Please read these instructions carefully before attempting to connect, operate or adjust this product. Please save this manual.

Spanish Quick Use Guide is included. (Guía para rápida consulta en español está incluida.)

Quick Use Guide is on the back cover.

As an ENERGY STAR® Partner, Matsushita Electric Corporation of America has determined that this product or product model meets the ENERGY STAR® guidelines for energy efficiency.

For assistance, call 1-800-211-PANA(7262).
Important Safeguards and Precautions

FOR YOUR SAFETY, READ AND RETAIN ALL SAFETY AND OPERATING INSTRUCTIONS. HEED ALL WARNINGS IN THE MANUAL AND ON THE UNIT.

INSTALLATION

1 POWER SOURCE CAUTION
Operate only from a power source indicated on the unit or in this manual. If necessary, have your Electric Utility Service Company or Video Products Dealer verify the power source in your home.

2 POLARIZED OR GROUNDING PLUG
As a safety feature, this Video product comes with either a polarized plug (one blade is wider than the other) or a three-wire grounding type plug.

POLARIZED PLUG CAUTION:
This plug will only fit into an outlet one way. If you cannot fully insert the plug, try reversing it. If it still will not fit, have an electrician install the proper wall outlet. Do not defeat the safety feature by tampering with the plug.

GROUNDING PLUG CAUTION:
This plug will only fit into a three-hole grounding outlet. If necessary, have an electrician install the proper outlet. Do not defeat the safety feature by tampering with the plug.

3 POWER CORD
Make sure power cords are routed so that they are not likely to have anything rest on them, roll over them, or be in the way of walking traffic. If an extension cord is used, make sure it also has either a polarized or grounded plug (one blade is wider than the other) or a three-wire grounding type plug. Frayed cords, damaged or cracked wire insulation are hazardous and should be replaced by a qualified service technician. Overloaded outlets and extension cords are fire hazards and should be avoided.

4 DO NOT BLOCK VENTILATION HOLES
Ventilation openings in the cabinet release heat generated during operation. If they are blocked, heat buildup inside the unit can cause failures that may result in a fire or heat damage to cassettes.

For protection, follow these rules:
- Never cover ventilation slots or the unit while it is in use, or operate the unit when placed directly on soft surfaces like rugs, beds, sofas, or curtains.
- Avoid built-in installation, such as a book case or rack, unless proper ventilation is provided.

5 AVOID EXTREMELY HOT LOCATIONS OR SUDDEN TEMPERATURE CHANGES
Do not place the unit over or near any kind of heater or regulator, in direct sunlight, inside a closed vehicle, etc.
Do not move the unit suddenly between areas of extreme temperature variation. If the unit is suddenly moved from a cold place to a warm place, moisture may condense in the unit and on the tape.

6 TO AVOID PERSONAL INJURY
- Do not place unsecured equipment on a sloping surface.
- Do not place this unit on any support that is not firm, level, and adequately strong. The unit could fall causing serious injury to a child or adult and damage to the unit.
- 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.
- Carefully follow all operating instructions and use the manufacturer's recommended accessories when operating this unit or connecting it to any other equipment.

Safety Precautions

Warning: To prevent fire or shock hazard, do not expose this equipment to rain or moisture.
CAUTION: To prevent electric shock, match wide blade of plug to wide slot, fully insert.

Attention: Pour éviter les chocs électriques, introduire la lame la plus large de la fiche dans la borne correspondante de la prise et pousser jusqu’au fond.

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.

OUTDOOR ANTENNA INSTALLATION

1 SAFE ANTENNA AND CABLE CONNECTION
If an outside antenna or cable system is connected to the equipment, be sure the antenna or cable system is grounded so as to provide some protection against built-up static charges and voltage surges. Section 810 of the National Electrical Code, ANSI/NFPA 70 (In Canada, part 1 of the Canadian Electrical Code) provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes and requirements for the grounding electrode.

2 KEEP ANTENNA CLEAR OF HIGH VOLTAGE POWER LINES OR CIRCUITS
An outside antenna system should be located well away from power lines, electric light or power circuits and where it will never come into contact with these power sources if it should happen to fall. When installing an outside antenna, extreme care should be taken to avoid touching power lines, circuits or other power sources as this could be fatal. Because of the hazards involved, antenna installation should be left to a professional.

USING THE VIDEO UNIT

If the unit has been in storage or moved to a new location, refer first to the INSTALLATION section of these safeguards.

1 KEEP THIS VIDEO UNIT AWAY FROM WATER OR MOISTURE OF ANY KIND.

2 IF EQUIPMENT IS EXPOSED TO RAIN, MOISTURE, OR STRONG IMPACT, unplug the unit and have it inspected by a qualified service technician before use.

3 DURING AN ELECTRICAL STORM

During a lightning storm, whether indoors or outdoors, or before leaving the unit unused for extended periods of time, disconnect all equipment from the power source as well as the antenna or cable system.

4 WHEN THE UNIT IS PLUGGED IN
- Never expose the unit to rain or water. DO NOT OPERATE if liquid has been spilled into the unit. Immediately unplug the unit, and have it inspected by a service technician.
- Fire and shock hazards can result from electrical shorts caused by liquid contact inside.
- Never drop or push any object through openings in the unit. Some internal parts carry hazardous voltages and contact can cause electric shock or fire hazard.
- Avoid placing the unit directly along your TV set as this may cause electrical interference. Keep all magnets away from electronic equipment.

5 USING ACCESSORIES
Use only accessories recommended by the manufacturer to avoid risk of fire, shock, or other hazards.

6 CLEANING THE UNIT
Unplug the unit. Then, use a clean, dry, chemically untreated cloth to gently remove dust or debris. DO NOT USE cleaning fluids, aerosols, or forced air that could over-spray or seep into the unit and cause electrical shock. Any substance such as wax, adhesive tape, etc. may mar the cabinet surface. Exposure to greasy, humid, or dusty areas may adversely affect internal parts.

SERVICE

1 DO NOT SERVICE THIS PRODUCT YOURSELF
If, after carefully following the detailed operating instructions, this Video product does not operate properly, do not attempt to open or remove covers, or make any adjustments not described in the manual. Unplug the unit and contact a qualified service technician.

2 IF REPLACEMENT PARTS ARE REQUIRED
Make sure the service technician uses only parts specified by the manufacturer, or having the same safety characteristics as the original parts. The use of unauthorized substitutes may result in fire, electric shock, or other hazards.

3 HAVE THE SERVICE TECHNICIAN PERFORM A SAFETY CHECK
After any service or repairs to the unit, request the service technician to conduct a through safety check as described in the manufacturer's service literature. This is to ensure that the video unit is in safe operating condition before you attempt to use it.

For assistance, call 1-800-211-PANA(7262).
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<td></td>
</tr>
</tbody>
</table>

3
Congratulations

on your purchase of one of the most sophisticated and reliable products on the market today. Used properly, it will bring you and your family years of enjoyment.

Please fill in the information below. The serial number is on the tag located on the back of your VCR.

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

**Accessories**

- Remote Control
  - LSSQ0026 (PV-V4020)
  - LSSQ0025 (PV-V4520)
- Batteries 2 “AA”
- RF Coaxial Cable
  - VJAS0196

Model PV-V4520 remote is shown here.

To order accessories, call toll free 1-800-332-5368.

**Loading the Batteries**

1) Open the cover.
2) Insert the batteries as marked.
3) Close the cover.

**Battery replacement caution**
- Do not mix old and new batteries.
- Do not mix alkaline with manganese batteries.

**Basic Connection**

If your TV has AUDIO and VIDEO IN terminals, connect them to VCR for higher quality picture and sound.

You can enjoy stereo sound even if your TV is not stereo by connecting a stereo amplifier to the VCR.

Connect VCR and TV with an AV Cable (not supplied) or a RF Coaxial Cable (supplied) as shown in the figure below.

1. Disconnect antenna or cable from TV and connect to VCR.
2. Connect VCR to TV with RF Coaxial Cable.

**Notes**

1) While connection b) (above) is sufficient, connection a) offers better sound and picture (especially with model PV-V4520, you can enjoy Hi-Fi STEREO sound).
2) For both connections a) and b) proceed as follows:
   - To use VCR: VCR Power on, set TV to VIDEO.
   - To watch TV: VCR Power off, select channel on.
3) Set VCR Output to channel 3 or 4 (not an active station). (See page 6.)

For model PV-V4520, use the L Audio OUT jack for proper sound reproduction when connecting to a monaural TV.

**WARNING**

When using “Nut type” RF coaxial cables, tighten with fingers only. Overtightening may damage terminals.

For assistance, call 1-800-211-PANA(7262).
### Between ANT. and VCR

#### Case 1: Twin Lead Cable Only
- **To VCR Terminal**
  - From Antenna
  - (Flat) Twin Lead 300 Ohm Cable
  - 300-75 ohm Transformer (not supplied)

#### Case 2: Twin Lead & Coaxial Cables
- **UHF/VHF Band Mixer (not supplied)**
- (Round) 75 Ohm coaxial Cable
- **To VCR Terminal**

#### Case 3: Two Twin Lead Cables
- **UHF/VHF Band Mixer (not supplied)**
- 300-75 ohm Transformer (not supplied)
- **To VCR Terminal**

- If your TV has both post and plug-type VHF terminals, the post connection is recommended to minimize signal loss.

