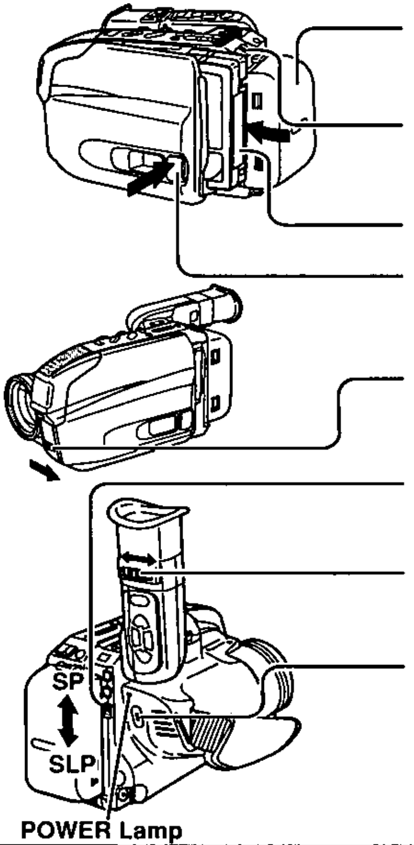
Quick Operation Guide

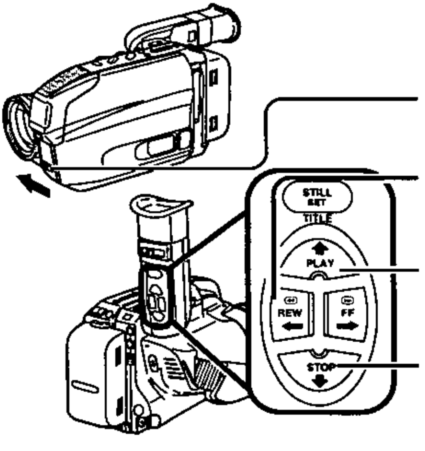
Camera Recording

Charge the Battery Pack fully before operation (see page 7).



1. **Attach the Battery** (see page 7). Make sure Battery is charged before use (see page 7).
2. **Slide the TAPE EJECT switch** to open the door.
3. **Insert a cassette** (see page 10).
4. **Press here** to close the door.
5. **Set the POWER switch to CAMERA.** Built-In Lens Cover opens and POWER Lamp lights.
6. **Slide the TAPE SPEED Selector** for SP or SLP (see page 10).
7. **With the Eye Cup up to your eye, adjust the Vision Adjustment Control to your eyesight.**
8. **Press RECORD/PAUSE** to start recording.
   Press RECORD/PAUSE again to pause recording (see page 20).

To Watch Playback in the EVF (Electronic Viewfinder)

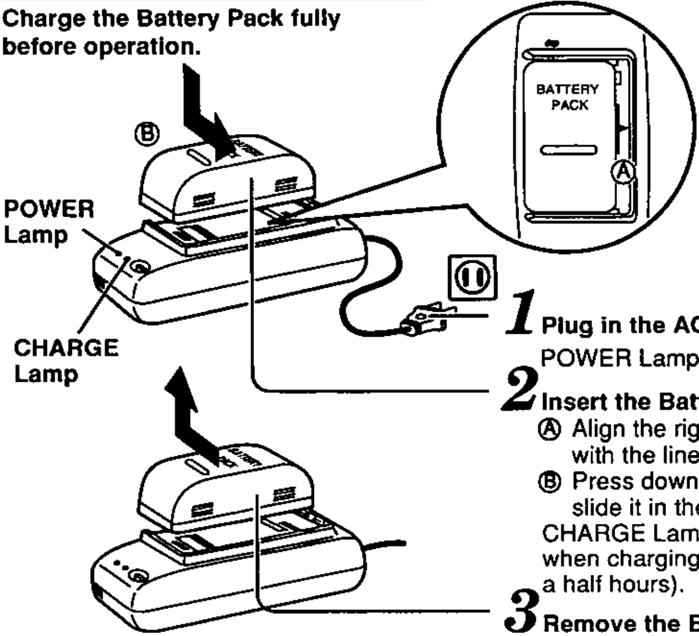


1. **Set the POWER switch to VCR.**
2. **Press REWIND/SEARCH** to rewind the tape.
3. **Press PLAY** to start playback.
4. **Press STOP** to stop playback.

Supplying Power

Charge the Battery Pack

Charge the Battery Pack fully before operation.



1 **Plug in the AC Adaptor.**
POWER Lamp lights up.

2 **Insert the Battery**
Ⓐ Align the right side of the Battery with the line on the AC Adaptor.
Ⓑ Press down on the Battery and then slide it in the direction of the arrow.
CHARGE Lamp lights up. It goes out when charging is done (about one and a half hours).

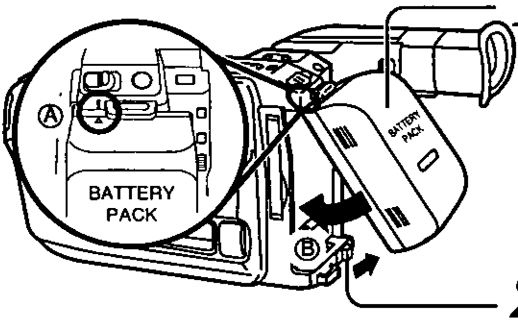
3 **Remove the Battery**
Slide the Battery out and then lift up.

Note:
After recharging the Battery Pack about 5 times, use the BATTERY REFRESH feature as explained on page 8.

- The useful operation time of the Battery will gradually decrease after repeated use and recharging. The Battery is no longer serviceable if the operation time is very short, even after a sufficient charge.

Use the Battery Pack

With a fully charged Battery Pack, you will have a maximum of about one and a half hours of continuous use. (If the Built-in Light is used, battery operating time decreases.)



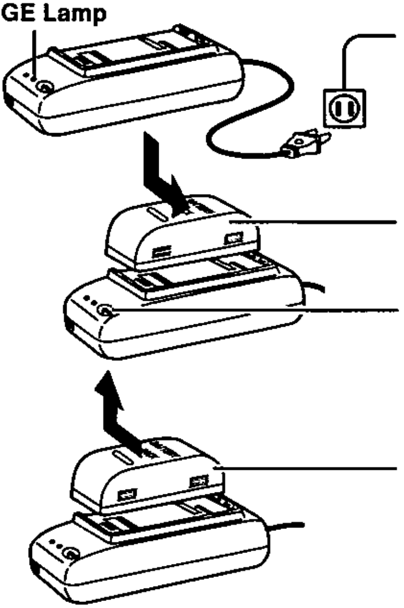
1 **Attach the Battery**
Ⓐ Align the Battery with the top of the mounting surface.
Ⓑ Press it into place until it locks with a click.

2 **Remove the Battery**
While sliding the BATTERY RELEASE button, remove the Battery.

Supplying Power

Battery Refresh Feature

This feature completely discharges the Battery before recharging begins.
To maintain your battery's operating capacity, use the refresh feature after about every five charges.



1 **Plug in AC Adaptor.**

2 **Place the Battery into the AC Adaptor.**

3 **Press the BATTERY REFRESH button.**
The CHARGE Lamp will flash when discharging begins and stop flashing when fully discharged. POWER Lamp will stay lit when fully charged.

4 **Remove the Battery**

- Should you accidentally press the BATTERY REFRESH button, remove Battery and then re-insert it to begin charging.
- It takes about seven and a half hours when both Battery Refresh and charging are performed.

ONLY FOR U.S.A.

ATTENTION:
The product that you have purchased is powered by a rechargeable battery. The battery is recyclable. At the end of its useful life, under various state and local laws, it may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for recycling options or proper disposal.

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.

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:

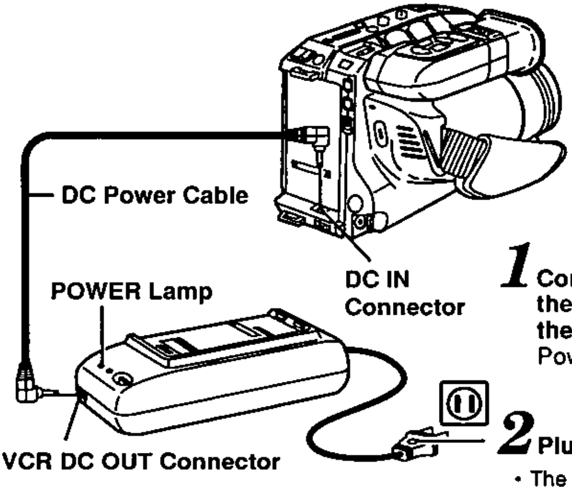
- Do not drop or jar the Battery.
- Use the Battery with specified units only.
- If the Battery is used in extremely high temperatures, a safety device will automatically prevent operation.

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.
- Keep the Battery terminals clean.

Supplying Power

AC Adaptor


DC Power Cable
POWER Lamp
DC IN Connector
VCR DC OUT Connector

1 **Connect the VCR DC OUT on the AC Adaptor to the DC IN on the Palmcorder** with the DC Power Cable (supplied).

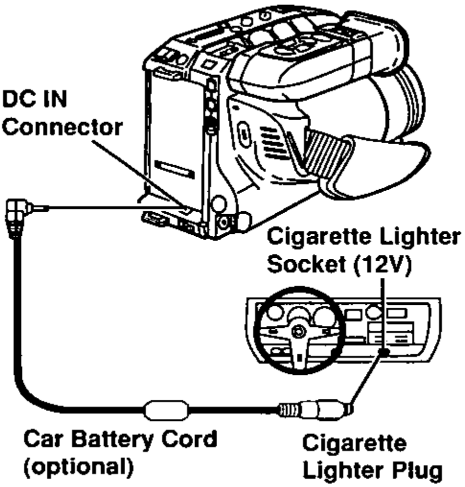
2 **Plug in the AC Adaptor.**

- The POWER Lamp will light up.

Note:

- AC Adaptor can not be used to power the Palmcorder while charging the Battery.
- While not in use, unplug the AC Adaptor from the AC outlet. (AC Adaptor consumes 1.2W of electric power if it is plugged into an AC outlet even when not in use.)

Car Battery Cord (Optional)


DC IN Connector
Cigarette Lighter Socket (12V)
Car Battery Cord (optional)
Cigarette Lighter Plug

1 **Connect a PV-C16 Car Battery Cord (optional) to the DC IN** of the Palmcorder.

2 **Start your car engine and then insert the Car Battery Cord plug into your cigarette lighter socket.**

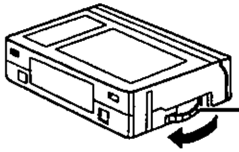
- There is a fuse located in the lighter plug end of the cord.
  Should fuse replacement be necessary use the exact current rating (in amps).

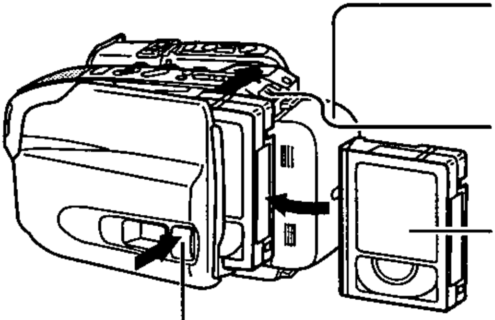
Note:

- This cord can only be used in vehicles equipped with **DC 12V (negative ground)** batteries. Use only the specified car battery cord. If you are not sure check with your local car/truck dealer as to what type of DC battery ground you have in your vehicle.
- Be sure to start your car engine before inserting the cigarette lighter plug of the Car Battery Cord into the lighter socket; otherwise, the cigarette lighter plug fuse may burn out.
- Because the car is running while your Palmcorder is in operation, make sure you're in a well ventilated area.
- Disconnect the cigarette lighter plug when your Palmcorder is not being used.

Cassette Information

Cassette Insertion/Removal





1 **Turn the Tape Wheel** in the direction of the arrow until there is no slack.

2 **Attach the Battery** (see page 7).

3 **Slide the TAPE EJECT switch** to open the door.

4 **Insert the cassette vertically** with its window side facing out.

5 **Press here** to close the door.

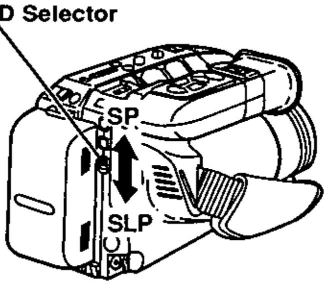
- **To remove the cassette, slide the TAPE EJECT switch.**

Record/Playback Time

Use tapes with the VHS C mark in this unit.

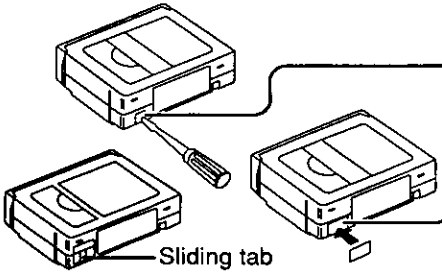
Tape Speed Selector Position	Cassette type		
	T-20	T-30	T-40
SP (Standard Play)	20 minutes	30 minutes	40 minutes
SLP (Super Long Play)	1 hour	1 hour 30 minutes	2 hours

- SP provides the best picture.
- SLP has slightly more picture noise during playback.



Erase Protection Tab

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



1 **To prevent accidental erasure**
Break off the tab with a screwdriver. (Or, slide tab open.)

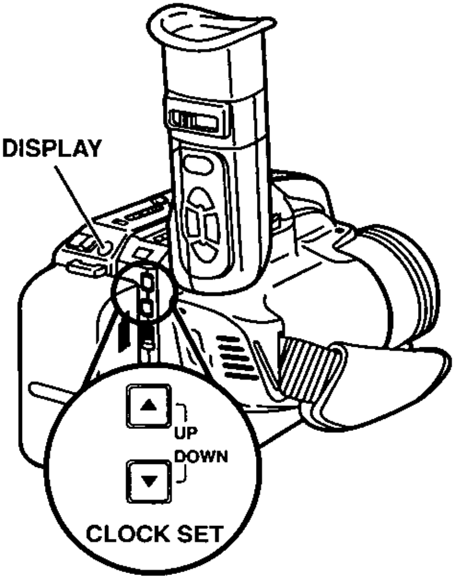
2 **To record again**
Cover the hole with adhesive tape. (Or, slide tab closed.)

Setting the Clock

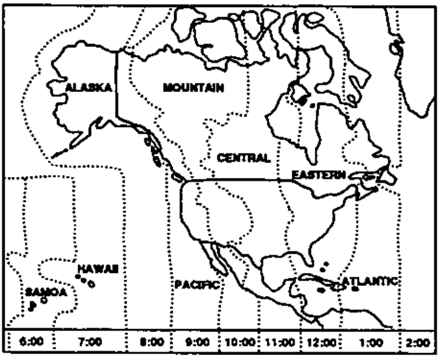
Setting the clock is divided into three sections; Set the Time Zone, Set the Daylight Saving Time, and Set the Date and Time. Please follow instructions in the order presented.

Set the Time Zone

The Palmcorder is set to the Eastern Standard time zone at the factory. If you live in a different time zone, follow the steps below to change it. Then, when traveling, rather than resetting the clock to the local time, you can simply set the appropriate time zone.



Time Zone chart



Before you begin...

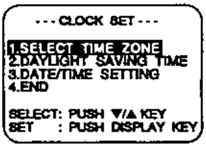
- **Connect the Palmcorder to a power source.**
- **Set the POWER switch to VCR or CAMERA.**

Note:
CLOCK SET menu disappears if, after activation, CLOCK SET UP ▲, DOWN ▼ or DISPLAY buttons are not pressed within 30 seconds.

The Palmcorder's clock may lose or gain up to two minutes per month. Please adjust as necessary (refer to page 13).

1 **Press CLOCK SET UP ▲** to display the CLOCK SET menu.

2 **Press UP ▲ or DOWN ▼ repeatedly** to select 1.SELECT TIME ZONE from the CLOCK SET menu.

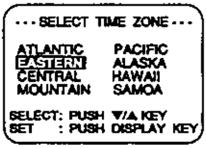


```
---CLOCK SET---

1.SELECT TIME ZONE
2.DAYLIGHT SAVING TIME
3.DATE/TIME SETTING
4.END

SELECT: PUSH ▼/▲ KEY
SET   : PUSH DISPLAY KEY
```

3 **Press DISPLAY** to display the SELECT TIME ZONE menu.



```
---SELECT TIME ZONE---

ATLANTIC    PACIFIC
EASTERN     ALASKA
CENTRAL     HAWAII
MOUNTAIN    SAMOA

SELECT: PUSH ▼/▲ KEY
SET   : PUSH DISPLAY KEY
```

4 **Press UP ▲ or DOWN ▼ repeatedly** to select one of the eight time zones of the location where you are using the Palmcorder.

5 **Press DISPLAY** to fix the Time Zone. The CLOCK SET menu appears.

To exit from the CLOCK SET menu, select 4.END and press DISPLAY.

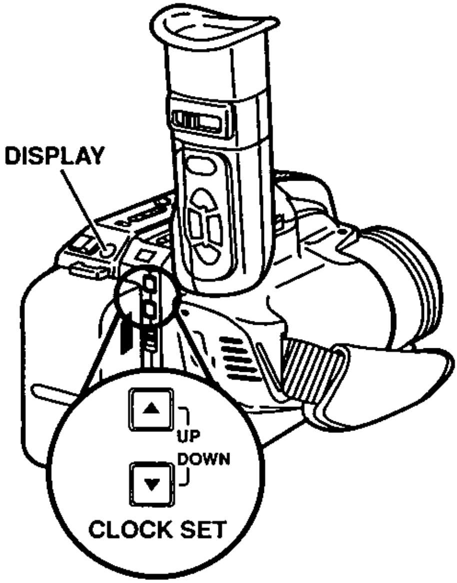
Note:
When you travel outside the eight time zones right, please set the clock manually (see page 13).

