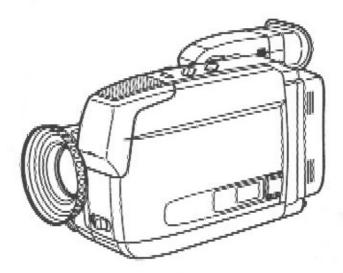


Camcorder

Operating Instructions





Defore attempting to connect, operate or adjust this product, please read these instructions thoroughly. Spanish Quick Use Guide is included.

Guía para rápida consulta en español está incluida.

OLIMINAL DI

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. Battery Pack (PV-BP15) 1 pc. Audio/Video Cable (VJAW0032) 1 pc. Shoulder Strap (VYCW0108)



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





(installed in Palmcorder)

1 pc. CR2025 Clock

Battery (VSBW0004)

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 Patmcorder 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 **VISE** and/or **VIIS** mark be used.



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.
- 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.

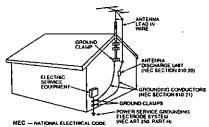


- 9. Ventilation Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the video unit and to protect it from overheating. These openings must not be blocked or covered. Never place the video unit on a bed. sofa, rug, or other similar surface, or near or over 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.
- 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.

 Grounding or Polarization — This video unit may be equipped with either a polarized 2-wire AC (Alternating Current) line plug (a plug having one blade wider than the other) or 3-wire grounding type plug, a plug having a third (grounding) pin. The 2-wire polarized plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

The 3-wire grounding type plug will fit Into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug.

- 12. Power-Cord Protection Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords of plugs, convenience receptacles, and the point where they exit from the unit.
- 13. Outdoor Antenna Grounding --- If an outside antenna or cable system is connected to the video unit, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Part 1 of the Canadian Electrical Code, in USA Section 810 of the National Electrical Code, provides Information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.



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

Important Safeguards

- 15. Power Lines An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
- 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.
- 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.
- Damage Requiring Service Unplug this video unit from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - When the power-supply cord or plug is damaged.

Precautions

- 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.
- 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 techniclan to perform safety checks to determine that the video unit is in safe operating order.

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 wel. Your Camcorder has been designed for outdoor use, however it is not designed to sustain direct exposure to water, rain, steel, 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 disasemble 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 lape and inside the unit.
- · DO NOT LEAVE YOUR CAMCORDER OR THE POWER SUPPLY TURNED ON WHEN NOT IN USE.
- STORAGE OF YOUR CAMCORDER ... Store and handle your Camcorder in a manner that will not subject it to
 unnecessary movement (avoid shaking and striking). Your Camcorder contains a sensitive pick-up device which
 could be damaged by improper handling or storage.

CARE

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

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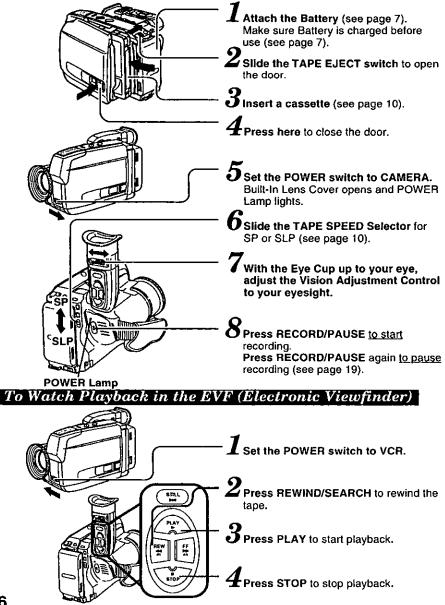
For Your Information

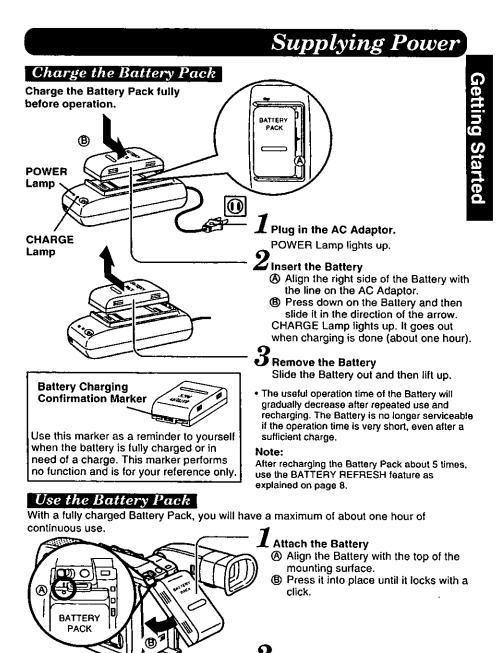
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Quick Operation Guide

Camera Recording

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





Remove the Battery

While sliding the BATTERY RELEASE button, remove the Battery.