### Between VCR and TV

#### Case 1: Screw & Plug Type Terminal
- **TV**
  - VHF
  - UHF
  - RF Coaxial Cable

#### Case 2: Screw Type Terminal
- **TV**
  - VHF or UHF
  - 75-300 ohm Transformer (not supplied)

#### Case 3: Double Screw Type Terminal
- **TV**
  - VHF
  - UHF
  - UHF/VHF Band Separator (not supplied)

#### Case 4: Complex TV Terminal
- **TV**
  - TERMINALS ON BACK OF TV SET
  - Split out
  - ANT1
  - ANT2

- Connect to one of the ANT terminals and select the same antenna number on the TV.

---

**Note to CABLE system installer:**
This reminder is provided to call the CABLE 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.

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

When VCR is turned on the first time, setup mode is entered automatically.

1. Turn the TV and VCR on.
   Press POWER*.
   Set TV Channel to CH 3.
   • If using AV. Cable connection, set TV to Video instead of channel. (See connection a) on page 4.)

2. Display SELECT LANGUAGE.
   This display appears for first time setup only.
   Select the language.
   - for English
   - for Spanish (ESPAÑOL)
   - for French (FRANÇAIS)

   When using connection b) (see page 4), tune TV to VCR's output channel.
   If there is beat or noise on CH3, change VCR's output channel to CH4 by pressing ACTION twice.

   • Always tune TV to this channel to monitor the VCR.
   • If you used audio/video jack connection, tune the TV to its video input.
   • If wrong language is set, do "Reset All VCR Memory Functions" steps on page 30.

3. Select hookup.
   1) Press ▲▼ to select.
   2) Press ► to set.

   If you selected "CABLE/ DSS BOX ► VCR ► TV," continue with step 4 and only the cable box output channel will be placed in memory.
   If not, go to step 6.

4. Select cable box or DSS receiver output channel.
   1) Press ▲▼ to select.
   2) Press ► to enter.

   • If necessary, refer to cable box manual.
   • If you used Audio/Video jack connection to cable box, set "VIDEO OUT".

5. Turn on cable box and set it to PBS channel in your time zone.
   • If you use DSS receiver, it must be turned off.

For assistance, call 1-800-211-PANA(7262).
**Important Note for Auto Clock Set**

- Auto clock set is performed the first time the VCR is turned off each day. If used, a cable box must be left on and tuned to the PBS channel at the time VCR power is turned off if you want auto clock set to be done.
- If used, a DSS receiver must be turned off for auto clock set.
- If Cable Box or DSS receiver is connected to VCR via Audio/Video jacks, an RF coaxial cable must also be connected for auto clock set and channel auto set features to work.

**Start Channel Auto Set and Clock Auto Set.**

1. **Case 1** (Setup completed)
   - 1/4/2000 TUE 12:00PM
   - DST: ON
   - AUTO CLOCK SET IS COMPLETE
   - END: PUSH CH UP KEY
   - Press CH ▲ to exit.
   - If your area observes DST (daylight saving time), but the time is incorrect, do the "Time Zone Adjust" steps on page 29.

2. **Case 2** (Setup incomplete)
   - AUTO CLOCK SET IS INCOMPLETE
   - PUSH ACTION TO SET CLOCK
   - 1/)----(----(----:
   - SET: KEY
   - END: ACTION KEY

**Clock Setup Incomplete.**

Set the clock manually.

1. Press ACTION.
2. Press ▲▼ to select month.
3. Press ▼ to set.
4. Press ACTION. (Clock starts.)
   - To exit this mode, press ACTION again.

**Notes**

- VCR calendar is accurately maintained to Dec. 31, 2096 11:59PM.
- Channel auto set selects normal TV or Cable channels depending on your VCR hookup.
- To reset Language, Channels, Clock or VCR's Output Channel see pages 28 and 29.

**Using ▲▼↑↓ keys**

You can also operate the menu screen using VCR buttons.

When menu screens are displayed, the PLAY, STOP,REWIND, and FF buttons on the VCR and remote function as ▲▼↑↓ only with no tape inserted.

To exit the menu, repeat above with or without tape inserted.

To display menu using VCR buttons, press CH ▲ and CH ▼ together.
Check list before you begin.

- All connections are made.
- TV and VCR are plugged in.
- TV is turned on and tuned to CH3, 4 or Video.
- Remote is in VCR mode.

**1. Insert a cassette.**

- VCR power comes on and "VCR" appears on Multi Function Display.

**2. Press PLAY.**

- Or, if cassette has no record tab (see page 30), auto playback begins.
- These features work best in SP or SLP mode.
- The sound will be muted.

- To Find a Particular Scene
  Forward Search --> Press FF. (To release, press PLAY or FF.)
  Reverse Search --> Press REW. (To release, press PLAY or REW.)
- For Still (Freeze) picture --> Press PAUSE/SLOW. (To release, press PLAY.)
- For Frame by Frame picture --> Press PAUSE/SLOW in Still mode. (To release, press PLAY.)
- For Slow Motion --> Press and hold PAUSE/SLOW in Still mode. (To release, press PLAY.)

**Notes**

- To reduce picture noise, see "Manual Tracking Control" on page 31.
- After the VCR is in Still or Slow mode for 3 minutes, it will switch to Stop mode automatically to protect the tape and the video head.

- To stop --> Press STOP.
- To rewind tape --> Press REW in Stop mode.
- To fast forward tape --> Press FF in Stop mode.
- To eject tape --> Press EJECT on the remote or STOP/EJECT on the VCR.

**Playback using VCR controls**

1. Insert a cassette.
2. Press PLAY.

Press to stop and/or eject tape.

---

For assistance, call 1-800-211-PANA(7262).
Record On a Tape

Important: If the remote control POWER, ACTION, PROG/VCR, CH A/\, NUMBERED keys, INPUT, SEARCH or ADD/DLT button does not work when pressed, press the VCR button on the remote and try the button again.

Check list before you begin.
- All connections are made.
- TV is turned on and tuned to CH3 or 4 or Video.
- Cassette record tab is in place.
- Remote in VCR mode.

1. Insert a cassette.
   - VCR power comes on and "VCR" appears on Multi Function Display.

2. Select Channel.
   Press CH A/\ or NUMBERED keys.
   - To select "LINE," see page 11.
   - To select channels over 100, first press 100 key, then enter remaining two digits.

3. Select Recording speed.
   (See page 30.)
   Press SPEED.
   - SP = Standard Play
   - LP = Long Play
   - SLP = Super Long Play
   - Selected speed is displayed on TV screen and Multi Function Display.

4. Start Recording.
   Press REC.
   - To edit out unwanted portions, press PAUSE/SLOW to pause and to resume recording.

To stop --> Press STOP.

One Touch Recording
Press REC repeatedly to set the recording length (30 min. ~ 4 hours).
- The VCR turns itself off at the preset time.

Normal Rec 0:30 1:00
4:00 3:00 2:00 1:30

Record One Program While Watching Another
Press VCR/TV --> "VCR" disappears on Multi Function Display
--> Select Channel at the TV.

Selecting Channel at the VCR (You cannot view another channel during recording.)
Press VCR/TV --> "VCR" appears on Multi Function Display
--> Select Channel at the VCR (applies to connection b) only. (See page 4)

Record using VCR controls

1. Insert a cassette.
2. Select Channel.
4. Start Recording.

VCR/TV

Press to stop.

Note
After the VCR has been in Pause mode for 5 minutes, it will stop automatically to protect the tape and the video head.

This video recorder, equipped with the HQ (High Quality) System, is compatible with existing VHS equipment. Only use those tapes with the VHS mark. It is recommended that only cassette tapes that have been tested and inspected for use in 2, 4, 6, and 8 hour VCR machines be used.
Advanced Connections

Be sure to tune TV to VCR output channel. (The same one you set on screen of TV: CH3 or CH4.)

All connections on these pages are made with 75 Ohm coaxial cables.

**CATV Connection**

- With a Cable Box (Cable Box→VCR)

- With a Cable Box (VCR→Cable Box)

- With Two Cable Boxes

**DSS Connection**

- You Can
  - record or view any (including scrambled) channel.
  - use VCR Remote Control to select channels using Multi-brand control feature.

- You Cannot
  - view channel other than the one selected for any type of recording.
  - do a Timer recording of a channel unless you select it at the cable box.

- record scrambled channels.

- use VCR Remote Control to select channels without using Multi-brand control feature.

- record and view both scrambled and unscrambled channels if additional equipment is added. This connection requires: two converter boxes, an A/B switch, and a 2-way splitter.

- view channel other than the one selected for any type of recording.
- do a Timer recording of a channel unless you select it at the cable box.

- record and view any (including scrambled) channel.
- use your VCR Remote Control to select channels using Multi-brand control feature.

NOTE:
DSS receiver must be turned off to view cable box or antenna programs.

For assistance, call 1-800-211-PANA(7262).
Connections you'll need to make.

For Model PV-V4020

Playing (Source) VCR

Recording (Editing) VCR

TV for Monitoring

For Model PV-V4520

Playing (Source) VCR

Recording (Editing) VCR

1. Insert pre-recorded tape.

2. Put in Standby mode. Press PLAY, then PAUSE/SLOW at starting point.

3. Start dubbing. Press PLAY.

4. Stop dubbing. Press STOP.

5. Select LINE mode. Press INPUT. (See "Selecting the Input Mode" below.)

Put in Standby mode. Press REC, then PAUSE/SLOW immediately.

Start dubbing. Press PAUSE/SLOW.

Stop dubbing. Press STOP.

To Monitor Dubbing on Your TV

1. Turn your TV on and tune to the Recording VCR channel (CH3 or CH4).
2. Set the VCR/TV Selector on the Recording VCR to "VCR."