Setting the Clock

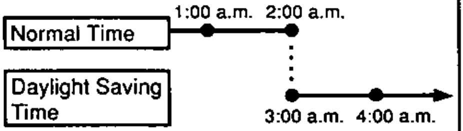
Set the Daylight Saving Time

The clock will automatically adjust to daylight saving time.

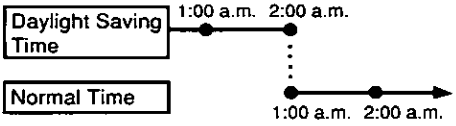
Daylight Saving Time is preset to AUTO. If you do not want the clock to automatically adjust to daylight saving time, please select OFF by following steps 1-5 below.



Spring:
First Sunday in April (DAYLIGHT SAVING TIME: AUTO) Automatically adds one hour and adjusts the clock.



Autumn:
Last Sunday in October (DAYLIGHT SAVING TIME: AUTO) Automatically turns back one hour and adjusts the clock.



Before you begin...

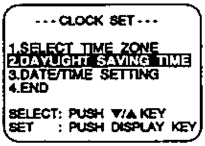
- **Connect the Palmcorder to a power source.**
- **Set the POWER switch to VCR or CAMERA.**

Note:
CLOCK SET menu disappears if, after activation, CLOCK SET UP ▲, DOWN ▼ or DISPLAY buttons are not pressed within 30 seconds.

This feature will not function if Hawaii or Samoa Time Zone is selected.

1 **Press CLOCK SET UP ▲** to display the CLOCK SET menu.

2 **Press UP ▲ or DOWN ▼ repeatedly** to select 2.DAYLIGHT SAVING TIME from the CLOCK SET menu.

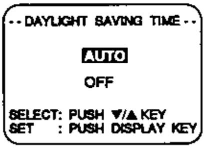


```
---CLOCK SET---

1.SELECT TIME ZONE
2.DAYLIGHT SAVING TIME
3.DATE/TIME SETTING
4.END

SELECT: PUSH ▼/▲ KEY
SET    : PUSH DISPLAY KEY
```

3 **Press DISPLAY** to display the DAYLIGHT SAVING TIME menu.



```
--DAYLIGHT SAVING TIME--

AUTO

OFF

SELECT: PUSH ▼/▲ KEY
SET    : PUSH DISPLAY KEY
```

4 **Press UP ▲ or DOWN ▼** to select AUTO or OFF.

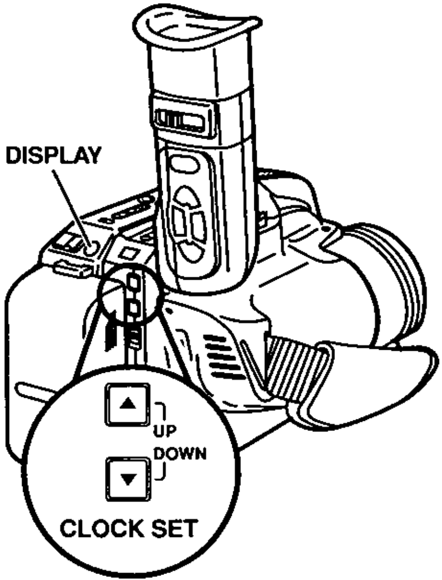
5 **Press DISPLAY** to fix the DAYLIGHT SAVING TIME setting. The CLOCK SET menu appears.

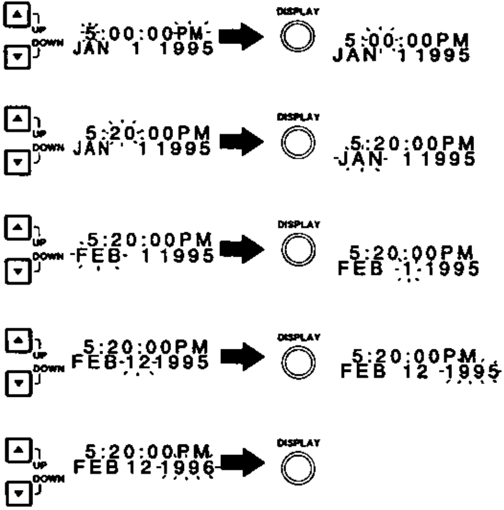
To exit from the CLOCK SET menu, select 4.END and press DISPLAY.

Setting the Clock

Set the Date and Time

The date and time is calculated, including leap year, up to DEC 31 2094.


DISPLAY
UP
DOWN
CLOCK SET


UP
DOWN
5:00:00PM
JAN 1 1995
DISPLAY
5:00:00PM
JAN 1 1995
UP
DOWN
5:20:00PM
JAN 1 1995
DISPLAY
5:20:00PM
JAN 1 1995
UP
DOWN
5:20:00PM
FEB 1 1995
DISPLAY
5:20:00PM
FEB 1 1995
UP
DOWN
5:20:00PM
FEB 12 1995
DISPLAY
5:20:00PM
FEB 12 1995
UP
DOWN
5:20:00PM
FEB 12 1996
DISPLAY

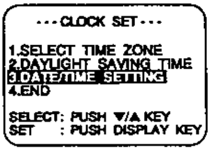
Before you begin...

- **Connect the Palmcorder to a power source.**
- **Set the POWER switch to VCR or CAMERA.**

Note:
CLOCK SET menu disappears if, after activation, CLOCK SET UP ▲, DOWN ▼ or DISPLAY buttons are not pressed within 30 seconds.

1 **Press CLOCK SET UP ▲** to display the CLOCK SET menu.

2 **Press UP ▲ or DOWN ▼ repeatedly** to select 3.DATE/TIME SETTING from the CLOCK SET menu.

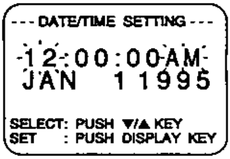


---CLOCK SET---
1.SELECT TIME ZONE
2.DAYLIGHT SAVING TIME
3.DATE/TIME SETTING
4.END
SELECT: PUSH ▼/▲ KEY
SET : PUSH DISPLAY KEY

3 **Press DISPLAY** to display the DATE/TIME SETTING menu.

4 **Press UP ▲ or DOWN ▼ repeatedly (or hold down)** to enter the desired numbers, **then, press DISPLAY** to fix that portion and move to the next.

Adjust the flashing digits for the hour, minute, month, day and year.



---DATE/TIME SETTING---
12:00:00AM
JAN 1 1995
SELECT: PUSH ▼/▲ KEY
SET : PUSH DISPLAY KEY

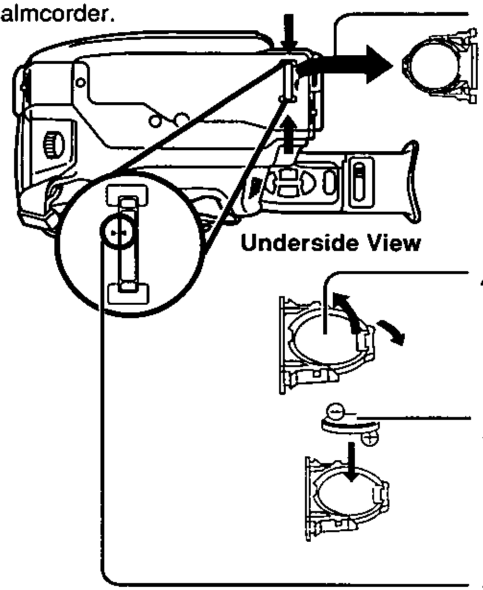
When you finish setting the year, the clock starts operating, and the CLOCK SET menu appears.

To exit from the CLOCK SET menu, select 4.END and press DISPLAY.

Setting the Clock

Replace the Battery

The date and time operates on a miniature battery preinstalled in the underside of your Palmcorder.



1 **While pinching the stopper tabs, pull the tray out of the Battery Compartment.**

2 **Remove the Battery** by bending the locking tab outward.

3 **Place the new Battery** into the Battery tray with the ⊕ mark facing down until it snaps into place.

- Do not reverse the polarity.

4 **Replace the Battery tray** so that the small triangle marks meet.

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.

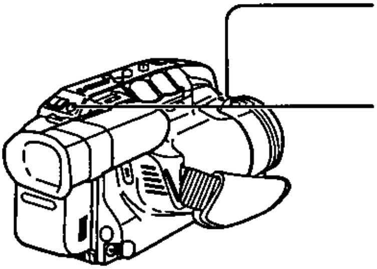
Note:

- Make sure your Palmcorder is off when replacing the Battery.
- Keep the Battery out of the reach of children since swallowing it may be harmful.
- When the Battery is installed improperly, is discharged, or missing, "CLOCK BATTERY" appears in the EVF.
- Battery life is approximately 5 years.

Electronic Viewfinder Indications

Tape/Battery Remaining

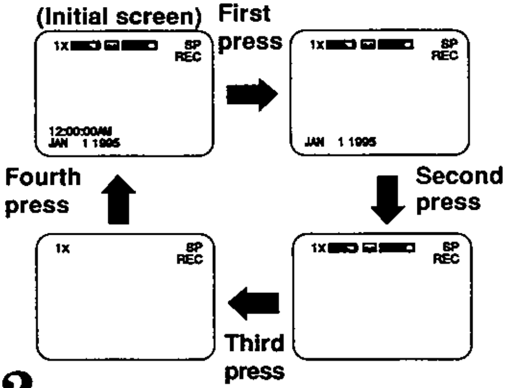
The tape remaining and battery charge level can be displayed during recording.



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

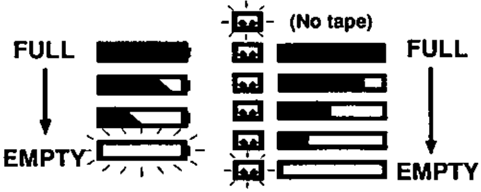
2 **Press DISPLAY repeatedly** to select the desired display.

EVF Indications


(Initial screen)
1x SP REC
12:00:00AM
JAN 1 1995
First press
JAN 1 1995
Second press
Third press
1x SP REC
Fourth press

Battery Charge Remaining:

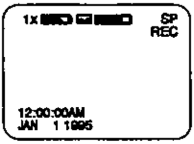
Tape Remaining:


(No tape)
FULL
EMPTY
FULL
EMPTY

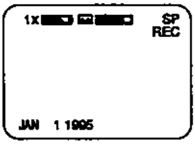
- It will take several seconds for the tape remaining indicator to operate after the tape starts moving.

Record the Date and Time

1 **Set the POWER switch to CAMERA.** When placed in Record mode, the time and date will be recorded on the tape.


1x SP REC
12:00:00AM
JAN 1 1995

2 **Press DISPLAY once** to change the display to date only. **Press once or twice more** to remove the date/ time display.


1x SP REC
JAN 1 1995

Note:
Only the Date and/or Time are recorded on the Tape.

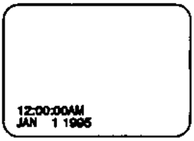
Display-Off Mode

This feature allows you to remove all Electronic Viewfinder Indications.

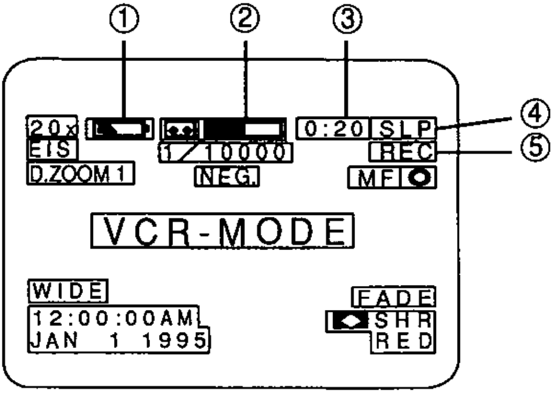
Before inserting a tape, press DISPLAY and STOP together for more than one second to remove the indications except time and date*.

To display the Electronic Viewfinder Indications again, **turn the Palmcorder Power off and then on again.**

* To remove the time and date, see "Record the Date and Time" above.


12:00:00AM
JAN 1 1995

Electronic Viewfinder Indications



① **Battery Remaining Indication** (see page 15)

When a battery recharge is necessary, "WARNING" will begin to flash in the EVF and "LOW BATTERY" will appear as the Power Lamp will also flash. The Palmcorder will automatically turn OFF in 15 seconds.

② **Tape Remaining Indication**

- If the Palmcorder is in camera mode with no cassette tape inserted or the record tab is missing, "📼" will flash for one minute and "CHECK TAPE" will appear for 5 seconds, and recording will not start.
- While recording, as the tape reaches to the end, "TAPE END" will appear for 5 seconds as a warning.

③ **10-Second Reminder**

An elapsed time indicator appears for one second every 10 seconds that recording continues.

This is a reminder of how long you have been shooting a particular scene and can help keep your recordings fresh and interesting.

0:00 0:10 0:20 ..... 59:50

(return to 0:00 and continue)

- The 10-Second Reminder will be reset whenever you press Record/Pause.

④ **TAPE SPEED Indication** (see page 10)

Indicates the tape speed (SP or SLP).

⑤ **Operating Mode Indications**

REC (record)

(RECORD will first appear in large characters for one second and then small characters.)

PAUSE

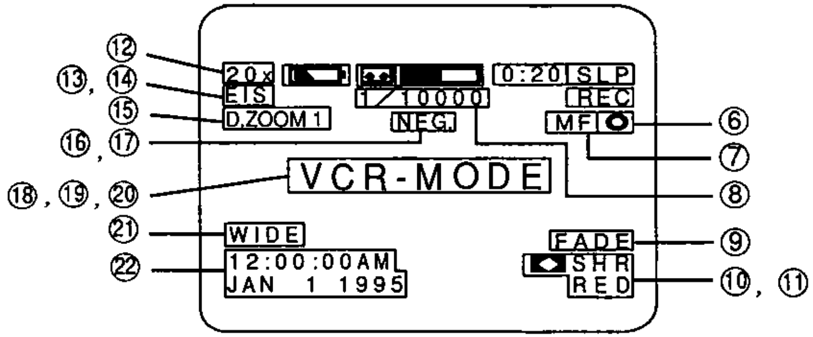
(PAUSE will first appear in large characters for one second and then small characters.)

FF (fast forward)

PLAY

REW (rewind)

Electronic Viewfinder Indications



⑥ **Backlight Indication** (see page 32).

⑦ **Manual Focus Indication** (see page 29).

⑧ **High Speed Shutter Indication** (see page 28).

⑨ **Fade Indication** (see page 30).

⑩ **Color Digital Fade Indication** (see page 31).

⑪ **Color Digital Filter Indication** (see page 32).

⑫ **Zoom Magnification level** (see page 28).

⑬ **Digital E.I.S. Indication** (see page 34).

⑭ **Digital Wipe Indication** (see page 36).

⑮ **Digital Zoom Indication** (see page 33).

⑯ **Negative/Positive Indication** (see page 32).

⑰ **Still/Strobe Indication** (see page 35).

⑱ **VCR-MODE Indication**
"VCR-MODE" will appear for one minute if the POWER switch is set to VCR or the RECORD/PAUSE button is pushed in VCR MODE.

⑲ **DEW Indication**
If excessive moisture condenses in the unit, "WARNING" and Power Lamp 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 before using your Palmcorder again.

⑳ **Motion Detection (MotionSensor) Indication** (see page 47).

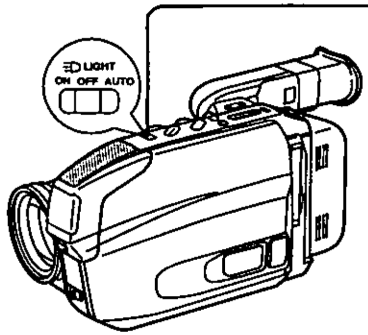
㉑ **Wide Screen Indication** (see page 35).

㉒ **Date and Time Indication** (see page 13).

Built-in Auto Light

Using the Built-in Auto Light

To improve recording indoors or outdoors in dim lighting conditions.



Before you begin...

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

Set LIGHT to AUTO.

The Palmcorder's built-in Light automatically turns on in dim lighting conditions. When lighting conditions reach over 2000 lx, the light turns off.

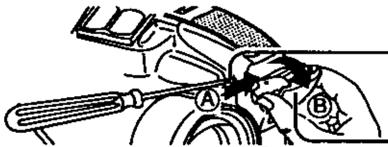
Please be sure LIGHT is OFF when not in use or before placing Palmcorder into an optional carrying case.

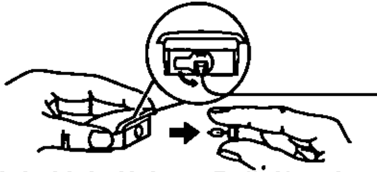
Set LIGHT to ON/OFF to turn the light on and off manually.

Caution:

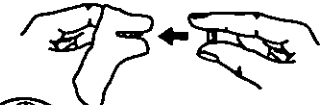
This light becomes hot during operation. Make sure nothing covers the Light during operation.

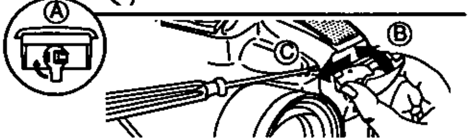
Replacing the Bulb





Built-in Light Unit **Bulb Housing**





Before you begin...

- Set the POWER switch to OFF.