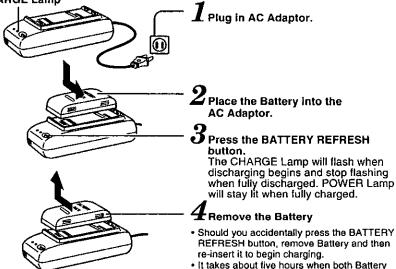
Supplying Power

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.

CHARGE Lamp



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.

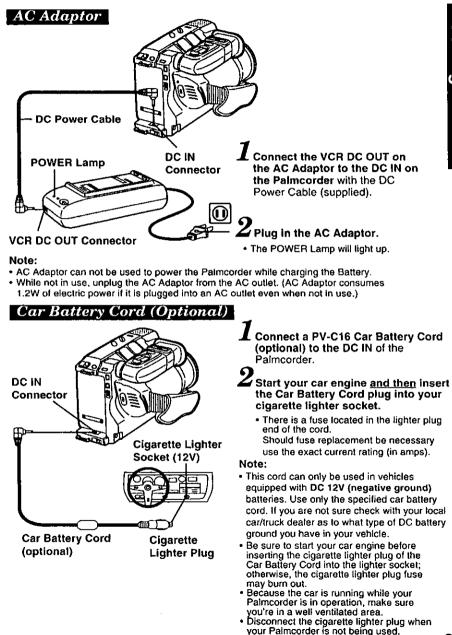
Refresh and charging are performed.

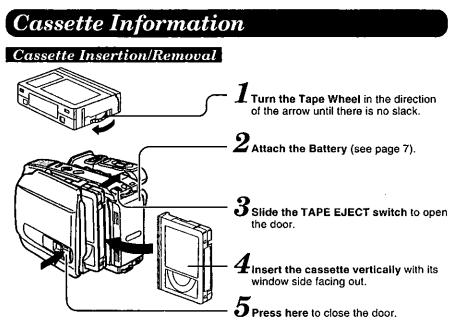
 If the Battery is used in extremely high temperatures, a safety device will automatically prevent operation.

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



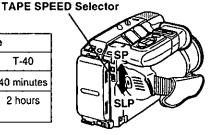


• To remove the cassette, slide the TAPE EJECT switch.

Record/Playback Time

Use tapes with the WHSP mark in this unit.

Tape Speed Selector	Cassette type		
Position	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

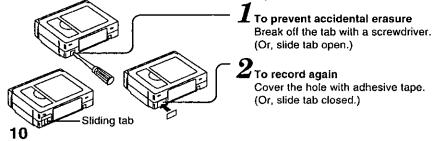


• SP provides the best picture.

· SLP has slightly more picture noise during playback.

Erase Protection Tab

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



aetting Started

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.

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).

Press CLOCK SET UP A to disptay the CLOCK SET menu.

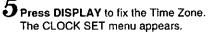
Press UP ▲ or DOWN ▼ repeatedly to select 1.SELECT TIME ZONE from the CLOCK SET menu.



Press DISPLAY to display the SELECT TIME ZONE menu.



Press UP A or DOWN V repeatedly to select one of the eight time zones of the location where you are using the Palmcorder.

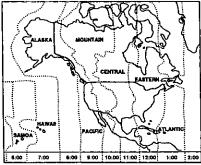


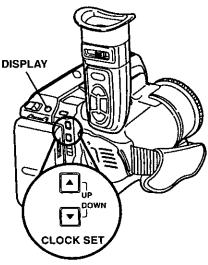
To exit from the CLOCK SET menu, select 4.END and press DISPLAY.

