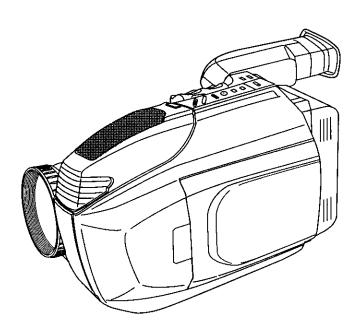
Palmcorder® PalmSight™ **Panasonic***

VHSIC

Camcorder **Operating Instructions**

Model No. PV-L691



Please read these instructions carefully before attempting to operate this product. Please save this manual.

Guía para rápida consulta en español está incluida.

For assistance, please call: 1-800-211-PANA(7262) or send e-mail to: consumerproducts@panasonic.com

Getting Started

Basic Operation

special Feature

For Your Information

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, it will bring you years of enjoyment. Please take time to fill in the information at the right. The serial number is on the tag located on the rear side of your Camcorder. Be sure to **retain this manual** as your convenient Camcorder information source.

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

Unpack your Camcorder

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

1 pc. AC Adaptor (PV-A19) with DC Power Cable (page 10)



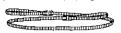
1 pc. Battery Pack (PV-BP18) (pages 9, 10)



1 pc. Audio/Video Cable (LSJA0283) (pages 21, 22)



1 pc. Shoulder Strap (LSFC0012) (page 50)



1 pc. VHS PlayPak (PV-P1/VYMW0009) and one "AA" battery (page 21)



1 pc. CR2025 Clock Battery (VSBW0004) (installed in Camcorder) (page 51)



1 pc. Digital PhotoShot Disk for Windows 95/98/ Me/2000 (LSFT0249) (page 42)



1 pc. CompactFlash Card [8 MB] (LSFA0009B) (page 34)



1 pc. PC Connection cable (RS232C-2.5P) (LSJA0276) (page 42)



CompactFlash Card is a trademark of SanDisk Corporation.

Microsoft and Windows are registered trademarks of Microsoft in the United States and other countries.

All product/brand names are trademarks or registered trademarks of the respective holders.

Things You Should Know

Safety Precautions

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

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

This Camcorder 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 WISC and/or WIS mark be used.



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's bottom cover.

FCC Warning: To assure continued FCC compliance, the user must use only provided shielded interfacing cable with ferrite cores when connecting to computer.

Also, any unauthorized changes or modifications to this equipment would void the users 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.

This product may cause interference to radio equipment and should not be installed near maritime safety communications equipment or other critical navigation or communication equipment operating between 0.45-30 MHz.

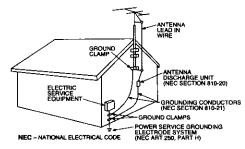
Important Safeguards

- 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.
- Heed Warnings All warnings on the unit and in the operating instructions should be adhered to.
- Follow Instructions All operating and maintenance instructions should be followed.
- Cleaning Unplug this video unit from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a dry cloth for cleaning.
- Attachments Do not use attachments not recommended by the video product manufacturer as they may be hazardous.
- 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.
- 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 2wire 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.
- 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 into, or objects have fallen onto, 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 CAMCORDER 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 Camporder.
- 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 carmcorder 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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ion Special Features	Four-Speed Power Zoom 23 Digital Still Camera 3 CompactFlash Card Insertion/Removal 3 Natto Fade 26 Using the Light 9 Playback 17 Playback 18 Digital Zoom 29 Digital Electronic Image 18 Stabilization (E.I.S.) 29 Still/Strobe/Wide 30 Security Mode 31 Intelligent Titler (Auto/Manual Title, Phrase Title) 32~33 Digital Still Camera 3 CompactFlash Card Insertion/Removal 3 Pactorion/Removal 3 Pactorion/Remova	34 35 36 36 37 38 38 39 40 41 45
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Self Demo Mode

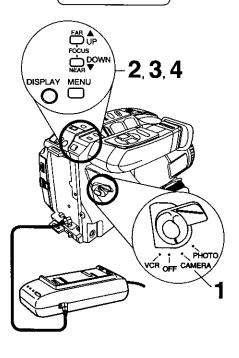
Self Demo mode is on when the screen below appears. To turn it off, follow steps 1-4 below.