Note: Dubbing tapes protected with Copy Guard will have poor quality results.

Selecting the Input Mode

Method 1: Press INPUT.
Channel Number <= LINE
Method 2: Press CH ▲ / ▼.
Display will change as below.
1 2 3
(CABLE) (TV)
LINE 125 or 69

* "L" lights in Multi-Function Display (about 4 sec.) when LINE is selected.

Caution: Unauthorized exchanging and/or copying of copyrighted recordings may be copyright infringement.
You can set up to 8 programs to be recorded while you are away.

1. Display SET PROGRAM.
   Press PROG/VCR+.*
   Or to display Program screen from the Menu.
   1) Press ACTION to display Menu.
   2) Press ▲▼ and ▶ to select and set SET UP FEATURE.
   3) Press ▶ to display Program screen.
   4) Go to step 3.
   * You may also use VCR buttons. See the bottom right.

2. Display Program screen.
   1) Press ▲▼ to select
      TIMER PROGRAMMING.
   2) Press ▶ to display.
      • If a program is already in memory, press ▲▼ and
      ▶ to select an unused program number.

3. Set the recording DATE.
   1) Press ▲▼ to select.
   2) Press ▶ or ▼ to set.
      • 1-31 = One time
      • DAILY = MON-FRI
      • WEEKLY = Same time once a Week

   Example
   Today 7
   SELECT ▲▼ Selection Order
   WEEKLY (SAT), WEEKLY (MON, (SUN))
   Repeat step 3 to set:
   start time, stop time, Channel
   (or LINE for outside source),
   tape speed (SP, LP, SLP).

4. End the program.
   1) Press PROG/VCR+ (or ACTION).

   To enter More Programs
   Press ▲▼ to select, and ▶ to display
   a blank program number. Then repeat
   step 3.
   2) Press PROG/VCR+ (or ACTION) again to exit.

5. Set the timer.
   Press POWER off.
   • When recording programs via a cable box,
     make sure the cable box is left ON
     and tuned to the desired channel.

Model PV-V4520 remote is shown here.

Timer Recording Using VCR Buttons.

Using ▲▼→ keys
You can also operate the menu screen
using VCR buttons.
When menu screens are displayed, the
PLAY, STOP, REW/IND, and FF buttons
on the VCR and remote function as ▲▼→
only with no tape inserted.
To exit the menu, repeat above with or
without tape inserted.

On Remote
On VCR
▲ : PLAY
▼ : STOP
◄ : REW
► : FF
To display menu using VCR buttons,
press CH▲ and CH▼ together.

For assistance, call 1-800-211-PANA(7262).
**Important:** If the remote control POWER, ACTION, PROG/VCR+, CH ▲ / ▼, NUMBERED keys, INPUT, SEARCH or ADD/DLT button does not work when pressed, press the VCR button on the remote and try the button again.

**Review, Replace or Clear Program Contents:**

(Recording is not in progress)

1. Repeat steps 1–2 on page 12.

2. **Select program.**

   1) Press ▲ ▼ to select number.

3. **To Replace program...**

   1) Press ▲ to display.
   2) Press ▲ ▼ ‹ ▶ to set new program contents.

   or

4. **To Clear program...**

   1) Press ADD/DLT to clear.

4. **End the program.**

   1) Press PROG/VCR+ (or ACTION).

   - If there are programs, press POWER off.

---

**Important notes when using a DSS receiver**

- When recording programs via a DSS receiver, the DSS receiver must be left on.
- When recording programs via an antenna or cable, the DSS receiver must be turned off.

Model PV-V4520 remote is shown here.
VCR Plus+ System is a feature that allows you to set most items of a timer recording by simply entering a special code number (PlusCode programming number) found in TV GUIDE and selected newspaper TV listings.

Find the type of connection you use from the following diagrams and proceed to the page number indicated to begin set up.

- **Cable box → VCR → TV connection**

- **DSS box → VCR → TV connection**

- **VCR → TV connection**

- **VCR → Cable box → TV connection**
Cable Box Setup

1. Display menu.
   Press ACTION.*

2. Select SET UP CHANNEL.
   1) Press ▲▼ to select.
   2) Press ► to display.

3. Select CABLE/DSS BOX SET UP.
   1) Press ▲▼ to select.
   2) Press ► to display.

4. Select your hookup method.
   1) Press ▲▼ to select.
   2) Press ► to set.
   • If CABLE/DSS BOX ► VCR ► TV, go to step 5.
   • If other, press ACTION three times and go to page 16.

5. Select cable box or DSS receiver output channel.
   1) Press ▲▼ to select.
   2) Press ► to enter.
   • If necessary, refer to your Cable Box/DSS manual.
   • If you are using Audio/Video jack connections, select and set “VIDEO OUT” as output channel.

   Press ACTION twice.

---

*Important: If the remote control POWER, ACTION, PROG/VCR+, CH▲/▼, NUMBERED keys, INPUT, SEARCH or ADD/DLT button does not work when pressed, press the VCR button on the remote and try the button again.

---

Timer Recording Using VCR Plus+ System

Model PV-V4520 remote is shown here.

VCR Plus+ and PlusCode are registered trademarks of Gemstar Development Corporation. The VCR Plus+ system is manufactured under license from Gemstar Development Corporation.
It is necessary to program the VCR with local channel information for proper VCR Plus+ System operation.

**VCR Plus+ System Channel Setup**

- At first, do Channel Setup Preparations below right.

1. Display menu. Press ACTION.*

2. Select SET UP CHANNEL.
   1) Press ▲▼ to select.
   2) Press ► to display.

3. Select VCR Plus+ CHANNEL SETUP.
   1) Press ▲▼ to select.
   2) Press ► to display.

4. Enter VCR Plus+ channels.
   1) Press ► to move cursor to right column.
   2) Press ▲▼ to change CABLE CH number.
   3) Press ◄ to set.
   4) Press ▲▼ to scroll up/down GUIDE CH column.
   - Repeat step 4 until list is complete.

To Make Corrections, press ▲▼ and ► to move to error, then ▲▼ to change, or ADD/DLT to erase number.

5. End setup. Press ACTION three times.

**Process of Recording**

Connection ➔ Setup ➔ Programming

1. ACTION
2. SELECT/SET
3. ▲PLAY
4. ◄STOP
4. ►REW
5. ◄FF

**Channel Setup Preparations**

In order to complete step 4 (at left), make a local channel list (see example below). You will need the following:
- A line up of normal TV and/or Cable stations and the channel number you receive them on.
- A list of Guide (VCR Plus+) channel numbers for the stations you receive found in TV Guide and selected newspapers.

1. Make a 3-column chart. In the left column, write the name of all the stations you receive.
2. In the middle column, write each station’s Guide (VCR Plus+) number from TV Guide.
3. In the right column, write the channel number your TV receives the station on.

---

**EXAMPLE ONLY**

<table>
<thead>
<tr>
<th>Broadcast or Cable Station Name</th>
<th>Assigned Guide (VCR Plus+) channel no.</th>
<th>Channel no. your TV receives the station on</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBO</td>
<td>33</td>
<td>15</td>
</tr>
<tr>
<td>Nickelodeon</td>
<td>38</td>
<td>20</td>
</tr>
<tr>
<td>CBS</td>
<td>04</td>
<td>04</td>
</tr>
<tr>
<td>FOX</td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>
**Important:** If the remote control POWER, ACTION, PROG/VCR+, CH ▲/▼, NUMBERED keys, INPUT, SEARCH or ADD/DLT button does not work when pressed, press the VCR button on the remote and try the button again.

- **Check list before you begin.**
  - The clock is set.
  - VCR Plus+ System Setup is complete (see pages 14-16).

### VCR Plus+ System Programming

1. **Display SET PROGRAM.**
   - Press PROG/VCR+.*

2. **Display VCR Plus+ screen.**
   1. Press ▲▼ to select.
   2. Press ▶ to display.

3. **Enter PlusCode programming number.**
   1. Press Numbered keys.
   2. Press PROG/VCR+ to lock in the program.

4. **Enter record frequency.**
   1. Press ▲▼ to select.
   2. Press ▶ to set.

5. **Select record speed.**
   1. Press ▲▼ to change.
   2. Press ▶ to set.

6. **End programming.**
   1. Press PROG/VCR+ (or ACTION).
   2. Press ADD/DLT to cancel.

7. **Set timer.**
   - Press POWER off.

---

**Process of Recording**

1. **Connection**
2. **Setup**
3. **Programming**

---

**Notes**

- Avoid overlapping program times.
- VCR PlusCode programming numbers cannot be used to program the VCR to record DSS channels.
- You can obtain unlisted PlusCode numbers by calling 1-900-454-7587. Call costs approximately $.95 per minute.

---

**Use normal Timer Recording steps if:**

- the PlusCode programming number for a program is not listed.
- you anticipate the program, such as a sporting event, to run over the scheduled stop time.

**See page 13 to:**

- cancel a timer recording in progress.
- replace program contents.
- review or clear program contents once set.

**Important notes for DSS/Cable Box users**

- When recording via DSS, the receiver, must be left on.
- When recording via cable or antenna, DSS receiver must be off.
Multi-Brand Control Feature

The Remote Control may be set up to control some TV or Cable/DSS Box functions.

**Multi-Brand Control Setup**

1. **Find your TV, Cable or DSS Receiver Brand Code Number on following page.**

2. **Set up remote.**
   Hold down TV and enter code with NUMBERED keys.