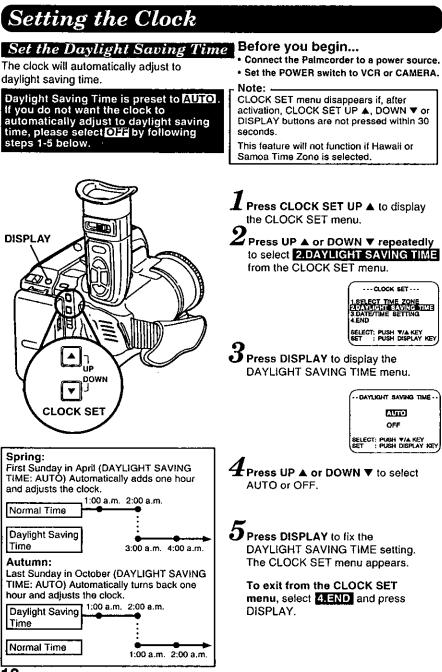
Note: -

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

Time Zone chart







Setting the Clock

Set the Date and Time

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

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 \blacktriangle , DOWN \checkmark or DISPLAY buttons are not pressed within 30 seconds.

Press CLOCK SET UP A to display the CLOCK SET menu.

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

CLOCK SET
1.SELECT TIME ZONE 2.DAYLIGHT GAVING TIME CIOALIZATING 4.END
SELECT: PUSH V/A KEY SET : PUSH DISPLAY KEY

Press DISPLAY to display the DATE/TIME SETTING menu.

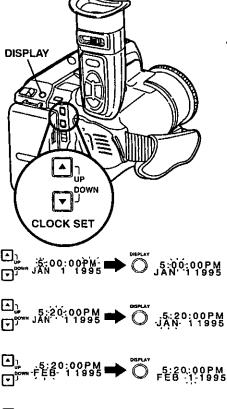
Press UP ▲ or DOWN ▼ repeatedly (or hold down) to enter the desired numbers, then, press DISPLAY to fix that portion and move to the next.

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

···· DATE/TIME SETTING ····
12:00:00AM JAN 11995
JAN 11995
SELECT: PUSH V/A KEY SET : PUSH DISPLAY 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.



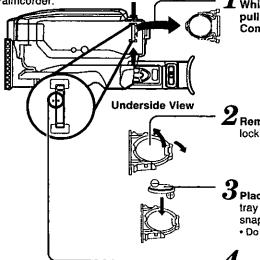
►] 5:20:00 PM → C 5:20:00 PM

5:20:00.P.M. → 5:20:00.P.M. → 5:20:00.P.M. → 5:20:00.P.M.

Setting the Clock

Replace the Battery

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



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

- 2 Remove the Battery by bending the locking tab outward.
- Place the new Battery into the Battery tray with the ⊕ mark facing down until it snaps into place.
 - . Do not reverse the polarity.

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.

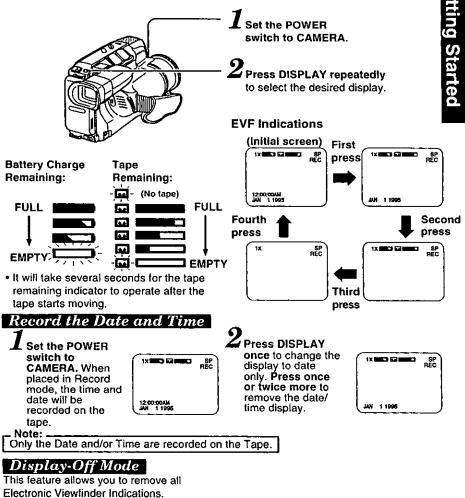
Note:

- 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

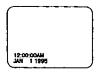
The tape remaining and battery charge level can be displayed during recording.



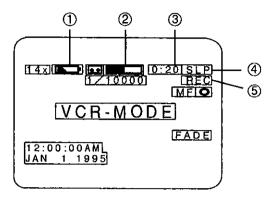
Before inserting a tape, press DISPLAY and STOP together for more than one second to remove the indications except time and date*.

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.



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.

- 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.)

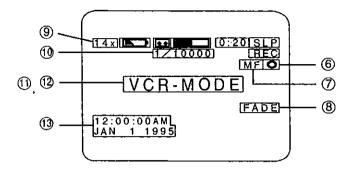
PAUSE

(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 27).
- ⑦ Manual Focus Indication (see page 26).
- (8) Fade Indication (see page 25).
- (9) Zoom Magnification level (see page 25).
- (1) High Speed Shutter Indication (see page 27).
- **(1) 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.

② 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.