EVF or LCD Monitor

Panasonic

ITS TAPES PLAY IN YOUR VCR YES, IT'S VH\$1

26× LENS / 300× D.ZOOM DIGITAL STABILIZATION DEDICATED 5-HEAD AUTO/PHRASE TITLER



Before you begin...

· Connect Camcorder to power source.

Set POWER to CAMERA.

Press MENU for MENU mode.
Press UP
or DOWN
to select SELFDEMO.



- 3 Press DISPLAY to select OFF.
- 4 Press MENU to exit.

Note:

- Self Demo stops automatically if battery is attached (page 9) and cassette tape is inserted (page 11).
- Inserting a tape alone (or attaching a partially charged battery) only temporarily stops Self Demo.
- Self Demo stops for 30 seconds when a function key other than Light, Play, Rewind Search, Fast Forward Search, Stop, and Still is pressed.

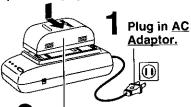
To turn Self Demo back on:

• Set to SELF DEMO : ON in MENU screen.

Quick Operation Guide

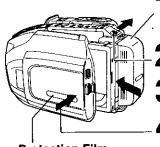
Charging the Battery Pack

Charge Battery Pack fully before operation (page 9).



Insert Battery. CHARGE Lamp flashes, then stays lit when charging is complete.

Insert Cassette



Attach fully charged Battery (page 9).

Slide <u>TAPE EJECT</u> to open door.

Insert <u>cassette</u> (page 11).

Press here to close

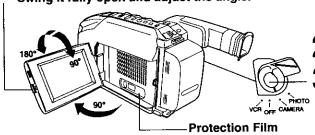
Protection Film Note:

· Remove the Protection Film before use.

Camera Recording

When the LCD monitor is open, the EVF automatically turns OFF (page 16).

Press <u>LCD-OPEN</u> to unlock the LCD monitor. Swing it fully open and adjust the angle.



2 Set <u>POWER to CAMERA.</u>

Press <u>RECORD/PAUSE</u> to start recording. Press <u>RECORD/PAUSE</u> again to pause recording.

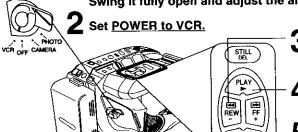
• Remove the Protection Film before use.

Playback using the LCD Monitor

When the LCD monitor is open, the EVF automatically turns OFF (page 19).

Press <u>LCD-OPEN</u> to unlock the LCD monitor.
Swing it fully open and adjust the angle (see above).

2 Set <u>POWER to VCR.</u>

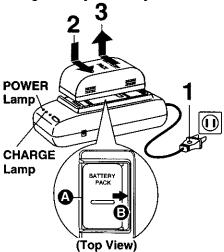


- Press <u>REWIND/SEARCH</u> to rewind tape.
- 4 Press PLAY to start playback.
- **5** Press <u>STOP</u> to stop playback.

Supplying Power

Charging the Battery Pack

Charge Battery Pack fully before use.



Plug in AC Adaptor.
POWER Lamp lights.

Insert Battery.

Align left side of Battery with left edge of AC Adaptor.

Press Battery down and slide in direction of arrow.

The CHARGE Lamp flashes, then stays lit when charging is complete.

Slide Battery to the left and lift off.

Note:

· Charging takes about 1 and 1/2 hours.

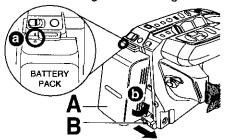
 While the DC Power Cable (supplied) is connected to the AC Adaptor, the Battery cannot be charged.

 After charging 5 times, use Battery Refresh feature as explained below.

 Battery life gradually decreases after repeated use and recharging. If operation time becomes very short even after a sufficient charge, discard Battery properly (page 10).

Using the Battery Pack

A fully charged Battery provides a maximum of about 2 hours of continuous use (LCD monitor off) or about 1.5 hours (LCD monitor on). Actual time may vary due to operating conditions. Using the Built-in Light decreases operating time.



A Attach Battery.

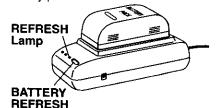
 Insert top of Battery into top of mounting surface.

Press and snap into place.

Remove Battery.
Slide BATTERY RELEASE and remove Battery.

Battery Refresh

This feature completely discharges Battery before recharging begins. Use after every 5 charges for optimum Battery performance.



To use battery refresh, insert Battery on AC Adaptor (see steps 1~2 above), then press <u>BATTERY REFRESH</u>.