Setup for TV

- [Diagram of TV setup]

Setup for Cable or DSS

- [Diagram of Cable or DSS setup]

3. **Confirm code entry.**
   Press POWER to turn selected unit ON or OFF.
   - See table below for list of controllable functions in each mode.

**Notes**
- Please repeat Multi-Brand Control setup after replacing remote control batteries.
- The remote control will not operate all TVs, Cable Boxes, and DSS receivers made by manufacturers listed. If you get no results, your particular brand cannot be controlled.

**Using the Multi-Brand Control**

After remote control is setup, you can select VCR, TV, or DSS/CABLE for the desired function.

Press VCR or TV or DSS/CABLE on the remote control.
This table shows which buttons are available for each mode.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Available Buttons</th>
<th>VCR</th>
<th>TV</th>
<th>CABLE/ DSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>VCR</td>
<td>All Functions</td>
<td>VOL UP/DOWN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TV</td>
<td>VCR/TV, PLAY, STOP, EJECT, SAP/HI-FI (PV-V4520 only), DISPLAY, FF,REW, PAUSE/SLOW, REC, SPEED, COUNTER, RESET, TAPE POSITION, CM SKIP</td>
<td>POWER, INPUT, NUMBERED keys, ENTER, CH UP/DOWN, VOL UP/DOWN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CABLE/ DSS</td>
<td>VCR/TV, PLAY, STOP, EJECT, SAP/HI-FI (PV-V4520 only), DISPLAY, FF,REW, PAUSE/SLOW, REC, SPEED, COUNTER, RESET, TAPE POSITION, CM SKIP</td>
<td>VOL UP/DOWN</td>
<td>POWER, ENTER, NUMBERED keys (except 100 key), CH UP/DOWN</td>
<td></td>
</tr>
</tbody>
</table>

**Note**
In TV or DSS/ CABLE mode, it may be necessary to press ENTER after pressing NUMBERED keys for channel selection.

For assistance, call 1-800-211-PANA(7262).
### TV Brand Code Numbers

<table>
<thead>
<tr>
<th>Brand</th>
<th>Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panasonic</td>
<td>01, 02</td>
</tr>
<tr>
<td>Quasar</td>
<td>01, 02</td>
</tr>
<tr>
<td>RCA</td>
<td>03</td>
</tr>
<tr>
<td>GE</td>
<td>03</td>
</tr>
<tr>
<td>Zenith</td>
<td>04</td>
</tr>
<tr>
<td>Magnavox</td>
<td>05</td>
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<tr>
<td>Mitsubishi</td>
<td>07, 13</td>
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<tr>
<td>Samsung</td>
<td>14</td>
</tr>
<tr>
<td>Gold Star</td>
<td>15, 16, 17</td>
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</tbody>
</table>

### Cable Box Brand Code Numbers

<table>
<thead>
<tr>
<th>Brand</th>
<th>Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archer</td>
<td>05, 06, 01, 44, 63, 91, 126</td>
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<tr>
<td>Cabletenna</td>
<td>01, 44, 63, 91, 126</td>
</tr>
<tr>
<td>Cableview</td>
<td>63, 44, 42, 30, 52, 04, 124, 126</td>
</tr>
<tr>
<td>Century</td>
<td>51, 44, 59, 75, 126</td>
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### DSS Brand Code Numbers

<table>
<thead>
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<tr>
<td>Toshiba</td>
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<td>Hitachi/ Hughes</td>
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<tr>
<td>Magnavox/ Uniden 1</td>
<td>94</td>
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<tr>
<td>Magnavox/ Uniden 2</td>
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<td>RCA</td>
<td>97</td>
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<tr>
<td>Sony</td>
<td>98, 105</td>
</tr>
</tbody>
</table>

### Important Notes
- Due to changes in infra-red commands used by manufacturers, some brands have several codes. If your unit does not respond to the first code, please try the next one.
- Some TV, Cable Box and DSS Box brands require you to turn on the power manually.
- Not all functions listed may be controlled by this remote control.
**Search System**

Each time a recording is made, an invisible index mark is placed on the tape. When timer recordings are made, program index and information are also included. These index marks can be used to access or scan recordings.

**Program End Search**

It is easy to locate the end of a recorded program allowing you to continue recording where you left off.

1. Display SELECT SEARCH MODE in Stop or Play mode. Press SEARCH.*

2. Select PROGRAM END SEARCH.
   1) Press ▲▼ to select.
   2) Press ► to start search.

Examples of Program End Search operation.

- **Fig. 1**
  - Program 1
  - Program 2 or BLANK
  - the current tape position
  - Press SEARCH button
  - End Point
  - FF

- **Fig. 2**
  - Program 1
  - BLANK
  - Program 2
  - BLANK
  - the current tape position
  - Press SEARCH button
  - End Point
  - FF

- **Fig. 3**
  - Program 1
  - BLANK
  - Program 2
  - End Point
  - FF
  - If search exceeds few seconds in BLANK area.

If Program End Point ( gamle) is found.

The search continues slightly beyond the end point, then search and reverse search and plays the last few seconds of the program and finally stops.

- Program 1
- Program 2 (BLANK)
- FF
- PLAY
- REVERSE SEARCH
- STOP

**Notes**

- If Program End Search is started very close to an index mark, one program may be skipped over.
- To cancel Program End Search, press PLAY or STOP.

Model PV-V4520 remote is shown here.
**Index Scan (For normal and/or timer recordings)**

In Play mode, the first 10 seconds of each recording can be scanned (forward or reverse).

1. **Display SELECT SEARCH MODE** in Stop or Play mode. Press SEARCH.*

2. **Select INDEX SEARCH.**
   1) Press ▲▼ to select.
   2) Press ▶ to display.

3. **Start scan.** Press FF or Rew.

4. **Cancel scan, start playback.** Press PLAY.
   - To stop, press STOP.

   **<Example>**

   ![Diagram showing Index Scan process]

   **Auto Operation Functions**

   - **Auto Playback**
     Insert tape → Power turns on →
     → Starts playback if record tab (see page 30) is removed.

   - **Auto Rewind**
     Playback
     Manual Record → Tape end →
     Fast Forward → Rewinds (Auto)

   - **Playback Auto Eject**
     (Repeat Play is "OFF")
     Playback → Tape end → Rewinds
     → Tape ejects (if without record tab)

   - **Memory Rewind Off**
     Rewind → Press POWER →
     → Turns off after completed
Direct Access (For normal and/or timer recordings)

Go directly to desired recording.

1 Display SELECT SEARCH MODE in Stop or Play mode. Press SEARCH.*

2 Select INDEX SEARCH.
   1) Press ▲▼ to select.
   2) Press ► to display.

3 Select the recording number.
   Press NUMBERED keys.
   • To calculate number, see below.

4 Start search.
   Press FF or REW.

To Calculate Index Number

Example 1:
If you are watching recording 4 and you want to watch recording 2, enter 3 in step "3" and press REW.

Example 2:
If you are watching recording 2 and you want to watch recording 6, enter 4 in step "3" and press FF.

Notes
- Make each entry within 10 seconds, or the Index Search mode will be canceled.
- If Direct Access or Index Scan is started very close to an index mark, that index mark may not be counted in the search.

NOTE: † indicates start points of each recording.

Model PV-V4520 remote is shown here.

For assistance, call 1-800-211-PANA(7262).
Repeat Play

Set to playback a recording over and over.

1. Display menu.
   Press ACTION.*

2. Display SET UP VCR.
   1) Press ▲▼ to select.
   2) Press ► to display.

3. Set ON or OFF.
   1) Press ▲▼ to select "REPEAT PLAY."
   2) Press ► to set.
   - Playback repeats when tape end is reached or unrecorded portion over 30 seconds is detected.

4. Return to normal screen.
   Press ACTION twice.

Zero Search

To quickly return to specific tape counter location.

a. Display Counter.
   Press DISPLAY during playback.

b. Reset to "0:00:00."
   Press COUNTER RESET at the desired position.

c. Continue to record, playback etc.

Commercial Skip

VCR fast forwards (skips) over 1~3 minutes of recorded position.

A. Press CM SKIP in Play mode.
   - The skip time can be changed by pressing CM SKIP button repeatedly as shown by the figure below.

   - 1st Press → 1 min Skip
   - 2nd Press → 2 min Skip
   - 3rd Press → 3 min Skip

Model PV-V4520 remote is shown here.
MTS Broadcast/VHS Hi-Fi Stereo System

For Model PV-V4520 only

Connections to Make

Stereo TV

VCR

Audio

R L

Video

IN

RF IN

Out

IN

To monitor recording in progress in stereo, connect VCR to stereo TV or mono TV and stereo amp with speakers.

Receiveable Broadcast Types

The following are possible audio broadcast types and on-screen displays.

The signal being received is indicated with an " " mark while the selected audio mode is indicated with an arrow.

Display the broadcast signal being received. Press DISPLAY.

MTS Stereo and SAP broadcast

Multi-channel Television Sound Stereo (main language) and Secondary Audio Program (sub language) broadcasts are both being received simultaneously. Select STEREO or SAP audio mode.

MTS Stereo broadcast

Multi-channel Television Sound Stereo broadcast. Select STEREO audio mode.

- If stereo broadcast is weak and display flickers, select MONO audio mode for possibly better results.

SAP broadcast

Secondary Audio Program (sub language) broadcast. Select SAP audio mode for the sub language.

MONO broadcast

Normal monaural sound broadcast.