1. **Turn screw counterclockwise** and remove.
2. Ⓐ **Slide the Built-in Light unit to right to unlock** Ⓑ **and remove it** from the Palmcorder.
3. **Turn the Bulb Housing counterclockwise 1/4 of a turn and pull free** from the Built-in Light unit.
4. **Using a clean cloth or tissue, replace the bulb.**
5. Ⓐ **Replace the Bulb Housing** turning it clockwise. Ⓑ Then replace the Built-in Light Unit and slide it to left to lock. Ⓒ Finally, replace the screw.

DANGER:

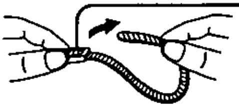
When replacing the bulb, use only lamp bulbs (PART NO. VLLW0007) supplied by Panasonic to reduce the risk of fire.
Use a cloth or tissue when handling the bulb as finger oils will decrease the bulb life.
To prevent possible burn hazard, disconnect the Built-in Light and allow the lamp to cool before replacing.

Note:

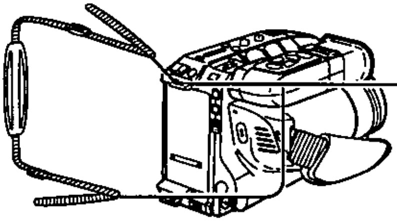
- Using the light reduces battery operating time.
- If using the Built-in Light in a hot environment for an extended period of time, be sure to provide ventilation.
- Using the Built-in Light when the Palmcorder is powered by a car battery may shorten bulb life.

Attaching the Shoulder Strap

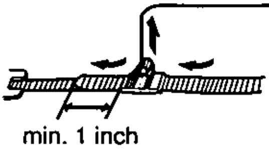
Make sure the Battery Pack is not attached.



1 **Unthread the strap** from the buckle.



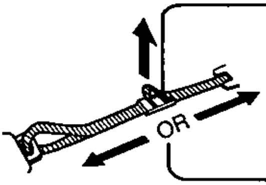
2 **Thread the strap ends through the Strap Attachment Rings.**



3 **Then thread the ends of the strap through the buckle.**

- Make sure the strap is not twisted.

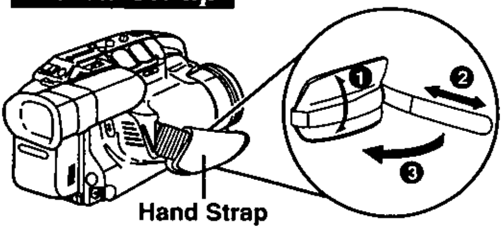
Adjust the Length



1 **Pull a loop of the strap loose** from the buckle.

2 Pull the strap firmly through the buckle to adjust the length.

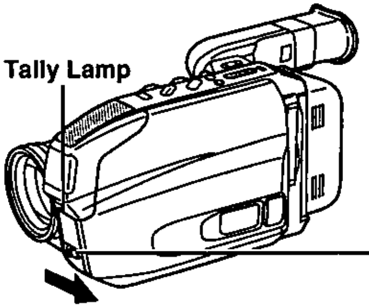
Hand Strap

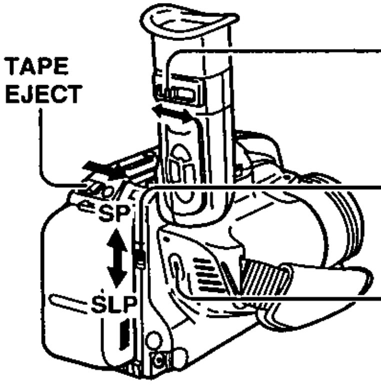


Adjust the length of the strap to the size of your hand as illustrated at left.

Camera Recording

Simple Recording



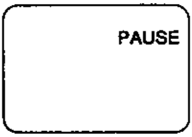


Before you begin...

- **Connect the Palmcorder to a power source.**
- **Insert a cassette with record tab (see page 10).**

1 Set the POWER switch to CAMERA.
Built-In Lens Cover opens.

EVF

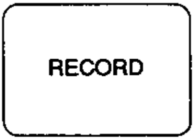


Record/Pause mode.

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

3 Slide the TAPE SPEED Selector to SP or SLP (refer to page 10).

4 Press RECORD/PAUSE to start recording.
The Tally Lamp and RECORD/PAUSE are lit during recording.



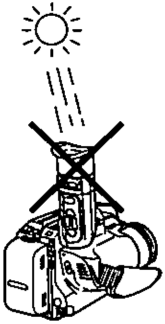
Press RECORD/PAUSE again to pause recording.

Set the Power switch to OFF after recording is finished.

- **To remove the cassette**
  In Record/Pause mode, slide the TAPE EJECT switch (refer to page 10).

Note:

- **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.**



- When your 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 when possible.

Camera Recording

Stand-by Mode

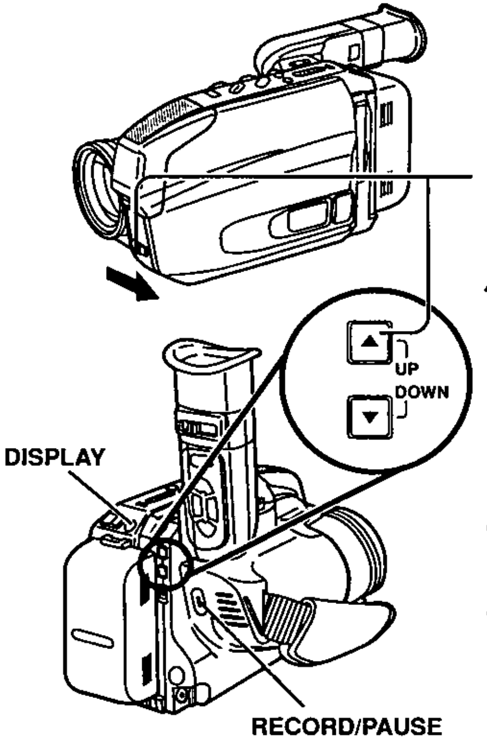
Whenever the Palmcorder has been in Record/Pause mode for 5 minutes, it will automatically go into Stand-by mode to conserve power. To resume recording, it is necessary to turn the Palmcorder POWER switch to OFF and then to CAMERA. Or, you may use the following feature to avoid having to turn the Palmcorder off and on again.

Stand-by Release

This feature allows you to resume recording from Stand-by mode by simply pressing the RECORD/PAUSE button.

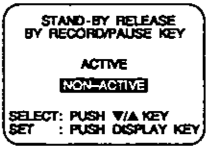
Before you begin...

- **Connect the Palmcorder to a power source.**
- **Insert a cassette with record tab (see page 10).**



1 **While pressing the UP ▲ button, set the POWER switch to CAMERA.**

2 **Press UP ▲ more than 2 seconds** to display the STAND-BY RELEASE selection screen.



STAND-BY RELEASE
BY RECORD/PAUSE KEY

ACTIVE
NON-ACTIVE

SELECT: PUSH ▼/▲ KEY
SET : PUSH DISPLAY KEY

3 **Press UP ▲ or DOWN ▼ as necessary** to select ACTIVE.

4 **Press DISPLAY** to set your selection and exit this screen.

- You may now turn the Palmcorder back on after it has gone into Stand-by mode by pressing the RECORD/PAUSE button.

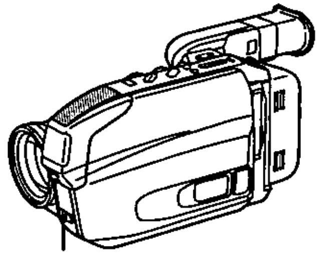
Note:

- If ACTIVE was selected in step 3 above, you can resume recording from Stand-by mode by pressing RECORD/PAUSE on the Palmcorder even when it has been left over 30 minutes.
- If NON-ACTIVE was selected in step 3 above, you must set the POWER switch to OFF and then to CAMERA to resume recording from Stand-by mode.

Camera Recording

Easy Edit Stand-by

If you stop recording but plan to resume within 24 hours, use the Edit Standby feature to make a smooth transition between scenes.



Set the POWER switch to OFF and leave the cassette in the Palmcorder.

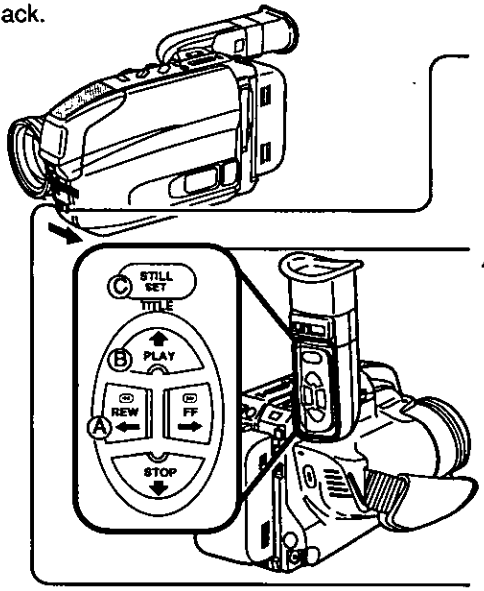
Set the POWER switch to CAMERA and press RECORD/PAUSE (within 24 hours) to continue recording.

Note:

- If it is going to be longer than 24 hours before you resume recording, use the manual Easy Edit feature described below.

Manual Easy Editing

For proper continuity when taping from the Stop mode, or after changing the Battery Pack.

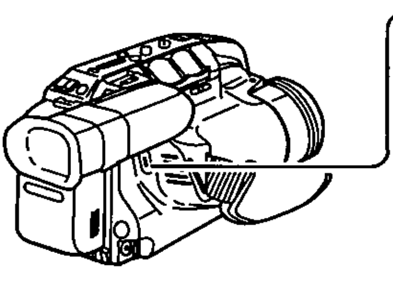


1 **Set the POWER switch to VCR.**

2 Ⓐ **Press REWIND/SEARCH** to go back a few seconds on the tape.
Ⓑ **Press PLAY** to review the picture on the Viewfinder.
Ⓒ **Press STILL** at the location you wish to continue your recording.

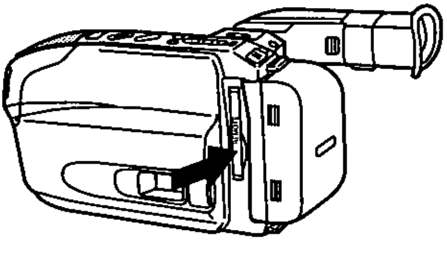
3 **Set the POWER switch to CAMERA.**

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



9-Function Remote Control

Removing and Storing the Remote

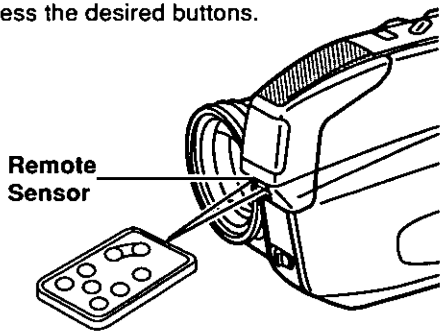


To remove,
press in on the Remote as shown by the arrow and it will release.

To store,
insert the Remote into the slot, the function buttons may face in either direction, press the remote control until it locks into place, as shown by the arrow.

Remote Control Operation

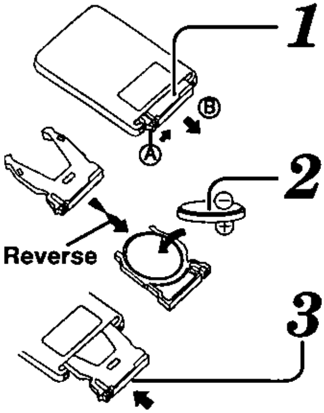
Operate the major functions of your Palmcorder from up to 16 feet (5 m) (approx.) away. Aim the Remote Control at the Remote Sensor of the Palmcorder and press the desired buttons.



Controlled Functions
- Rec/Pause (see page 20)
- T (telephoto) Zoom
- W (wide angle) Zoom
- Play (see page 25)
- Fast Forward/Search (see page 25)
- Rewind/Search (see page 25)
- Stop (see page 25)
- Still (see page 25)
- Programmed Recording (see page 24)

Important Note:
- After 5 minutes in the Rec/Pause mode, the Palmcorder will shut off to conserve battery life. If within 30 minutes, press down REC/PAUSE on the Remote for about one second, the Palmcorder comes back on and goes into the Record mode. If it is longer than 30 minutes before you resume recording, set the POWER switch to OFF and then to CAMERA.

Replace the Battery



1 **Ⓐ While pressing the stopper tab, Ⓑ pull the Battery Tray out.**

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

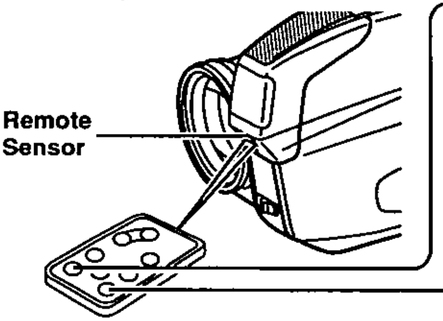
3 **Replace the Battery Tray.**

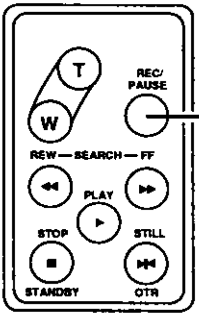
Replace battery with Panasonic PART NO. VSBW0004 (CR2025) only. Use of another battery may present a risk of fire or explosion. Caution-battery may explode if mistreated. Dispose of used battery promptly. Keep away from children. Do not recharge, disassemble or dispose of in fire.

Programmed Recording

Programmed Recording

You can program when to start and stop the recording just like the Stand-by OTR on a VCR deck. This is very convenient when you record something like a blooming flower while you are out. You can also use an interval recording. Two recording lengths, 5-second per minute or 10-second per minute, are available.


Remote
Sensor


T
W
REC/
PAUSE
REW—SEARCH—FF
PLAY
STOP
STILL
STANDBY
OTR

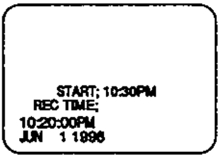
Note:

- Palmcorder will automatically turn off after 12 hours from recording start time or at tape end.
- Set the POWER switch to OFF to cancel the Programmed Recording feature.

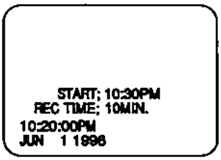
Before you begin...

- **Connect the Palmcorder to a power source. For extended periods of recording, it is recommended to use the AC Adaptor for a power source.**
- **Insert a cassette with record tab (see page 10).**
- **Set the POWER switch to CAMERA.**

1 Aim the Remote Control at the Remote Sensor and **press STANDBY** on the Remote repeatedly until the desired time to start will appear.
Start time will increase 30 minutes.


START; 10:30PM
REC TIME;
10:20:00PM
JUN 1 1996

2 **Press OTR** on the Remote repeatedly to select desired recording length.


START; 10:30PM
REC TIME; 10MIN.
10:20:00PM
JUN 1 1996

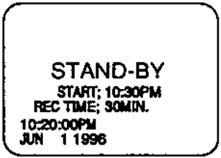
→ 10MIN. → 20MIN. → 30MIN. → TO TAPE END

INTERVAL *2 10 SEC/MIN. ← INTERVAL*1 5 SEC/MIN.

*1 5-second recording will be made each minute.

*2 10-second recording will be made each minute.

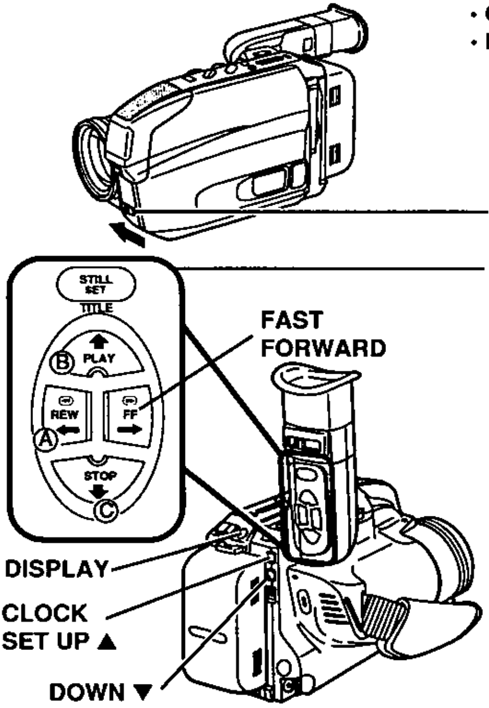
3 After setting, **press REC/PAUSE** on the Remote to go into stand-by mode.


STAND-BY
START; 10:30PM
REC TIME; 30MIN.
10:20:00PM
JUN 1 1996

The Palmcorder will start recording at the desired timing. When the recording finishes, the Palmcorder will turn off automatically.

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 VCR.**

2 Ⓐ **Press REWIND/SEARCH** to rewind the tape.
Ⓑ **Press PLAY** to start playback.
Ⓒ **Press STOP** to stop playback.

Auto Play

When the POWER switch is set to VCR, the cassette will automatically begin playback if the record tab has been removed.

Helpful Note:

Search Speed
Standard Play (SP) Search is about 3 times the normal speed, and Super Long Play (SLP) Search is about 9 times the normal speed.

Special Effects Playback

(Sound is Muted)

Rapidly Locate a Scene

Press FAST FORWARD/SEARCH or REWIND/SEARCH for rapid visual search. **Press again,** or press PLAY to resume normal speed.

View a Still Picture

Press STILL to freeze the playback picture. **Press again** to resume normal playback.

Note:

- During search playback, horizontal noise bars will appear and there will be no audio.
- 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.
- When the tape reaches its end during playback, or fast forward, it will rewind automatically.

Tracking Control

Auto Tracking

Continuously analyzes the signal of each recording for optimum picture quality.