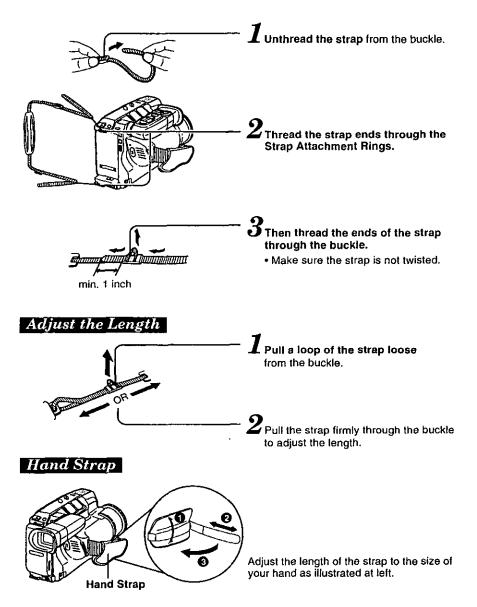
In this case, wait until the indicator no longer flashes when your Palmcorder is turned on before using your Palmcorder again.

(3 Date and time Indication (see page 13).

Setting Started

Attaching the Shoulder Strap

Make sure the Battery Pack is not attached.



Camera Recording Simple Recording Before you begin... · Connect the Palmcorder to a power source. Insert a cassette with record tab (see page 10). Tally Lamp Set the POWER switch to CAMERA. Built-In Lens Cover opens. EVF PAUSE Basic Operat Record/Pause mode. **2** With the Viewfinder Eye Cup up to your eye, adjust the Vision Adjust-TAPE EJECT ment Control to your evesight. 3 Slide the TAPE SPEED Selector to SP or SLP (refer to page 10). SLF Press RECORD/PAUSE to start recordina. The Tally Lamp and RECORD/PAUSE are lit during recording. Note: • Do not leave the Palmcorder with the EVF aimed directly at the sun as this may cause RECORD damage to the internal parts of the EVF. Press RECORD/PAUSE again to pause recording. Set the POWER switch to OFF after recording is finished.

 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.

To remove the cassette

In Record/Pause mode, slide the TAPE EJECT switch (refer to page 10).

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).

4

- Image: Standard Standard
 - Press DISPLAY to set your selection and exit this screen.
 - You may now turn the Palmcorder back on after it has gone into Standby mode by pressing the RECORD/ PAUSE button.

Note:

RECORD/PAUSE

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.

I Set the POWER switch to VCR. back a few seconds on the tape.

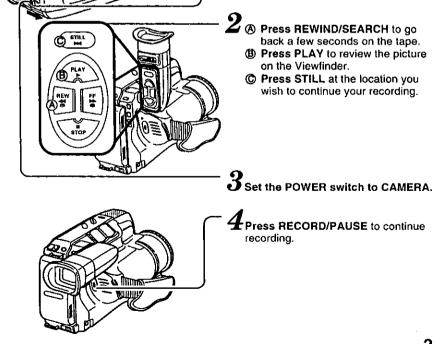
- (B) Press PLAY to review the picture on the Viewfinder.
- C Press STILL at the location you wish to continue your recording.

Press RECORD/PAUSE to continue recording.

POWER Switch

Manual Easy Editing

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

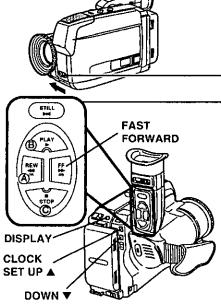


Playback your Recordings

Playback using the EVF

Before you begin...

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



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.
 22

$oldsymbol{I}$ Set the POWER switch to VCR.

- 2
 Press REWIND/SEARCH to rewind the tape.
 - B 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.

Tracking Control

Auto Tracking

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

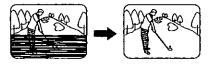
Manual Tracking

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

In Playback mode:

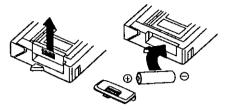
Press CLOCK SET UP ▲ or DOWN ▼ until picture clears.

Press DISPLAY to return to Auto Tracking.



Playback your Recordings

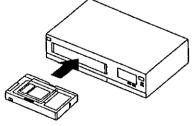
Playback using the PlayPak



Insert WISC Cassette

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.
- Turn the Tape Wheel on the WHSE 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 **WHSP** 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.



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

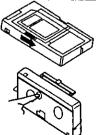
2 Hold the PlayPak securely in one hand. Put your finger through the hole in the bottom of the PlayPak and push the cassette out.





