

# Operating Instructions

**Panasonic**

Omnivision **VHS**

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**Model No. PV-4760**

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## **Video Cassette Recorder**

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

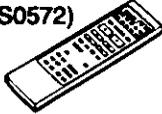
VQTS1276

# ACCESSORIES

Check to be sure the following items are packed with your VCR.

## ACCESSORIES SUPPLIED

These accessories are provided to help you use or set up your VCR.

<p>1pc. Wireless Remote Control and 2 "AA" batteries (VSQS0572)</p> 	<p>1pc. VHF Connecting Cable (VSQS0217) 75 OHM</p> 	<p>1pc. Twin-Lead Cable (VJA0102) 300 OHM</p> 	<p>1pc. 300 ohm - 75 ohm Transformer (VSQS0513 or VSQS0519)</p> 
<p>1pc. V-Lock Tool (VFKS0063)</p> 			

## OPTIONAL ACCESSORIES

These additional accessories are available to you from Panasonic or your local Panasonic dealer.

- Color Video Camera
- AC Adaptor (Camera Power Supply) – PK-A789S
- 1/2" Video Cassette Tape

### WARNING:

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

This video recorder equipped with the HQ 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.

The serial number of this product may be found on the back of the unit. No others have the same serial number as yours. You should record the number and other vital information here and retain this book as a permanent record of your purchase to aid identification in case of theft.

Date of Purchase \_\_\_\_\_

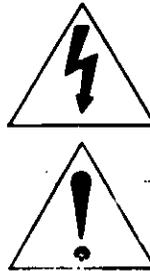
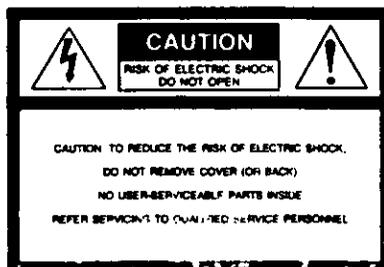
Dealer Purchased From \_\_\_\_\_

Dealer Address \_\_\_\_\_

Dealer Phone No. \_\_\_\_\_

Model No. PV-4760

Serial No. \_\_\_\_\_



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.

# TABLE OF CONTENTS

PV-4760

## INTRODUCTION

We are pleased to introduce to you one of the most sophisticated viewing and entertainment products available today. This manual is designed to get you started quickly so you can begin to enjoy the world of video as soon as possible. On the next page you will find the basic steps for setting up your VCR to view tapes on your TV. Later you may select a signal connection from the separate "Basic Guide For VCR Connections" which will enable you to make VCR recordings. This manual is simply arranged with all the information you may need for most situations. Check through this table of contents, then the "Description of Controls" on pages 4, 5 and 6. Any additional information corresponding to the controls can be found in alphabetical order on pages 33-36. Keep this manual handy to serve as a quick guide to the video features on your new VCR.

## FEATURES

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- Digital Quartz Tuning  
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  - Field-Still
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  - Double Fine Slow
  
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NOTE: These "KEYS" will identify sections in the manual relating to the functions listed above.

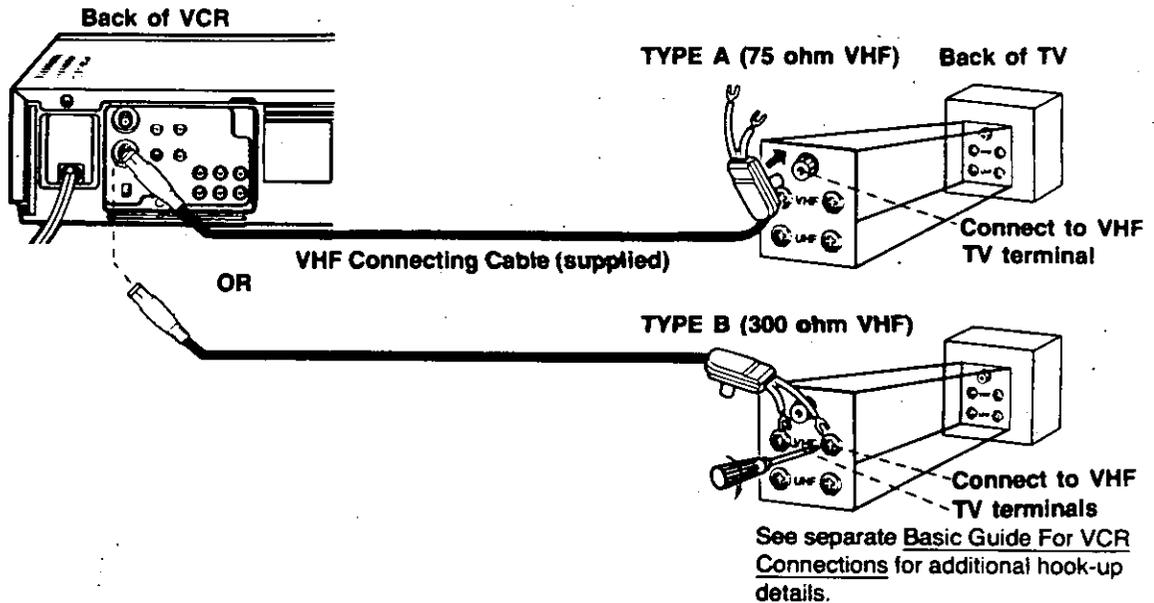
# VCR TO TV SYSTEM PREPARATIONS

Before Playback, make the one-time preparations A and B below.

## A BASIC VCR TO TV CONNECTIONS

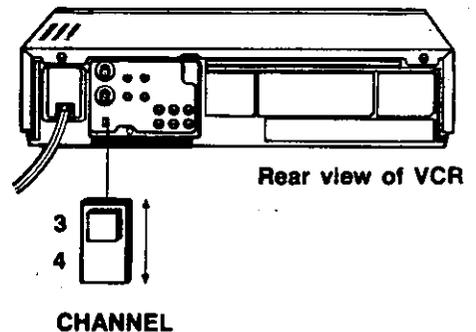
This is the only connection you need for Playback.

### PLAYBACK CONNECTION



## B SELECTION OF THE VCR OUTPUT CHANNEL (3/4)

Your VCR must control one TV channel permanently just as a TV broadcast station does. To decide which channel to use, select either channel 3 or 4 with the Channel 3/4 switch on the back of the VCR. To avoid local interference, the channel 3/4 switch position you choose should match the number of the TV channel that is not normally broadcast in your area. If you have cable TV, select the channel that provides the best reception. You can still watch your favorite channels, see page 9 for normal broadcast channel reception.



## C HOW TO INSERT AND REMOVE A VIDEO CASSETTE

- Be sure the VCR is plugged into an AC outlet.

To insert a video cassette

1. Hold the cassette, window side up, with the arrow pointing away from you.
2. Gently push the cassette in until the pull of the VCR loading mechanism takes the cassette into position.

### Auto Power

- Should the VCR Power be off, cassette insertion will power the unit on.

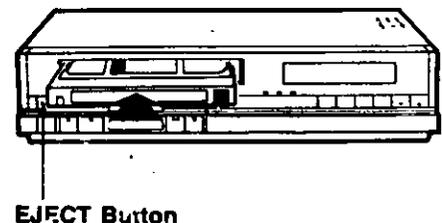
To Remove a cassette

1. Press the EJECT Button.

### Auto Eject

- If the VCR Power is OFF, a cassette can still be ejected by pushing the EJECT Button.

2. Remove the cassette.

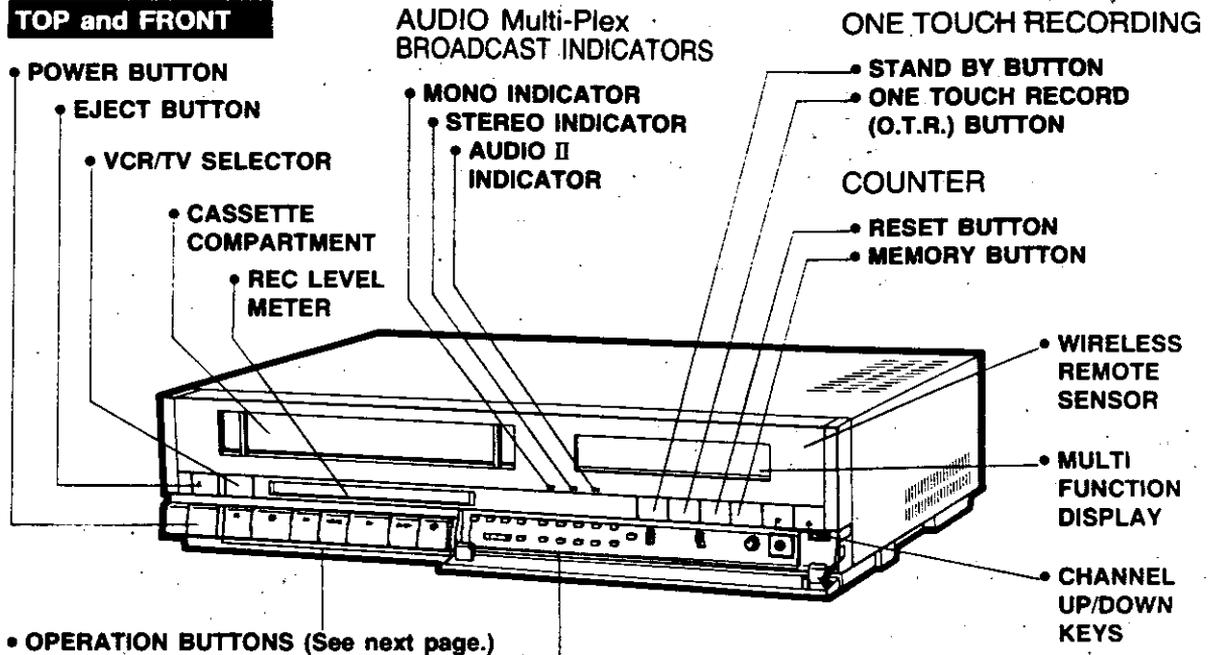


# DESCRIPTION OF CONTROLS

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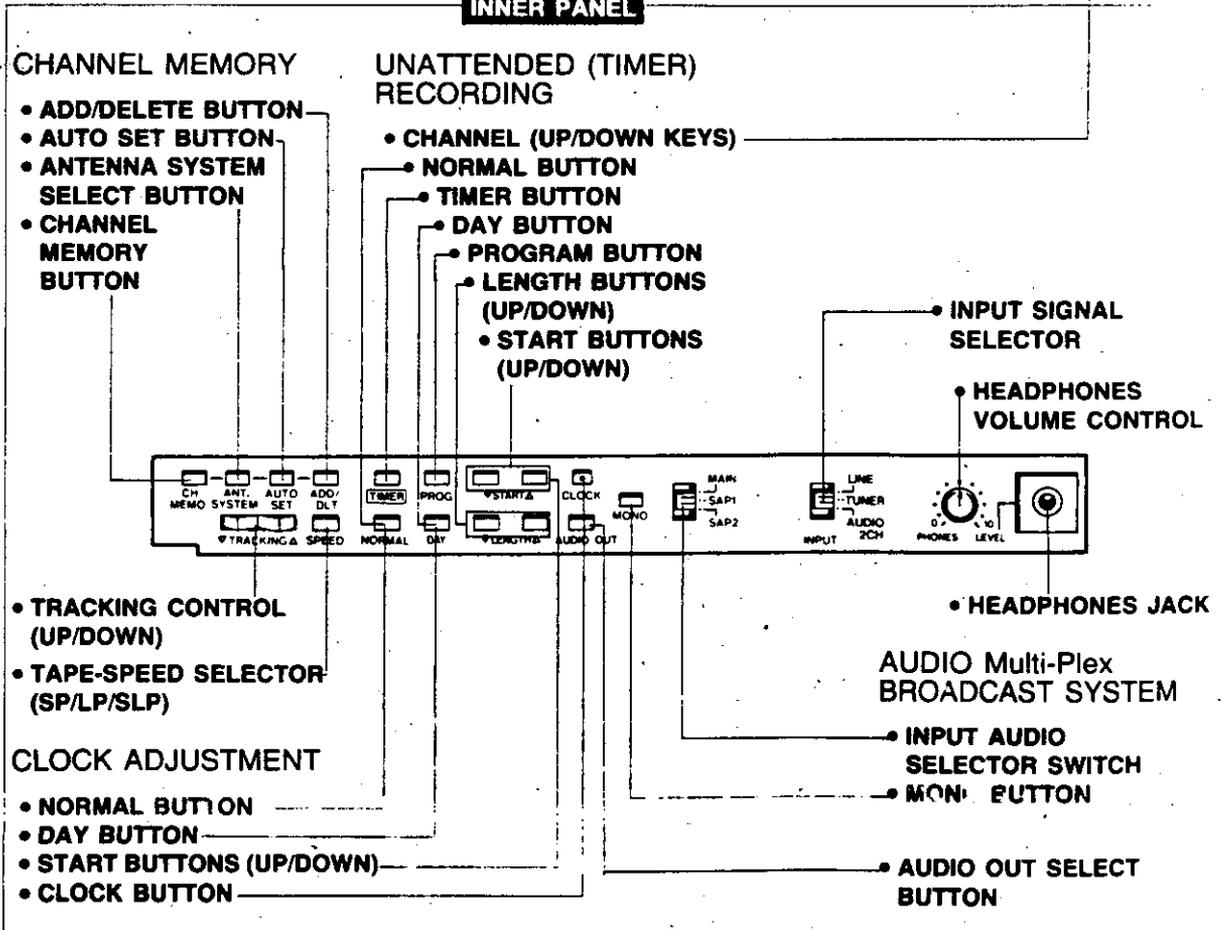
See "DETAILS" section for more information on each control, page 33.

## TOP and FRONT



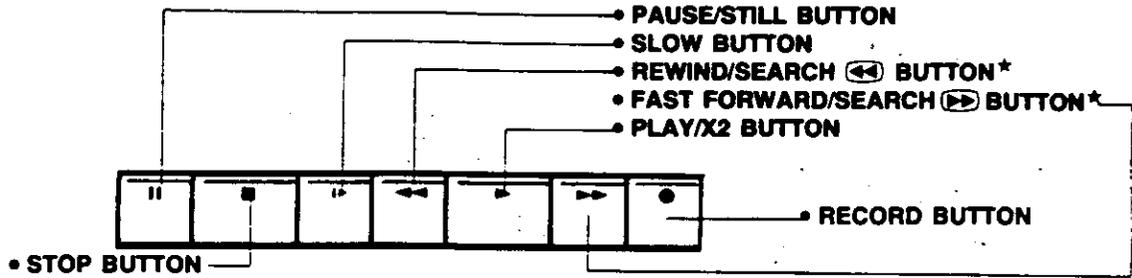
• OPERATION BUTTONS (See next page.)

## INNER PANEL



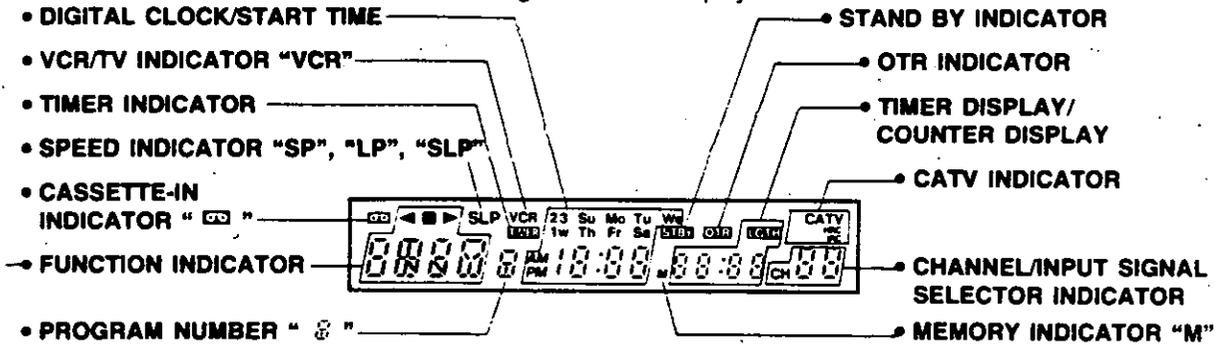
**OPERATION BUTTONS**

**SPECIAL EFFECTS PLAYBACK**



\* NOTE: In playback mode, one press of the FF/SEARCH or REWIND/SEARCH Buttons locks in the search function for viewing, press the search button again to return to playback.

**MULTI FUNCTION DISPLAY**



**FUNCTION INDICATOR SYMBOLS**

These symbols and their combinations appear constantly or flash on the Multi Function Display to indicate the current mode or operation of the VCR. See the chart below. The current indications will be momentarily displayed on TV screen for a quick glance when you press the Operation Button (see page 13).