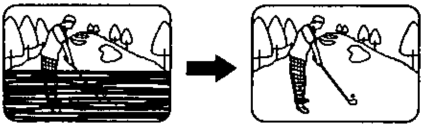
Manual Tracking

To minimize the noise in some recordings, manual tracking may be necessary.

For Noise in Playback mode:
Press CLOCK SET UP ▲ or DOWN ▼ until picture clears.
Press DISPLAY to return to Auto Tracking.

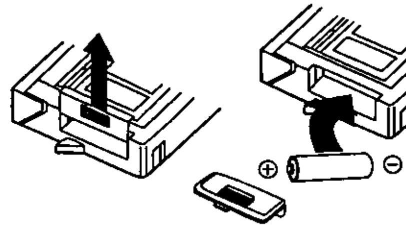
For Noise in Still mode:
Press CLOCK SET UP ▲ or DOWN ▼ until picture clears.

V-Lock Control (Reduces jitter in Still mode.)
Press DISPLAY and CLOCK SET UP ▲ or DOWN ▼ until picture is stable.



Playback your Recordings

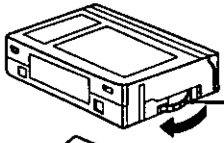
Playback using the PlayPak



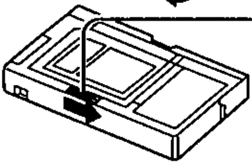
Remove the Battery Compartment lid and insert the AA size battery.

- Make sure polarities are aligned properly.
- When tape loading and unloading time becomes longer than normal, battery replacement is necessary.

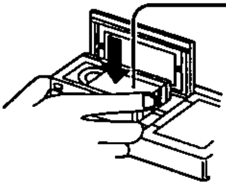
Insert VHS C Cassette



1 **Turn the Tape Wheel on the VHS C cassette in the direction of the arrow** to reduce any slack.

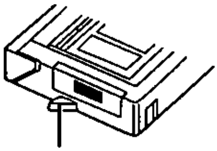


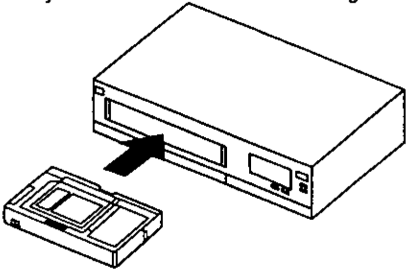
2 **Slide the RELEASE button in the direction of the arrow** to open the PlayPak door.



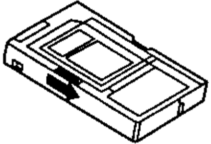
3 **Insert the VHS C cassette** with the window facing up and to the left. **Then, snap the lid shut.**

- Let the Load Detector fully retract before using the PlayPak in your standard VHS VCR.
- Be sure the cassette reel area under the PlayPak is free to turn while loading.

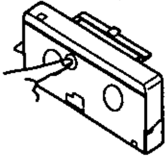




Remove VHS C Cassette



1 **Slide the RELEASE button** and wait for the lid to open.



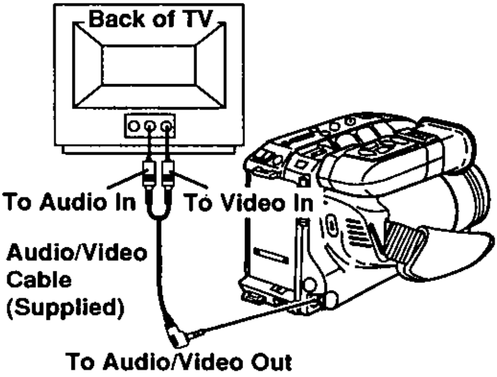
2 **Hold the PlayPak securely in one hand.** Put your finger through the hole in the bottom of the PlayPak and **push the cassette out.**

Playback your Recordings

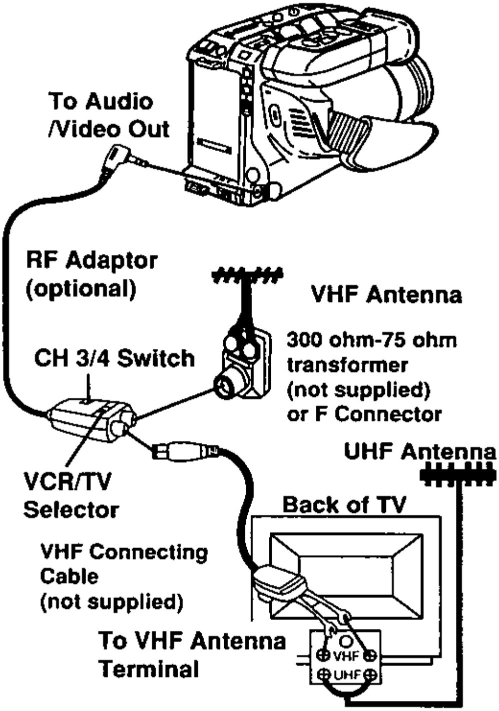
Playback or View on a TV

Your Palmcorder may be connected to a TV to play back tapes or to view what you are recording.

TV with AUDIO/VIDEO IN Jacks.


Back of TV
To Audio In
To Video In
Audio/Video Cable (Supplied)
To Audio/Video Out

TV without AUDIO/VIDEO IN Jacks.


To Audio /Video Out
RF Adaptor (optional)
VHF Antenna
CH 3/4 Switch
300 ohm-75 ohm transformer (not supplied) or F Connector
UHF Antenna
VCR/TV Selector
Back of TV
VHF Connecting Cable (not supplied)
To VHF Antenna Terminal
VHF
UHF

Before you begin...

- **Connect the Palmcorder to a power source.**

1 **Set the POWER switch to VCR** to playback a tape.
Or, set to CAMERA to view what your Palmcorder is recording.

2 **Turn the TV ON and set it to LINE INPUT.**
Check your TV operating instructions for further information.

Note:
If your TV has no VIDEO or AUDIO IN Jacks, select CH 3 or 4 on your TV to match the RF Adaptor CH 3/4 switch and set the VCR/TV selector on the RF Adaptor to VCR.

3 **Start playback or begin a recording.**

To watch TV only

If you have connected the Palmcorder to your TV using an RF Adaptor:
Set the POWER switch to OFF on the Palmcorder.
Then, set the VCR/TV Selector on the RF Adaptor to TV.
Now, turn the TV ON and select a channel.

CATV System Installer

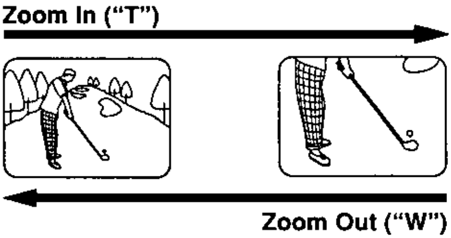
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC in USA (and to the Canadian Electrical code in Canada) that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the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

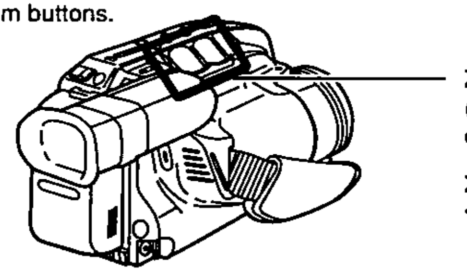
Special Features

Four-Speed Power Zoom

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

The zooming speed ranges from a slow speed of 16 seconds to a fast 2 seconds according to the pressure applied to the zoom buttons.





Zoom slowly by lightly pressing the "T" (Telephoto) or the "W" (Wide Angle) side of the POWER ZOOM switch.

Zoom quickly by applying more pressure.
- The magnification level is displayed in the EVF.

High Speed Shutter

To record high speed motion (i.e. a tennis stroke) for improved STILL or SLOW mode playback, when watching the tape on this Palmcorder or a VHS VCR (3 or 4 head VCR).

Auto Shutter

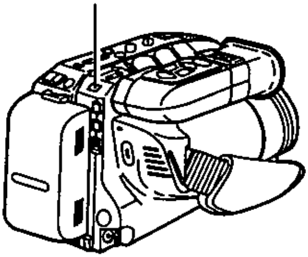
In the AUTO mode (no indication in the EVF), the Palmcorder will automatically adjust the shutter speed from 1/60 to 1/250 according to the brightness of the subject. The speed does not appear in the EVF.
- AUTO mode is automatically selected whenever the POWER switch is set to CAMERA.

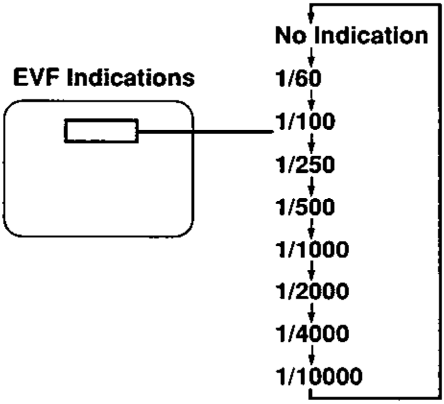
Manual Selection

The High Speed Shutter indicator flashes when the light level is inadequate. More light should be provided to achieve better picture quality and color.

Press HIGH SPEED SHUTTER while recording.

Press repeatedly to obtain one of the eight higher shutter speeds shown at right.

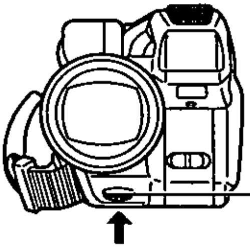




Note:
- For proper color reproduction, it is recommended that you use this feature outdoors. For indoor High Speed Shutter recording, additional halogen or tungsten light should be provided. Fluorescent light will degrade the picture quality.
- This feature requires ample light. More light is required for the fastest shutter speeds.
- The Auto Focus system may not operate properly in insufficient light when using the High Speed Shutter.

Auto Focus

The Palmcorder will automatically bring the subject into focus even during zooming.

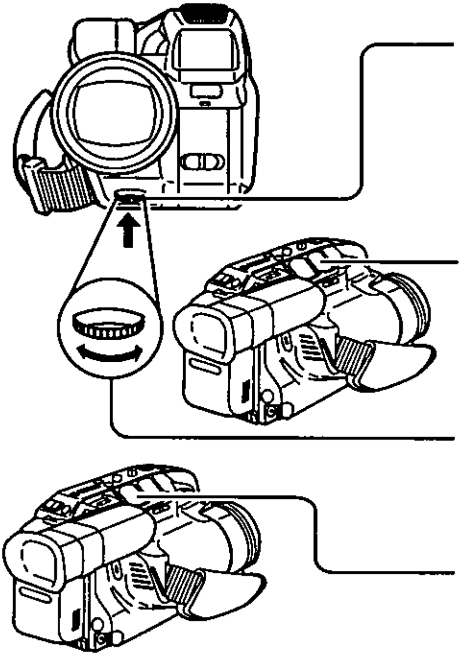


For Auto Focus mode, it may be necessary to **press MANUAL FOCUS,** so that "MF" does not appear in the EVF.

Manual Focus

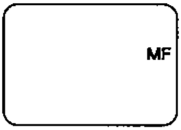
Use Manual Focus (MF) when recording ...

- 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.



1 **Press MANUAL FOCUS** so that "MF" (Manual Focus) appears in the EVF.

EVF Indication



2 **Press and hold the "T" side of the POWER ZOOM switch** until the lens is zoomed in all the way (subject at maximum size).

3 **Rotate MANUAL FOCUS** until the picture is in focus.

- It may be necessary to back away from the subject to focus the image properly.

4 **Press the "W" side of the POWER ZOOM switch** to frame the picture as desired.

Macro Focus (for close-ups)

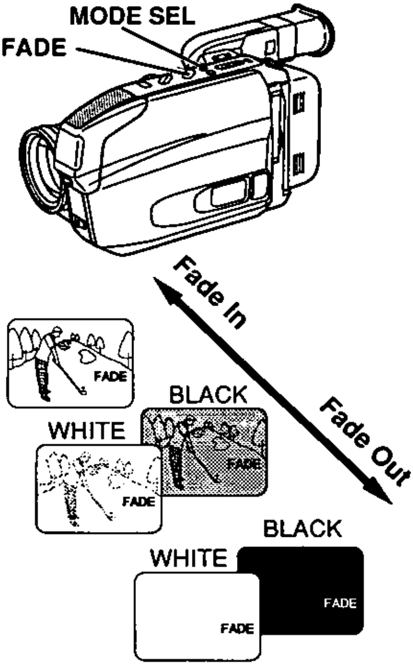
Auto Focus will function down to 1/2 inch (12.7mm) in front of the lens.

Press the "W" side of the POWER ZOOM switch to the wide angle position. **Then, bring the Palmcorder as close to the subject as necessary.**

Special Features

One-Touch Auto Fade (BLACK or WHITE only)

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



If FADE is accidentally pressed, press again so that "FADE" disappears in the EVF.

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

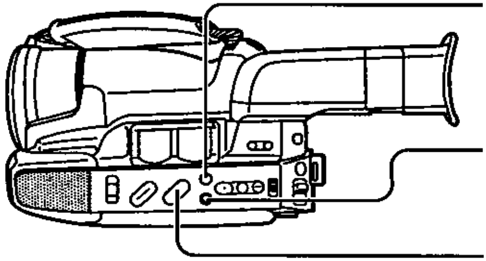
1. **Press MODE SEL repeatedly** to select BLACK or WHITE fade.
2. **Press FADE** in Record/Pause mode so that "FADE" flashes in the EVF.
3. **Press RECORD/PAUSE** to start recording. The picture and sound fade out, and then will gradually fade in.

Fade Out:
Use to create a soft ending or, when used together with fade in, a soft transition from one scene to the next.

1. **Press MODE SEL repeatedly** to select BLACK or WHITE fade.
2. **Press FADE** so that "FADE" flashes in the EVF while recording.
3. **Press RECORD/PAUSE** to pause recording. The picture and sound gradually fade out.

Color Digital Fade (other than BLACK and WHITE)

This feature offers 7 fade variations in your choice of eight colors for flexibility in the transition from one scene to the next.



1. **Press MODE SEL repeatedly** to select the desired fade effect other than BLACK and WHITE.
   - Other than BLACK, the mode selected will appear in the EVF.
2. **Press COLOR repeatedly** to select the desired Color for Digital Fade effects other than Black and White.
3. **Hold the FADE button down** while recording until the picture fades out. **Release to fade back in.**

(no indication)	black
WHITE	(white)
■ **SFT**	(soft)
■ **SHR**	(sharp)
■ **MSC**	(mosaic)
▭ **SFT**	(soft)
▭ **SHR**	(sharp)
▭ **STR**	(stripe)
▒ **RDM**	(random)

WHT	(white)
YEL	(yellow)
RED	(red)
MAG	(magenta)
BLU	(blue)
CYN	(cyan)
GRN	(green)
BLK	(black)

- ■ To create even more special effects, (other than BLACK, WHITE, and RANDOM modes), you may also partially fade the picture, and by pressing the MODE SEL button, freeze the fade function.

  Press FADE again to resume, or press MODE SEL to cancel.

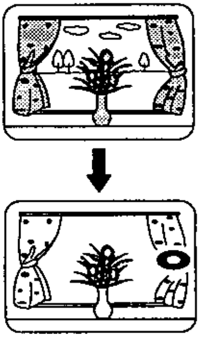
Note:

- Other than BLACK and WHITE modes, the audio is not affected by the fade control.

Special Features

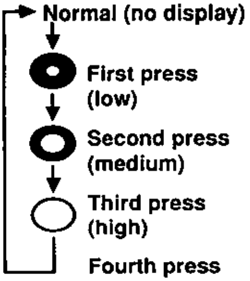
Backlight

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.



Indication appears in the EVF.

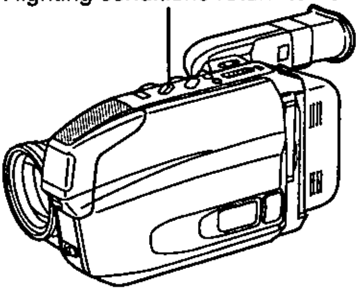
EVF Indications


Normal (no display)
First press (low)
Second press (medium)
Third press (high)
Fourth press

Select one of these positions so that the subject can be seen clearly.

Press BACKLIGHT to obtain the desired position while recording.

Press until there is no display in the EVF when lighting conditions return to normal.

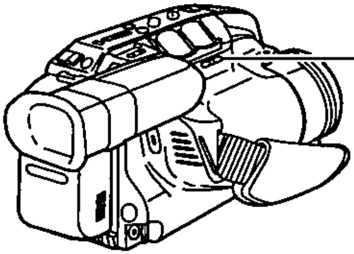


Color Digital Filter

This feature adds any of the six colors to the whole screen just like a color filter. The addition of color will give your recordings special nuance.

Before you begin...

- **Connect the Palmcorder to a power source.**
- **Set the POWER switch to CAMERA.**
- **Insert a cassette with record tab (see page 10).**

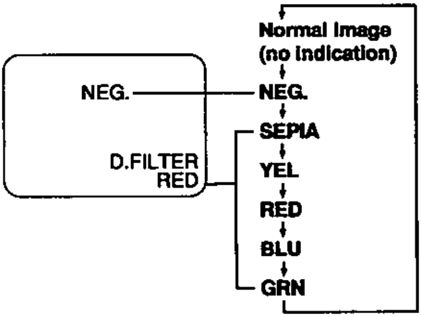


Hold down D. FILTER, NEG/POS for 2 seconds (approx.) to view or record a negative image.

- This filter changes the picture from a positive to a negative image.

Press D. FILTER, NEG/POS repeatedly until the desired color filter appears.

Press D. FILTER, NEG/POS repeatedly until the normal image appears.