Load Detector

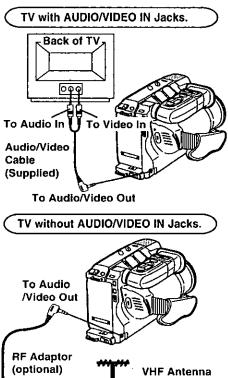
Remove WISC Cassette



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.



300 ohm-75 ohm CH 3/4 Switch transformer (not supplied) or F Connector **UHF Antenna** VCR/TV Back of TV Selector VHF Connecting (not supplied) **To VHF Antenna** Terminal

Before you begin...

· Connect the Palmcorder to a power source.

Set the POWER switch to VCR to playback a tape.

Or, set to CAMERA to view what your Palmcorder is recording.

$\mathbf{2}_{\mathsf{Turn}}$ 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.

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

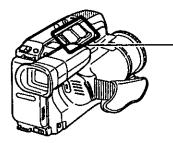
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC in USA (and to the Canadian Electrical code in Canada) that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the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

Cable

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 15 seconds to a fast 3.5 seconds according to the pressure applied to the zoom buttons.



Zoom In ("T")



Zoom Out ("W")

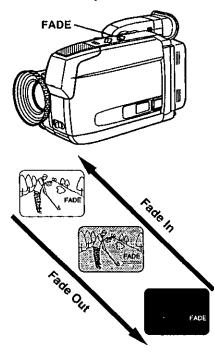
Zoom slowly by lightly pressing the "T" (Telephoto) or the "W" (Wide Angle) side of the POWER ZOOM switch.

Zoom quickly by applying more pressure.

The magnification level is displayed in the EVF.

One-Touch Auto Fade

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



Fade In:

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

I Press FADE in Record/Pause mode so that "FADE" flashes in the EVF.

2 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.

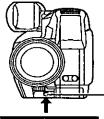
Press FADE so that "FADE" flashes in the EVF while recording.

2 Press RECORD/PAUSE to pause recording. The picture and sound gradually fade out.

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

Auto Focus

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



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

Manual Focus

- Use Manual Focus (MF) when recording ... an obliquely angled subject.
- 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.

()

Macro Focus (for close-ups)

subjects with shiny surfaces.

THEFT

- · 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.

Press FOCUS A/M 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).

Turn the FAR/NEAR dial until the picture is in focus.

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

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

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.

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 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.

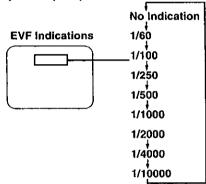
• AUTO mode is automatically selected whenever the POWER switch is set to CAMERA. Manual Selection

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.



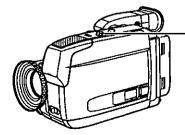


Note:

- 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.

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.



Press BACKLIGHT while recording.

When lighting conditions return to normal, press BACKLIGHT again to disengage.



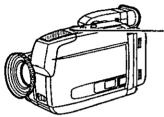


Indication appears in the EVF.

Intelligent Titler

On specific holidays, such as New Year's Day, the Palmcorder will automatically display the appropriate title (except HAPPY EASTER and PRESIDENT'S DAY) from the pre-programmed titles when the Palmcorder is turned on in the Camera mode on that day.

Automatic Title Display



Before you begin...

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

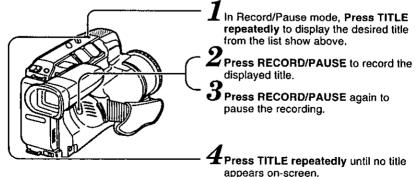
Press RECORD/ PAUSE to record the displayed title.

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!
These Titles must be	HAPPY EASTER
displayed manually.	PRESIDENT'S DAY

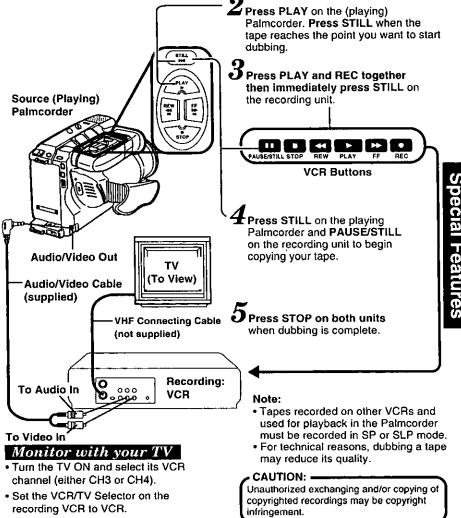
Manual Title Display



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.
- Insert a pre-recorded tape into the source (playing)

Palmcorder and a blank tape with record tab into the recording unit.