<b>STOP</b> 	<b>EJECT</b> 	<b>PLAY</b> 	<b>REW</b> 
<b>FF</b> 	<b>REC</b> 	<b>REC PAUSE</b> 	<b>REW SEARCH</b> 
<b>FF SEARCH</b> 	<b>DOUBLE SPEED PLAY</b> 	<b>STILL</b> 	<b>FRAME ADVANCE</b> 
<b>SLOW</b> 	<b>DEW</b> 	<b>CHANNEL MEMORY MODE</b> 	<b>PROGRAM MODE</b> 

# DESCRIPTION OF CONTROLS

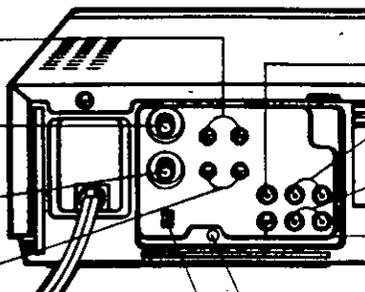
PV-4760

## REAR

### ANTENNA CONNECTION

- UHF ANTENNA INPUT TERMINALS (IN FROM ANTENNA)
- VHF ANTENNA INPUT TERMINAL (IN FROM ANTENNA)
- VHF ANTENNA OUTPUT TERMINAL (OUT TO TV SET)
- UHF ANTENNA OUTPUT TERMINALS (OUT TO TV SET)

- AC POWER CORD



### CONNECTIONS WITH OTHER COMPONENTS

- VIDEO OUTPUT CONNECTOR
- AUDIO OUTPUT CONNECTOR (L/R)
- AUDIO INPUT CONNECTOR (L/R)
- VIDEO INPUT CONNECTOR

- VERTICAL LOCK ADJUSTMENT CONTROL

- CHANNEL 3/4 SWITCH

See separate Basic Guide For VCR Connections for more hook-up details.

## WIRELESS REMOTE CONTROL

Various VCR function controls are conveniently available with your Wireless Remote Control.

- POWER BUTTON

- RECORD BUTTONS (TWO BUTTON ENTRY)

- STOP BUTTON

- PAUSE/STILL BUTTON

- REW/SEARCH (◀) BUTTON

- SLOW-MOTION BUTTONS

- SLOW TRACKING CONTROL

- FUNCTION BUTTON

- PROGRAM BUTTON\*

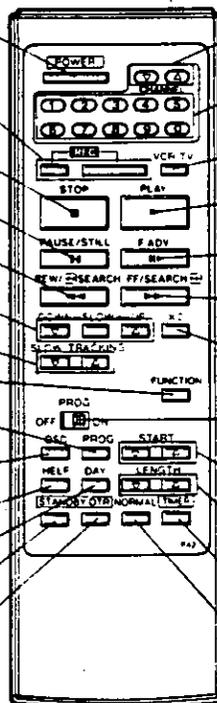
- OSD BUTTON\*

- HELP BUTTON\*

- DAY BUTTON\*

- STAND BY BUTTON\*

- ONE TOUCH RECORD (O.T.R.) BUTTON\*



- CHANNEL UP/DOWN KEYS

- NUMERICAL KEYS (0, 1, 2, 3, 4, 5, 6, 7, 8, and 9)

- VCR/TV SELECTOR BUTTON

- PLAY BUTTON

- FRAME ADVANCE BUTTON

- FAST FORWARD/SEARCH (▶▶) BUTTON

- DOUBLE SPEED (X2) PLAY BUTTON

- PROGRAM ON/OFF SWITCH

- START BUTTONS (UP/DOWN)\*

- LENGTH BUTTONS (UP/DOWN)\*

- TIMER BUTTON\*

- NORMAL BUTTON\*

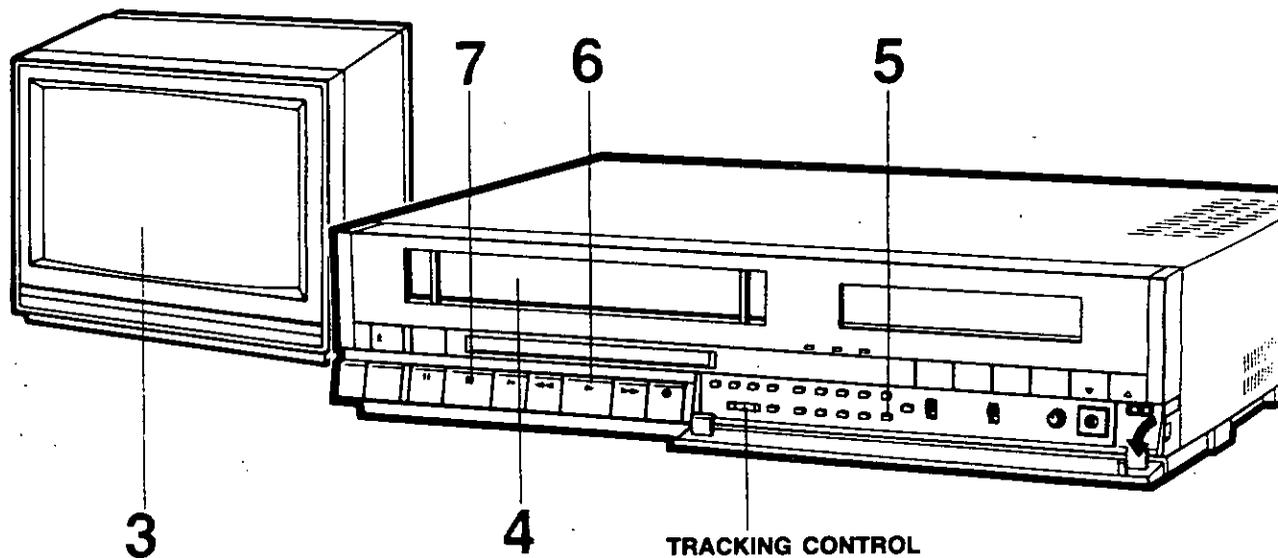
\* These buttons will operate with PROGRAM ON/OFF SWITCH is ON.

See page 42 for Battery Replacement caution.

# TO PLAYBACK A PRE-RECORDED TAPE

See "Simple Playback Steps" in the Table of Contents on P.2 for all sections related to this operation. You may also want to refer to the separate "Basic Guide For VCR Connections".

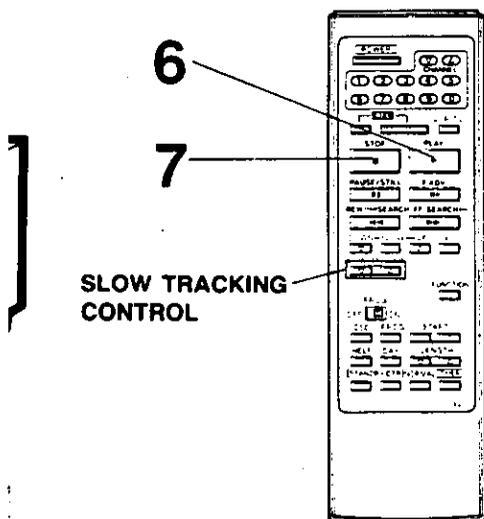
<h2 style="font-size: 2em;">1</h2> <p><b>Connect VCR output to TV Antenna Input.</b></p> <p>♦ P. 3 (PLAYBACK CONNECTION)</p>	<h2 style="font-size: 2em;">2</h2> <p><b>Connect AC Power cord to wall outlet.</b></p>	<h2 style="font-size: 2em;">3</h2> <p><b>Turn TV ON, select Channel 3 or 4 on the TV.</b></p> <p>(Set to match the VCR Channel 3/4 Switch, details page 3.)</p>	<h2 style="font-size: 2em;">4</h2> <p><b>Insert cassette.</b></p> <p>Power comes on.</p> <ul style="list-style-type: none"> <li>• If a cassette is already in the VCR, press the POWER Button ON.</li> </ul>
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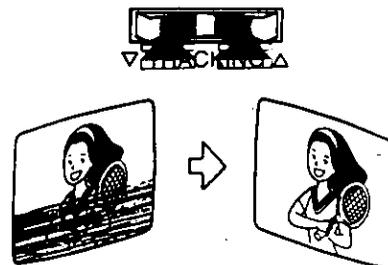
## SPECIAL EFFECTS PLAYBACK (BEST RESULTS AT SP & SLP SPEED)

<p><b>TO RAPIDLY LOCATE A PARTICULAR SEGMENT</b></p> <ul style="list-style-type: none"> <li>■ Press the SEARCH Button for desired direction.</li> </ul> <p><b>SEARCH SPEED</b></p> <table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">IN SP</td> <td>about 5 times normal speed.</td> </tr> <tr> <td style="text-align: center;">IN SLP</td> <td>about 17 times normal speed.</td> </tr> </table> <div style="text-align: center;"> </div> <ul style="list-style-type: none"> <li>■ Press SEARCH Button once more for playback.</li> </ul>	IN SP	about 5 times normal speed.	IN SLP	about 17 times normal speed.	<p><b>TO VIEW A DOUBLE SPEED PLAYBACK PICTURE</b></p> <ul style="list-style-type: none"> <li>■ During playback, press the PLAY Button again on the VCR.</li> <li>■ Press PLAY once more to release the tape from a double speed playback.</li> <li>• If the double speed playback picture contains noise, adjust the TRACKING CONTROL (UP or DOWN) to obtain the best possible picture.</li> </ul> <div style="text-align: center;"> </div>	<p><b>TO VIEW A STILL PICTURE</b></p> <ul style="list-style-type: none"> <li>■ Press PAUSE/STILL Button.</li> <li>■ Press once more to release the tape from pause/still mode.</li> </ul> <div style="text-align: center;"> </div>
IN SP	about 5 times normal speed.					
IN SLP	about 17 times normal speed.					
<p>These special effects are activated during playback, during their operation the audio is muted.</p>						

<h1>5</h1> <p><b>Press the AUDIO OUT SELECT Button</b></p> <p>according to desired audio channel. (See page 25.)</p>	<h1>6</h1> <p><b>Press PLAY Button.</b></p> <p>◆ P. 37 (TO PLAYBACK)</p>	<h1>7</h1> <p><b>Press STOP Button to stop playback.</b></p>
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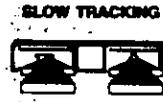


**TRACKING CONTROL**



A certain amount of "noise" interference may appear in the picture image when a VHS video tape recorded on one VCR is played back on a different VCR.

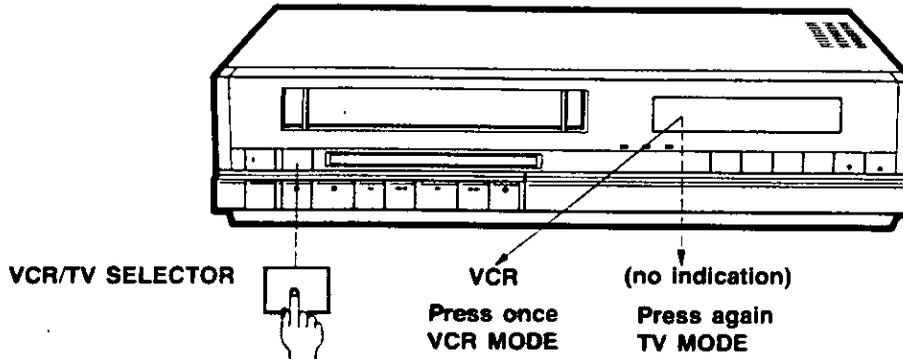
You may adjust the TRACKING CONTROL (UP or DOWN), on your VCR to minimize this noise. The normal position is set when a cassette tape is inserted.

<p><b>TO ADVANCE A STILL PICTURE</b></p> <ul style="list-style-type: none"> <li>■ During still mode, press the SLOW Button (or the FRAME ADVANCE Button on the Remote Control).</li> <li>• Frame advance only operates while viewing a still picture.</li> <li>• The picture will slowly advance frame by frame when this button is held down.</li> </ul> 	<p><b>TO VIEW A SLOW PICTURE</b></p> <ul style="list-style-type: none"> <li>■ During playback, press the SLOW Button.</li> <li>■ Press the PLAY Button to release slow.</li> </ul> 	<p><b>SLOW TRACKING CONTROL</b></p>  <ul style="list-style-type: none"> <li>• In slow-motion playback of tapes recorded in SP or SLP, SLOW TRACKING CONTROL on the Remote Control can be used to obtain the best possible picture. The TRACKING CONTROL on the VCR can also be used (see above).</li> </ul>
<p>◆ P.37 (TO PLAYBACK)</p>		

# TV RECORDING PREPARATION

## VCR/TV MODE SELECTION

After you have selected the TV channel number that matches your VCR Channel 3/4 Switch position, select the "VCR" mode on the Multi Function Display (following the instructions below) to view your VCR Playback on TV, or to monitor programs being recorded. Select the "TV" mode ("VCR" indication disappears) to watch a different TV program while recording.



### A. FOR VCR USE, BE SURE THE VCR POWER IS TURNED ON AND THE "VCR" MODE IS ENGAGED

To select the "VCR" mode, press the VCR/TV SELECTOR Button.

Whenever the power to the VCR is pressed ON, the VCR engages the VCR mode.

"VCR" appears on the Multi Function Display.

### B. FOR NORMAL TV USE, SELECT "TV" MODE

When "VCR" disappears from the Multi Function Display, the VCR is in TV mode and the TV returns to normal reception and operation.

## CHANNEL RECEPTION CHECK

AFTER MAKING THE RECORDING CONNECTIONS FOR YOUR VCR SHOWN IN THE "BASIC GUIDE FOR VCR CONNECTIONS", USE THE FOLLOWING STEPS TO SELECT YOUR FAVORITE CHANNELS USING THE CHANNEL UP/DOWN KEYS ON THE VCR.

<p><b>1</b> VCR and TV ON.</p>	<p><b>2</b> Be sure that the VCR/TV Button is set to VCR mode.</p> <p>MULTI FUNCTION DISPLAY</p>	<p><b>3</b> At TV, select the VCR output channel.</p> <p>CHANNEL 3/4 SWITCH</p>	<p><b>4</b> Select desired VCR CHANNEL.</p> <p>Select your favorite CHANNEL with the CHANNEL UP/DOWN Keys.</p>
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## HOW TO WATCH TV ONLY

1. Turn VCR OFF.
2. Turn TV ON and select the desired channel.

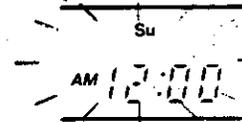
### NOTE:

- Whenever the VCR Power is OFF or the VCR/TV selector is not in the "VCR" mode, all channel selection for viewing is done at the TV.

# CLOCK ADJUSTMENT

PV-4760

It's easy to set the clock as shown below. Besides being a convenient time display, the exact clock time is used for One Touch and Timer Recording.  
 'SU 12:00' AM' will flash when the unit is first plugged in or after a power interruption.



FOR EXAMPLE, TO SET THE CLOCK FOR TUESDAY NIGHT "Tu 10:15 PM"  
 (Be sure the unit is connected to an AC power source.)

## 1 SET THE DAY

(a) Press the **CLOCK Button ON** to select flashing time display.  
Skip (a) if "Su AM 12:00" is flashing already.

(b) Press the **DAY Button** to change the day display.

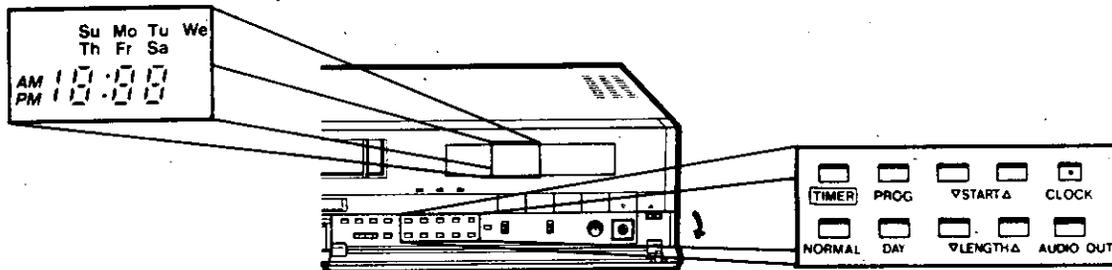
(a)

(b)

## 2 SET THE HOUR

Hold In the **START Buttons (UP/DOWN)**.  
The time changes in 10-minute intervals.

## LOCATION OF GRAPHICS



## AND FUNCTION BUTTONS

## 3 SET THE MINUTE

Tap the **START Buttons (UP/DOWN)**.  
Quick taps will select the time in 1-minute intervals.

## 4 START CLOCK

Press the **NORMAL Button** only.  
Press this button when the current time matches the clock display.

(Flashing stops)

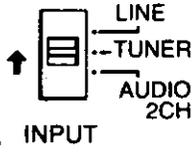
• If the clock indication overruns the present time, repeat these steps above.