For assistance, call 1-800-211-PANA(7262).
When set to proper audio mode VCR can:
1) record/playback MTS stereo broadcasts (main language) in Hi-Fi stereo.
2) record/playback mono (main language) or SAP (sub language) broadcasts.
3) playback non Hi-Fi tapes in monaural.

- The selected broadcast sound is always recorded on the left and right Hi-Fi track as well as the normal monaural track. This means tapes can be played back on Hi-Fi and non-Hi-Fi VCRs.

Audio Mode for Recording

1
Display audio mode. Press SAP/Hi-Fi.

2
Select desired mode. Press SAP/Hi-Fi repeatedly (each press within 5 seconds).
- Arrow indicates selection.
- Refer to "Receivable Broadcast Types" on page 24.

3
Do a recording. See page 9.

Audio Mode for Playback

a
Start playback. See page 8.

b
Display audio mode. Press SAP/Hi-Fi.

C
Select desired mode. Press SAP/Hi-Fi repeatedly (each press within 5 seconds).
- Arrow indicates selection.
- Select "HiFi(L/R)" or "HiFi(L)" or "HiFi(R)" to listen to stereo recordings in stereo sound. Select "NORMAL" for monaural sound.

Notes
- Only tapes recorded in Hi-Fi stereo will playback with true stereo sound. Standard stereo tapes will playback in monaural sound.
- To listen to Hi-Fi stereo playback, the VCR AUDIO (L/R) jacks must be connected to a stereo TV or an external stereo amp and speakers. (See page 24.)
- If tracking is adjusted during playback, Hi-Fi audio may revert to normal audio.
- Hi-Fi and normal audio playback volume level may differ.
Special VCR Features

Tape Position Display Feature

To find out the present tape position. Tape position cannot be detected for VHS-C Cassette types and tapes of less than 60 minutes length.

1

Detect Tape Position.
Press TAPE POSITION.

DETECTING TAPE POSITION

• "DETECTING TAPE POSITION" only appears the first time a cassette is inserted.
• It takes several seconds for correct indication to appear.

• The present tape position Indication is displayed.

2

Return to normal screen.
Press TAPE POSITION.

Remote Warning ON/OFF Feature

If Multi-brand feature is used (page 18), and this feature is set to on, a warning appears whenever an invalid key is pressed in TV, DSS, or Cable mode.

Display menu.
Press ACTION.*

Display SET UP VCR.

1) Press ▲▼ to select.
2) Press ► to display.

Set ON or OFF.

1) Press ▲▼ to select.
2) Press ► to set.

• "OFF" -- remote warning will not appear even if invalid key is pressed.

Return to normal screen.
Press ACTION twice.

☑ Check list before you begin.
☐ All connections are made. (See pages 4–5.)
☐ VCR is plugged in.
☐ TV is turned on and tuned to CH3, 4 or Video.

Model PV-V4520 remote is shown here.

VCR Lock Feature

All operations are prohibited except timer recording and tape eject. Useful for families with small children.

Press REC in Stop mode.

To turn ON:
In Stop mode, hold down REC on the VCR without a cassette inserted for 7 seconds.

To turn OFF:
Repeat above.

• VCR Lock is canceled automatically after 24 hours if clock is set.

For assistance, call 1-800-211-PANA(7262).
Weak Signal Display ON/OFF Feature

When "ON" is selected, picture is displayed even when broadcast signal is weak or not present.

1. Display menu.
   Press ACTION.*

2. Display SET UP CHANNEL.
   1) Press ▲▼ to select.
   2) Press ► to display.

3. Set ON or OFF.
   1) Press ▲▼ to select.
   2) Press ► to set.

- ON → Picture is displayed regardless of signal condition, and may not always be clearly visible.
- OFF → Screen turns solid blue when signal is absent or weak.
- If VCR is connected to equipment which has blue back feature, selecting ON will have no effect on the other equipment.

4. Return to normal screen.
   Press ACTION twice.

Auto Shut-Off Feature

When "ON" is selected, VCR shuts itself off when playback of a blank portion of tape continues or no signal (except when LINE is selected) is detected for over 5 minutes.

a. Repeat step "a" and "b" on page 26 to display SET UP VCR.

b. Set ON or OFF.
   1) Press ▲▼ to select.
   2) Press ► to set.

C. Return to normal screen.
   Press ACTION twice.
Display menu.
Press ACTION.*

Language
1) Press ▲▼ to select
language item.

MENU
SET UP VCR
SET UP FEATURE
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE: ENGLISH
VCR'S OUTPUT CH: 3
SELECT: ▲▼ KEY
SET : ▼ KEY
END : ACTION KEY

- For English

MENU
PREPARAR VCR
FIJACION DE FUNCIONES
FIJAR RELAJ
FIJAR CANAL
IDIOMA/LANGUE : ESPAÑOL
SALIDA DE VCR CANAL: 3
ELEGIR: ▲▼
FIJAR: ▼
TERMINAR: ACTION

- For Spanish

MENU
REGlage MAGNETOSCOPE
REGlage magneto SUPPLEMENT
REGlage HORLOGE
REGlage CANAL
IDIOMA/LANGUE : FRANÇAIS
CA SORITE: 3
SEL. : ▲▼
REGLE : ▼
FIN : ACTION

- For French

Channels
1) Press ▲▼ to select
SET UP CHANNEL.

MENU
SET UP VCR
SET UP FEATURE
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE: ENGLISH
VCR'S OUTPUT CH: 3
SELECT: ▲▼ KEY
SET : ▼ KEY
END : ACTION KEY

- For English

MENU
ANTENNA : CABLE
AUTO SET
WEAK SIGNAL DISPLAY : OFF
CABLE/DSS BOX SET UP
VCR Plus+ CH SET UP
SELECT: ▲▼ KEY
SET : ▼ KEY
END : ACTION KEY

- For Spanish

MENU
ANTENNA : CABLE
AUTO SET
WEAK SIGNAL DISPLAY : OFF
CABLE/DSS BOX SET UP
VCR Plus+ CH SET UP
SELECT: ▲▼ KEY
SET : ▼ KEY
END : ACTION KEY

- For French

Clock
1) Press ▲▼ to select
SET CLOCK.

MENU
SET UP VCR
SET UP FEATURE
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE: ENGLISH
VCR'S OUTPUT CH: 3
SELECT: ▲▼ KEY
SET : ▼ KEY
END : ACTION KEY

- For English

SET CLOCK
AUTO CLOCK SET
MANUAL
TIME ZONE ADJUST : 0
SELECT: ▲▼ KEY
SET : ▼ KEY
END : ACTION KEY

- For Spanish

SET CLOCK
AUTO CLOCK SET
MANUAL
TIME ZONE ADJUST : 0
SELECT: ▲▼ KEY
SET : ▼ KEY
END : ACTION KEY

- For French

SET CLOCK
AUTO CLOCK SET
MANUAL
TIME ZONE ADJUST : 0
SELECT: ▲▼ KEY
SET : ▼ KEY
END : ACTION KEY

2) Press ▼.

3) Press ▲▼ to select
"ANTENNA," then
press ▼ to set your
antenna system
(TV or CABLE).

4) Press ▲▼ to select
"AUTO SET," then
press ▼.
• If you use a cable box, set it
to the PBS channel in your
time zone.

CHANNEL/CLOCK AUTO SET
CONNECT ANTENNA CABLE
AND IF YOU USE A CABLE
BOX, TUNE IT TO YOUR
LOCAL PBS CH THEN...
PLEASE PUSH CH UP KEY

(This screen appears only
when auto clock is set.)

5) Press CH ▲.
• After Channel Auto Set is
finished, Clock Auto Set will
be performed.

5) Press ACTION twice to
start the clock and exit
this mode.

For assistance, call 1-800-211-PANA(7262).
**Important:** If the remote control POWER, ACTION, PROG/VCR+, CH▲/▼, NUMBERED keys, INPUT, SEARCH or ADD/DLT button does not work when pressed, press the VCR button on the remote and try the button again.

### Time Zone Adjust
(When Auto Clock is set only.)

1) Press ▲▼ to select SET CLOCK.

2) Press ►.

3) Press ▲▼ to select TIME ZONE ADJUST and press ▼ or ► to subtract or add hour(s) as necessary.

4) Press ACTION twice.

5) Press POWER off to perform AUTO CLOCK SET.

- TIME ZONE ADJUST returns to "0" if clock is set manually.

### VCR's Output Channel

1) Press ▲▼ to select VCR'S OUTPUT CH.

2) Press ►.

3) Press ACTION.

- PLEASE TUNE YOUR TV TO CH 4.

After 3 seconds

- To Make Corrections, repeat step 1) ~ 3).

---

**Add or Delete a Channel**

To add channel:
Select channel with NUMBERED keys and press ADD/DLT.

To delete channel:
Select channel with CH ▲ / ▼ or NUMBERED keys and press ADD/DLT.
**Reset all VCR Memory Functions**

Use when moving VCR to new location, or if a mistake was made in the One Time VCR Setup section.

- Make sure a tape is not inserted in the VCR.

1. Turn VCR Power on.

2. Press and hold both PLAY and CHANNEL ▲ on the VCR for more than 5 seconds.
- The power will shut off.


**Prevent Accidental Tape Erasure**

Break off the tab to prevent recording.

- Record Tab
- Screw driver

To record again

- Cover the hole with cellophane tape.

**DST (Daylight Saving Time)**

VCR auto adjusts clock for DST. (Page 7.)

**Spring (First Sunday in April)**
DST:ON ➔ sets clock ahead one hour.

**Autumn (Last Sunday in October)**
DST:ON ➔ Turns clock back one hour.

- If your area does not observe Daylight Saving Time, select DST:OFF.
- Keep these time changes in mind when programming the VCR for timer recordings.