The REFRESH Lamp lights, then goes out when discharge is complete. Battery charging will then start automatically.

If <u>BATTERY REFRESH</u> is pressed by mistake, remove Battery from AC Adaptor and reinsert it for normal charging.

Note

 Charging takes about 7 and 1/2 hours when Battery Refresh is used.

 Battery will not operate in extremely high temperatures.

Supplying Power

Battery Care

Caution:

Charge only with specified charger.

- Battery can be charged within a temperature range of 10 °C (50 °F) and 35 °C (95 °F).
- Battery is normally warm after charging or just after use.
 Do not use an insufficiently charged or worn-out Battery.

Safety precautions:

Do not get Battery near, or dispose of in fire.

- Do not directly connect (short circuit) the positive (+) and negative (-) terminals.
- Never attempt to disassemble or reassemble Battery.

To avoid Battery damage:

Do not drop or jar Battery.

- Use Battery with specified units only.
- If Battery is used in extremely high temperatures, a safety device will automatically prevent operation.

To prolong Battery life:

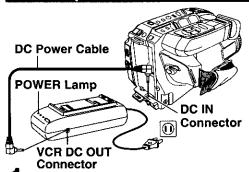
- While not in use, remove Battery from the Camcorder and AC Adaptor and store in a cool, dark, dry place.
- · Keep Battery terminals clean.

U.S.A. CONSUMERS: ATTENTION:



The product you have purchased is powered by a nickel cadmium battery which is recyclable. At the end of its useful life, under various state and local laws, it is illegal to dispose of this battery into your municipal waste stream. Please call 1-800-8-BATTERY for information on how to recycle this battery.

AC Adaptor



Connect AC Adaptor VCR DC OUT to Camcorder DC IN with supplied DC Power Cable.

Plug in AC Adaptor.
POWER Lamp lights.

Note:

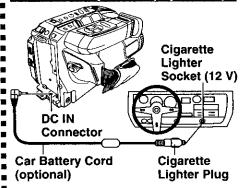
 While the DC Power Cable (supplied) is connected to the AC Adaptor, the Battery cannot be charged.

 When not in use, unplug AC Adaptor from AC outlet. (Adaptor uses 1.2 W of electricity while plugged in.)

CAUTION:

This unit will operate on 110/120/220/240 V AC. An AC plug adaptor may be required for voltages other than 120 V 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.

Car Battery Cord (Optional)



Connect PV-C16 <u>Car Battery Cord</u> (optional) to <u>Camcorder DC IN</u>.

🙎 🛭 Start engine first.

B Plug Car Battery Cord into Cigarette lighter socket.

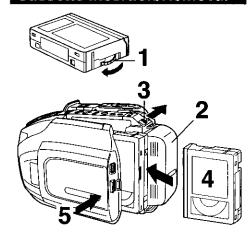
 If Car Battery cord fuse needs replacing, use exact current rating (in amps).

Note:

- This cord only works in vehicles equipped with DC 12 V (negative ground) battery. Check with your car/ truck dealer. Use only specified car battery cord.
- To avoid blowing the car battery cord fuse, do step 2 in the proper order.
- Running vehicles must be well ventilated.
- When not in use, disconnect cigarette lighter plug.

Cassette Information

Cassette Insertion/Removal



- Turn <u>Tape Wheel</u> in direction of arrow until there is no slack.
- 2 Attach Battery (page 9).
- 3 Slide TAPE EJECT to open door.
- 4 Insert <u>cassette</u> as shown.
- **5** Press here to close door.
- To remove the cassette, slide the <u>TAPE</u> <u>EJECT</u> switch.

Record/Playback Time

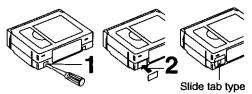
Use tapes with the WHSE mark in this unit.

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

• SLP playback may contain more picture noise.

Erase Protection Tab

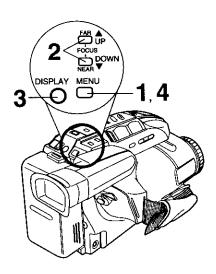
Protects tapes from being accidentally erased.



- To prevent accidental erasing, break off tab with screwdriver. (Or, slide tab open.)
- To record again,
 cover hole with adhesive tape.
 (Or, slide tab closed.)

Gettling Started

Using MENU Mode



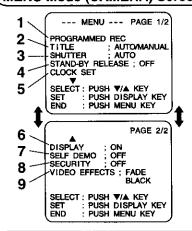
Before you begin...