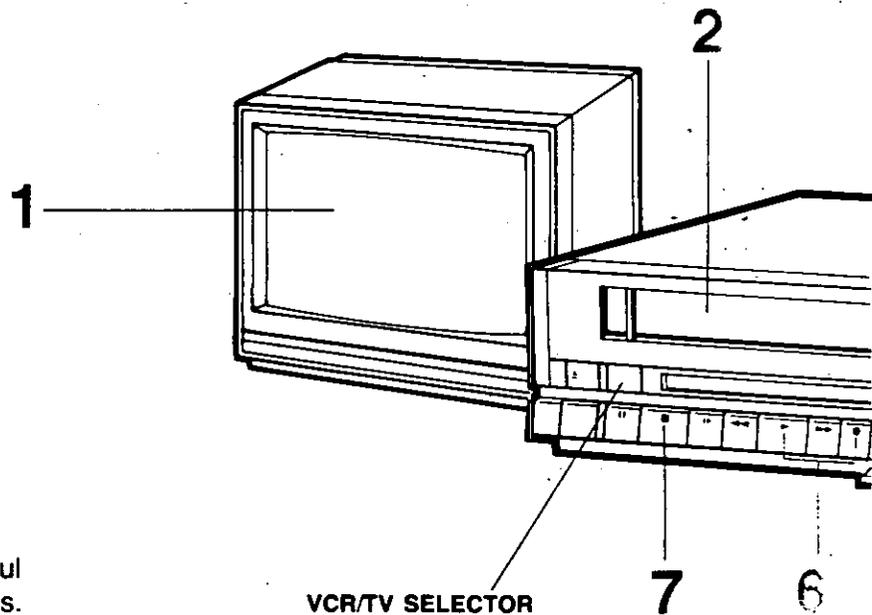
NOTE:

Accurate setting of this clock will insure accurate start of Unattended (Timer) Recordings.

# To RECORD A TV PROGRAM

See "Preparing the VCR for Recording" in Table of Contents on P.2 for all sections related to this operation. Use one of the connections described on the separate "Basic Guide For VCR Connections".

<h2>1</h2> <p>Turn TV ON, select Channel 3 or 4 on the TV.  (Set to match the VCR Channel 3/4 Switch.)</p>	<h2>2</h2> <p>Insert cassette with accidental erasure prevention tab in place. POWER comes ON*.  Be sure that the VCR/TV Selector is set to VCR. * If a cassette is already in the VCR, you may need to press the POWER Button ON. ♦ P. 39 (TAB)</p>	<h2>3</h2> <p>Set INPUT SIGNAL SELECTOR TO TUNER.</p> 	<h2>4</h2> <p>Set TAPE-SPEED SELECTOR to SP, LP or SLP.  ♦ P.37 (TAPE SPEED)</p>
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Refer to page 24 for useful hints on recording features.

### IF YOU WISH TO AVOID RECORDING UNWANTED MATERIAL

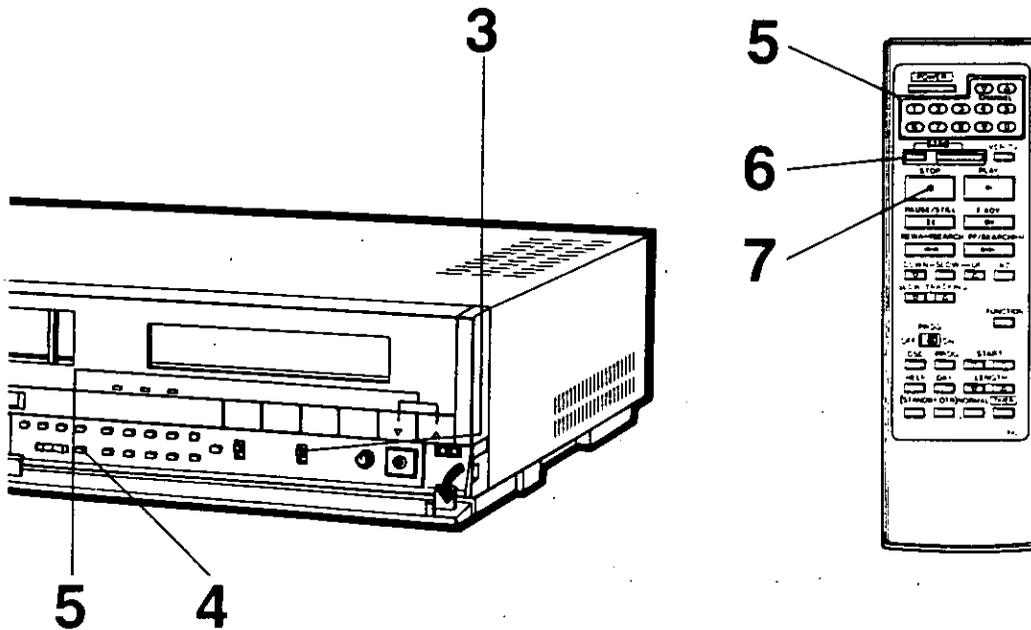
- Press PAUSE/STILL Button to stop the tape temporarily.



♦ P. 37 (TO RECORD)

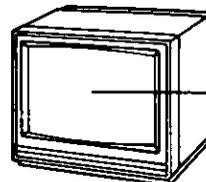
- Press this button again to release from pause mode. recording continues.

<h1>5</h1> <p>Select the desired CHANNEL using the CHANNEL UP/DOWN Keys.</p>	<h1>6</h1> <p>Hold REC Button in and simultaneously press the PLAY Button to start recording.</p> <ul style="list-style-type: none"> <li>• If cassette erasure prevention tab is missing, the cassette will be ejected automatically.</li> </ul> <p>♦ P.39 (TAB)</p>	<h1>7</h1> <p>Press STOP Button to stop recording.</p> <p>♦ P.37 (TO RECORD)</p>
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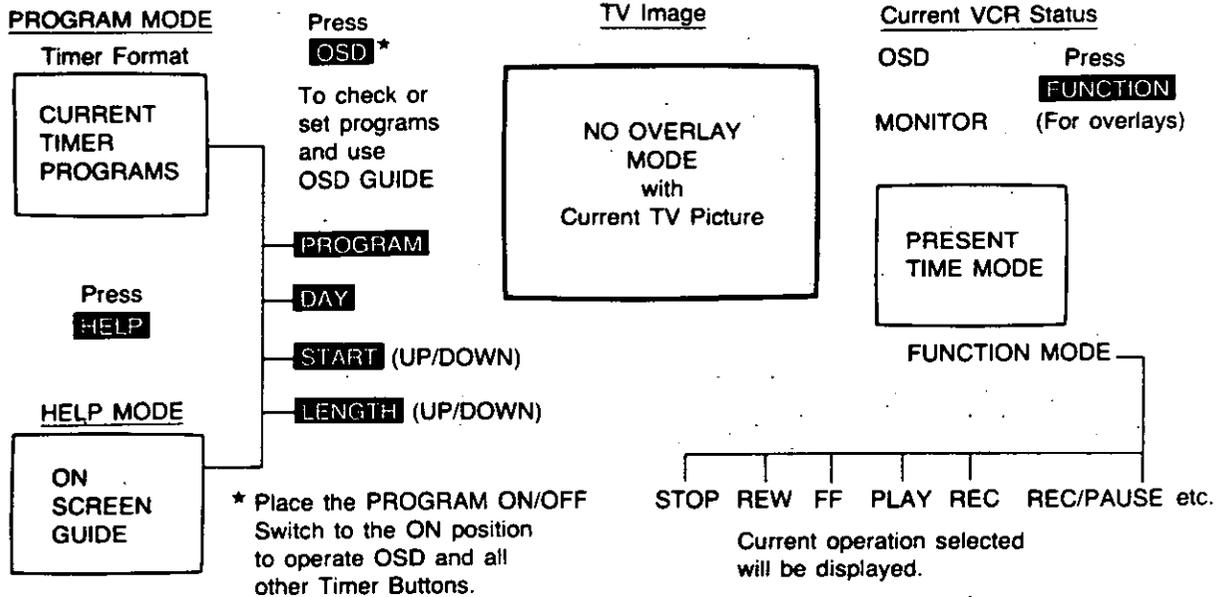
**IF YOU WANT TO WATCH ANOTHER TV PROGRAM WHILE RECORDING**

- Set VCR/TV SELECTOR to TV.
  - The "VCR" indicator and TV picture will change.
- Select the CHANNEL to be viewed on the TV.



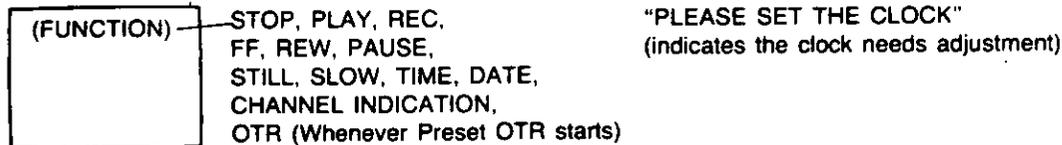
# OSD (ON SCREEN DISPLAY) INFORMATION

## OSD, HELP & FUNCTION DISPLAY MODES

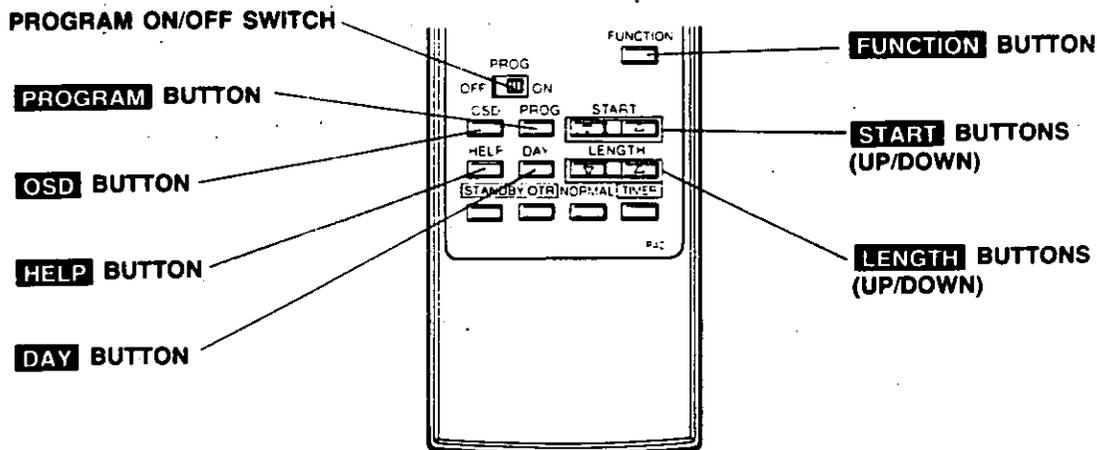


## OSD FUNCTION INDICATORS

The following on screen overlays will appear momentarily as a clear indication that one of the main functions or a channel has been changed with the remote control or at the VCR.



## WIRELESS REMOTE CONTROL



# ONE TOUCH RECORDING (OTR)

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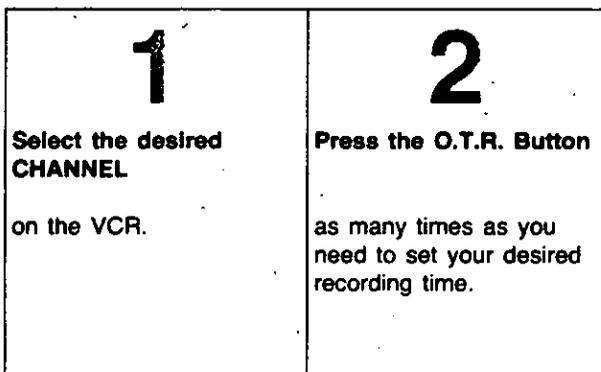
The OTR function allows you to easily set start and stop time for recording programs from the present time to 11:30 P.M. the following day. Pressing the OTR button will automatically start a recording and each following press extends the recording in 30 minute increments. The OTR button may also be pressed to extend a recording already in progress. When the OTR is completed, the VCR will automatically shut off.

OTR can be useful and convenient when you are interrupted or must leave while watching a program and wish to record it for later viewing.

**— MAKE SURE THAT... —**

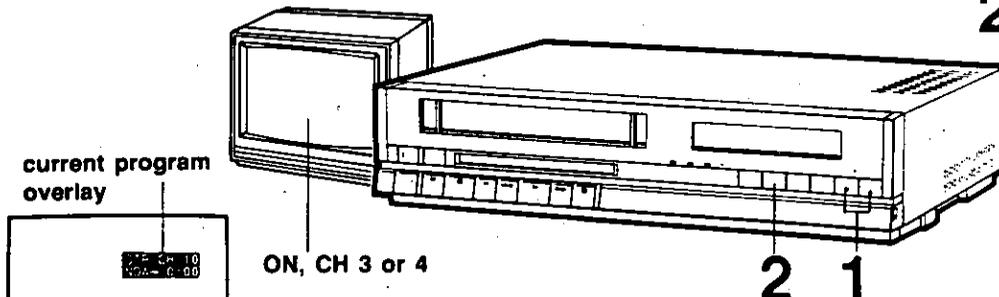
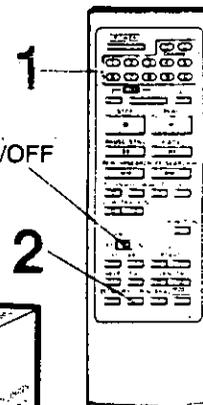
- the clock is set to the present time.
- Power Button is ON.
- a cassette with the erasure prevention tab in place is inserted.
- desired Tape speed (SP, LP or SLP) is selected.
- the following length and time selections are made within 5 second intervals. Otherwise the VCR will return to normal operating mode.

**A INSTANT O.T.R.** If you wish to record instantly

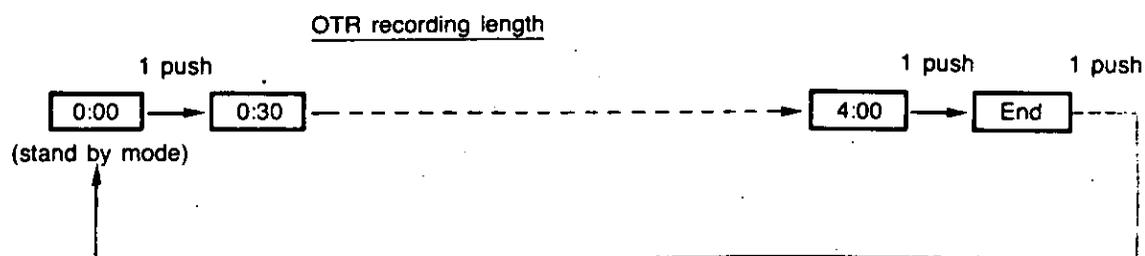


**WIRELESS REMOTE CONTROL**

Be sure the PROGRAM ON/OFF Switch is set to ON.



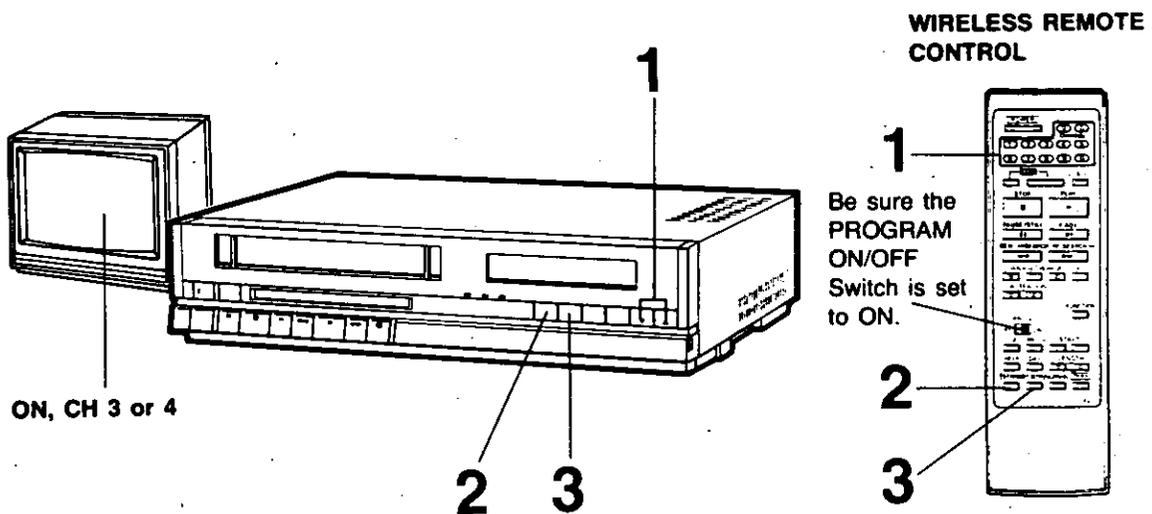
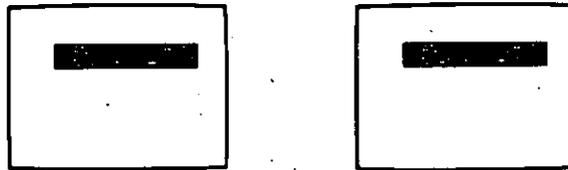
Pressing the OTR Button selects the OTR function; "OTR", CHANNEL, and Recording Length appear on TV screen, and the Multi Function Display. Each press of the O.T.R. Button adds up to 4 hours recording time, in 30 minute intervals, before automatic power shut off. If "End" is displayed, OTR continues until the end of the tape is reached.