**Record/Playback Time**

Only use tapes with the [VHS] mark in this unit.

<table>
<thead>
<tr>
<th>Tape Speed Setting</th>
<th>Type of Video Cassette</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T60</td>
</tr>
<tr>
<td>SP (Standard Play)</td>
<td>1 Hour</td>
</tr>
<tr>
<td>LP (Long Play)</td>
<td>2 Hours</td>
</tr>
<tr>
<td>SLP (Super Long Play)</td>
<td>3 Hours</td>
</tr>
</tbody>
</table>

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For assistance, call 1-800-211-PANA(7262).
Head Cleaning

Playing older or damaged tapes may eventually cause video heads to become clogged.

Video Head Clog Sensor

During playback, this screen appears if clogging is detected. To remove screen, press PLAY on the remote or VCR.

- Use "dry" type head cleaning cassette only. (Part No. NV-TCL30PT is recommended.)

- Follow cleaning tape instructions carefully. Excessive use of tape can shorten head life.

- If head clog symptoms persist, contact your nearest Factory Service Center or authorized Service Center. (See page 34.)

Specifications

Power Source: 120 V AC, 60 Hz
Power Consumption:
Power On
Approx. 18 watts (PV-V4020)
Approx. 23 watts (PV-V4520)
Power Off
Approx. 3.3 watts
Video Signal:
EIA Standard NTSC color
Video Recording System: 4 rotary heads helical scanning system
Audio Track:
1 track (Normal)
2 channel (Hi-Fi Audio Sound)
(PV-V4520)

Tuner:
Broadcast Channels: VHF 2-13, UHF 14-69
CABLE Channels:
Midband A through I (14-22)
Superband J through W (23-36)
Hyperband AA-EEE (37-64)
Lowband A-5-A-1 (95-99)
Special CABLE channel 5 A (01)
Ultraband 65-94, 100-125
Operating Temperature: 5 °C-40 °C (41 °F-104 °F)
Operating Humidity: 10 %~75 %
Weight: 3.0 kg (6.6 lbs.)
Dimensions:
380 (W) x 93 (H) x 250 (D) mm
14-15/16” (W) x 3-11/16” (H) x
9-3/4” (D)

Note: Designs and specifications are subject to change without notice.

Cleaning the VCR

Use a soft cloth or dusting attachment of a vacuum cleaner to remove dust from the ventilation holes on the back sides and bottom of the cabinet.

Plastic surfaces are easily scratched and can be marred by alcohol and various solvents. Avoid excessive use of oil-based furniture polishes since the materials used in the cabinet will accumulate more dust. We recommend using a nonabrasive, antistatic cleaner and polisher.

Features for a Quality Picture

Digital Auto Picture
Automatically controls the video output signal for less noise depending on the tape condition.

Digital Auto Tracking
Continuously analyzes the signal and adjusts for optimum picture quality.

Manual Tracking Control (to reduce picture noise)
Use during Playback and Slow Motion mode to reduce picture noise. Press CH (TRACKING) ▲ / ▼ buttons on the remote control or on the VCR until the picture clears up. To return to Auto Tracking, press POWER off, then on again a few seconds later.

V-Lock Control (to reduce picture jitter)
In Still mode, CH (TRACKING) ▲ / ▼ buttons operate as a V-Lock control.
**Function & Channel Display**

When a function button is pressed, e.g. PLAY, or you change channels, a 4 second display appears first in large and then small characters.

**Blank Tape/ No Video Signal Indication**

Whenever a blank section of a tape comes up in Play mode, or when the selected channel has no broadcast signal with the Weak Signal Display Feature (page 27) set to OFF, the TV screen will turn solid blue.

**VCR Status & Clock Display**

To display or remove the overlay at right.

Press DISPLAY.

---

### Warning and Instruction Displays

<table>
<thead>
<tr>
<th>OSD</th>
<th>Caution</th>
<th>Pg</th>
<th>OSD</th>
<th>Caution</th>
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<tbody>
<tr>
<td><strong>NO CH FOUND</strong>&lt;br&gt;PLEAS CHECK ANTENNA CABLE CONNECTION THEN PUSH VCR CH UP KEY AGAIN</td>
<td>If no active channels are found for CHANNEL MEMORY...</td>
<td>6</td>
<td><strong>TO CANCEL TIMER REC</strong>&lt;br&gt;PUSH POWER THEN STOP KEY</td>
<td>If you press POWER or STOP during a Timer Recording... (visible in VCR mode only)</td>
<td>12</td>
</tr>
<tr>
<td><strong>PLEASE SET CLOCK BEFORE PROGRAMMING</strong></td>
<td>If you attempt to set or review a Timer Recording and the Clock is not set...</td>
<td>12</td>
<td><strong>VIDEO HEADS MAY NEED CLEANING</strong>&lt;br&gt;PLEASE INSERT HEAD CLEANING CASSETTE OR REFER TO MANUAL END: PLAY KEY</td>
<td>If head cleaning becomes necessary while playing back a tape...</td>
<td>31</td>
</tr>
<tr>
<td><strong>TURN VCR OFF FOR TIMER RECORDING</strong></td>
<td>After a Timer Program has been set...</td>
<td>12</td>
<td><strong>VCR LOCK ACTIVATED</strong></td>
<td>If you press a function button other than STOP/EJECT or POWER while the VCR is in VCR Lock mode...</td>
<td>26</td>
</tr>
<tr>
<td><strong>CHECK CASSETTE RECORD TAB</strong></td>
<td>If you press REC on the remote control or VCR, and a cassette is inserted with no record tab...</td>
<td>30</td>
<td><strong>REMOTE CONTROL IS SET TO CABLE/DSS MODE</strong>&lt;br&gt;USE VCR : VCR KEY USE TV : TV KEY</td>
<td>If you press any invalid keys on the remote while in CABLE/DSS mode...</td>
<td>18&lt;br&gt;19&lt;br&gt;26</td>
</tr>
<tr>
<td><strong>NO CASSETTE PLEASE INSERT A CASSETTE</strong></td>
<td>If you press PLAY, FF, REW, or REC on the remote control or VCR without a cassette inserted...</td>
<td>8&lt;br&gt;9</td>
<td><strong>REMOTE CONTROL IS SET TO TV MODE</strong>&lt;br&gt;USE VCR : VCR KEY USE CABLE/DSS : CABLE/DSS</td>
<td>If you press any invalid keys on the remote while in TV mode...</td>
<td>18&lt;br&gt;19&lt;br&gt;26</td>
</tr>
</tbody>
</table>

For assistance, call 1-800-211-PANA(7262).
Before Requesting Service

Check the following points once again if you are having trouble with your VCR.

<table>
<thead>
<tr>
<th>Power</th>
<th>Correction</th>
</tr>
</thead>
<tbody>
<tr>
<td>No power...</td>
<td>- Completely insert Power Plug into an AC outlet.</td>
</tr>
<tr>
<td></td>
<td>- Set POWER button to ON.</td>
</tr>
<tr>
<td></td>
<td>- Make sure power source is active.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recording &amp; Playback</th>
<th>Correction</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV program cannot be recorded...</td>
<td>- Check connections between VCR, external antenna, and TV.</td>
</tr>
<tr>
<td></td>
<td>- Check hook up selection. (P.4-5)</td>
</tr>
<tr>
<td></td>
<td>- Make sure your antenna system (CABLE or TV) is correctly set. (Channels P.28)</td>
</tr>
<tr>
<td></td>
<td>- Make sure cassette record tab is intact. (P.30)</td>
</tr>
<tr>
<td>Timer recording cannot be performed...</td>
<td>- Confirm that clock is set to current time and date.</td>
</tr>
<tr>
<td></td>
<td>- Make sure Cable/DSS box (if used) is left on and tuned to channel to be recorded.</td>
</tr>
<tr>
<td></td>
<td>- Set recording start/stop times correctly. (P.12)</td>
</tr>
<tr>
<td></td>
<td>- Make sure POWER button is set to OFF. (P.12,13)</td>
</tr>
<tr>
<td></td>
<td>- Timer recording may not be performed or continued if a power interruption of more than 1 minute occurs before or during, a Timer Recording, even after power is restored.</td>
</tr>
<tr>
<td>There is no playback picture, or the playback picture is noisy or contains streaks...</td>
<td>- Select channel 3 or 4 on TV to match VCR output channel (3 or 4) (P.6) or select LINE.</td>
</tr>
<tr>
<td></td>
<td>- Set VCR/TV selector to “VCR.”</td>
</tr>
<tr>
<td></td>
<td>- Adjust TRACKING control in either direction. (P.31)</td>
</tr>
<tr>
<td></td>
<td>- Try Head Cleaning. (P.31)</td>
</tr>
<tr>
<td>Special effects playback, picture may contain some vertical jitter when using a TV with an Automatic Vertical Hold Control...</td>
<td>- Set TV’s Vertical Hold Control to MANUAL, then adjust.</td>
</tr>
<tr>
<td>VCR cannot be controlled...</td>
<td>- Make sure VCR LOCK is set to off. (P.26)</td>
</tr>
<tr>
<td></td>
<td>- Make sure remote is in proper mode. (P.18)</td>
</tr>
<tr>
<td></td>
<td>- Make sure Timer Record is not in progress.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Remote Control</th>
<th>Correction</th>
</tr>
</thead>
<tbody>
<tr>
<td>VCR cannot be remote controlled...</td>
<td>- Aim Remote Control directly at remote sensor on VCR. (P.38)</td>
</tr>
<tr>
<td></td>
<td>- Avoid any object blocking signal path.</td>
</tr>
<tr>
<td></td>
<td>- Check remote batteries. (P.4)</td>
</tr>
<tr>
<td></td>
<td>- Make sure VCR LOCK is set to off. (P.26)</td>
</tr>
<tr>
<td></td>
<td>- Exposing VCR remote sensor to direct fluorescent or outdoor light may cause signal interference.</td>
</tr>
<tr>
<td>ACTION and PROG/VCR+ buttons cannot be used...</td>
<td>- Press VCR button for VCR mode. (P.18)</td>
</tr>
<tr>
<td></td>
<td>- Check remote batteries. (P.4)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Miscellaneous</th>
<th>Correction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programs cannot be viewed on TV...</td>
<td>- Set VCR/TV selector to “TV.” (P.9)</td>
</tr>
<tr>
<td></td>
<td>- Make sure proper signal source is selected.</td>
</tr>
<tr>
<td>Video cassette cannot be inserted...</td>
<td>- Insert the cassette with window side up; record tab facing you.</td>
</tr>
<tr>
<td></td>
<td>- Check if a tape is already in the unit.</td>
</tr>
<tr>
<td>Video cassette cannot be removed...</td>
<td>- Completely insert Power Plug into an AC outlet.</td>
</tr>
<tr>
<td>Video cassette ejects when a recording is started or the power is turned off for timer recording...</td>
<td>- Make sure cassette rec tab is intact. (P.30)</td>
</tr>
<tr>
<td>In Stop mode, the motor (CYLINDER) continues to rotate...</td>
<td>- To enable Quick play mechanism, the cylinder will rotate for about 5 minutes. This reduces response time from Stop to Play mode and from Play to Rewind Search mode.</td>
</tr>
<tr>
<td>The top of the playback picture waves back and forth excessively...</td>
<td>- Because VCR playback signal is not as stable as off-the-air TV signal, top of TV screen may be bent or unstable during playback. Slowly turn TV horizontal Hold control to correct. If your TV has no horizontal Hold control or adjusting control is ineffective, contact your nearest TV service center.</td>
</tr>
</tbody>
</table>