Normal Image (no indication)
NEG.
NEG.
SEPIA
YEL
RED
BLU
GRN
D.FILTER
RED

Note:

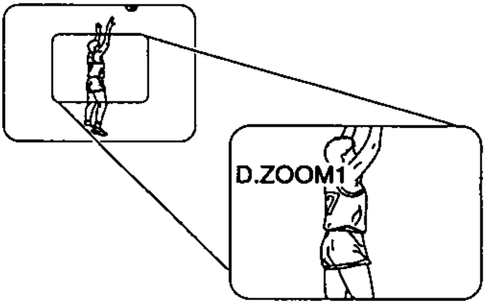
- During Digital Wipe or Digital Still/Strobe/Wide, the Color Digital Filter will not activate.
- Colored images will revert back to normal image when viewed in still mode.

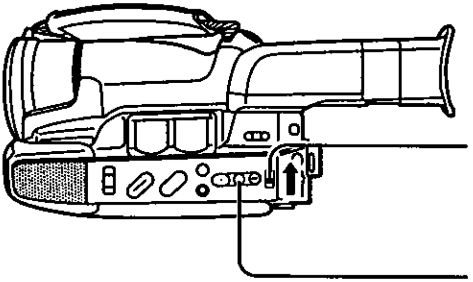
Digital Zoom

This feature allows you to increase the magnification of the Power Zoom.

Before you begin...

- Set the POWER switch to CAMERA.

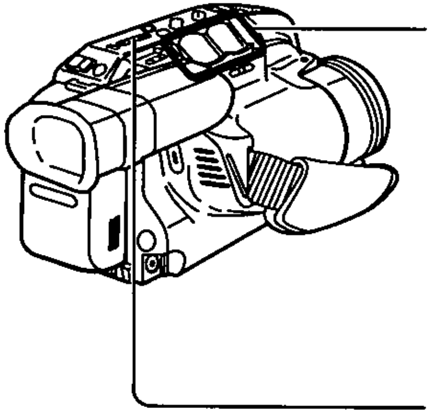




1 **Slide the DIGITAL SELECT switch to D.ZOOM.**

2 **Press DIGITAL ZOOM** to select D.ZOOM 1 for partial increase (32× max.) or twice to select D.ZOOM 2 (160× max.) for even greater increase.

Because the image is enlarged digitally, the picture may become distorted when higher magnification levels are used.



3 **Press and hold the "T" side of the POWER ZOOM switch.** Digital Zoom engages when the Power Zoom reaches its maximum of ×16.

- Zoom level is displayed in the EVF.
- Press the "T" or "W" side of the POWER ZOOM switch to control the digital zoom level.
- When the level falls below ×16, the normal zooming function will resume.

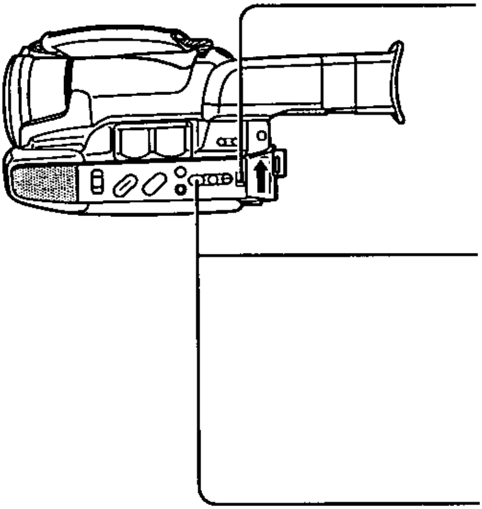
4 **Press DIGITAL ZOOM** until no indication appears in the EVF to turn the Digital Zoom feature off. (The zoom ratio will adjust to 16×.) (refer to page 28 for normal zoom operation.)

Digital Electronic Image Stabilization System

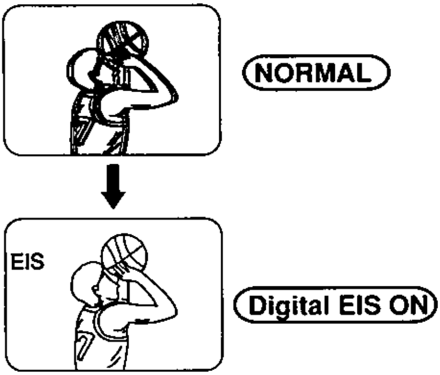
This feature helps stabilize the picture in situations such as walking or shooting from a moving vehicle.

Before you begin...

- Set the POWER switch to CAMERA.



1. **Slide the DIGITAL SELECT switch to EIS.**
2. **Press EIS** to activate the Digital E.I.S. function. ("EIS" will appear in the EVF.)
   - The image in the EVF will be enlarged slightly and the shutter speed will automatically adjust from 1/80 to 1/250 according to the brightness of the subject.
3. **Press EIS again** to cancel.
   - You may also use the High Speed Shutter function (from 1/100 to 1/10000). The shutter speed you select remains active even after you cancel the Digital E.I.S. function.
   - Be sure that the Digital E.I.S. is turned off when not in use.

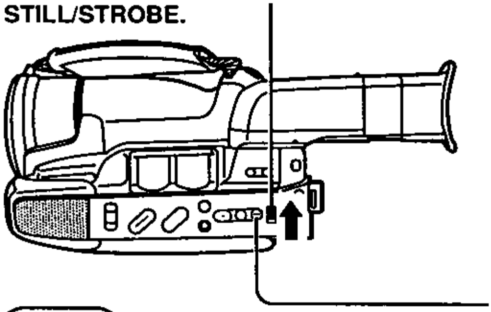


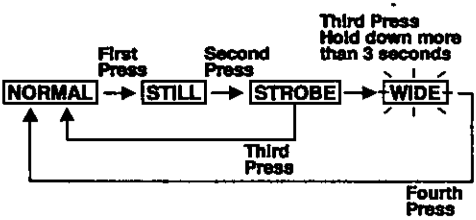
Digital E.I.S. may not function when...

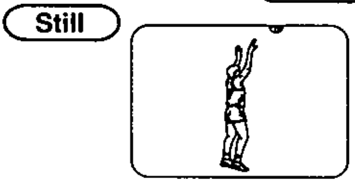
- Palmcorder movement is too extreme.
- recording a subject with distinct horizontal or vertical stripes.
- recording in low light situations.
- EIS indicator flashes when the light level is inadequate.
- recording a subject under intense fluorescent light.
- recording a scene with very fast motions.

Still/Strobe/Wide

Slide the DIGITAL SELECT switch to STILL/STROBE.




Third Press
Hold down more than 3 seconds
First Press
Second Press
NORMAL
STILL
STROBE
WIDE
Third Press
Fourth Press

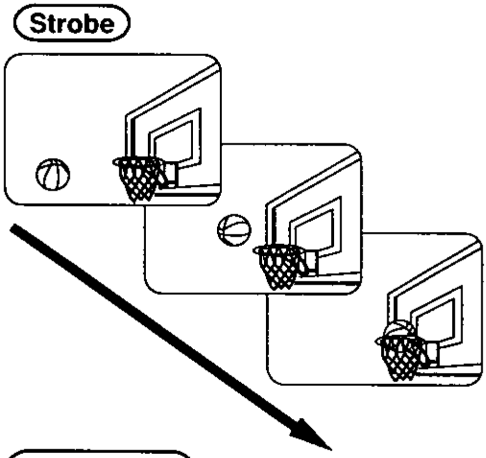


Still

Use this feature to record a still image from the current camera picture.

Press STILL/STROBE once.

Press twice more to return to normal recording.

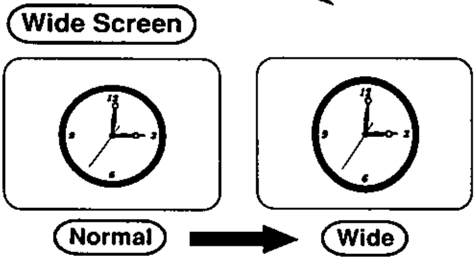


Strobe

Use this feature to record a strobing progression of still images, (in 1/6 of a second intervals).

Press STILL/STROBE twice.

Press once more to return to normal recording.


Wide Screen
Normal
Wide

Wide Screen

Use this feature to fill the entire screen of your Wide Screen TV.

Hold down STILL/STROBE more than 3 seconds while in Strobe mode (see above).

Press once again to return to normal sized picture recording.

Note:

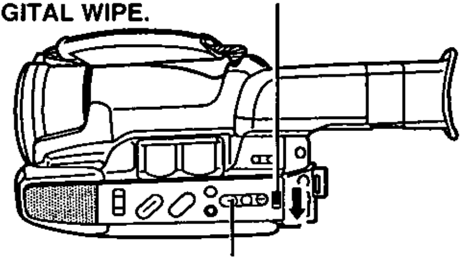
- Wide screen recordings must be played back using a wide screen (16×9 aspect ratio) TV or the picture will appear distorted.
- If you add titles (see page 37-46) while recording in Wide mode, they will appear distorted when played back on a wide screen (16×9 aspect ratio) TV.

Special Features

Digital Wipe

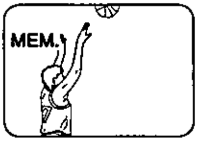
This feature makes it possible to replace the current recorded scene with a memorized scene.

1 **Slide the DIGITAL SELECT switch to DIGITAL WIPE.**

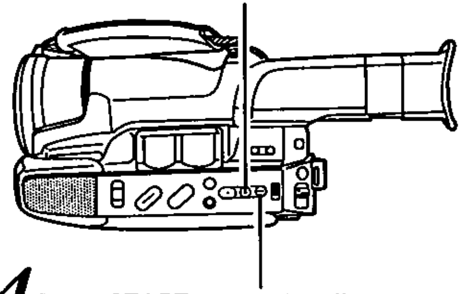


2 **Press MEMORY in Record/Pause mode** to memorize the desired scene.

- The picture fades out and then fades in. The memorized scene is displayed in the EVF for one second and "MEM." is displayed while scene is memorized.
- The MEMORY button does not function while recording or when a scene from memory is being displayed.

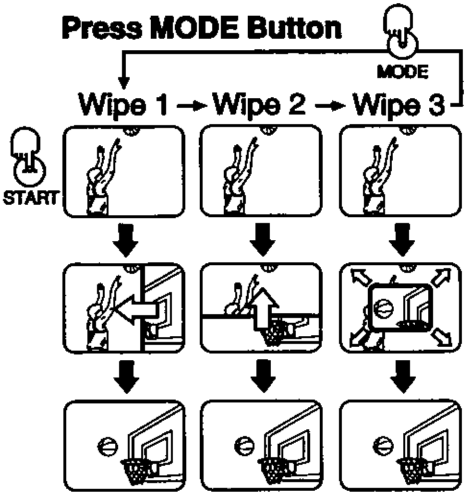


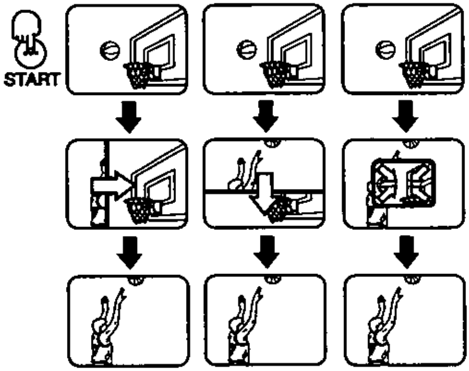
3 **Press MODE repeatedly** to select the desired effect for Wipe.



4 **Press START** to start the effect. The memorized scene gradually replaces the current recording. If START is pressed one more, the current recording will gradually replace the memorized scene.

- While wipe is in progress, you can freeze the wipe by pressing START. Press START again to continue WIPE.





Note:

- The memorized scene will be cleared when Palmcorder is turned off.

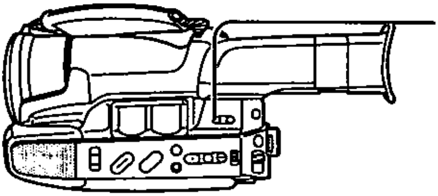
Intelligent Titler

On specific holidays, such as New Year's Day, the Palmcorder will automatically display the appropriate title from the pre-programmed titles when the Palmcorder is turned on in the Camera and VCR mode on that day.

Before you begin...

- **Connect the Palmcorder to a power source.**
- **Insert a cassette with record tab (see page 10).**

Automatic Title Display



Press RECORD/ PAUSE to record the displayed title.

Press TITLE in Record/Pause mode to erase or redisplay the title.

Note:
If you erase the title and then turn the Palmcorder off, the title will not be automatically displayed when the power is turned back on.

Dec. 31–Jan. 1	HAPPY NEW YEAR! / CHEERS!
Feb. 14	VALENTINE'S DAY / BE MY VALENTINE
2nd Sunday in May	HAPPY MOTHER'S DAY / WE LOVE YOU!
Last Monday in May	MEMORIAL DAY
3rd Sunday in Jun.	HAPPY FATHER'S DAY
Jul. 4	INDEPENDENCE DAY
1st Monday in Sep.	LABOR DAY
Oct. 31	HAPPY HALLOWEEN
4th Thursday in Nov.	HAPPY THANKSGIVING
Dec. 24–25	MERRY CHRISTMAS / HO! HO! HO!

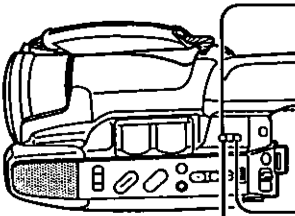
Special Features

Digital Title Bank

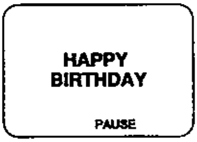
With this feature you can add one of the 10 preset titles to your recordings, or choose from over 500 words and phrases to create a personalized title.
(see page list on pages 43-46.)

Before you begin...

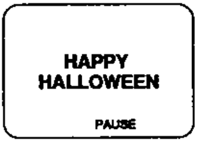
- Set the POWER switch to CAMERA.



1 **Press TITLE** to display a title.

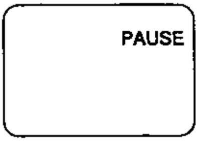


2 **Press SELECT repeatedly** to select one of the ten titles shown below.

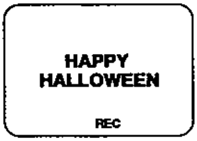


3 **Press TITLE** to store your title.

- Title disappears from the EVF.



4 While recording, **press TITLE** to record your title on the tape.



The ten titles will be displayed in the following sequence.

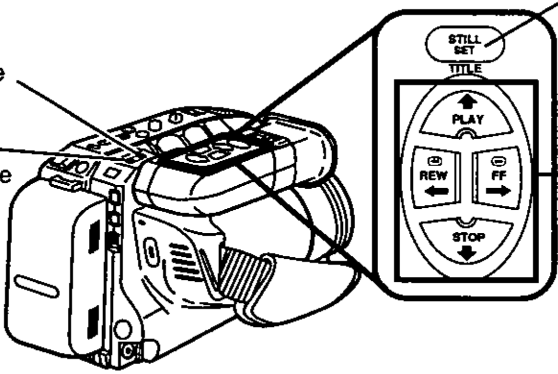
HAPPY BIRTHDAY
↓
HAPPY HALLOWEEN
↓
MERRY CHRISTMAS
↓
HAPPY HOLIDAYS
↓
HAPPY NEW YEAR
↓
I LOVE YOU!
↓
I DID IT!
↓
LOOK AT ME!
↓
FUTURE SUPERSTAR
↓
OUR VACATION

Note:

- The selected title will be displayed when TITLE is pressed even after the Palmcorder is turned off and then on again.

Digital Title Bank (description of controls and menu items)

Below you will find a description of the controls and menu items used to add to or change the Palmcorder's ten preset titles as well as creating your own titles.



TITLE Button
to display, or store the title.

SELECT Button
to select one of the ten preset titles.

SET Button
to enter your selection and move on to the next step.

Directional Buttons (cursor)
to move the cursor while in the Title display mode in order to select from the menu.

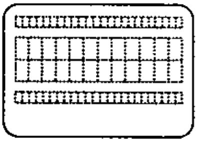
Menu Item Description

The following are menu items which appear in the EVF as you edit the title.

[CLEAR]	to clear the displayed title in order to create a new one.
[LINE UP]	to move the phrase or word up one line on the screen.
[OK]	to return to Title display mode.
[MAKE TITLE]	do display the SELECT ITEM (icon) menu in order to edit the title.
[ITEM]	to return to the SELECT ITEM (icon) menu.
[CANCEL]	to exit the title mode.
[CREATE]	to create an original title.
[REWRITE]	to replace a USER WORD when the USER WORD BANK is full.

Title composition

You can compose a title of up to 4 lines. The two center lines have a larger font size and can contain up to 12 characters. The top and bottom lines can contain up to 24 smaller characters.



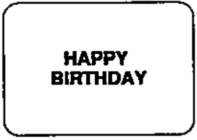
Note:
While a title is displayed, only the Tape/ Battery Warning, REC/PAUSE mode, FADE and Backlight indications may be displayed in the EVF. If you want to use features which do not have EVF indicators, please do so before displaying the title.

Special Features

Digital Title Bank (personalizing your title)

Example: if you want to add "WE LOVE YOU" to the preset title, "HAPPY BIRTHDAY", please follow the steps below.

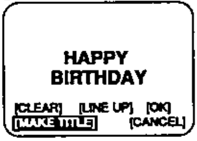
1 Press TITLE ○ to display the currently stored title from the ten preset titles list.



HAPPY
BIRTHDAY

- To select a different title, press SELECT ○ repeatedly.