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Palmcorder Accessory System

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

Power Supplies





Connection



Audio/Video Cable



RF Adaptor

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

Supplied (VJAW0032) Optional (PV-RF16) 1.2Ah Battery Pack Supplied (PV-BP15)

To Record and Playback





2.4Ah Battery Pack 1.8Ah Battery Pack Optional (PV-BP17) Optional (PV-BP18)



Car Battery Cord Optional (PV-C16)





System Carrying Case Shoulder Strap Supplied (VYCW0108) **Optional (PV-H18)**

VHS PlayPak Compact Video Supplied (PV-P1 /VYMW0009) **Optional (PV-P1)**

Cassette Tape Optional (NV-TC20P. NV-TC30P. NV-TC40P)

For Special Effects

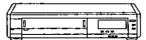


Video Corrector **Optional (PV-CC50)**

To Copy your Tapes (with Video/Audio)



Audio/Video Cable Supplied (VJAW0032)



VCR (not supplied)

Notes Regarding Operations

Attaching Optical Filters and Lenses

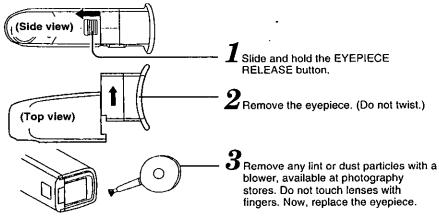
Remove the Lens Hood by turning it counterclockwise.

Then attach an optical filter or lens.

- · Be careful not to touch the lens itself.
- · Replace the Lens Hood after removing the accessory.

Cleaning the EVF (Electronic View Finder)

To Remove



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 7.8W AC Adaptor: 24W 1.2W (when not in use.)
Video Signal:	EIA Standard (525 lines, 60 fields) NTSC color signal
Video Recording System:	2 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:	14:1 zoom lens, F1:1.6 with auto iris control Focal length: 5.3mm - 74.2mm Power zoom function Lens filter diameter: 55mm
Viewfinder:	0.5 inch (12.7mm) Liquid Crystal Color Electronic Viewfinder
Minimum Illumination Required:	1 ix (F1:1.6) 0.1 footcandles
Operating Temperature:	32°F-104°F (0°C~40°C)
Operating Humidity:	10%~75%
Weight:	Compact VHS Palmcorder: 2.0 lbs. 0.91 kg AC Adaptor: 0.77 lbs. 0.35 kg
Dimensions:	Compact VHS Palmcorder: 4-1/8 (W) × 4-5/8 (H) × 6-7/8 (D) inch 106 (W) × 116 (H) × 176 (D) mm AC Adaptor: 2-3/4 (W) × 1-5/8 (H) × 5-3/4 (D) inch
Weight and dimensions shown are ap Designs and specifications are subje	70 (W) × 41 (H) × 145 (D) mm pproximate.

.

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.