If you cannot resolve the problem, please call the Customer Satisfaction Center for product assistance at 201-348-9090. To locate an authorized servicenter, please call toll free 1-800-211-PANA (7262).
For Product Information, Operating Assistance, Literature Request, Dealer Locations, and all Customer Service inquiries please contact:
1-800-211-PANA (7262), Monday-Friday 9am-9pm Saturday-Sunday 9am-7pm, EST.

Web Site: http://www.panasonic.com
You can purchase parts, accessories or locate your nearest servicenter by visiting our Web Site.

Accessory Purchases:
Customer Orders Only 800-332-5368 (Customer Orders Only)
Panasonic Services Company 20421 84th Avenue South, Kent, WA 98032
(6 am to 5 pm Monday - Friday; 6 am to 10:30 am Saturday; PST)
(Visa, MasterCard, Discover Card, American Express, Check)

Factory Servicenters Locations

<table>
<thead>
<tr>
<th>State</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>CALIFORNIA</td>
<td>6550 Katella Avenue Cypress, CA 90630</td>
</tr>
<tr>
<td></td>
<td>800 Dubuque Avenue S. San Francisco, CA 94080</td>
</tr>
<tr>
<td></td>
<td>20201 Sherman Way Suite 102 Canoga Park, CA 91306</td>
</tr>
<tr>
<td></td>
<td>3878 Ruffin Road Suite A San Diego, CA 92123</td>
</tr>
<tr>
<td>COLORADO</td>
<td>1640 South Abilene Street Suite D Aurora, CO 80012</td>
</tr>
<tr>
<td>FLORIDA</td>
<td>3700 North 29th Avenue Suite 102 Hollywood, FL 33020</td>
</tr>
<tr>
<td>GEORGIA</td>
<td>8655 Roswell Road Suite 100 Atlanta, GA 30350</td>
</tr>
<tr>
<td>ILLINOIS</td>
<td>9060 Golf Road Niles, IL 60714</td>
</tr>
<tr>
<td>MARYLAND</td>
<td>62 Mountain Road Glen Burnie, MD 21061</td>
</tr>
<tr>
<td>MASSACHUSETTS</td>
<td>60 Glacier Drive Suite G Westwood, MA 02090</td>
</tr>
<tr>
<td>MICHIGAN</td>
<td>37048 Van Dyke Avenue Sterling Heights, MI 48312</td>
</tr>
<tr>
<td>MINNESOTA</td>
<td>7850-12th Avenue South Airport Business Center Bloomington, MN 55425</td>
</tr>
<tr>
<td>OHIO</td>
<td>2236 Waycross Road Civic Center Plaza Forest Park, OH 45240</td>
</tr>
<tr>
<td>PENNSYLVANIA</td>
<td>2221 Cabot Blvd. West Suite B Langhorne, PA 19047</td>
</tr>
<tr>
<td>TENNESSEE</td>
<td>3800 Ezell Road Suite 806 Nashville, TN 37203</td>
</tr>
<tr>
<td>TEXAS</td>
<td>7482 Harwin Drive Houston, TX 77036</td>
</tr>
<tr>
<td></td>
<td>13615 Welch Road Suite 101 Farmers Branch, TX 75244</td>
</tr>
<tr>
<td>WASHINGTON</td>
<td>20425-84th Avenue South Kent, WA 98032</td>
</tr>
<tr>
<td>HAWAII</td>
<td>99-859 Iwaiwa Street Aiea, Hawaii 96701</td>
</tr>
<tr>
<td></td>
<td>Phone (808)488-1996 Fax (808)486-4369</td>
</tr>
</tbody>
</table>

Service in Puerto Rico
Matsushita Electric of Puerto rico, Inc. Panasonic Sales Company/ Factory Servicenter:
Ave. 65 de Infanteria, Km. 9.5, San Gabriel Industrial Park, Carolina, Puerto Rico 00985
Phone (787)750-4300 Fax (787)768-2910

As of April 98

For assistance, call 1-800-211-PANA(7262).
PANASONIC Video Products
Limited Warranty

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

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

Monitor-VCR In-home or carry-in Service: 22” (diagonal) CRT / LCD and Larger Monitor-VCR Carry-in Service: 21” (diagonal) CRT / LCD and smaller

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

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

In-home, carry-in or mail-in service, as applicable, in the USA can be obtained during the warranty period by contacting a Panasonic Services Company (PASC) Factory Servicenter listed in the Service Directory. Or call toll free 1-800-211-PANA (7262), to locate an authorized PASC Servicenter. Carry-in or mail-in service in Puerto Rico can be obtained during the warranty period by calling the Panasonic Sales Company telephone number listed in the Servicenter Directory.

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

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

LIMITS AND EXCLUSIONS
There are no express warranties except as listed above.

THE WARRANTOR SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING, WITHOUT LIMITATION, DAMAGE TO TAPES) RESULTING FROM THE USE OF THIS PRODUCTS, OR ARISING OUT OF ANY BREACH OF THE WARRANTY. ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, ARE LIMITED TO THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE. Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions or limitations may not apply to you.

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

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

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

warvid 10/20/97
Para ajustar el idioma, canal y reloj

1. Encienda el televisor y la videograbadora. Presione POWER.
   - Si se utiliza un cable de conexión AV, sitúe el TV en la posición Video en lugar de en la posición canal. (Véase el punto a, en la página 4).

2. Visualización de SELECCIÓN DE IDIOMA.
   Esta visualización aparece sólo cuando realice la configuración por primera vez.

   **Selección del idioma.**
   - para inglés (ENGLISH)
   - para Español (ESPAÑOL)
   - para Francés (FRANÇAIS)

   Si se utiliza la conexión b) (véase la página 4), sintonicelo en el canal de salida de VCR.
   Si la imagen tiene oscilaciones o ruido cuando el equipo está situado en VCR OUTPUT CH3, cambie a CH4 pulsando ACTION dos veces.
   Luego, sintonice el TV en el CH4.

3. **Selección de la conexión.**
   1) Presione ▲▼ para seleccionar.
   2) Presione ► para ajustar.

   - Si ud. ha elegido CABLE/ DSS ► VCR ► TV, continue al paso 4 y sólo el canal de salida del cable será memorizado.
   - Si no, vaya al paso 6.

4. **Selección de la caja de TV por cable o su receptor el canal de salida.**
   1) Presione ▲▼ para seleccionar.
   2) Presione ► para fijar.

   - Si es necesario, consulte su manual de la caja de TV por cable.
   - Si está usando los terminales de audio/ video para su conexión para la caja de TV por cable, ajuste "SALIDA DE VIDEO".

5. Encienda la caja de TV por cable y fíjela la caja de TV por cable al canal PBS de su zona.

6. **Comience el ajuste automático de canales y el ajuste automático del reloj.**
   - Presione CH ▲
   - **AUTOPROGRAMACIÓN**
   - **FIJACIÓN AUTOMÁTICA DEL RELOJ**

   **Caso1** (Ajuste terminado)
   1/ 4/2000 MAR. 12:00PM
   HORA VERANO/ACT.
   CANAL: FIJADO : CA 02
   FIJACION AUTOMÁTICA
   TERMINAR: OPRIMIR CH UP

   **Caso2** (Ajuste sin terminar)
   FIJACION AUTOMÁTICA DEL RELOJ INCOMPLETO
   OPRIMIR ACTION PARA FIJAR EL RELOJ

   Presione CH ▲ para salir.