# ONE TOUCH RECORDING (OTR) (CONTINUED)

**B** PRESET O.T.R. If you wish to delay the start time

<h2 style="font-size: 2em;">1</h2> <p>Select the desired CHANNEL on the VCR.</p>	<h2 style="font-size: 2em;">2</h2> <p>Press the STAND BY Button to set the desired start time of One Touch Recording.</p>	<h2 style="font-size: 2em;">3</h2> <p>Press the O.T.R. Button within 5 seconds after selecting the start time to select the length of recording as shown in Instant O.T.R. step 2.</p>
--	---	--



• "STANDBY" and the start time appear. The start time may be selected on the hour and the half hour, beginning with the next 30 minute period and any additional 30 minute time periods may be selected up to 11:30 PM of the next day.

**For example:**

Present Time	Start Time	Additional Units	(Next Day)
8:03 AM	8:30 AM	9:00, 9:30, - - - - -	11:30 PM
8:33 AM	9:00 AM	9:30, 10:00, - - - - -	11:30 PM

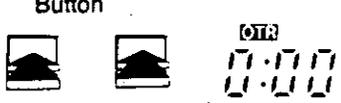
**EXTENDING CURRENT RECORDING TIME**

Any currently running O.T.R. may be extended beyond the programmed recording time period by pressing the O.T.R. Button as shown in Instant O.T.R. step 2.

**INTERRUPTING AN O.T.R.**

Pressing the O.T.R. Button, so that the timer display reads "0:00", will turn the VCR off in about 5 seconds, or pressing the STAND BY Button and O.T.R. Button on the VCR will shut the VCR off immediately.

For example:

To stop O.T.R. during recording	Normal Operation Display	To make the O.T.R. time longer
<p style="text-align: center;">O.T.R. Button</p>  <p style="text-align: center;">Press again. Press once, "OTR" flashes.</p>	<p>Here, O.T.R. recording is in progress.</p>  <p style="text-align: center;">35 minutes later</p> 	<p style="text-align: center;">O.T.R. Button</p>  <p style="text-align: center;">Press once, "OTR" flashes. Press again.</p>
<p>about 5 seconds later O.T.R. stops (Timer display goes off) or press STAND BY Button together with O.T.R. Button on the VCR to shut off VCR immediately. (See above "INTERRUPTING AN O.T.R. RECORDING.")</p>	<p style="text-align: center;">24 minutes later</p>  <p style="text-align: center;">1 minute later O.T.R. stops (Timer display goes off)</p>	<p style="text-align: center;">Press twice more.</p>  <p style="text-align: center;">1 hour additional recording</p>

**NOTE:**

For programming daily and weekly programs see timer recording section beginning on following page.

# TIMER RECORDING

Your VCR will follow a schedule for unattended recording of those "hard to catch" programs you'd like to see. With the **TIMER** feature it's easy to make a schedule of 8 fully independent programs for automatic recording. You can plan 7 independent one time recording events any time within a 3 week period.

Each of the 7 independent program positions also allows its own series of **DAILY** recording events to take place at the same Time, Recording Length, and Channel. In addition an 8th program position allows a series of **WEEKLY** recording events to take place on the same Weekday, at the same Time, Length, and Channel.

Both **DAILY** and **WEEKLY** series recording plans may continue for the full length of the cassette.

The Remote Control has an OSD Button that activates the On Screen Display with a format that shows all current programs set and also includes a help function, for convenient Timer Programming.

Repeat the steps shown here for each recording plan you want to add to your schedule.

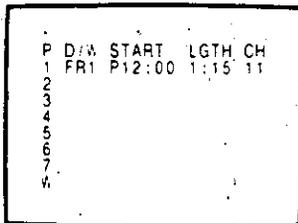
For each program number your VCR Timer needs to have:

TIMER SETTINGS	FOR EXAMPLE
(1) Program number	(1) Program number 1
(2) Day, week	(2) this Friday
(3) AM/PM Time to start	(3) 12:00 PM (noon)
(4) Length of program recording	(4) 1 hour, 15 minutes
(5) CHANNEL position to select	(5) Channel 11

Present time is Saturday 11:30 AM.

### BEFORE SETTING TIMER

- TV ON, CH 3 or 4.
- VCR Power ON.
- Insert cassette.
- VCR/TV Selector to VCR:
- Select desired recording speed (SP, LP, SLP).
- Is Clock correct?
- Is there enough tape?
- Is recording tab on cassette in place?
- For timer programming assistance refer to P. 21.

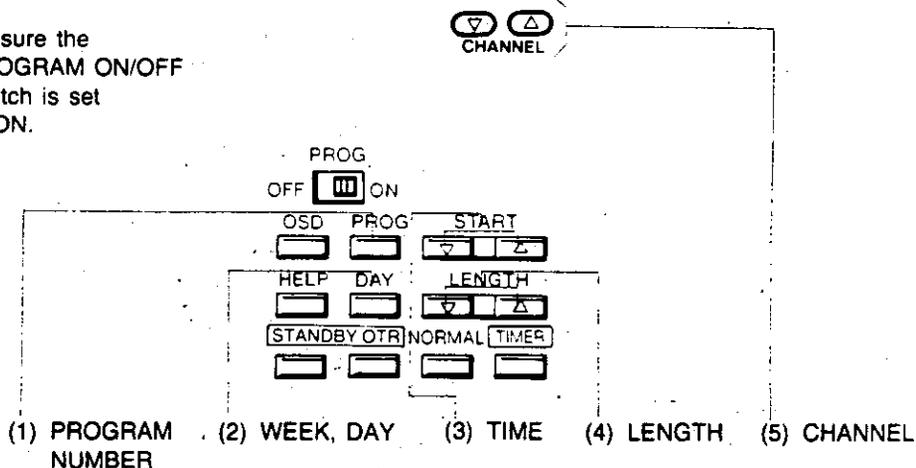


For procedure see p. 18.

The VCR uses program numbers to display and locate the recording plan you key in. Once the VCR has that recording information, a complete recording plan is displayed after its program number.

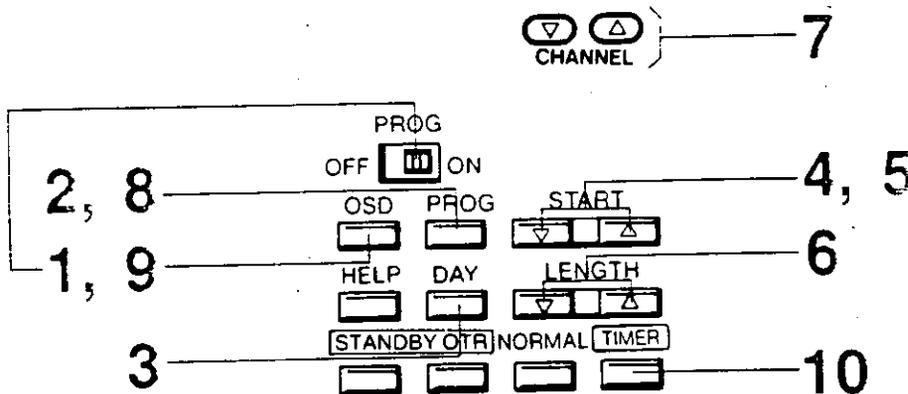


Be sure the PROGRAM ON/OFF Switch is set to ON.



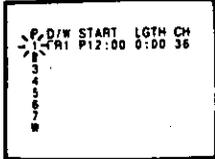
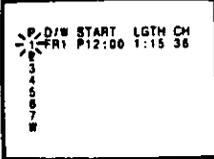
ON SCREEN DISPLAY	SELECT PROGRAM NUMBER
<p><b>1</b> Set PROGRAM ON/OFF Switch to ON. This switch enables the use of timer recording buttons. Press OSD Button ON, on the Wireless Remote Control. Program number format and any previously set programs will be displayed on TV. Skip this step when you are not using OSD.</p> <p style="text-align: center;"><b>TV DISPLAY</b></p> <div data-bbox="378 488 591 650" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>P D/W START LGTH CH</p> <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>W</p> </div>	<p><b>2</b> Press PROGRAM Button. "1" flashes. You can now select the program number to be preset.</p> <ul style="list-style-type: none"> <li>• Press the PROGRAM Button once each time you want to advance to the next program number.</li> </ul> <div data-bbox="972 478 1187 640" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>P D/W START LGTH CH</p> <p>1 SA1 A11:30 0:00 36</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>W</p> </div>

**WIRELESS REMOTE CONTROL**

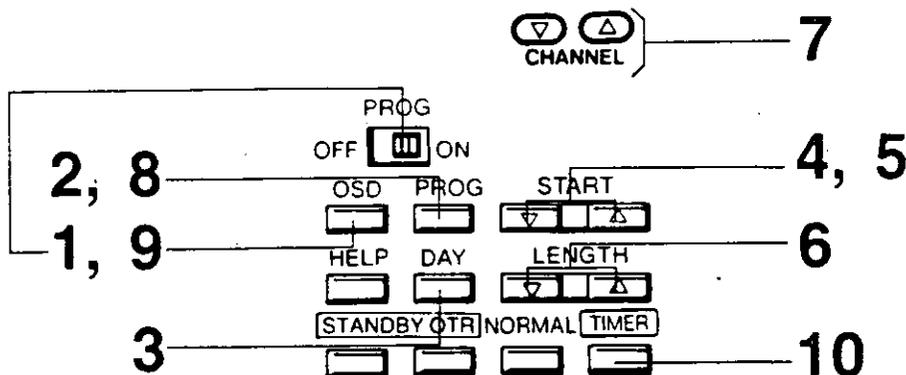


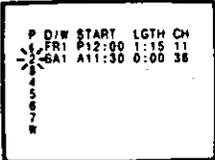
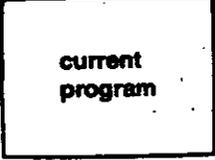
SET THE START TIME (DAY)	SET THE START TIME (HOUR)	SET THE START TIME (MINUTE)
<p><b>3</b> Press DAY Button to set the day. The present day will be the first day of the first week. Therefore, if you are setting a day more than 7 days in advance, the symbol for the second, or third week "2", or "3" will appear on TV screen.</p> <div data-bbox="293 1645 508 1806" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>P D/W START LGTH CH</p> <p>1 SA1 A11:30 0:00 36</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>W</p> </div>	<p><b>4</b> Hold START Buttons (UP/DOWN) in to set the hour. (The time changes in 10-minute intervals.)</p> <ul style="list-style-type: none"> <li>• Be sure to check the AM, PM indicators.</li> </ul> <div data-bbox="691 1632 906 1794" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>P D/W START LGTH CH</p> <p>1 SA1 A11:30 0:00 36</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>W</p> </div>	<p><b>5</b> Tap START Buttons (UP/DOWN) quickly to set the minutes.</p> <div data-bbox="1089 1624 1304 1786" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>P D/W START LGTH CH</p> <p>1 SA1 P12:00 0:00 36</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>W</p> </div>

# TIMER RECORDING (CONTINUED)

SET THE RECORDING LENGTH	SET THE CHANNEL TO BE RECORDED
<p><b>6</b> Press LENGTH Buttons (UP/DOWN) to set the recording length.</p> <p>(The recording length may be selected from 0:00 to 8:00 in 15 minute units.)</p> <p style="text-align: center;"><b>TV DISPLAY</b></p> 	<p><b>7</b> Press CHANNEL UP/DOWN Keys to set the channel.</p> <ul style="list-style-type: none"> <li>• If your VCR is connected to a cable system through a cable converter box, the VCR CHANNEL is set to the output channel of the converter box and the channel to be recorded is set on the converter box selector.</li> </ul> 

## WIRELESS REMOTE CONTROL



FOR ADDITIONAL PROGRAMS	RETURN TO NORMAL DISPLAY	TIMER SET MODE
<p><b>8</b> Press PROGRAM Button to select the next program by repeating step 2 and then repeating steps 3~7.</p> 	<p><b>9</b> Press OSD Button to release ON SCREEN DISPLAY mode and return to reception on TV. When OSD is not being used: (If step 1 is skipped) Press NORMAL Button to return to normal mode.</p> 	<p><b>10</b> Set TIMER Button ON and turn TV OFF.</p> <ul style="list-style-type: none"> <li>• TIMER Indicator " <b>TIMER</b> " appears.</li> <li>• There is no need to press the REC and PLAY Buttons.</li> <li>• If the cassette tab is missing, tape will be ejected and the CASSETTE-IN Indicator " <b>CC</b> " and " <b>TIMER</b> " will flash as a warning that the cassette tab is missing.</li> </ul>

### AFTER THE TIMER RECORDING HAS TAKEN PLACE

- Set TIMER Button OFF.
- Unit will return to normal operation.

**NOTE:** When not using the OSD and HELP buttons place the PROGRAM ON/OFF Switch in the OFF position to prevent misoperation.

EXAMPLE OF A FULL SCHEDULE OF TIMER RECORDINGS

The patterns represent a possible schedule of recordings.

- 1.  DAILY (Comedy)
- 2.  ONE TIME (Movie)
- 3.  ONE TIME (Travelog)
- 4.  ONE TIME (Election Watch)
- 5.  DAILY (News)
- 6. NO SETTING
- 7. NO SETTING
- 8.  WEEKLY (Cooking)

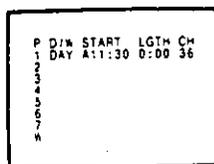
1st Week		Sa	Su	Mo	Tu	We	Th	Fr
TIME OF DAY	AM							
	PM							
2nd Week								
	AM							
	PM							
3rd Week								
	AM							
	PM							
4th Week, etc Daily or Weekly Recordings will continue to end of tape.								
	AM							
	PM							

Every-Day and Every-Week Recording will continue over the full-length of a cassette as long as the TIMER Button is set to ON.

DAILY SETTINGS

For the same recording time each day.

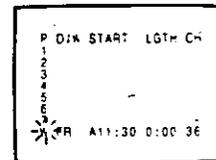
1. Press PROGRAM Button to select desired number.
2. Press DAY Button until "DAY" is displayed.



ONE WEEKLY SETTING

For the same recording day and time each week.

1. Press PROGRAM Button until "W" begins flashing.
2. Press DAY Button to set the day.



Continue with steps 4-10 shown on previous pages.

TO CHECK THE PROGRAMS

(If Timer mode is set, press TIMER Button to release it.)

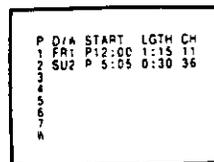
Push PROGRAM ON/OFF

Switch to ON.

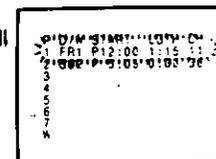
Press OSD Button.

All plans set for recording will appear on the TV Screen.

After checking the programs, be sure to reset the TIMER Button for Unattended Recording.



If a Timer Recording is in progress, that program line will be flashing.



TO CLEAR PROGRAMS RESET THE RECORDING LENGTH TO "0:00"

Use the PROGRAM Button and LENGTH Buttons (UP/DOWN) as in steps 6 then press the OSD Button to return to normal mode.

# FOLLOWING THE PROGRAM GUIDE

If you would like a guide, you may use the HELP button on the Remote Control unit to assist you in programming unattended recordings. The help mode will offer you short prompts, until you have completely programmed a Timer Recording.

CURRENT PROGRAM MODE	ENTER HELP MODE
<p><b>1</b> Press the OSD Button.</p> <p>This displays the OSD timer program mode. (See page 18.)</p> <div data-bbox="343 629 640 849" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>P D/W START LGTH CH</p> <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>W</p> </div>	<p><b>2</b> Press the HELP Button.</p> <p>Follow the program guide on TV screen.</p> <div data-bbox="935 629 1232 849" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>P D/W START LGTH CH</p> <p>1</p> <p>FOR PROGRAMMING (PUSH PROG BUTTON)</p> <p>(CHECK TAPE AND RECORDING SPEED)</p> </div>



OSD

Press to return to Normal mode

**NORMAL MODE**

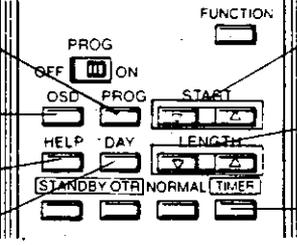


**PROGRAM BUTTON**

**OSD BUTTON**

**HELP BUTTON**

**DAY BUTTON**



**START BUTTONS**

**LENGTH BUTTONS**

**TIMER BUTTON**

SELECT PROGRAM NUMBER	SET THE START TIME (DAY)
<p><b>3</b> PROGRAM NUMBER</p> <div data-bbox="206 1562 647 1783" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>TITLE — P. D/W START LGTH CH</p> <p>SELECT — FR1 A 8:25 0:00 23</p> <p>PROGRAM, CURRENT TIMER — P: PROGRAM NO. SELECT PRO. NO. BY PRESSING PROG BUTTON.</p> <p>GUIDE — (PUSH HELP BUTTON)</p> <p>NEXT STEP —</p> </div>	<p><b>4</b> DAY</p> <div data-bbox="963 1562 1260 1783" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>P. D/W START LGTH CH</p> <p>* FR1 A 8:25 0:00 23</p> <p>D/W: DAY AND WEEK SET DAY AND WEEK BY PRESSING DAY BUTTON.</p> <p>(PUSH HELP BUTTON)</p> </div>

SET THE START TIME (HOUR & MINUTE)	SET THE RECORDING LENGTH
<p><b>5</b> HOUR &amp; MINUTE</p> <div data-bbox="375 547 672 768" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>P D/W START LGTH CH            *MO2 A 8:25 0:00 23            START: REC. START TIME            SET REC. START TIME            BY PRESSING START            UP/DOWN BUTTON.            (PUSH HELP BUTTON)</p> </div>	<p><b>6</b> LENGTH</p> <div data-bbox="971 547 1268 768" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>P D/W START LGTH CH            *MO2 P11:30 0:00 23            LGTH: REC. LENGTH            SET REC. LENGTH            BY PRESSING LGTH            UP/DOWN BUTTON.            (PUSH HELP BUTTON)</p> </div>

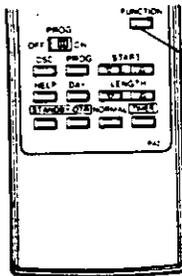
SET THE CHANNEL TO BE RECORDED
<p><b>7</b> CHANNEL</p> <div data-bbox="375 1494 672 1714" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>P D/W START LGTH CH            *MO2 P11:30 2:30 23            CH: TV CHANNEL            SET TV CHANNEL            BY PRESSING CH            UP/DOWN BUTTON.            (PUSH OSD BUTTON)</p> </div>

EXIT HELP MODE
<p><b>8</b> <u>FOR ADDITIONAL PROGRAMS</u>            Push PROGRAM Button to select the next program.</p> <p><u>RETURN TO NORMAL VIEWING MODE</u>            Push OSD Button for release of ON SCREEN DISPLAY mode to return to CHANNEL reception on TV.</p> <p><u>SET TIMER TO STANDBY MODE</u>            Push TIMER Button.            • Go to step 10 on page 19 to set TIMER for TIMER RECORDING.</p> <div data-bbox="971 1494 1268 1714" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>FOR ADDING PROGRAMS            (PUSH PROG BUTTON)            FOR TV VIEWING            (PUSH OSD BUTTON)            FOR TIMER MODE            CHECK TAPE AND SPEED            (PUSH TIMER BUTTON)</p> </div>

# ON SCREEN DISPLAY OF "FUNCTIONS"

The On Screen Display makes the current VCR mode information clearly visible on your TV. Use the Remote Control to show the following display, by pressing the FUNCTION Button.