- Connect Camcorder to power source.
- Set POWER to CAMERA or VCR.
- Press MENU for MENU mode. The CAMERA or VCR MENU screen (see below left) appears when Menu mode is entered.
- Press <u>UP ▲ or DOWN ▼ to highlight</u> the desired menu item.
- Press DISPLAY to set selection.
- Press MENU to exit.

Note:

- The Menu mode is canceled if <u>UP/DOWN(▲/▼)</u>, DISPLAY, or MENU are not pressed within 5 minutes when Self Demo mode is off.
- The Menu mode is canceled if <u>UP/DOWN(▲/▼)</u>, DISPLAY, or MENU are not pressed within 30 seconds when Self Demo mode is on.

MENU Mode (CAMERA) Screen



MENU Mode (VCR) Screen

; ON

PUSH ▼/▲ KEY PUSH DISPLAY KEY PUSH MENU KEY

CLOCK SET

SELECT:

1 PROGRAMMED REC (page 18). Camcorder starts and stops recording at a preset time.

- **TITLE** (pages 32, 33) AUTO/MANUAL: 16 items PHRASE : 10 items
- 3 SHUTTER (page 25). Select desired shutter speed.
- STAND-BY RELEASE (page 17). ON: Enables quick resumption of recording from Stand-by mode.
- 5 CLOCK SET (pages 13, 14). Select to set clock.
- 6 DISPLAY (page 47). ON: On-screen Display (OSD) screens are displayed.
- 7 SELF DEMO (page 7). ON: SELF DEMO screen is displayed.
- 8 SECURITY (page 31). ON: Enables Motion Security recording.
- VIDEO EFFECTS (pages 26~28) BLACK or WHITE TYPE → 7 types COLOR → 8 colors **AUTO FADE** DIGITAL FADE DIGITAL FILTER: COLOR → 5 colors

5

Setting the Clock

Set the following items in order: Time Zone, Daylight Saving Time, Date, and Time.

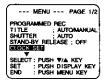
DISPLAY MENU

1, 2, 3, 4

Before you begin...

- Connect Camcorder to power source.
- Set POWER to CAMERA or VCR.
- Press <u>MENU</u> for MENU mode.

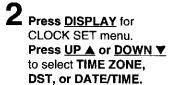
 Press <u>UP ▲ or DOWN ▼</u> to select CLOCK SET.





[CAMERA MODE]

[VCR MODE]





3 Press <u>DISPLAY</u> for menu of item selected in step 2.

To change the setting:

TIME ZONE → Go to step 3a on page 14.

D.S.T. → Go to step 3b on page 14.

DATE/TIME → Go to step 3c on page 14.

4 Press MENU twice to exit.

Getting Signed

Setting the Clock (continued)

3a Setting the Time Zone

The Camcorder is preset to Eastern time.

CENTRAL EASTERN

CALANTO

PACIFIC

SANOA

PACIFIC

CENTRAL

EASTERN

10.00

11.00

12.00

1.00

2.00

Press UP ▲ or DOWN ▼ to select local time zone.

Press <u>DISPLAY</u> to confirm entry.

ATLANTIC PACIFIC
FASSIEGEN ALLASKA
CENTRAL HAWAII
MOUNTAIN SAMOA

SELECT: PUSH V/A KEY
SET : PUSH DISPLAY KEY

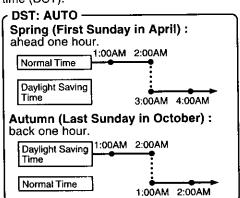
 When traveling, repeat this operation and select one of the 8 listed time zones to set the clock to local time.

Note:

- Clock may lose or gain up to 2 minutes per month.
- When traveling outside the listed time zones, set clock to local time manually.
- To adjust or set clock, see "Setting Date and Time" bottom of page.

3 Auto Daylight Saving Time

Clock will auto-adjust to daylight saving time (DST).



The Camcorder is preset to DST: AUTO. If DST is not observed in your area, set to OFF by doing the following.

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

Press DISPLAY to confirm entry.

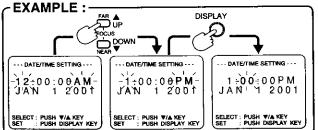


Note:

 Auto DST does not function if time zone is set to Hawaii or Samoa (see "Setting the Time Zone" above).