2 Press SET to display the title menu screen.

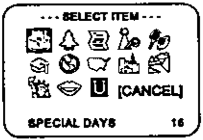


HAPPY
BIRTHDAY

[CLEAR] [LINE UP] [OK]
[MAKE TITLE] [CANCEL]

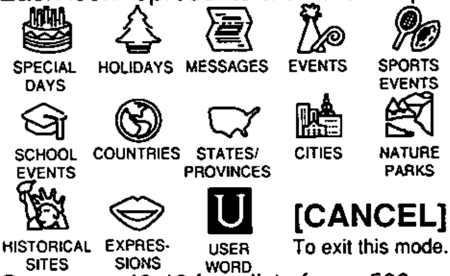
Press SET to go into Make title mode. The SELECT ITEM (icon) menu appears.

Note:
If "PUSH SELECT TO MODIFY" appears in the EVF, press SELECT repeatedly to select a different title. The title is one of ten automatic titles (page 37) and these can not be modified.



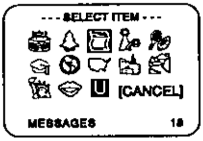
--- SELECT ITEM ---
[CANCEL]
SPECIAL DAYS 16

Each icon represents a different topic.


SPECIAL DAYS
HOLIDAYS
MESSAGES
EVENTS
SPORTS EVENTS
SCHOOL EVENTS
COUNTRIES
STATES/ PROVINCES
CITIES
NATURE PARKS
HISTORICAL SITES
EXPRES- SIONS
USER WORD
[CANCEL]
To exit this mode.

See pages 43-46 for a list of over 500 preset words/phrases which are categorized by each of the above icons.

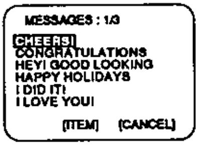
3 Move the cursor to select the MESSAGES icon.



--- SELECT ITEM ---
[CANCEL]
MESSAGES 18

- The name of the icon and the number of the words/phrases contained therein are displayed at the bottom of the EVF.

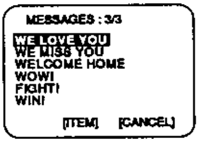
4 Press SET to display a list of words/phrases of the selected topic. (In this case, MESSAGES.)



MESSAGES : 1/3
CHEERS!
CONGRATULATIONS
HEY! GOOD LOOKING
HAPPY HOLIDAYS
I DID IT!
I LOVE YOU!
[ITEM] [CANCEL]

- To return to the SELECT ITEM (icon) menu, select [ITEM], or to exit, select [CANCEL] and then press SET.

5 Move the cursor up or down the list in order to select, **WE LOVE YOU**. (Some lists are more than one page. Press left or right button to go to the next or previous page.)

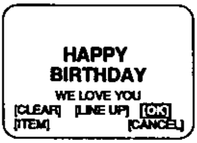


MESSAGES : 3/3
WE LOVE YOU
WE MISS YOU
WELCOME HOME
WOW!
FIGHT!
WIN!
[ITEM] [CANCEL]

(Operation continued on next page.)

(Operation continued from left.)

6 Press SET to add the selected word or phrase to the preset title you previously selected.

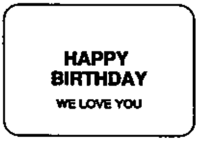

HAPPY
BIRTHDAY
WE LOVE YOU

- If desired, select [LINE UP] and press SET to move the title up one line on the screen.

Note:

- When [LINE UP] is selected, pressing SET too many times will move the title up and off the screen. In this case, select [CANCEL] and press SET. Then, start again with step 1 on page 40.

7 Select [OK] and press SET to memorize the displayed title.

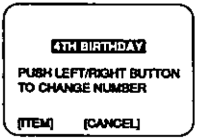

HAPPY
BIRTHDAY
WE LOVE YOU

- Your personalized title is now part of the ten preset title list and can be called up when recording, viewing, or copying tapes.

8 Press TITLE ○ to store the title and return to the normal EVF screen.

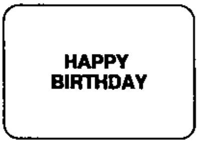
Note:

- If you would like to indicate which birthday a person is celebrating, select the special days icon and press SET, then select 1st, 2nd, or 3rd birthday and press SET.
  To select 4TH–120TH birthday, first select TH birthday and press SET, then press left or right button to change the birthday number and press SET.


4TH BIRTHDAY
PUSH LEFT/RIGHT BUTTON
TO CHANGE NUMBER

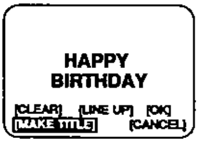
Create an Original Title

1 Press TITLE ○ to display the currently stored titles from the ten preset titles list.

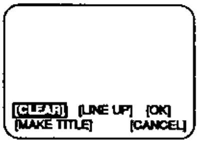

HAPPY
BIRTHDAY

2 Select the title you wish to replace by pressing SELECT ○ repeatedly until that title appears.

3 Press SET to display the title menu screen.


HAPPY
BIRTHDAY

4 Select [CLEAR] and press SET to erase the title.



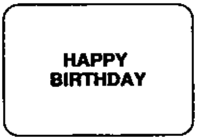
5 Select [MAKE TITLE] and then press SET to go into Make Title mode.

6 Now, continue with steps 3–7 on page 40 to create an original title using preset words, countries, messages, etc.

Digital Title Bank (creating user word bank)

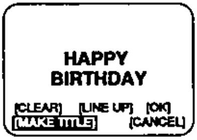
Example: to create and save the name "KEN", please follow the steps below:

1 Press TITLE ○ to display a preset title, press SELECT ○ repeatedly to choose a title to be revised or replaced.

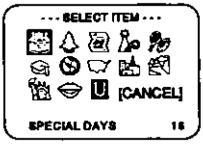

HAPPY
BIRTHDAY

Note:
If "PUSH SELECT TO MODIFY" appears in the EVF, press SELECT repeatedly to select a different title. The title is one of ten automatic titles (page 37) and these can not be modified.

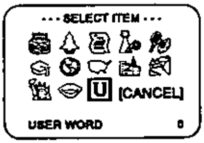
2 After a title has been selected, press SET to display the title menu screen.


HAPPY
BIRTHDAY
[CLEAR]
[LINE UP]
[OK]
[MAKE TITLE]
[CANCEL]

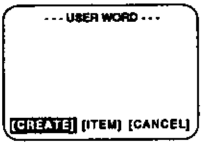
3 To add "KEN" to the selected title, move the cursor to select **[MAKE TITLE]** and press SET. The SELECT ITEM (icon) menu will appear.
To replace the selected title, select **[CLEAR]** and press SET, then select **[MAKE TITLE]** and press SET. The SELECT ITEM (icon menu) will appear.


--- SELECT ITEM ---
U
[CANCEL]
SPECIAL DAYS
16

4 Move the cursor to select the USER WORD icon.


--- SELECT ITEM ---
U
[CANCEL]
USER WORD
0

5 Press SET to display the USER WORD menu.

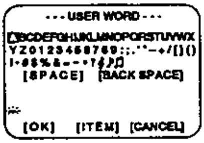

--- USER WORD ---
[CREATE]
[ITEM]
[CANCEL]

6 Select **[CREATE]** and press SET.

Note:

- A total of five items may be stored in the user word bank. When the user word bank is full, select **[REWRITE]** and press SET. **[REWRITE]** will begin flashing. Then move the cursor up to the user word you want to rewrite and press SET.

7 The User Word Character menu will appear. Move the cursor to select each character, punctuation mark or space. Then, press SET to enter each character.


--- USER WORD ---
ABCDEFGHIJKLMNOPQRSTUVWX
YZ0123456789:;.''-+/[]()
!·#$%&–-·?¿♪♫
[SPACE]
[BACK SPACE]
[OK]
[ITEM]
[CANCEL]

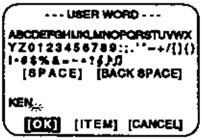
Note:

- The maximum amount of characters per user word is 24.

(Operation continued on next page.)

(Operation continued from left.)

8 Upon completion, select **[OK]** and press SET (STILL SET TITLE) to enter your new user word into memory.



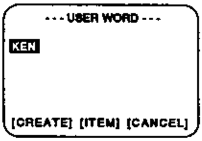
--- USER WORD ---

ABCDEFGHIJKLMNOPQRSTUVWX
YZ0123456789:;.''-+/[]()
!·#$%&=-~+?¿♪♫
[SPACE] [BACK SPACE]

KEN

[OK] [ITEM] [CANCEL]

- This screen appears for confirmation.



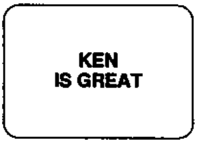
--- USER WORD ---

KEN

[CREATE] [ITEM] [CANCEL]

Note:

- Keep in mind that when a user word is changed, any preset title that includes that word will also be changed.
- You may combine a User Word with 'S BIRTHDAY or 'S RECITAL from the SPECIAL DAYS icon list. For example, to create "KEN'S BIRTHDAY", simply select your user word first and then, 'S BIRTHDAY in steps 4 and 5 on page 40.
- Double space between words you want to appear on separate lines of the two middle title lines (pages 40 and 41).
  For example, "KEN (double space) IS GREAT" will appear as:



KEN
IS GREAT

Following is a list of over 500 preset words and phrases in the Palmcorders memory. They are categorized into 12 title topics.

SPECIAL DAYS (16)

HAPPY BIRTHDAY
'S BIRTHDAY
1ST BIRTHDAY
2ND BIRTHDAY
3RD BIRTHDAY
TH BIRTHDAY
MOM'S BIRTHDAY
DAD'S BIRTHDAY
HONEYMOON
WEDDING
WEDDING ANNIVERSARY
ANNIVERSARY
'S RECITAL
HAPPY BAR MITZVAH
HAPPY BAT MITZVAH
HAPPY ANNIVERSARY

HOLIDAYS (15)

HAPPY NEW YEAR
VALENTINE'S DAY
HAPPY MOTHER'S DAY
HAPPY EASTER
MEMORIAL DAY
VICTORIA DAY
HAPPY FATHER'S DAY
CANADA DAY
INDEPENDENCE DAY
LABOR DAY
HAPPY HALLOWEEN
HAPPY THANKSGIVING
HAPPY HANUKKAH
MERRY CHRISTMAS
HAPPY KWANZAA

MESSAGES (18)

CHEERS!
CONGRATULATIONS
HEY! GOOD LOOKING
HAPPY HOLIDAYS
I DID IT!
I LOVE YOU!
IT'S A GIRL!
IT'S A BOY!
LOOK AT ME!
MAZEL TOV!
SMILE!
START
WE LOVE YOU

(Continued on next page.)

(Continued from previous page.)

WE MISS YOU
WELCOME HOME
WOW!
FIGHT!
WIN!

EVENTS (10)

BLOOPER
CROSS COUNTRY TRIP
CAMPING
FAMILY REUNION
FISHING
HIKING
PARTY!!
PICNIC
SKI TRIP
SUMMER VACATION

SPORTS EVENTS (22)

BASEBALL
BASKETBALL
BOATING
BOWLING
FOOTBALL
GOLF
GYMNASTICS
HOCKEY
LITTLE LEAGUE
THE PLAYOFFS
RACKETBALL
RODEO
SKATING
SKIING
SOFTBALL
SOCCER
SURFING
SWIMMING
TENNIS
TRACK AND FIELD
VOLLEYBALL
WRESTLING

SCHOOL EVENTS (9)

CLASS TRIP
FIRST DAY OF SCHOOL
GRADUATION DAY
HOMECOMING DAY
HOMECOMING GAME
PROM NIGHT
SCHOOL PLAY
SCHOOL BREAK
THE BIG GAME

COUNTRIES (189)

AFGHANISTAN
ALBANIA
ALGERIA
AMERICA
ANDORRA
ANGOLA
ARGENTINA
ARMENIA
AUSTRALIA
AUSTRIA
AZERBAIJAN
THE BAHAMAS
BAHRAIN
BANGLADESH
BARBADOS
BELARUS
BELGIUM
BELIZE
BENIN
BERMUDA
BHUTAN
BOLIVIA
BOSNIA
BOTSWANA
BRAZIL
BRUNEI
BULGARIA
BURKINA
BURMA
BURUNDI
CAMBODIA
CAMEROON
CANADA
CAPE VERDE
CENTRAL AFRICAN REPUBLIC
CHAD
CHILE
CHINA
COLOMBIA
COMOROS
CONGO
COSTA RICA
CROATIA
CUBA
CYPRUS
CZECH REPUBLIC
DENMARK
DJIBOUTI
DOMINICA
DOMINICAN REPUBLIC
ECUADOR
EGYPT
EL SALVADOR
ENGLAND
EQUATORIAL GUINEA
ERITREA
ESTONIA
ETHIOPIA
FIJI
FINLAND
FRANCE
GABON
GAMBIA
GEORGIA
GERMANY
GHANA
GREECE
GRENADA
GUATEMALA
GUAM
GUINEA
GUINEA BISSAU
GUYANA
HAITI
HONDURAS
HUNGARY
ICELAND
INDIA
INDONESIA
IRAN
IRAQ
IRELAND
ISRAEL
ITALY
IVORY COAST
JAMAICA
JAPAN
JORDAN
KENYA
KOREA
KUWAIT
KYRGYZSTAN
LAOS
LATVIA
LEBANON
LESOTHO
LIBERIA
LIBYA
LIECHTENSTEIN
LITHUANIA
LUXEMBOURG
MADAGASCAR
MALAWI
MALAYSIA
MALI
MALTA
MAURITANIA
MAURITIUS

(Continued on next page.)

(Continued from previous page.)

MEXICO
MICRONESIA
MOLDOVA
MONACO
MONGOLIA
MOROCCO
MOZAMBIQUE
NAMIBIA
NEPAL
NETHERLANDS
NEW ZEALAND
NICARAGUA
NIGER
NIGERIA
NORWAY
OMAN
PAKISTAN
PANAMA
PAPUA-NEW GUINEA
PARAGUAY
PERU
PHILIPPINES
POLAND
PORTUGAL
PUERTO RICO
QATAR
ROMANIA
RUSSIA
RWANDA
ST. KITTS AND NEVIS
SAINT LUCIA
ST. VINCENT
SAIPAN
SAN MARINO
SAO TOME AND PRINCIPE
SAUDI ARABIA
SENEGAL
SEYCHELLES
SIERRA LEONE
SINGAPORE
SLOVAKIA
SLOVENIA
SOLOMON ISLANDS
SOMALIA
SOUTH AFRICA
SPAIN
SRI LANKA
SUDAN
SURINAME
SWAZILAND
SWEDEN
SWITZERLAND
SYRIA
TAIWAN
TAJIKISTAN
TAHITI
TANZANIA
THAILAND
TIBET
TOGO
TRINIDAD AND TOBAGO
TUNISIA
TURKEY
TURKMENISTAN
UGANDA
UKRAINE
UNITED ARAB EMIRATES
UNITED KINGDOM
UNITED STATES
URUGUAY
UZBEKISTAN
VANUATU
VATICAN CITY
VENEZUELA
VIETNAM
WESTERN SAMOA
YEMEN
YUGOSLAVIA
ZAIRE
ZAMBIA
ZIMBABWE

STATES/PROVINCES (61)

ALASKA
ALABAMA
ALBERTA
ARKANSAS
ARIZONA
BRITISH COLUMBIA
CALIFORNIA
COLORADO
CONNECTICUT
DELAWARE
FLORIDA
GEORGIA
HAWAII
INDIANA
ILLINOIS
IOWA
IDAHO
KANSAS
KENTUCKY
LOUISIANA
MAINE
MANITOBA
MARYLAND
MASSACHUSETTS
MISSOURI
MICHIGAN
MINNESOTA
MISSISSIPPI
MONTANA
NEBRASKA
NEVADA
NEW BRUNSWICK
NEWFOUNDLAND
NEW HAMPSHIRE
NEW JERSEY
NEW MEXICO
NEW YORK
NORTH CAROLINA
NORTH DAKOTA
NOVA SCOTIA
OREGON
OHIO
OKLAHOMA
ONTARIO
PRINCE EDWARDS ISLAND
PENNSYLVANIA
PUERTO RICO
QUEBEC
RHODE ISLAND
SASKATCHEWAN
SOUTH CAROLINA
SOUTH DAKOTA
TENNESSEE
TEXAS
UTAH
VERMONT
VIRGINIA
WEST VIRGINIA
WASHINGTON
WISCONSIN
WYOMING

CITIES (114)

AKRON
ALBUQUERQUE
ANAHEIM
ANCHORAGE
ARLINGTON
ATHENS
ATLANTA
AUSTIN
BALTIMORE
BATON ROUGE
BERLIN
BEIJING
BIRMINGHAM
BOSTON
BOULDER
BONN
BUFFALO

(Continued on next page.)

(Continued from previous page.)