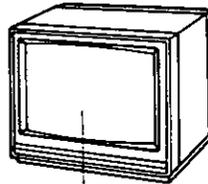
## WIRELESS REMOTE CONTROL



FUNCTION Button

### Check before operation:

- Be sure the VCR Power is ON.
- Turn TV ON and select CH 3 or 4.
- Select VCR/TV Selector to VCR.

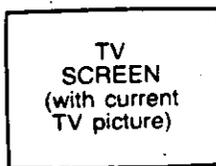


ON, CH 3 or 4

## OPERATION

### OVERLAY MODE SELECTION

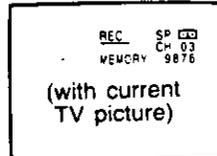
press **Function Button**



[NO OVERLAY MODE]

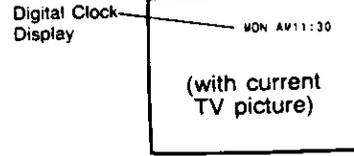
The current program has no overlay.

press **Function Button**



[FUNCTION MODE]

press **Function Button**

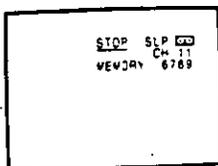


[PRESENT TIME MODE]

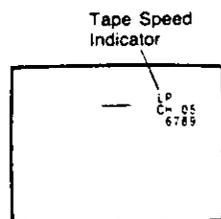
An overlay like the ones shown here appears when each of these conditions and VCR functions are selected.

### Mode Overlays\*

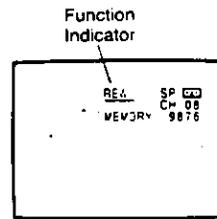
(with current program)



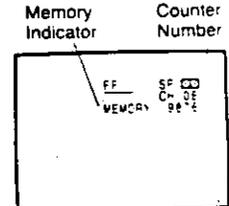
STOP mode



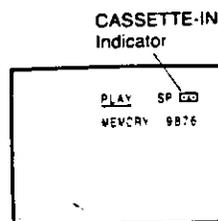
EJECT mode  
Eject the cassette in stop mode.



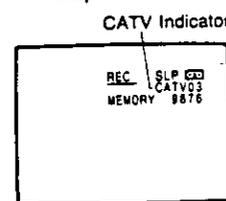
REW mode



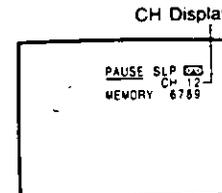
FF mode



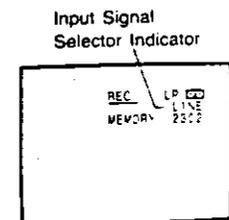
PLAY mode



REC mode



RECORD/PAUSE mode



LINE mode  
(See page 34.)

(See Multi Function Display on page 5 for details.)

### NOTE:

- During Special Effects Playback the overlay of the Function Display will disappear.
- \* See CASSETTE-IN INDICATOR description on page 34.

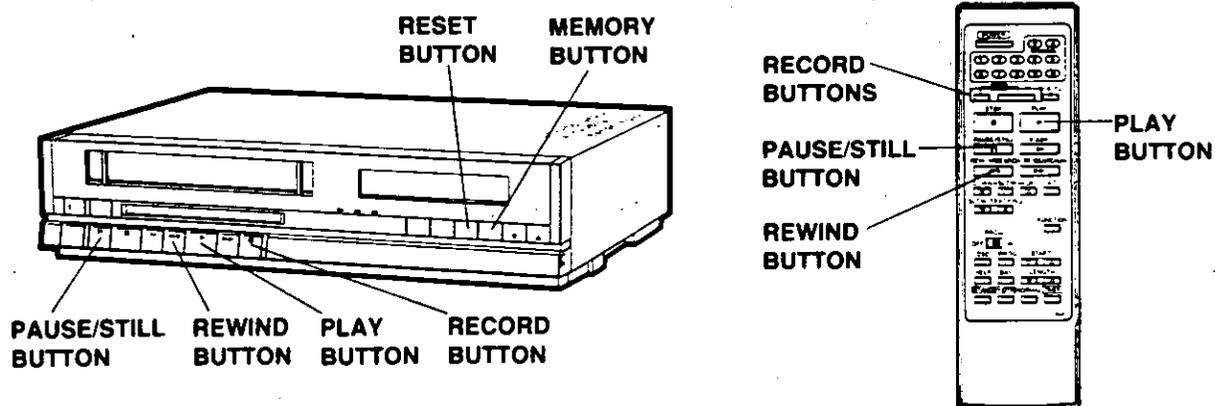
# USEFUL FEATURES FOR RECORDING

PV-4760

## FINE-EDITING

These Fine Editing steps will minimize visual noise when you wish to start recording a segment after pressing the STOP Button.

<p><b>1</b> Press <b>PLAY</b> Button.</p>  <p>View the picture on TV.</p>	<p><b>2</b> Press <b>PAUSE/STILL</b> Button.</p>  <p>Stop the tape where you wish to continue recording.</p>	<p><b>3</b> Hold <b>REC</b> Button in and press <b>PLAY</b> Button.</p>  <p>Pressing these two buttons down together puts the VCR into the record/pause mode.</p>	<p><b>4</b> Press <b>PAUSE/STILL</b> Button.</p>  <p>Recording will resume.</p>
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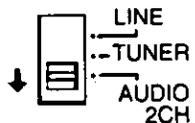
## HOW TO LOCATE RECORDING PROGRAMS ON A TAPE

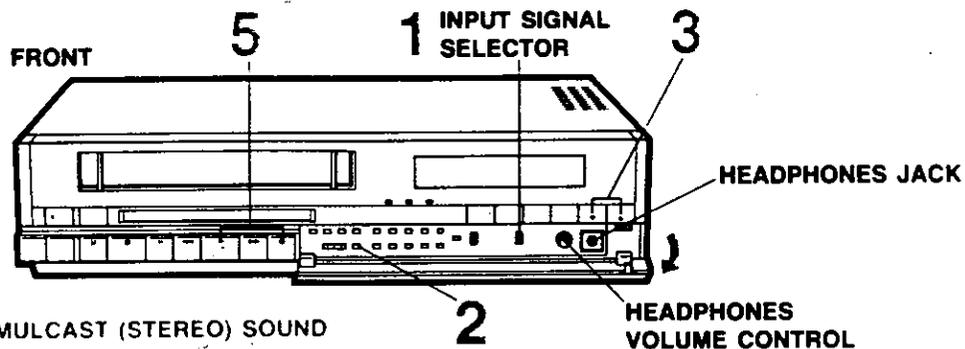
<p>Use the tape counter</p>		
<p><b>1</b> Press <b>REWIND</b> Button.</p>  <p>Rewind the tape to the starting point.</p>	<p><b>2</b> Press <b>RESET</b> Button.</p>  <p>Press the <b>RESET</b> Button so that the tape counter shows "0000".</p>	<p>This will help you locate the recorded program you want to view without lengthy reviews of the tape.</p>
<p>Use the counter memory</p>		
<p><b>1</b> Press <b>RESET</b> Button.</p>  <p>Before starting a recording or playback, press the <b>RESET</b> Button so that the tape counter shows "0000".</p>	<p><b>2</b> Press <b>MEMORY</b> Button.</p>  <p>"M" appears on the Multi Function Display and memory mode is set to stop at "0000" counter indication.</p>	<p>During fast forward or rewind the tape will stop automatically at the position where "0000" has been set.</p>

# SIMULCAST (STEREO) RECORDING AND PLAYBACK

This feature enables you to record Stereo Audio from your FM Receiver from many TV broadcasts, such as MTV (Music TV), if the TV program is also being simulcast in FM stereo.

## OPERATION

<p><b>PREPARATION</b></p> <ul style="list-style-type: none"> <li>• TV ON, CH 3 or 4.</li> <li>• VCR Power ON.</li> <li>• Insert cassette.</li> <li>• VCR/TV Selector to VCR.</li> </ul>	<p><b>1</b> Set <b>INPUT SIGNAL SELECTOR</b> to <b>AUDIO 2 CH.</b></p> 	<p><b>2</b> Set <b>TAPE-SPEED SELECTOR</b> to <b>SP, LP, or SLP.</b></p>
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### TO MONITOR SIMULCAST (STEREO) SOUND

- Connect **STEREO AMP** and **SPEAKERS** to **AUDIO OUT** Jacks (L, R).
- You can select the desired audio channels by following the **AUDIO CHANNEL SELECTION** description on page 26.

### STEREO PLAYBACK

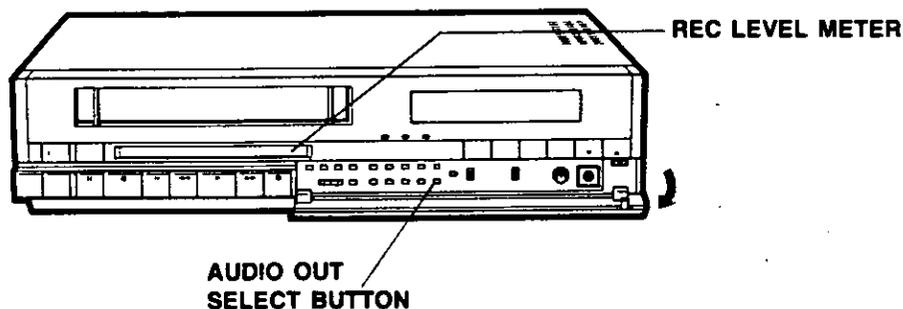
Stereo playback operations are the same as "TO PLAY BACK A PRE-RECORDED TAPE". (See page 7.)

## Hi-Fi AUDIO HD SOUND SYSTEM

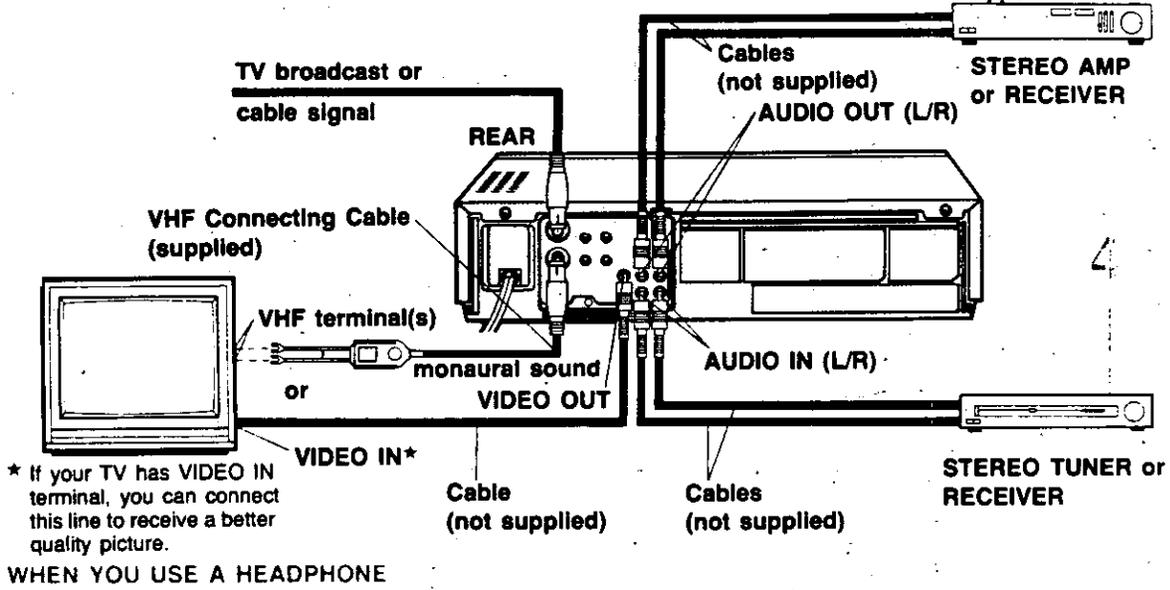
Your VCR has a new Hi-Fi AUDIO Sound System with several improvements. Its audio frequency response is flat over the entire audible range, and great strides have been made in the dynamic range and signal-to-noise ratio.

### RECORDING WITH Hi-Fi AUDIO SOUND

Both Hi-Fi AUDIO and NORMAL AUDIO sound are automatically recorded during regular video recording. (It is not necessary to use the AUDIO OUT SELECT Button.)



- |   |   |   |
|---|---|---|
| <p><b>3</b> Select the desired CHANNEL by using the CHANNEL UP/DOWN KEYS.</p> | <p><b>4</b> Adjust STEREO TUNER or RECEIVER for high-quality sound.</p> | <p><b>5</b> Hold REC Button in and press PLAY Button.</p> |
|---|---|---|

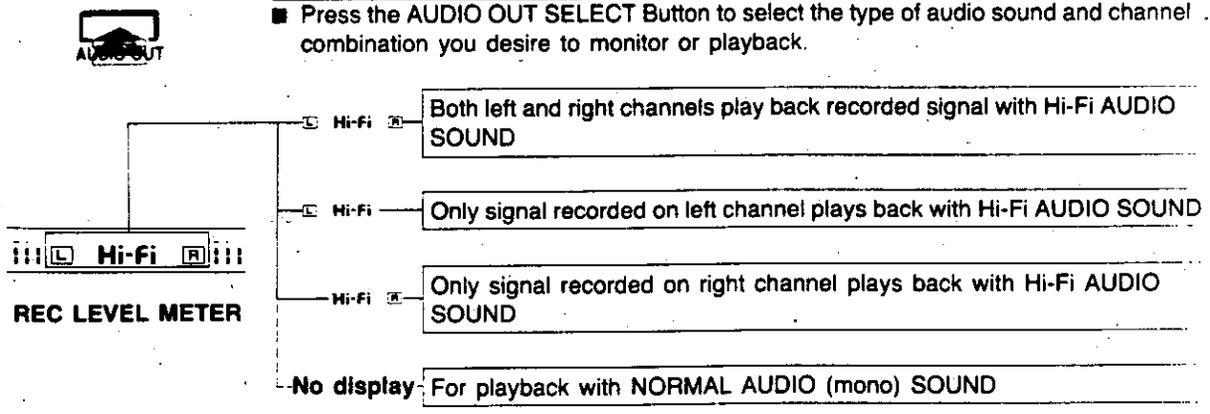


Adjust your Headphone's stereo playback sound by using the Headphones Volume Control, next to the HEADPHONES Jack (M3), on your VCR.

**PLAYBACK WITH HI-FI AUDIO SOUND**

**AUDIO CHANNEL SELECTION**

■ Press the AUDIO OUT SELECT Button to select the type of audio sound and channel combination you desire to monitor or playback.