3c Setting Date and Time

Date and time including leap year are calculated up to DEC 31, 2099.



-- DATE/TIME SETTING --1 2:00:00AM -J'A'N 1 2001

SELECT: PUSH WA KEY
SET : PUSH DISPLAY KEY

Press or hold down <u>UP</u> ▲ or <u>DOWN</u> ▼ to select hour, then press DISPLAY to fix.

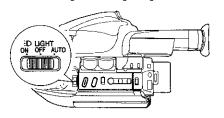
Repeat for minute, month, day, and year.

Clock starts when year is entered and **DISPLAY** is pressed.

Built-in Auto Light

Using the Light

For recording in dim lighting.



Note:

- Using Light reduces battery operating time.
- Provide proper ventilation when using Light extensively in a hot environment.
- Using Light when the Camcorder is powered by a car battery may shorten bulb life.
- Set Light to OFF when not in use.

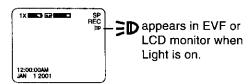
Before you begin...

- Connect Camcorder to power source.
- Set POWER to CAMERA.

Set LIGHT to AUTO.

Light turns on/off automatically according to lighting conditions.

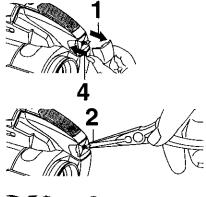
Or, set LIGHT to ON/OFF manually.



-Caution:

Light becomes hot. Never cover Light while on.

Replacing the Bulb





Before you begin...

- Order Part No. VULS0001 (VLLW0015 and cushions) for replacement bulb unit.
- Set POWÉR to OFF.
- Press in on both sides of lens cover and pull straight out and off.
- 2 Using Tweezers or needle-nose pliers, carefully remove bulb.
 - Take unit to service center if you need assistance.
- Replace bulb using a clean cloth or tissue. (Do not touch with fingers.)
- 4 Replace lens cover.

Note

 Handle bulb gently. Excessive force may cause bulb to crack.

DANGER:

Use only replacement bulb (PART NO. VLLW0015) supplied by Panasonic to reduce risk of fire.

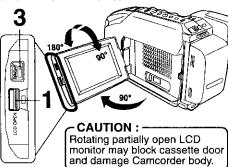
Handle new bulb with cloth or tissue as skin oils will decrease bulb life.

Remove lens cover and allow builb to cool before replacing to avoid possible burn hazard.

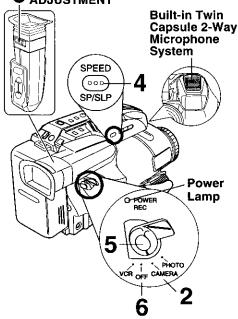
Camera Recording

Recording via EVF or LCD Monitor

View recording scene on EVF or LCD (Liquid Crystal Display) monitor.



VISION **ADJUSTMENT**



Note:

- When Camcorder is aimed at excessively bright objects, or bright lights, a vertical bar may appear in the picture. This is normal for the CCD pick-up. Try to avoid this when possible.
- Using LCD monitor reduces battery operation time. Return LCD monitor to locked position when not in use.

Before you begin...

- · Connect Camcorder to power source.
- Insert cassette with record tab (page 11).
- Press LCD-OPEN to unlock the LCD monitor. Swing LCD monitor fully open and adjust viewing angle.
 - If you want to record using EVF, close and lock LCD monitor.

2 Set POWER to CAMERA.

Lens Cover opens. Power Lamp lights.



• Be sure POWER is fully turned to CAMERA position.

EVF or LCD Monitor (Record/Pause mode)

- . EVF or LCD monitor turns on/off by the POWER switch.
- · EVF shuts off when LCD monitor is opened and turns back on when LCD is closed.
- · Both EVF and LCD monitor turn on when LCD is at 180° (see above left). This allows both you and the subject to view the recording.

LCD monitor

: Turn BRIGHT control to adjust LCD monitor

brightness level.

EVF

: Look into EVF and adjust **VISION ADJUSTMENT to** your eyesight.

Hold down TAPE SPEED for about 1 second to change tape speed to SP/SLP (page 11). Tape speed

Press RECORD/ PAUSE to start or pause recording.

RECORD

Set POWER to OFF when finished.

EVF or LCD Monitor (Record mode)

· To remove the cassette, slide the TAPE EJECT switch (page 11).