CALGARY
CHARLOTTE
CHATTANOOGA
CHEYENNE
CHICAGO
CINCINNATI
CLEVELAND
CAIRO
COLUMBUS
COPENHAGEN
DETROIT
DALLAS
DAYTON
DENVER
DES MOINES
DUBLIN
EDMONTON
EL PASO
FORT WORTH
FRESNO
GRAND RAPIDS
HALIFAX
HONOLULU
HOUSTON
HOLLYWOOD
INDIANAPOLIS
JACKSON
JACKSONVILLE
JERSEY CITY
JERUSALEM
KANSAS CITY
KNOXVILLE
LOS ANGELES
LAS VEGAS
LINCOLN
LITTLE ROCK
LONG BEACH
LOUISVILLE
LUBBOCK
LONDON
MADISON
MADRID
MESA
MIAMI
MEMPHIS
MILWAUKEE
MINNEAPOLIS
MOBILE
MONTGOMERY
MONTREAL
MOSCOW
NASHVILLE
NEWARK
NEW ORLEANS
NEW YORK
NORFOLK
OAKLAND
OKLAHOMA CITY
OMAHA
OTTAWA
PHOENIX
PARIS
PHILADELPHIA
PITTSBURGH
PORTLAND
QUEBEC CITY
RALEIGH
REGINA
RICHMOND
RIO DE JANEIRO
ROME
SACRAMENTO
SAINT LOUIS
SAINT PAUL
SALT LAKE CITY
SAN FRANCISCO
SAN DIEGO
SAN JOSE
SAN ANTONIO
SEATTLE
SEOUL
SHANGHAI
SHREVEPORT
SPOKANE
SYDNEY
TAMPA
TOLEDO
TUCSON
TULSA
TOKYO
TORONTO
VANCOUVER
VICTORIA
VIRGINIA BEACH
WASHINGTON D.C.
WICHITA
WINNIPEG

NATURE PARKS (23)

ALGONQUIN PARK
APPALACHIAN TRAIL
BADLANDS
BANFF NATIONAL PARK
BLUE RIDGE MOUNTAINS
BRYCE CANYON
CATSKILLS
DEATH VALLEY
EVERGLADES
GRAND TETON
GRAND CANYON
LAKE TAHOE
MAMMOTH CAVE
MAUI
MOUNT RUSHMORE
NIAGARA FALLS
PETRIFIED FOREST
REDWOOD
SHENANDOAH
SMOKEY MOUNTAINS
STANLEY PARK
YOSEMITE
YELLOWSTONE PARK

HISTORICAL SITES (17)

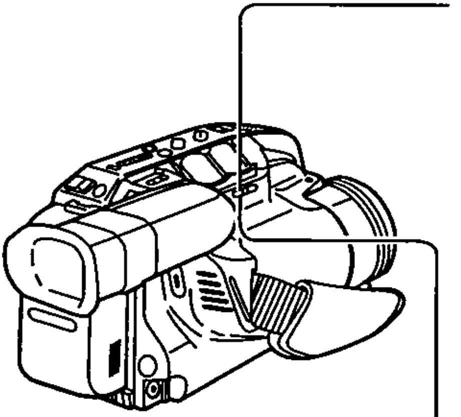
THE ALAMO
DODGE CITY
ELLIS ISLAND
FREEDOM TRAIL
GETTYSBURG
THE GOLDEN GATE BRIDGE
INDEPENDENCE HALL
JAMESTOWN
MYSTIC SEAPORT
SALEM
SARATOGA
SMITHSONIAN INSTITUTE
STATUE OF LIBERTY
VALLEY FORGE
THE WHITE HOUSE
COLONIAL WILLIAMSBURG
YORKTOWN

EXPRESSIONS (7)

DRIVING TO
FLYING TO
FUTURE SUPERSTAR
MY TRIP TO
OUR TRIP TO
OUR VACATION
TRAVELING TO

Motion Detection (MotionSensor)

Great for amateur surveillance applications.



Motion Detection may function regardless of the subject's motion when:

- the background is plain, such as a white wall.
- recording a subject with distinct horizontal, vertical or oblique stripes, such as a window shade.
- the brightness suddenly changes.

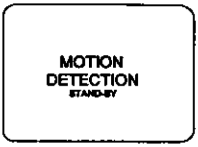
Motion Detection may not function when...

- motion is very slow or very fast.
- moving object is very small.
- motion is in 1 corner of the viewing area.
- in low light situations (MOTION DETECTION will flash if the light level is inadequate.)
- the background has distinct horizontal or vertical stripes.
- the background is plain, such as a white wall.

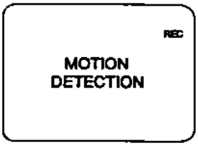
Before you begin...

- **Connect the Palmcorder to a power source. For extended periods of recording, it is recommended to use the AC Adaptor for a power source.**
- **Insert a cassette with record tab (see page 10).**
- **Set the POWER switch to CAMERA.**

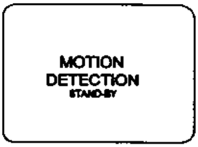
1 In Record/Pause mode, **hold down MOTION DETECT** for 2 seconds (approx.) to set the Palmcorder in Motion Detection stand-by mode. (If no cassette tape is inserted, "▣" will flash.)



- Palmcorder will start recording approximately 3 seconds after it perceives motion.



- When motion ceases, recording will stop 30 seconds later.



2 **Press MOTION DETECT** again to cancel the Motion Detection feature.

Note:

- Make sure the Palmcorder is firmly secure. If the Palmcorder is moved, the Motion Detection feature will start, regardless of the subject being recorded.
- While recording, Palmcorder will not be set in Motion Detection stand-by mode.
- While Palmcorder is in motion detection stand-by mode, Record/Pause, Stand-by mode, Digital E.I.S., Color Digital Fade, One-Touch Auto Fade and Negative/ Positive Transposer can not be activated.

Copying your Tapes (dubbing)

Main Operation

Before you begin...

- Connect the Palmcorder as shown below.
- Connect the Palmcorder to VCR.
- Turn ON both units.
- **Set the recording VCR's Input Signal Selector to LINE.**
- Set the Palmcorder POWER switch to VCR.

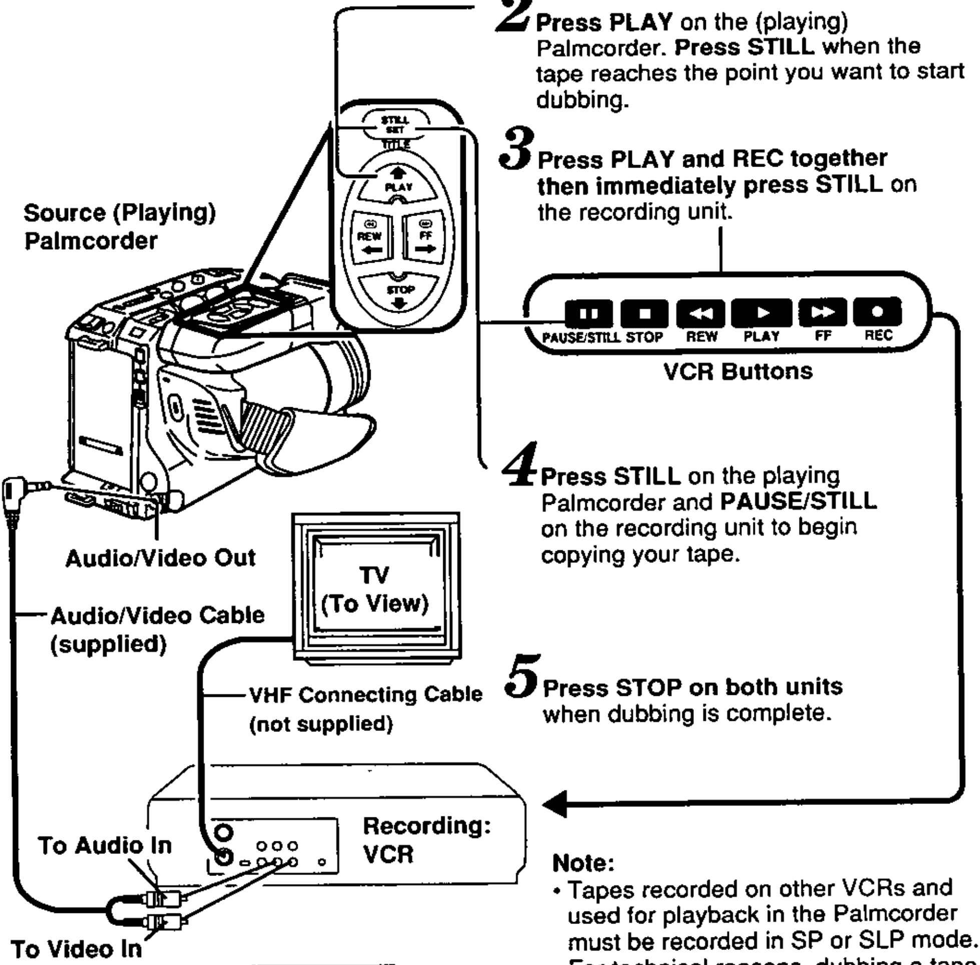
1 **Insert a pre-recorded tape** into the source (playing) Palmcorder and a blank tape with record tab into the recording unit.

2 **Press PLAY** on the (playing) Palmcorder. **Press STILL** when the tape reaches the point you want to start dubbing.

3 **Press PLAY and REC together then immediately press STILL** on the recording unit.

4 **Press STILL** on the playing Palmcorder and **PAUSE/STILL** on the recording unit to begin copying your tape.

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


STILL
SET
TITLE
PLAY
REW
FF
STOP
Source (Playing) Palmcorder
PAUSE/STILL
STOP
REW
PLAY
FF
REC
VCR Buttons
Audio/Video Out
Audio/Video Cable (supplied)
TV (To View)
VHF Connecting Cable (not supplied)
To Audio In
Recording: VCR
To Video In

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.

Note:

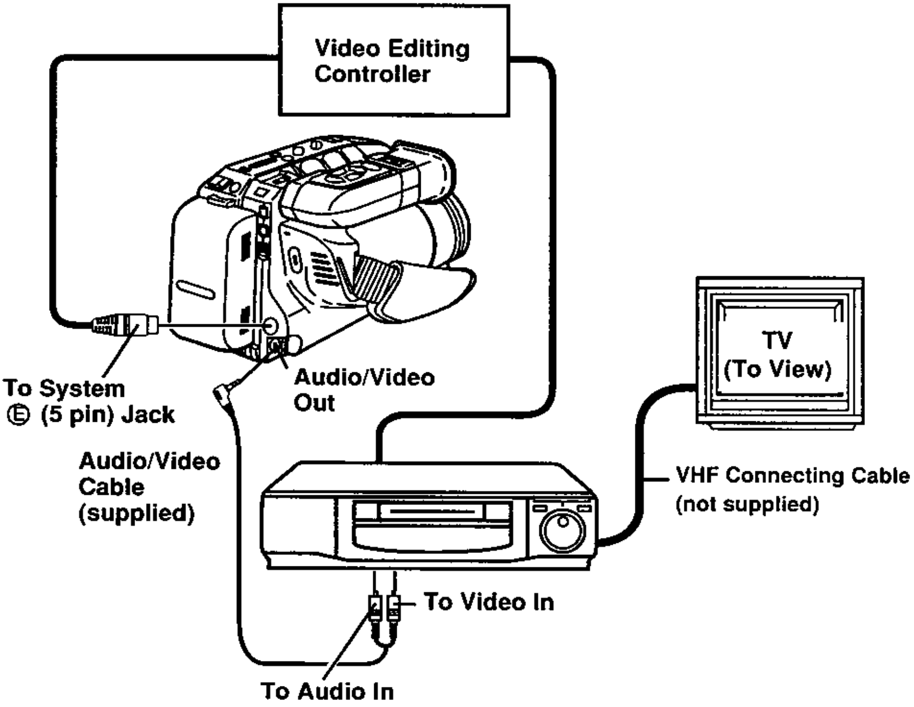
- Tapes recorded on other VCRs and used for playback in the Palmcorder must be recorded in SP or SLP mode.
- For technical reasons, dubbing a tape may reduce its quality.

CAUTION:

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

System Ⓔ (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).

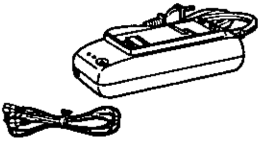

Video Editing Controller
To System Ⓔ (5 pin) Jack
Audio/Video Out
Audio/Video Cable (supplied)
TV (To View)
VHF Connecting Cable (not supplied)
To Video In
To Audio In

"For further information regarding video editing controllers and the Panasonic PV-S4680 and PV-S4690 editing VCR's with 5 pin control, please call your dealer or contact Panasonic Customer Service Center at 201-348-9090 (9:00am–8:00pm Monday–Friday, EST)."

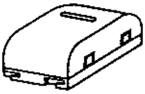
Palmcorder Accessory System

For information and ordering instructions, see the separate Selection Guide and Accessory Order Form.

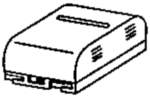
Power Supplies



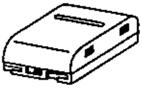
AC Adaptor with DC Power Cable Supplied (PV-A17)



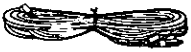
1.8Ah Battery Pack Supplied (PV-BP18) Optional (PV-BP18)



2.4Ah Battery Pack Optional (PV-BP17)

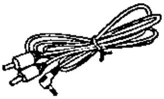


1.2Ah Battery Pack Optional (PV-BP15)

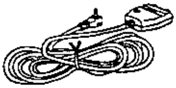


Car Battery Cord Optional (PV-C16)

Connection

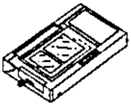


Audio/Video Cable Supplied (VJAW0032)

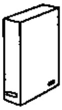


RF Adaptor Optional (PV-RF16)

To Record and Playback



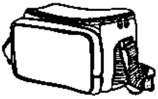
VHS PlayPak Supplied (PV-P1 /VYMW0009) Optional (PV-P1)



Compact Video Cassette Tape Optional (NV-TC20P, NV-TC30P, NV-TC40P)

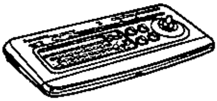
To Transport

Shoulder Strap Supplied (VYCW0108)



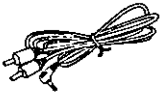
System Carrying Case Optional (PV-H18)

For Special Effects

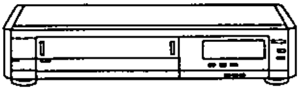


Video Corrector Optional (PV-CC50)

To Copy your Tapes (with Video/Audio)



Audio/Video Cable Supplied (VJAW0032)



VCR (not supplied)

Notes Regarding Operations

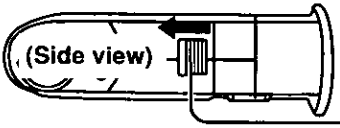
Attaching Optical Filters and Lenses

Attach an optical filter or lens.

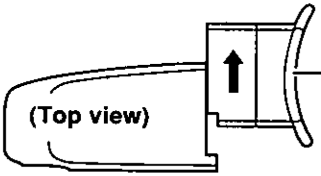
- Be careful not to touch the lens itself.

Cleaning the EVF (Electronic View Finder)

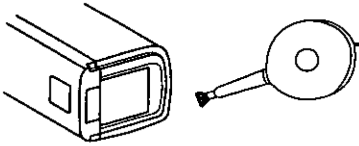
To Remove



1 Slide and hold the EYEPIECE RELEASE button.



2 Remove the eyepiece. (Do not twist.)



3 Remove any lint or dust particles with a blower, available at photography stores. Do not touch lenses with fingers. Now, replace the eyepiece.

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.

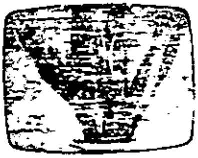
Specifications

Power Source:	Compact VHS Palmcorder: DC 6V AC Adaptor: 110/120/220/240V AC, 50/60 Hz Battery: Nickel-Cadmium Type DC 6V
Power Consumption:	Compact VHS Palmcorder: 6V DC 8.1W (Max. 11.1W) AC Adaptor: 24W 1.2W (when not in use.)
Video Signal:	EIA Standard (525 lines, 60 fields) NTSC color signal
Video Recording System:	4 rotary heads. helical scanning system
Audio:	1 track
Pick-Up System:	Sequential color difference field reverse system
Pick-Up Device:	One integral color filter Charge Coupled Device (CCD)
Lens:	16:1 zoom lens, F1:1.6 with auto iris control Focal length: 5.3mm - 84.8mm (6.25mm - 100mm: When recording.) (45mm - 720mm: When converted to a 35mm still camera.) Power zoom function Lens filter diameter: 58mm
Viewfinder:	0.5 inch (12.7mm) Liquid Crystal Color Electronic Viewfinder
Minimum Illumination Required:	2 lx (F1:1.6) 0.2 footcandles
Operating Temperature:	32°F~104°F (0°C~40°C)
Operating Humidity:	10%~75%
Weight:	Compact VHS Palmcorder: 2.1 lbs. 0.95 kg AC Adaptor: 0.77 lbs. 0.35 kg
Dimensions:	Compact VHS Palmcorder: 4-1/4 (W) × 4-5/8 (H) × 7 (D) inch 109 (W) × 116 (H) × 177 (D) mm AC Adaptor: 2-3/4 (W) × 1-5/8 (H) × 5-3/4 (D) inch 70 (W) × 41 (H) × 145 (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: Your Palmcorder will not normally require head cleaning; however, it is possible that the heads may become clogged when playing an old or damaged tape. If the image on your screen resembles the photograph on the left while playing back a tape, 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. There are many types of cleaning cassettes, so 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.

Auto-Reset

The Palmcorder, provided no tape is inserted, will reset the Backlight, High Speed Shutter and Focus to their AUTO or OFF modes if, after activation, none of these buttons are pressed within 5 minutes.