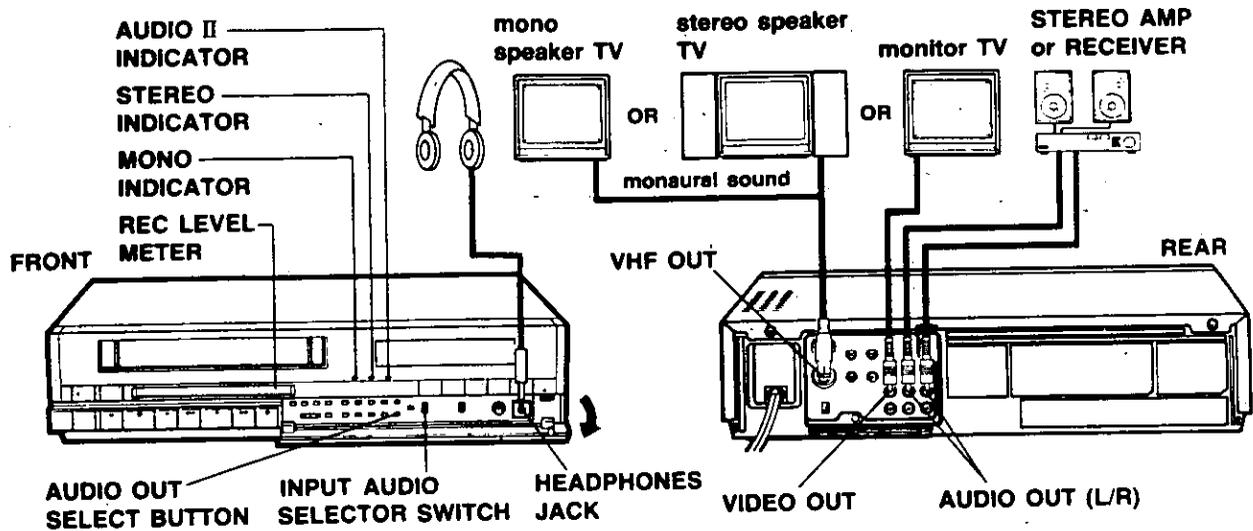


• Other operations are the same as "TO PLAY BACK A PRE-RECORDED TAPE" (page 7).

# AUDIO Multi-Plex BROADCAST SYSTEM

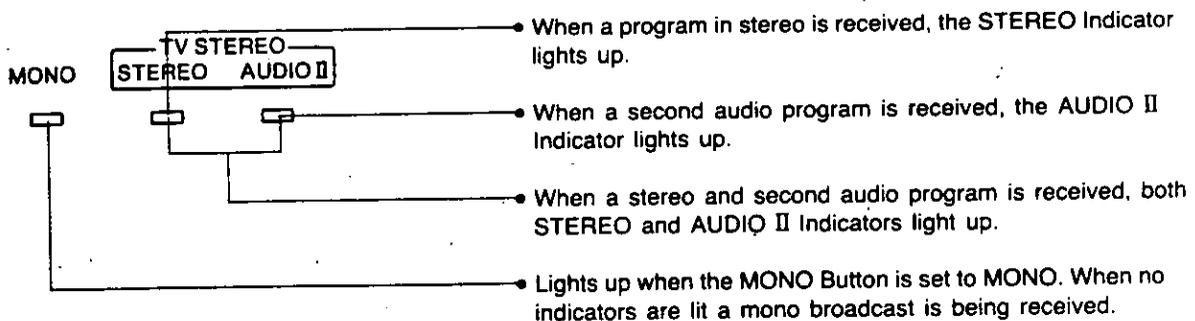
The enjoyment of Audio Multi-Plex Broadcasting is yours, even when you are watching a mono sound TV, by using stereo AMP and speakers or a Headphones. You may select the type of broadcast and sound track you wish to record with a single switch.

## CONNECTIONS



## PROGRAM INDICATORS

The various combinations of Program Indicators described below will light when broadcast signals are received. The type of broadcasts possible are arranged down the left side of the chart on the next page.



## RECORDING OF AUDIO II OR STEREO & AUDIO II BROADCASTS



STEREO, AUDIO II or STEREO & AUDIO II Broadcasts are recorded on the cassette in Hi-Fi and NORMAL sound simultaneously, when the STEREO or AUDIO II Indicator is on. Use the recording operations in "TO RECORD A TV PROGRAM" on page 11 with the addition of the desired recording settings as shown on the next page.

## USING THE MONO BUTTON



If there is noise and the STEREO or AUDIO II indication is intermittent it may be desirable to set the MONO Button to the MONO position to improve sound quality. MONO Indicator lights up on the front Panel. You may set this MONO position with CHANNEL MEMORY (see page 32).

## NOTE:

- This will also function during Timer Recording or One Touch Recording.
- Set this button to desired position before Timer Recording.

RECORDING TRACK SELECTIONS WITH INPUT AUDIO SELECTOR SWITCH

TYPE OF BROADCAST	AUDIO TRACK INPUT AUDIO SELECTOR & MONO BUTTON POSITION	NORMAL AUDIO TRACK (MONO)	HI-FI AUDIO TRACK (STEREO)	
			L CHANNEL	R CHANNEL
<b>MONO BROADCAST</b>	All positions	MONO	MONO	MONO
<b>STEREO BROADCAST</b>	MONO	MONO (MIXED)	MONO (MIXED)	MONO (MIXED)
	MAIN	MONO (MIXED)	STEREO	
	SAP 1			
	SAP 2			
<b>AUDIO II (second audio) BROADCAST</b>	MONO	MONO (MAIN)	MONO (MAIN)	MONO (MAIN)
	MAIN			
	SAP 1	MONO (MAIN)	MONO (AUDIO II)	
	SAP 2	MONO (AUDIO II)	MONO (AUDIO II)	MONO (AUDIO II)
<b>STEREO + AUDIO II BROADCAST</b>	MONO	MONO (MAIN)	MONO (MAIN)	MONO (MAIN)
	MAIN		STEREO	
	SAP 1	MONO (MAIN)	MONO (AUDIO II)	
	SAP 2	MONO (AUDIO II)	MONO (AUDIO II)	MONO (AUDIO II)

↑ ↑ ↑  
Sound recorded on tape

**PLAYBACK (OR MONITORING DURING RECORDING) OF STEREO AND SECOND AUDIO SOUND**

**AUDIO CHANNEL SELECTION**



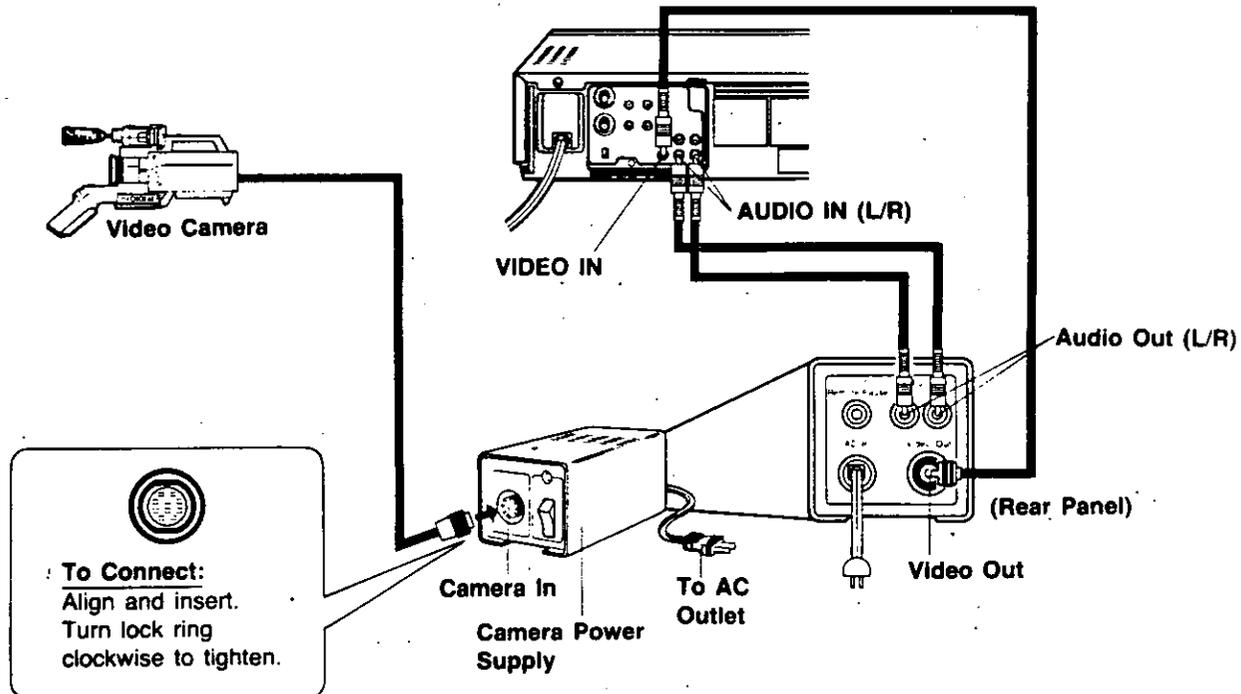
- Press the AUDIO OUT SELECT Button to select the type of audio sound and channel combination you desire to monitor or playback. The Record Level Meter indicates the selected mode. (See page 26.)
- Other operations are the same as "TO PLAY BACK A PRE-RECORDED TAPE" (page 7).

# CAMERA RECORDING

Your VCR can be used with a camera and optional power supply (PK-A789S) to make your own recordings.

## CONNECTION

Make the connections below before turning the VCR and the power supply ON.



## OPERATION

(Connecting cables are included with the optional power supply.)

<h1>1</h1> <p><b>Insert cassette.</b></p> <p>VCR Power comes on automatically.</p>	<h1>2</h1> <p><b>Turn on camera power supply.</b></p>	<h1>3</h1> <p><b>Set INPUT SIGNAL SELECTOR to LINE.</b></p>	<h1>4</h1> <p><b>Set TAPE-SPEED SELECTOR to SP, LP, or SLP.</b></p>	<h1>5</h1> <p><b>Hold REC Button in and simultaneously press PLAY Button to start your recording. To pause the tape use PAUSE/STILL button on the Remote Control.</b></p>
--	---	---	---	---

◆ Refer to the Operating Instructions for the camera about adjustments and operating procedures.

## TO MONITOR ON TV

The signal being recorded can be monitored on a TV.

The antenna connections on the VCR may remain connected when using a camera.

- Turn TV ON and select channel 3 or 4.
- Set the VCR/TV Selector to VCR.

## NOTE:

- Should a howling noise (feedback) be heard during monitoring, turn the volume level of the TV down.
- If either AUDIO INPUT L or R Jack is connected, each channel will be recorded with the same sound.

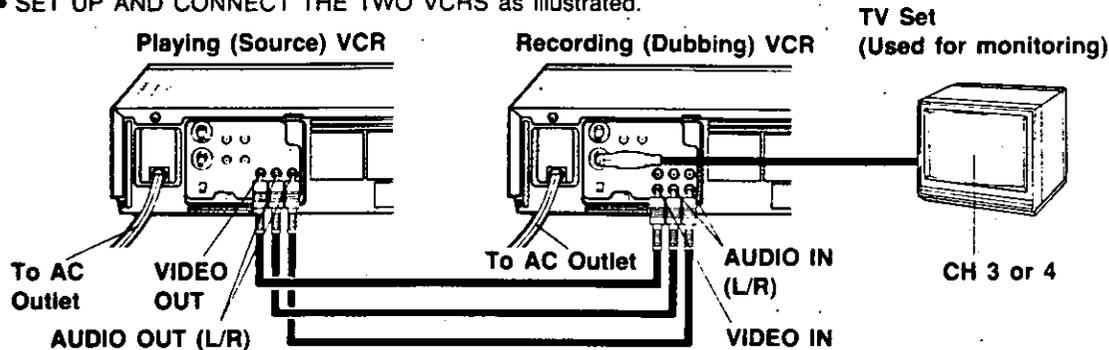
# RE-RECORDING (TAPE DUPLICATION)

PV-4760

It is becoming more popular for friends to exchange and/or copy some of their favorite camera recordings. Such dubbing from one recorder to another is simple and can be done as described below. You are cautioned that the unauthorized exchanging and/or copying of copyrighted recordings may be copyright infringement.

## CONNECTIONS

- SET UP AND CONNECT THE TWO VCRs as illustrated.



## OPERATION

### FIRST

- Turn the TV and both VCRs ON.
- Set TV CHANNEL Selector to the predetermined VCR Channel (3 or 4).
- On Recording VCR set INPUT SIGNAL SELECTOR to LINE.
- On Recording VCR set VCR/TV Selector to VCR.

### SOURCE

On Playing VCR with original tape.

- 1 Insert Master tape.
- 2 Press PLAY, then review on monitor TV.
- 3 Press PAUSE at the start of scene you want to record on Dubbing VCR; Source VCR is now in Play/Pause mode.

### THEN

### DUBBING

On Recording VCR with blank or programmed dubbing tape.

- 4 Select tape speed SP, LP or SLP.
  - 5 Insert tape on which you want to do re-recording (Dubbing).
  - 6 Press PLAY Button, review tape on monitor TV.
  - 7 Press PAUSE, at start of section you desire to dub; Dubbing VCR is now in play/pause mode.
  - 8 Press TAPE COUNTER RESET Button to "0000".
  - 9 Press RECORD and PLAY Buttons together; Dubbing VCR is now in Record/Pause mode.
- 10 Release Source VCR Play/Pause mode with Dubbing VCR Record/Pause at the same time to begin Dubbing.
  - 11 Press STOP Button on each VCR to stop Dubbing after completion.

# CHANNEL MEMORY

From the factory, all the channels for the TV mode of the 155 Channel Memory are labeled "Add". In Channel Memory, you can manually reselect any of the channels in the TV or one of the Cable modes to form a new "Add List". Or you can simply use the Auto Set feature to adjust the "Add List" automatically for the channels in your area. In either case, only the memorized channels in the "Add List" will be scanned when you press the CHANNEL UP/DOWN Keys.

## PREPARATION

Turn TV & VCR ON, select TV's channel 3 or 4 to match the VCR Channel 3/4 Switch, and be sure that VCR/TV Selector is set to VCR.

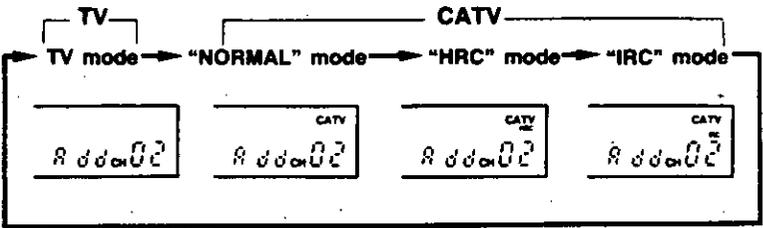
**1** Set CHANNEL MEMORY Button to ON.

(TV mode)

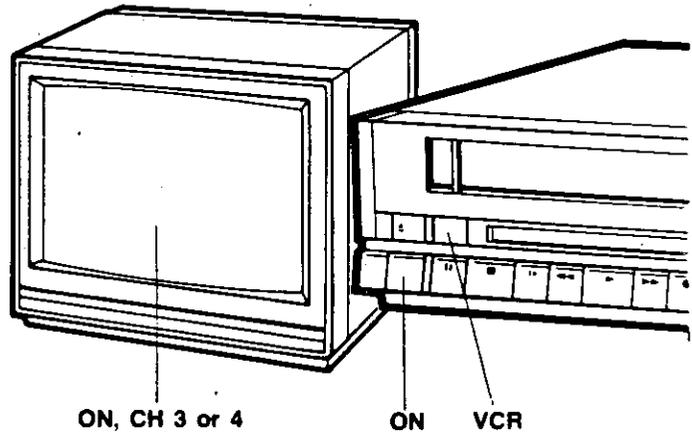


An "Add" symbol displayed means this channel number is on the "Add List" and "del" means it is not.

**2** Press the ANTENNA SYSTEM SELECT Button to select "TV" or one of the CATV modes.



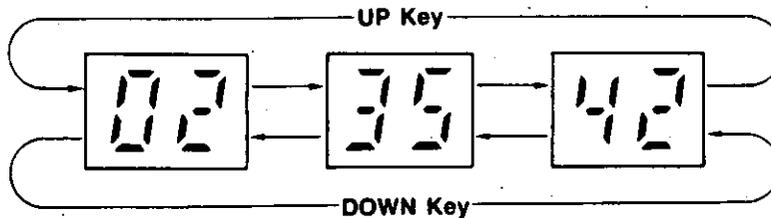
This selects the band of channels you want to scan. If you are a cable TV subscriber choose the NOR, HRC or IRC position (see type of cable system box on page 38 for details). Changing to a new band with the ANTENNA SYSTEM SELECT Button will add every channel in the new band to the "Add List".



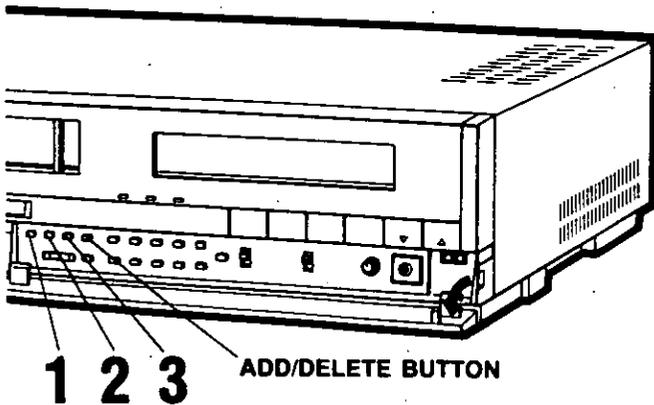
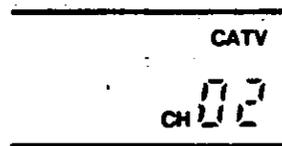
## CHANNEL UP/DOWN KEYS WHEN CHANNEL MEMORY IS OFF

The CHANNEL UP/DOWN Keys scan up or down an "Add list" (for the band preset in Channel Memory) to selectively skip over unused channels or to stop on just the channels you normally view.