   **Caso2** El ajuste del reloj no es incompleto.

   **Ajuste del reloj manualmente.**
   1) Presione ACTION.
   2) Presione ▲▼ para seleccionar el mes.
   3) Presione ► para ajustar.
      - De la misma manera, ajuste el día, el año, la hora y la hora de ahorro de energía (VERANO).
      Para hacer correcciones, presione repetidamente ►◄ para moverse hasta el error, luego corrija.
   4) Presione ACTION. (El reloj se activa.)
      - Para salir de este modo, pulse la tecla ACTION nuevamente.

**Ajustar de nuevo el reloj**

1. Presione ACTION para exhiba el menú.

2. **PREPARAR VCR FIJACION DE FUNCIONES**
   **FIJAR RELOJ** y luego presione ►

   **MANUAL** Ajuste ZONA: HORA : 0
   ELEGIR: ►
   FIJAR: ►
   TERMINAR: ACTION

3. **FIJAR RELOJ**
   **FIJACION AUTOMÁTICA**
   **MANUAL** Ajuste ZONA: HORA : 0
   ELEGIR: ►
   FIJAR: ►
   TERMINAR: ACTION

4. **FIJAR RELOJ**
   **VERANO/ACT.**
   ELEGIR: ◄
   FIJAR: ◄
   TERMINAR: ACTION

5. Presione ACTION dos veces para que el reloj comience a funcionar y salir desde este modo.

Por ayuda llame al 1-800-211-PANA(7262).
Operaciones básicas para la reproducción

1 Inserte un casete.
   * La videograbadora se enciende automáticamente.

2 Presione PLAY.
   * O, si el casete no tuviera la lengüeta de grabación (véase la página 30), se inicia la reproducción automática.
   - Para encontrar una escena en particular
     Búsqueda hacia adelante --- Presione FF.
     Búsqueda hacia atrás --- PresioneREW.
   - Para ver una imagen fija (congelada) --- Presione PAUSE/SLOW.
   - Para ver imágenes cuadro a cuadro --- Presione PAUSE/SLOW en el modo de imagen fija.
   - Para ver en cámara lenta --- Mantenga pulsado el botón PAUSE/SLOW en el modo de imagen fija.
   - Para parar --- Presione STOP.
   - Para rebobinar la cinta --- Presione REW.
   - Para hacer avanzar la cinta rápidamente --- Presione FF
   - Para expulsar la cinta --- Presione STOP/EJECT en el videograbadora.

Operaciones básicas para la grabación

1 Inserte un casete.
   * La videograbadora se enciende automáticamente.

2 Seleccione el canal.
   Presione CH ▲ / ▼ o las teclas numéricas correspondiente.

3 Seleccione la velocidad de grabación.
   Presione SPEED.
   * SP = Reproducción estándar.
   * LP = Larga duración.
   * SLP = Superlarga duración.

4 Comience la grabación.
   Presione REC.
   * Presione PAUSE/SLOW para hacer una pausa en la grabación en progreso.
   - Para parar --- Presione STOP.
   - Grabación de un toque
     Presione REC repetidamente para ajustar la hora de grabación (30 min - 4 horas).
     * La videograbadora termina la grabación a una hora programada.

Programación fácil para la grabación con temporizador

1 Exhiba FIJAR PROGRAMACION.
   Presione PROG/VCR+.

2 Exhiba "TEMPORIZADOR".
   1) Presione ▲▼ para seleccionar.
   2) Presione ▶ para exhibir.
   * Si ya existe un programa en la memoria, presione ▲▼ y ▶ para seleccionar un número de programa sin uso.

3 Ajuste la fecha de grabación.
   1) Presione ▲▼ para seleccionar.
   2) Presione ▶ o ◀ para ajustar.
   Ejemplo
   Fecha de hoy = 8/5/89
   • DIARIO = a la misma hora de lunes a viernes
   • SEMANA = a la misma hora una vez a la semana
   Repita el paso 3 para ajustar:
   hora de comienzo, hora de parada, canal (o LINEA para una fuente exterior), velocidad (SP, LP, SLP).

4 Termine el programa.
   1) Presione PROG/VCR+ (o ACTION).
   Para introducir más programas, presione ▲▼ y ▶ para seleccionar y ajustar el número de programa en blanco. Luego repita los pasos 3 y 4.
   2) Presione PROG/VCR+ (o ACTION) para salir.

5 Grabación con temporizador.
   Presione POWER para apagar.
   * Si la fuente de la grabación es una caja de TV por cable, asegúrese de que la caja de TV por cable esté encendida y esté sintonizada al canal que desea grabar.
Remote control Buttons

Model PV-V4520 remote is shown here.

EJECT
See page 8.

POWER
See page 6.

VCR mode
See page 18.

VCR/TV
See page 9.

PLAY
See page 8.

SELECT UP
See page 7.

REWIND/ SEARCH
See page 8.

SET
See page 7.

ACTION
See page 28.

NUMBERED KEYS
See page 9.

COUNTER RESET
See page 23.

PAUSE/ SLOW
See page 8.

CM SKIP
See Page 23.

SAP/ Hi-Fi (Model PV-V4520 Only)
See page 25.

VOLUME UP/ DOWN
See page 18.

LIGHT
See page 38.

TV mode
See page 18.

DSS/ CABLE mode
See page 18.

INPUT
See page 11.

FAST FORWARD/ SEARCH
See page 8.

SET
See page 7.

STOP
See page 8.

SELECT DOWN
See page 7.

PROGRAM/ VCR+
See pages 12, 13, 17.

ADD/ DELETE
See page 29.

TAPE POSITION
See page 26.

DISPLAY
See page 32.

SEARCH/ ENTER
See pages 20–23.

SPEED
See page 9.

RECORD
See page 9.

CHANNEL UP/ DOWN
See page 9.

TRACKING/ V-LOCK
See page 31.

Light Tower Universal Remote Control

Light button: When the LIGHT button is pressed, the buttons which can be activated in the selected mode will light and the selected mode button (TV, VCR or CABLE DSS) will flash for 5 seconds. If no buttons are pressed within 5 seconds, the light will turn off in order to conserve battery power. Also while holding down the button, the selected mode button will flash so you will be able to see, in the dark, which mode has been selected.

EJECT button: When EJECT is pressed, the tape is ejected from the Cassette Compartment.

If EJECT is pressed during recording, the VCR will not respond to the command.

Front View of the VCR

VCR/TV selector
See page 9.

Cassette Compartment
See page 8.

PLAY
See page 8.

POWER
See page 6.

FAST FORWARD/ SEARCH
See page 8.

REWIND/ SEARCH
See page 8.

CHANNEL UP/ DOWN
See page 8.

RECORD
See page 9.

STOP/ EJECT
See page 8.

REMOTE SENSOR
See page 8.

ACTION/ PROG
See page 7.

For assistance, call 1-800-211-PANA(7262).
Multi Function Display

VCR Indicator
Lights when the VCR/TV selector is set to VCR.

Hi-Fi Indicator (For Model PV-V4520 only)
Lights when Hi-Fi audio is monitored or play back.

Power Indicator
Lights when power is on.

Clock/ Status/ Channel/ Speed Display
Displays the current time. Briefly displays VCR status when a function button is pressed. Briefly displays the channel number, or "L" when a channel or line input is selected. Briefly displays the recording speed when SPEED is pressed.

Timer Indicator
Lights when the VCR is set for a Timer Recording, or when a length is set for a normal recording (OTR). Flashes when a Timer Recording is set, but a tape has not been inserted into the VCR.

Rear View of the VCR

AC Power Plug
While plugged into an AC outlet, the VCR consumes 3.3 W of electrical power in OFF condition.

Audio Input Connector
See page 11.

Video Input Connector
See page 11.

Audio Output Connector
See pages 4, 11.

VHF/UHF Antenna Input Terminal
See pages 4, 10.

Video Output Connector
See pages 4, 11.

VHF/UHF Antenna Output Terminal
See pages 4, 10.

Audio Input Connector (L/R)
See page 11.

Rear View of Model PV-V4020 VCR only

Rear View of Model PV-V4520 VCR only
Quick Use Guide

1 Make all connections (page 4).
Connect VCR and TV with AV Cable (not supplied) or RF Coaxial Cable (supplied) as shown below.
To use your TV as a VCR monitor, set the VIDEO/TV selector on the TV (Monitor/Receiver) to “VIDEO.”
For model PV-V4520, use the L Audio OUT jack for proper sound reproduction when connecting to a
monaural TV.

Notes
1) While connection b) (above) is sufficient, connection a) offers better sound and picture
especially with model PV-V4520, you can enjoy Hi-Fi STEREO sound).
2) For both connections a) and b) proceed as follows:
   • To use VCR: VCR Power on, set TV to VIDEO.
   • To watch TV: VCR Power off, select channel on.
3) When using connection b) (see page 4), tune to VCR's output channel.
4) Set VCR Output to channel 3 or 4 (not an active station). (See page 6.)

Playback a Tape

2 Insert a tape.

   Insert a tape

   Press PLAY
   (Start playback)
   • Or, if tape has no record tab, auto playback begins.

Record on a Tape

2 Do “One Time VCR Setup” on page 6.
In order for the VCR to properly interface with your equipment, some setup is necessary.

3 Record on a Tape.

   Insert a tape
   with Record Tab

   Press CH Up/Down.
   (Select Channel)

   Press SPEED
   (Change speed)

   Press REC
   (Start Recording)