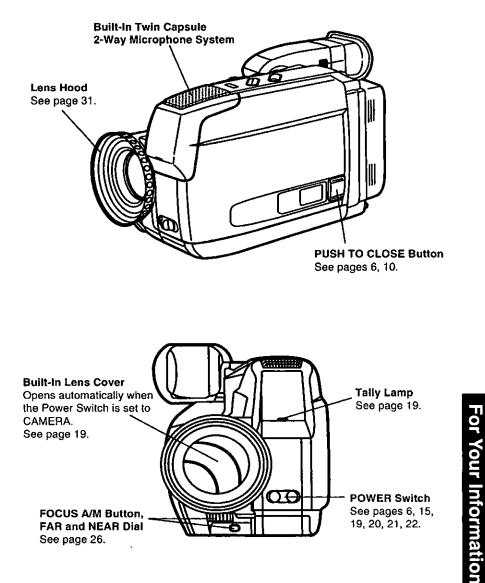
Before Requesting Service

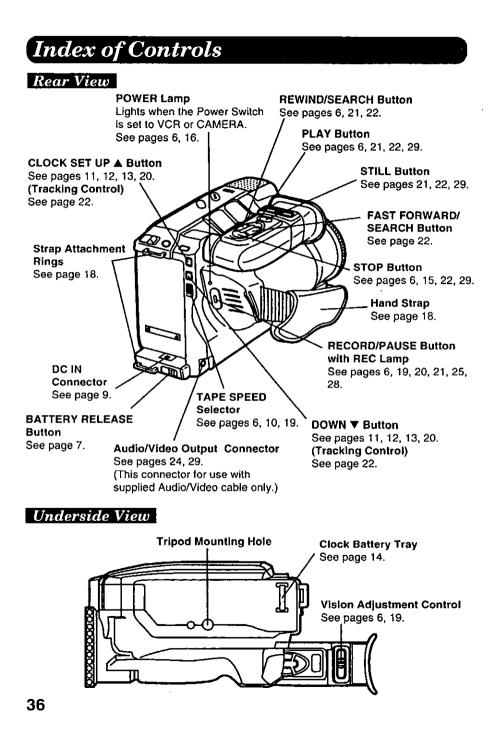
If you have a problem with your Palmcorder, it may be something you can correct yourself. Check the list below for symptoms and corrections.

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. 19, 22) 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. 24)
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. 26) Make sure the unit is ON, with the POWER switch set to CAMERA (p. 19).
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. 27).
No playback picture, or the playback picture is noisy or contains streaks	 Press the Clock Set UP ▲/DOWN ▼ button during playback (Tracking Control) (p. 22).
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 IQ IT'S VHSI 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

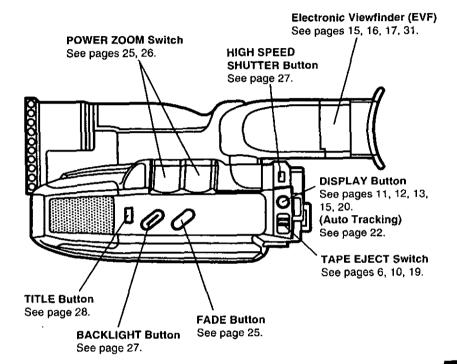
Front View

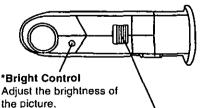




Index of Controls

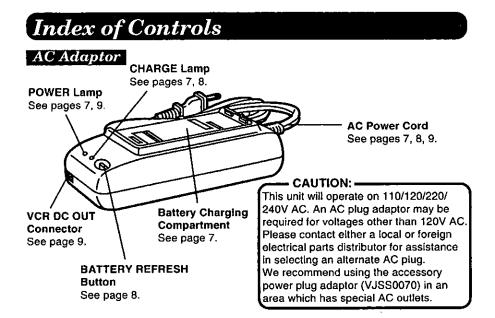
Top View





EYEPIECE RELEASE button See page 31.

*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.



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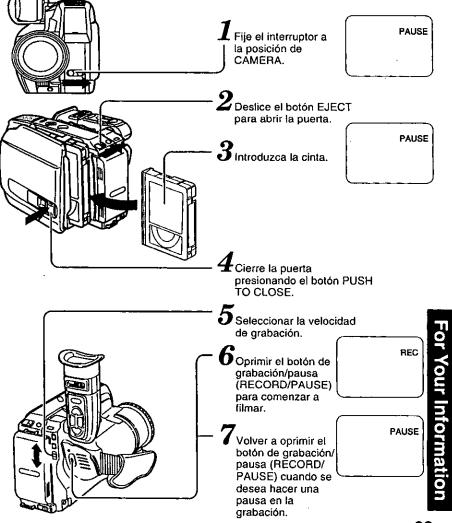
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Spanish Quick Use Guide/Guía Para Uso Rápido

PREPARATIVOS

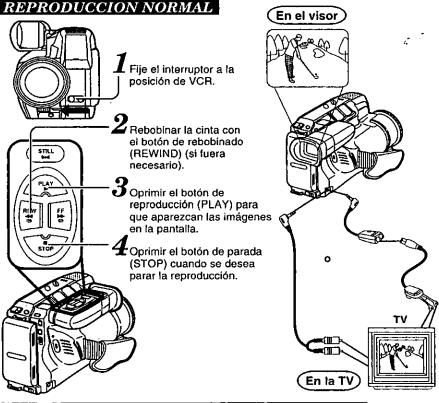
- Conectar la videocámara a una fuente de alimentación (batería, adaptador de CA o cable para batería de coche).
- Encender el aparato.
- Introducir el casete en el compartimiento de casetes.

GRABACION



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 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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