**WHEN YOU SET CHANNEL MEMORY ON**  
Every channel number can be viewed one by one.



- 3** Press the AUTO SET Button.  
This automatically creates a new "Add list" for the band selected in step 2. The "ADD" or "DEL" display disappears and a cycle of the viewable channels and their numbers appear while Channel Memory is being set. Channel Memory automatically turns off when the channel numbers stop changing.



#### USING THE ADD/DELETE BUTTON TO MANUALLY SET CHANNEL MEMORY

If some channels were added automatically by the AUTO SET Button that you do not receive clearly in your area, you may want to turn Channel Memory ON again, to add or delete them manually. Follow the steps below for using the ADD/DELETE Button to change the channels on the "Add list".

- A) Set CHANNEL MEMORY Button ON.
- B) Use the CHANNEL UP/DOWN Keys or NUMERICAL Keys to select the channel number you wish to change.
  - Press MONO Button, to set monaural audio mode, if desired. (See page 27.)
- C) Press the ADD/DELETE Button to change the scan condition of the channel. ("ADD" to "DEL", or "DEL" to "ADD".)
- D) Repeat steps B) and C) for other channels.
- E) Set CHANNEL MEMORY Button OFF.

# DETAILS

The buttons described in the following details (illustrated on pages 4, 5 and 6) are of various types. **Operation Buttons** PLAY, RECORD, Special Effects, Fast Access

Pressing one operation button cancels the others, and pressing STOP ends any operation.

**Toggle Buttons** VCR or TV, Counter or Clock, Power and Timer Function

Pressing a toggle button usually turns a special mode ON and OFF; or selects two complimentary modes one after the other.

**Menu Buttons** CLOCK, Timer Setting, PROGRAM, ANTENNA SYSTEM SELECT

Pressing a menu button several times usually selects a list of different functions or adjusts various counter numbers.

## • AC POWER CORD

Connect to a 120 V 60 Hz AC outlet.

## ANTENNA CONNECTION

(See separate Guide.)

### • UHF ANTENNA INPUT TERMINALS (IN FROM ANTENNA)

Connect the UHF antenna to these terminals.

### • VHF ANTENNA INPUT TERMINAL (IN FROM ANTENNA)

Connect the VHF antenna to this terminal.

### • VHF ANTENNA OUTPUT TERMINAL (OUT TO TV SET)

Connect this terminal to the VHF antenna terminal on the TV, using the VHF Connection Cable (supplied).

### • UHF ANTENNA OUTPUT TERMINALS (OUT TO TV SET)

Connect these terminals to the UHF antenna terminals on the TV.

## AUDIO Multi-Plex BROADCAST SYSTEM

### • INPUT AUDIO SELECTOR SWITCH

Use this switch to select the sound track you wish to record, when the INPUT SIGNAL SELECTOR is set to TUNER.

### • MONO BUTTON

While recording weak Stereo Broadcasts, press the MONO button for a monaural recording with less noise. The MONO Indicator lights up on the front panel.

## AUDIO Multi-Plex BROADCAST INDICATORS

### • AUDIO II INDICATOR

Lights up when a second audio program is being received.

### • STEREO INDICATOR

Lights up when a stereo program is being received.

### • MONO INDICATOR

Lights up when MONO has been selected by the MONO Button.

## • AUDIO OUT SELECT BUTTON

To select the type of audio sound and channel combination you desire to monitor or playback for the TV speaker, a Headphone, or AUDIO LINE OUT.

## • CASSETTE COMPARTMENT

Cassette is inserted here.

## CHANNEL MEMORY P.3

### • ADD/DELETE BUTTON

Used during CHANNEL MEMORY programming to add or delete a selected CHANNEL.

### • AUTO SET BUTTON

To scan receivable TV channels and memorize these channels when CHANNEL MEMORY Button is ON.

### • ANTENNA SYSTEM SELECT BUTTON

Set the ANTENNA SYSTEM SELECT Button to the desired position (TV, CATV (NOR, HRC, IRC)) depending on your cable system. If a cable system is not used, leave it in the TV position. Once it is set, do not change the position, or Channel Memory settings may change.

### For reference

There are basically three types of cable systems: Normal, HRC, and IRC.

- 1) The "Normal" system is the most commonly used and as the name suggests the frequencies used for the various Cable channels are the same as the frequencies used for the normal broadcast channels.
- 2) The HRC system stands for Harmonically Related Carrier. In this system the channel frequencies are all offset from the normal frequencies by a fixed amount.
- 3) The IRC system (is also called ICC system) stands for Incremental Related Carrier in this system only channels 5 and 6 are offset in frequency.

### • CHANNEL MEMORY BUTTON

To use CHANNEL MEMORY this button is normally OFF. For CHANNEL MEMORY programming, set to ON to use ANTENNA SYSTEM SELECT Button, AUTO SET Button or CHANNEL ADD/DELETE Button.

### • CHANNEL 3/4 SWITCH

Set to channel 3 or 4, whichever is not used for regular TV broadcasting in your area to use your TV as a VCR program monitor. (See page 3.)

### • CHANNEL UP/DOWN KEYS

(Also for Unattended Recording)

To select VCR CHANNELS for viewing and/or recording your preset TV broadcast stations.

## CLOCK ADJUSTMENT P.10

- **NORMAL BUTTON**  
Press for normal current time display.
- **DAY BUTTON**  
Press to select the correct day display.
- **START BUTTONS (UP/DOWN)**  
Hold this button in to select the current hour in 10 minute intervals. Tap it lightly to select exact one minute intervals.
- **CLOCK BUTTON**  
Press this button to enter clock mode for clock adjustment.

## CONNECTIONS WITH OTHER COMPONENTS

(See separate Guide.)

- **VIDEO OUTPUT CONNECTOR**  
For video output connection to a monitor TV or another VCR.
- **AUDIO OUTPUT CONNECTOR (L/R)**  
For connection to an audio input connector on a monitor TV, another VCR or an audio tape recorder.
- **AUDIO INPUT CONNECTOR (L/R)**  
For connection from a portable video camera power supply, another VCR or other Audio Source's output connector.
- **VIDEO INPUT CONNECTOR**  
For video input connection from another VCR or a portable video camera power supply.

## COUNTER P.24

- **RESET BUTTON**  
Sets the Tape Counter to "0000".
- **MEMORY BUTTON**  
When this button is in the "ON" position, the tape will stop when the Tape Counter reaches "0000" during fast forward or rewind.
- **EJECT BUTTON**  
To remove the cassette. The EJECT Button will operate even if the Power is off.
- **HEADPHONES JACK**  
For connecting a Headphone.
- **HEADPHONES VOLUME CONTROL**  
For adjustment of sound level.
- **INPUT SIGNAL SELECTOR**  
**LINE:** For re-recording or camera recording.  
**TUNER:** For regular TV recording with monaural sound recording.  
**AUDIO 2 CH:** For simulcast (stereo) recording.

## MULTI FUNCTION DISPLAY

- **DIGITAL CLOCK/START TIME**  
The present time is displayed after setting, or the start time of Timer Recording or One Touch Recording is displayed.
- **VCR/TV INDICATOR "VCR"**  
Appears when the VCR/TV Selector is set to VCR.
- **TIMER INDICATOR "TIMER"**  
Indicates the VCR is set for unattended recording.
- **SPEED INDICATOR "SP" "LP" "SLP"**  
Shows the tape speed during recording and playback.
- **CASSETTE-IN INDICATOR "C"**  
The three states of this indicator show the following conditions.  
No "C" displayed: There is no cassette in the unit.  
"C" displayed: There is a cassette in the unit and some interval to the end of the tape.  
Flashing "C" display: The Automatic Rewind took place at the end of the tape during playback, recording or fast forward. The indicator continues flashing until the next mode is selected. Also flashes if you attempt any recording when the cassette erasure prevention tab is missing.
- **FUNCTION INDICATOR "F"**  
Shows the operation mode of VCR (EJECT, PLAY, DOUBLE SPEED PLAY, REW, REC, FF, PAUSE, STILL, SEARCH, STOP, FRAME ADVANCE, SLOW, PROG) and "F" is displayed when the CHANNEL MEMORY Button is ON.
- **DEW INDICATOR "DEW"**  
DEW appears on the Multi Function Display. The unit will not operate if excessive moisture condenses in the unit.  
NOTE:  
If this happens, leave the VCR ON and let it remain at room temperature until this indicator goes off.
- **PROGRAM NUMBER "P"**  
Shows the program number for Timer Recording.
- **STAND BY INDICATOR**  
Appears when you are setting or using the Preset O.T.R. feature.
- **OTR INDICATOR**  
Indicates that the One Touch Recording feature is in use.
- **TIMER DISPLAY/COUNTER DISPLAY**  
Shows either the recording length of Timer Recording or the remaining length of recording time during One Touch Recording. Otherwise the counter number is displayed.
- **CATV INDICATOR**  
CATV indicates ANTENNA SYSTEM SELECT Button is set on one of the Cable TV modes.
- **CHANNEL/INPUT SIGNAL SELECTOR INDICATOR "L"**  
Channel number appears for TUNER and AUDIO 2CH position. "L" shows Input Signal Selector at LINE position.
- **MEMORY INDICATOR "M"**  
When MEMORY Button is set to ON, this indicator appears. (See page 24.) "M" flashes to indicate FF or REW are in memory mode.

# DETAILS (CONTINUED)

## ONE TOUCH RECORD

### • STAND BY BUTTON

Used along with O.T.R. Button to preset O.T.R., press STAND BY and O.T.R. Buttons together to stop an O.T.R. program. This button does not operate when in the timer mode. (See page 15.)

### • ONE TOUCH RECORD (O.T.R.) BUTTON

For impromptu recordings at any time. Select the channel and press the ONE TOUCH RECORD Button for 30 minutes to 4 hours of recording, or until tape ends with power shut off. (See page 14.)

### • POWER BUTTON

To turn the VCR on and off.

### • RECORD BUTTON

Recording is started by holding this button in and pressing PLAY Button at the same time. "REC" and "▶" appear on the Multi Function Display.

### • REC LEVEL METER

For monitoring the Audio Level during recording or playback.

## SPECIAL EFFECTS PLAYBACK P.7

### • PAUSE/STILL BUTTON

To temporarily stop the tape during recording or for viewing a still picture during playback. "REC" or "PLAY" appears and "■" flashes on the Multi Function Display. Press again to release pause.

### • SLOW BUTTON

While viewing a still picture, press this button to advance the picture one frame at a time. "▶" flashes. During the playback mode, pressing this button will allow you to view a slow-motion picture. "SLOW" appears on the Multi Function Display.

### • REWIND/SEARCH (◀) BUTTON

To rewind tapes. "REW" and "◀" appear on the Multi Function Display. Also during the playback mode, pushing this button will allow you to view the picture rapidly in reverse. "◀" flashes.

### • FAST FORWARD/SEARCH (▶) BUTTON

To move the tape forward rapidly. "FF" and "▶" appear on the Multi Function Display. Also during the playback mode, pushing this button will allow you to view the picture rapidly in the forward direction. "▶" flashes.

Rewind and Fast Forward are the fastest method of moving the tape. However if you wish to view what you are passing, pressing either the Fast Forward or Rewind button while the VCR is in the PLAY mode will enable you to "search" for a particular part on the tape. In order to use the regular rewind or Fast Forward, the VCR must be in the stop mode.

### • PLAY/X2 BUTTON

To play back a tape. "PLAY" and "▶" appear. In SP or SLP playback, press this button once more for a rapid search at twice normal speed. "P2" is displayed.

### • STOP BUTTON

To stop the tape.

### • TAPE-SPEED SELECTOR (SP/LP/SLP)

Set this selector for the desired recording speed. See page 37 for details.

### • TRACKING CONTROL

Use this control during playback or double speed playback if the image is partially obscured by bands of noise. (See page 8.)

## UNATTENDED (TIMER) RECORDING P.17

### • CHANNEL UP/DOWN KEYS

To select desired channels.

### • NORMAL BUTTON

Used to leave the programming mode while you are programming the Timer.

### • TIMER BUTTON

Used to set VCR for unattended recording. When Timer is set and this button is pressed ON, "TIMER" appears. To return to manual operation of VCR, press Timer Button once so that "TIMER" goes off.

### • DAY BUTTON

The present day symbol indicates the beginning of the 3 week period ahead. A second or third week symbol indicates any time you select beyond the first 7 days.

### • PROGRAM BUTTON

First selects Program Timer menu at position 1. The following press selects the next program at position 2, and so on.

### • LENGTH BUTTONS (UP/DOWN)

Selects the recording length from 0:00 (0) to 8:00 (8) hours in 15 minute intervals.

### • START BUTTONS (UP/DOWN)

Hold the START Button in to select the hour in 10 minute intervals. Tap the START Button to select exact one minute intervals.

### • VCR/TV SELECTOR

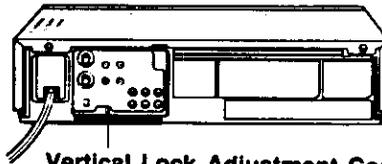
**VCR:** To monitor video recordings or to view playback.

**TV:** To watch TV or to view another program while recording a different program. (See page 12.) When this is set to VCR, "VCR" appears on the Multi Function display.

### • VERTICAL LOCK ADJUSTMENT CONTROL

When you find that your SP or SLP still picture contains some vertical jitter, use the provided V-Lock Tool and adjust the control to obtain the most stable picture. Only a one-time adjustment should be necessary.

Back of VCR



Vertical Lock Adjustment Control \*\*

\*\*Do not use excessive force while adjusting this control.

## WIRELESS REMOTE CONTROL

**CHANNEL SELECTION**• **CHANNEL UP/DOWN KEYS**

To select desired channels.

• **NUMERICAL KEYS (0, 1, 2, 3, 4, 5, 6, 7, 8, and 9)**

To select desired channels. They cannot be used to set desired channel during Timer Recording. When channels 1~9 are selected, first press 0 Key and then press desired Key from 1 to 9.

**ON SCREEN DISPLAY**• **FUNCTION BUTTON**

Selects ON SCREEN DISPLAY of current VCR mode and condition information.

• **OSD BUTTON\***

Same as the OSD Button in Unattended Recording section.

• **HELP BUTTON\***

Selects programming instruction ON SCREEN DISPLAY from TV, for immediate help while programming Timer.

**ONE TOUCH RECORDING**• **STAND BY BUTTON\***

Used along with O.T.R. Button to preset O.T.R.. This button does not operate when a timer program has been set, or to stop an O.T.R. program.

• **ONE TOUCH RECORD (O.T.R.) BUTTON\***

Same as the ONE TOUCH RECORD (O.T.R.) Button on the VCR.

• **PLAY BUTTON**

To play back a tape.

• **POWER BUTTON**

To turn the VCR ON and OFF.

• **PROGRAM ON/OFF SWITCH**

To enable or disable OSD and program functions.

• **RECORD BUTTONS (TWO BUTTON ENTRY)**

To begin recording, press these two buttons simultaneously.

**SPECIAL EFFECTS PLAYBACK**• **PAUSE/STILL BUTTON**

To temporarily stop the tape during recording or for viewing a still picture during playback. Press again to release pause.

• **REWIND/SEARCH (◀) BUTTON**

Same as the REWIND/SEARCH Button on the VCR.

\* These buttons will only function with the PROGRAM ON/OFF Switch ON.

## WIRELESS REMOTE CONTROL

• **SLOW-MOTION BUTTONS**

First press the SLOW Button during SP and SLP playback to view a slow-motion picture. The speed can be varied from about 1/10 to about 1/60 of normal speed with "UP", "DOWN" Buttons. The VCR may automatically stop after 5 minutes to protect the tape. Adjust using the SLOW TRACKING or TRACKING CONTROLS if necessary to eliminate noise bars.

• **SLOW TRACKING CONTROL**

If the slow-motion or still picture contains bands of noise, this control may require adjustment. See page 8 for use.

• **FRAME ADVANCE BUTTON**

While viewing an SP and SLP still picture, press this button to advance the picture one frame at a time or hold it down for a slow-motion picture.

• **FAST FORWARD/SEARCH (▶) BUTTON**

Same as the FAST FORWARD/SEARCH Button on the VCR.

• **DOUBLE SPEED (X2) PLAY BUTTON**

Press this button during playback of the tapes recorded in SP and SLP mode for rapid tape search at twice the normal speed.

• **STOP BUTTON**

Same as the STOP Button on the VCR.

**UNATTENDED (TIMER) RECORDING**• **OSD BUTTON\***

Selects TV ON SCREEN DISPLAY, to view format and information while programming Timer.