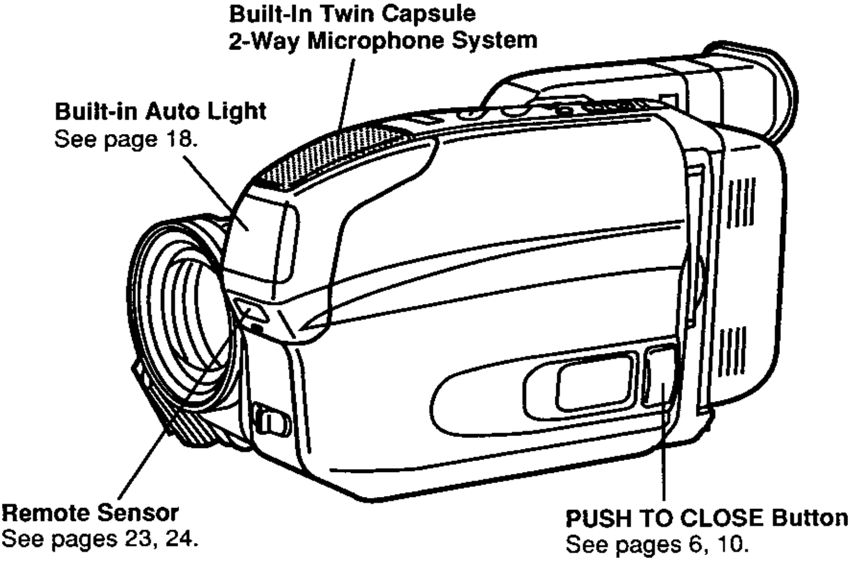
Before Requesting Service

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 ...	• Make sure a Power Source is connected. (pp. 7, 9) • Make sure the POWER switch is set to VCR or CAMERA. (pp. 20, 25) • Check the Dew Indicator. (p. 17) • Make sure the battery is fully charged. (p. 7) • Make sure all necessary cables are connected correctly and firmly. (p. 27)
Video cassette can't be inserted ...	• Make sure a Power Source is connected. (pp. 7, 9) • Insert the cassette with the window side facing out. (p. 10)
Video cassette can't be removed ...	• Make sure a Power Source is connected. (pp. 7, 9)
No operation starts when operation buttons are pressed ...	• Check the Dew Indicator. (p. 17)
Recording cannot be done ...	• Make sure the record tab is still intact. (p. 10) • Check the Battery Indicator. (p. 15) • Check the Dew Indicator. (p. 17)
Auto Focus does not operate ...	• Make sure the FOCUS button is set to AUTO. (p. 29) • Make sure the unit is ON, with the POWER switch set to CAMERA (p. 20).
Sound from microphone can't be monitored ...	• Make sure the unit is set to REC or Record/Pause mode.
Camera picture is too dark ...	• Make sure the HIGH SPEED SHUTTER button is OFF (p. 28).
No playback picture, or the playback picture is noisy or contains streaks ...	• Press the Clock Set UP ▲/DOWN ▼ button during playback (Tracking Control) (p. 25).
During playback, the picture shows motion or blurred action ...	• Portions of the still picture where the normal speed motion was particularly rapid may produce this effect. This is normal.
"Panasonic Palmcorder IT'S VHS! SO ITS TAPES PLAY IN YOUR VCR" appears in the EVF and Monitor ...	• Set the POWER switch to OFF and then CAMERA.
If the top of your playback picture waves back and forth excessively ...	• Because the playback signal is not as stable as an off the air TV signal, the top of your TV screen may be bent or unstable when the tape is played back. This symptom is more noticeable when a tape, recorded on another VCR, is played back. To solve this problem, locate the horizontal hold control on your TV. Turn it slowly to correct the wavy picture. If your TV does not have a horizontal hold control or adjusting the control does not help, some modifications may have to be made to the TV set. Technically this is called "Horizontal AFC time constant change." If such a problem exists, please contact your local TV service center. (Some nominal service charges may be required.)

Index of Controls

Front View

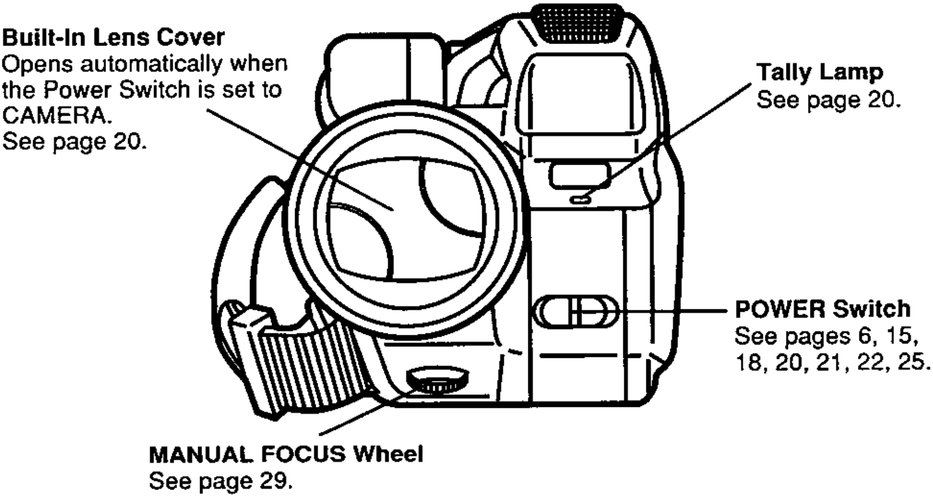


Built-In Twin Capsule 2-Way Microphone System

Built-in Auto Light
See page 18.

Remote Sensor
See pages 23, 24.

PUSH TO CLOSE Button
See pages 6, 10.



Built-In Lens Cover
Opens automatically when the Power Switch is set to CAMERA.
See page 20.

Tally Lamp
See page 20.

POWER Switch
See pages 6, 15, 18, 20, 21, 22, 25.

MANUAL FOCUS Wheel
See page 29.

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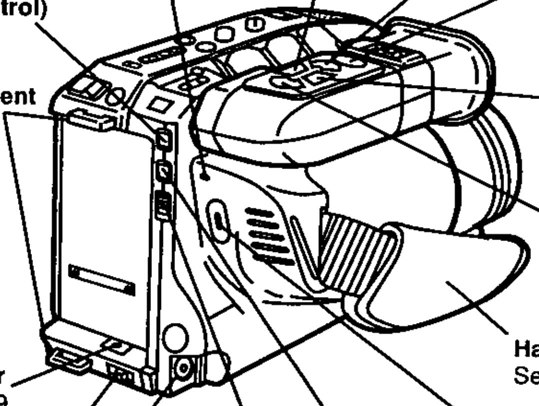
Rear View



POWER Lamp
Lights when the Power Switch is set to VCR or CAMERA.
See pages 6, 16.

REWIND/SEARCH Button
See pages 6, 22, 25.
(← Direction Button)
See page 39.

PLAY Button
See pages 6, 22, 25, 48.
(▲ Direction Button)
See page 39.

CLOCK SET UP ▲ Button
See pages 11, 12, 13, 21.
(Tracking Control)
See page 25.

STILL Button
See pages 22, 25, 48.
(SET)
See pages 39, 40, 41, 42, 43.

Strap Attachment Rings
See page 19.

FAST FORWARD /SEARCH Button
See page 25.
(→ Direction Button)
See page 39.

STOP Button
See pages 6, 15, 25, 48.
(▼ Direction Button)
See page 39.

Hand Strap
See page 19.

DC IN Connector
See page 9.

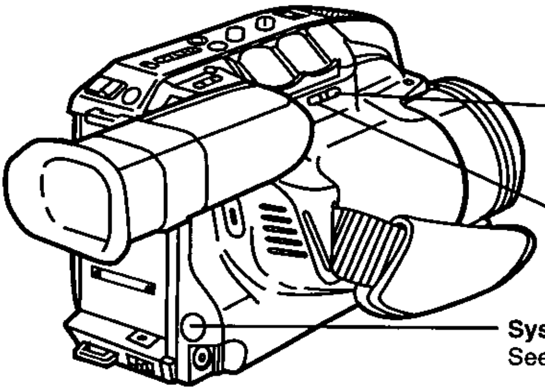
RECORD/PAUSE Button with REC Lamp
See pages 6, 20, 21, 22, 30, 37.

BATTERY RELEASE Button
See page 7.

TAPE SPEED Selector
See pages 6, 10, 20.

DOWN ▼ Button
See pages 11, 12, 13, 21.
(Tracking Control)
See page 25.

Audio/Video Output Connector
See pages 27, 48.
(This connector for use with supplied Audio/Video cable only.)



D. FILTER NEG/POS Button
See page 32.

MOTION DETECT Button
See page 47.

System Ⓔ (5 pin) Jack
See page 49.

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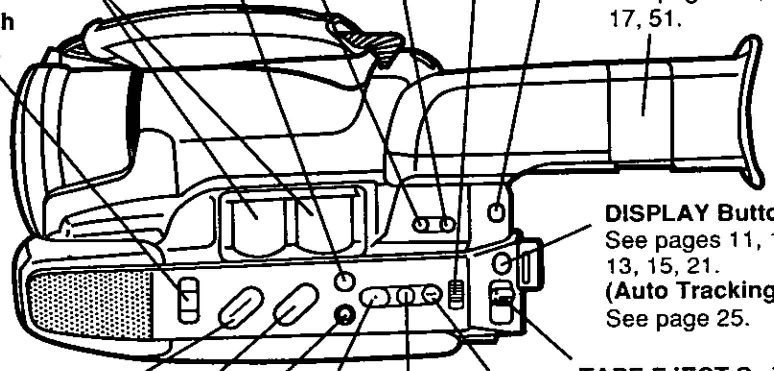
Top View



SELECT Button
See pages 38, 39, 40, 42.

TITLE Button
See pages 37, 38, 39, 40, 41, 42.

DIGITAL SELECT Switch
See pages 33, 34, 35, 36.

MODE SEL Button
See pages 30, 31.

HIGH SPEED SHUTTER Button
See page 28.

POWER ZOOM Switch
See pages 28, 29, 33.

Electronic Viewfinder (EVF)
See pages 15, 16, 17, 51.

LIGHT Switch
See page 18.

DISPLAY Button
See pages 11, 12, 13, 15, 21.
(Auto Tracking)
See page 25.

TAPE EJECT Switch
See pages 6, 10, 20.

BACKLIGHT Button
See page 32.

STILL/STROBE Button
See page 35.
DIGITAL WIPE START Button
See page 36.

FADE Button
See pages 30, 31.

EIS Button
See page 34.
DIGITAL WIPE MEMORY Button
See page 36.

DIGITAL ZOOM Button
See page 33.
DIGITAL WIPE MODE Button
See page 36.

COLOR Button
See page 31.

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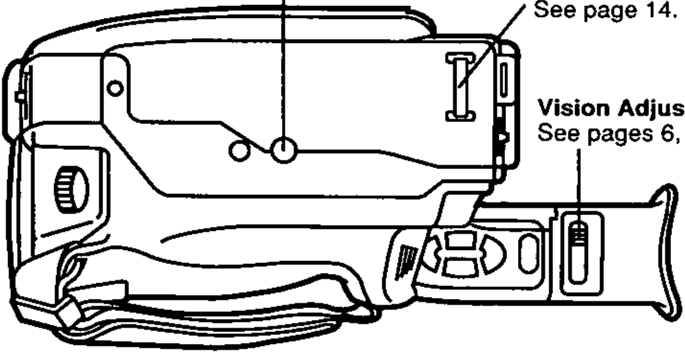
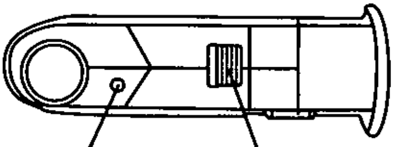
Underside View



Tripod Mounting Hole

Clock Battery Tray
See page 14.

Vision Adjustment Control
See pages 6, 20.

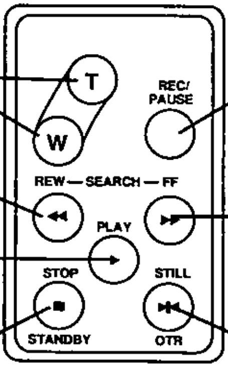


* **Bright Control**
Adjust the brightness
of the picture.

EYEPIECE RELEASE button
See page 51.

***Note:** These controls have been set at the factory. It is not necessary to adjust these controls under normal circumstances. But, should it become necessary, be careful to make the adjustment with a small, slender screwdriver so as not to damage the miniature control.

9-Function Remote



POWER ZOOM Switch
See page 23.

REWIND/SEARCH Button
See page 23.

PLAY Button
See page 23.

STOP Button
See page 23.

STANDBY Button
See page 24.

RECORD/PAUSE Button
See pages 23, 24.

FAST FORWARD /SEARCH Button
See page 23.

STILL Button
See page 23.

OTR Button
See page 24.

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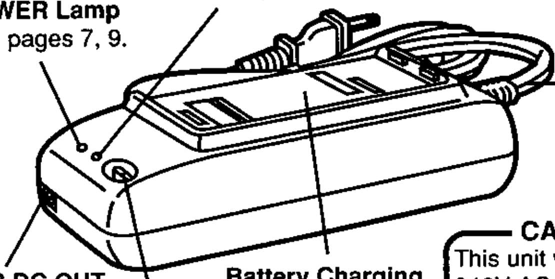
AC Adaptor



CHARGE Lamp
See pages 7, 8.

POWER Lamp
See pages 7, 9.

AC Power Cord
See pages 7, 8, 9.

VCR DC OUT Connector
See page 9.

Battery Charging Compartment
See page 7.

BATTERY REFRESH Button
See page 8.

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.

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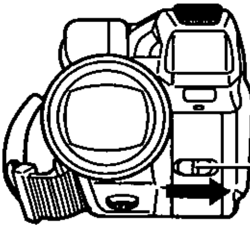
Spanish Quick Use Guide/Guía Para Uso Rápido

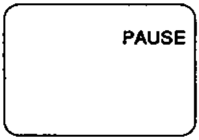
PREPARATIVOS

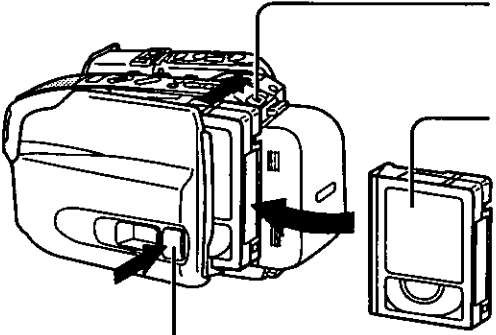
- Conectar la videocámara a una fuente de alimentación (batería, adaptador de CA o cable para batería de coche).
- Encender el aparato.
- Introducir el casete en el compartimiento de casetes.

GRABACION



1 Fije el interruptor a la posición de CAMERA.

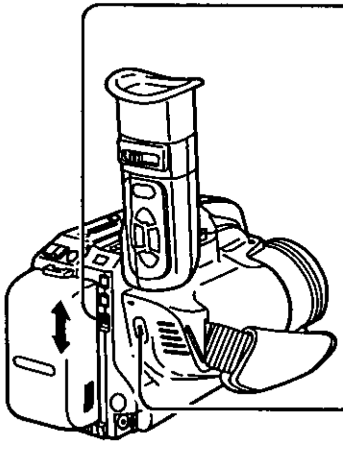




2 Deslice el botón EJECT para abrir la puerta.

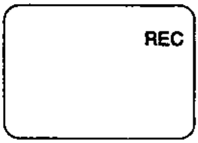
3 Introduzca la cinta.

4 Cierre la puerta presionando el botón PUSH TO CLOSE.



5 Seleccionar la velocidad de grabación.

6 Oprimir el botón de grabación/pausa (RECORD/PAUSE) para comenzar a filmar.

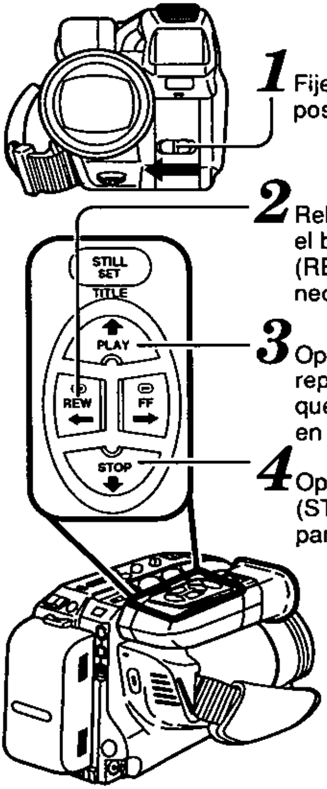


7 Volver a oprimir el botón de grabación/ pausa (RECORD/ PAUSE) cuando se desea hacer una pausa en la grabación.

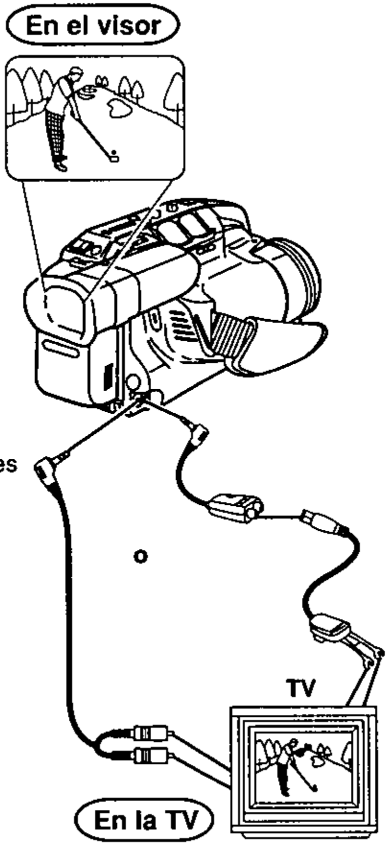
Spanish Quick Use Guide/Guía Para Uso Rápido

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

REPRODUCCION NORMAL



1. Fije el interruptor a la posición de VCR.
2. Rebobinar la cinta con el botón de rebobinado (REWIND) (si fuera necesario).
3. Oprimir el botón de reproducción (PLAY) para que aparezcan las imágenes en la pantalla.
4. Oprimir el botón de parada (STOP) cuando se desea 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.

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New Jersey 07094

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