• **CHANNEL UP/DOWN KEYS**

Same as the CHANNEL UP/DOWN Keys on the VCR.

• **NORMAL BUTTON\***

Same as the NORMAL Button on the VCR.

• **TIMER BUTTON\***

Same as the TIMER Button on the VCR.

• **DAY BUTTON\***

Same as the DAY Button on the VCR.

• **PROGRAM BUTTON\***

Same as the PROGRAM Button on the VCR.

• **LENGTH BUTTONS (UP/DOWN)\***

Same as the LENGTH Buttons on the VCR.

• **START BUTTONS (UP/DOWN)\***

Same as the START Buttons on the VCR.

• **VCR/TV SELECTOR BUTTON**

Same as the VCR/TV SELECTOR Button on the VCR.

• **WIRELESS REMOTE SENSOR**

Receives signal from Wireless Remote Control.

# NOTES ON OPERATIONS

## TO PLAYBACK A PRE-RECORDED TAPE

- When the tape reaches its end during playback, or fast forward, the tape will rewind automatically and the CASSETTE-IN indicator will flash until another operation button is pressed.
- It is not necessary to select the tape speed for playback. Playback speed is automatically selected by VCR, irrespective of the switch position. (Automatically the selected speed will appear on display.)
- During playback it is not necessary to select VCR/TV SELECTOR. It will change to VCR position automatically.
- During search playback, horizontal noise bars will appear on the TV screen.
- Any special effects playback will mute the audio.
- If the still picture contains noise, place the unit into the slow-motion mode and readjust the SLOW TRACKING CONTROL until the picture clears up. Reselect the still mode by pressing the PAUSE/STILL Button. A clear still picture should result.
- After the VCR is in the pause or slow mode for 5 minutes it will stop automatically for tape and video head protection.
- Special effects playback can be activated during playback of the tapes recorded in SP or SLP speed. Tapes recorded in LP mode can also be viewed in special effects playback, but the picture may be completely snowy.

## TV RECORDING PREPARATION

- With cable connections VCR and TV channel selections may differ from those for antenna connections. Refer to the separate Basic Guide For VCR Connections (or according to cable service).
- If the reception of all VHF channels is unsatisfactory you may need to tune your TV set.
- Some TV sets have electronic tuners which automatically fine tune each channel. If your TV set has this type of tuner, it probably does not provide any manual adjustment.

## TO RECORD A TV PROGRAM (RECORDING)

- When recording ends, the tape is automatically rewound and ejected, and the VCR will turn itself off.
- It is possible to change the Tape-Speed Selector while you are actually recording but there will be a momentary distortion, at the point this speed change occurs.
- After the VCR is in pause for 5 minutes it will stop automatically for tape and video head protection.
- The PAUSE/STILL Button does not operate in O.T.R. or TIMER recording mode.

## TAPE SPEED SELECTION

The type of tape (NV-T60, NV-T120, NV-T160) determines the maximum length of recording time. The TAPE-SPEED SELECTOR sets 3 recording speeds: SP, LP and SLP. They determine how fast the tape moves and consequently the amount of recording time available. (Refer to chart at the top of page 39.) An SP recording gives the best picture in normal playback.

SP and SLP recordings give the best special effects playback.

An LP recording may be completely snowy.

## ONE TOUCH RECORDING

- If cassette erasure prevention tab is missing, the cassette will be ejected automatically, when you press the OTR Button or STAND BY Button.
- If the preset time for a Timer Recording comes up during a One Touch Recording, the One Touch Recording will take priority.
- To check a Preset O.T.R. program, you may press the STAND BY or O.T.R. Button on the VCR. The preset program will be displayed for a few seconds. You may re-set the program at this time.
- If a One Touch Recording occurs while the Timer is set (TIMER Indicator ON), pressing the TIMER Button OFF will stop both the Timer and the One Touch Recording.
- All functions except for counter reset, counter memory and speed select including Remote Control will become inoperable during a One Touch Recording.

## TIMER RECORDING

- To stop a timer recording, press the TIMER Button once.
- Timer Recording will not be performed or continued if a power interruption of more than about 2 minutes occurs before or during Timer Recording, even if power resumes thereafter. (If this occurs and power resumes thereafter, the clock indication "Su 12:00 AM" will flash.)
- If the preset time of 2 programs overlap each other, the preset time of the lower numbered program will have priority.

## SIMULCAST (STEREO) RECORDING AND PLAYBACK

- Timer Recording and One Touch Recording can be used with simulcast recording.
- While in Audio 2 CH mode the video from the VCR tuner is recorded.

## Hi-Fi AUDIO HD SOUND SYSTEM

- A difference in audio level may be detected between Hi-Fi and NORMAL audio playback.
- While adjusting TRACKING CONTROL, Hi-Fi AUDIO sound may revert to NORMAL AUDIO sound. This is normal.

## AUDIO Multi-Plex BROADCAST SYSTEM

- When stereo or second audio sound is recorded on this VCR and played back on a conventional VHS VCR, the playback sound will be monaural from the NORMAL sound track.
- Only Hi-Fi Stereo tapes will play back in stereo mode. Tapes with standard stereo sound will play back in monaural sound.

## RE-RECORDING

- Disregard CHANNEL positions when re-recording tape to tape.
- For best results, use a 75 ohm type (Coaxial) Antenna Cable with male phono plugs for the Video, and ordinary Audio Cable for the Audio to connect the VCRs.
- For technical reasons, the quality of the duobased tape will not be as good as the original.

## CHANNEL MEMORY

**CHANNEL CHART**

• CATV modes [NOR, HRC, IRC]

CHANNEL DESIGNATIONS	CATV CHANNEL RECEIVED FROM CABLE	CHANNEL SELECTION & INDICATION ON VCR
BROADCAST VHF	2 ~ 13	02 ~ 13
CATV MID/SUPER BANDS	A ~ W	14 ~ 36
CATV HYPER BAND	AA ~ EEE	37 ~ 64
CATV LOW BAND	A-5 ~ A-1	95 ~ 99
SPECIAL CATV CHANNEL	5A (between 4 & 5)	01 (HRC, IRC only)
ULTRA BAND*	65 ~ 94	65 ~ 94

\* If you receive UHF Band through a CATV system, a UHF/VHF splitter and a flat "TWIN LEAD" cable may be necessary for proper reception.

• TV mode

CHANNEL DESIGNATIONS	CHANNEL RECEIVED OFF THE AIR	CHANNEL SELECTION & INDICATION ON VCR
VHF	2 ~ 13	02 ~ 13
UHF	14 ~ 69	14 ~ 69

## NOTE:

- CATV channel designations are not standardized like broadcast channels. Therefore, there may be some variation between cable systems. If in doubt, consult your cable company or local Panasonic Dealer.
- Numbers not listed on the charts above cannot be entered.
- Please note that all previously erased channels may return to original selections when the position of the ANTENNA SYSTEM SELECT Button is changed while CHANNEL MEMORY Button is ON.
- When the power is disconnected for long periods and electric back-up system shuts off, it is possible that CHANNEL MEMORY may return to original manufactured selections. In this case reset CHANNEL MEMORY as desired.

**HOW TO DETERMINE YOUR TYPE OF CABLE SYSTEM**

- Ⓐ Set the ANTENNA SYSTEM SELECT Button to the "CATV" position.
- Ⓑ Select various channels that you normally receive on your cable system. The channels should lock in almost immediately after they are selected and should appear perfectly tuned. The synthesized tuner on this model will automatically fine tune the selected channel for you. If the channels seem to take some time to lock in or will not lock in, you may have the HRC or IRC cable systems. In this case, continue with steps Ⓒ and Ⓓ below.
- Ⓒ Set the button to the "HRC" position and try the above procedure again.
- Ⓓ If you are having trouble with only channels 5 and 6, you may have an "IRC" type system so set the button to the "IRC" position. When the proper setting is determined you should be able to clearly receive all the cable channels that you were originally able to receive on your TV.

## NOTE:

- If you cannot determine your cable system, please contact your cable company.

**USING YOUR TAPES OR VIDEO RECORDER IN ANOTHER COUNTRY**

Tapes made on VIDEO RECORDERS sold in the United States can only be played back on VCR units which use the NTSC television system and have matching tape speeds. You can only use your VCR in another country which has a television system designed for standard U.S. Television channel frequencies. VHS VIDEO Recorders produced for the United States conform to the NTSC television system.

# A WORD ABOUT THE CASSETTE

## TYPES OF VIDEO CASSETTE

Use types with the **VHS** mark in this unit.

Tape Speed Selector position	MAXIMUM RECORD/ PLAYBACK TIME		
	NV-T160	NV-T120	NV-T60
SP(Standard Play)	2HRS.40MIN.	2HRS.	1HR.
LP(Long Play)	5HRS.20MIN.	4HRS.	2HRS.
SLP(Super Long Play)	8HRS.	6HRS.	3HRS.

## NOTES FOR VIDEO CASSETTE USE

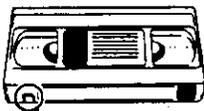
Video Cassettes and their tapes are made with high precision. Be sure to observe the following points.

- Do not subject the tape to unnecessary movement.
- Do not insert and eject the video cassette over and over again, as this may result in tape looseness or scratches on the tape.
- Never try to disassemble the cassette or splice the tape.
- Do not open the cassette, touch the tape, or put anything inside the cassette.

## VIDEO CASSETTE STORAGE

- Avoid places where humidity is high or there is dust.
- Avoid places where there is magnetism (magnets, motors, transformers, speakers, etc.).
- Avoid dropping the cassette; do not subject it to intense shaking or vibration.
- Do not place cassettes in direct sunlight; keep them away from sources of heat.
- Store cassettes vertically, like books on a shelf.

## ACCIDENTAL ERASURE PREVENTION TAB



Accidental Erasure  
Prevention Tab

- Accidental erasure of recorded material can be prevented by breaking off the tab on the rear of the cassette with a screwdriver or similar tool. This will cause the erasure prevention mechanism to function.
- If, for any reason, you later want to record on a cassette which has been protected as described above, recordings can be made by covering the hole (where the tab was) with cellophane tape.

- To prevent accidental erasure



Break off the tab with a screwdriver

- To record again



Cover the hole with cellophane tape

# SPECIFICATIONS

PV-4760

Power Source:	120 V AC, 60 Hz		
Power Consumption:	Approx. 27 watts		
Television System:	EIA Standard (525 lines, 60 fields) NTSC color signal		
Video Recording System:	4 rotary heads, helical scanning system		
Audio Track:	1 track (NORMAL), 2 channels (Hi-Fi AUDIO SOUND)		
Tape Format:	Tape width 1/2 inch (12.7 mm), high density tape		
Input Level:	Video: VIDEO IN jack (RCA)	1.0 Vp-p,	75 ohm unbalanced
	Audio: AUDIO IN jack (RCA) (Right, Left)	-10 dB,	50 kohm unbalanced
	TV Tuners: VHF input ch 2~ch 13, cable channels "A"~"EEE", "A-5" ~ "A-1", "5A"		75 ohm unbalanced
	UHF input ch 14~ch 69 (cable ch 65 ~ ch 94)		300 ohm balanced
Output Level:	Video: VIDEO OUT jack (RCA)	1.0 Vp-p,	75 ohm unbalanced
	Audio: AUDIO OUT jack (RCA) (Right, Left)	-8 dB,	1 kohm unbalanced
	RF Modulated: Channel 3 or 4	72 dB $\mu$ (open voltage),	75 ohm unbalanced
Operating Temperature:	41°F~104°F (5°C~40°C)		
Operating Humidity:	10%~75%		
Weight:	12.6 lbs. (5.7 Kg)		
Dimensions:	16-15/16"(W) x 4"(H) x 11-5/8"(D)		
	430(W) x 102(H) x 295(D)mm		

Weight and dimensions shown are approximate.  
Designs and specifications are subject to change without notice.

# BEFORE REQUESTING SERVICE

Check the following points once again.

## POWER

Troubles	Corrections
No power ...	<ul style="list-style-type: none"> <li>• Check that the Power Plug is completely connected to an AC Outlet.</li> <li>• Check that the POWER Button is set to "ON".</li> </ul>
No operation starts when operation buttons are pressed ...	<ul style="list-style-type: none"> <li>• Check the DEW Indicator. If it is displayed, the unit will not operate. (p. 34)</li> </ul>

## RECORDING AND PLAYBACK

Troubles	Corrections
TV programs can't be recorded ...	<ul style="list-style-type: none"> <li>• Check the connections between VCR, external antenna and your TV.</li> <li>• Make sure that the receiving channel of the VCR is memorized. (p. 32)</li> <li>• Check that the ANTENNA SYSTEM SELECT Button is set to meet your cable TV system. (p. 31)</li> <li>• Make sure that the small tab on the back of the cassette is still intact. (p. 39)</li> </ul>
Timer Recording can't be performed ...	<ul style="list-style-type: none"> <li>• Set the recording start time and recording length correctly. (p. 17~22)</li> <li>• Make sure that the TIMER Button is set. (p. 19)</li> <li>• Timer Recording will not be performed or continued if a power interruption of more than 2 minutes occurs before or during Timer Recording, even if power resumes thereafter.</li> </ul>
There is no playback picture, or the playback picture is noisy or contains streaks ...	<ul style="list-style-type: none"> <li>• Select the same channel on your TV as that of the CH 3/4 Switch on the VCR. (p. 9)</li> <li>• Set the VCR/TV Selector to "VCR". (p. 9)</li> <li>• Check that channel 3 or 4 of TV is properly adjusted. (p. 3)</li> <li>• Adjust the TRACKING CONTROL slowly in either direction. (p. 8)</li> </ul>
During slow-motion playback, the picture shows blurred action ...	<ul style="list-style-type: none"> <li>• Use the Slow Tracking Control (on the Wireless Remote Control). (p. 8)</li> </ul>
During special effects playback, the picture may contain some vertical jitter when using a TV which has Automatic Vertical Hold Control Switch ...	<ul style="list-style-type: none"> <li>• In that case, set the TV's Vertical Hold Control Switch to MANUAL position and then adjust vertical hold control.</li> </ul>
If the top of your playback picture waves back and forth excessively ...	<ul style="list-style-type: none"> <li>• Because the VCR playback signal is not as stable as an off-the-air TV signal, you might experience the following symptom on your TV screen: "Top of TV screen is bent or unstable when VCR is played back. This symptom is more noticeable when a pre-recorded tape, recorded by another VCR, is played back." To solve this problem, locate the horizontal hold control on your TV. Turn it slowly to correct the wavy picture. If your TV does not have the horizontal hold control or adjusting the control does not help, some modifications have to be made to the TV set. Technically this is called "Horizontal AFC time constant change." If such a problem is noticed, please contact your local TV service center. (Some nominal service charges are required.)</li> </ul>

# WIRELESS REMOTE BATTERY INSTALLATION

PV-4760

## REMOTE CONTROL

Trouble	Corrections
<b>RECORDER cannot be remote controlled.</b>  Programming buttons, <b>STAND BY</b> and <b>OTR</b> buttons on remote control do not work.	<ul style="list-style-type: none"><li>• Aim the Wireless Remote Control directly at the remote sensor on the VCR.</li><li>• Avoid all obstacles which may interfere with the signal path.</li><li>• Replace or inspect the batteries. (p. 42)</li><li>• Make sure the <b>PROGRAM ON/OFF</b> Switch is set to <b>ON</b>.</li></ul>

## OTHERS

Troubles	Corrections
You can't view programs normally on TV ... Video cassette can't be inserted ... Video cassette can't be removed ... Video cassette ejects when the <b>OTR</b> , <b>STAND BY</b> , <b>TIMER</b> or <b>REC</b> and <b>PLAY</b> Buttons are pressed ...	<ul style="list-style-type: none"><li>• Set the <b>VCR/TV Selector</b> to "TV". (p. 9)</li><li>• Insert the cassette with the window side up and the safety tab facing you. (p. 3)</li><li>• Check that the <b>Power Plug</b> is completely connected to an <b>AC Outlet</b>. (p. 6)</li><li>• Check the cassette to be sure that the small tab on the back of the cassette is still intact. (p. 39)</li></ul>

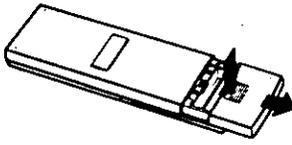
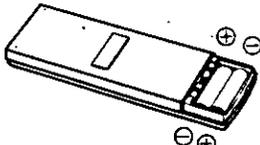
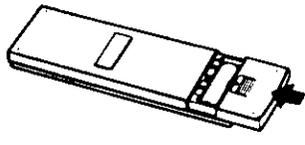
## Cleaning care for video heads ...



**Clogged Video Head**

- (a) **Video Head Cleaning:** Your VCR will not normally require head cleaning; however, it is possible that the heads may become clogged when playing an old or damaged tape. If the image on your screen resembles the photograph on the left, while playing back a tape, the heads may require cleaning.
- (b) **Cleaning the Heads:** It is recommended that head cleaning be performed by a qualified service technician. Please contact your nearest Panasonic Service Center. An alternate solution is to obtain a head cleaning cassette. There are many types of cleaning cassettes, so be sure to follow the cleaning instructions carefully, excessive use of the cleaning cassette could shorten head life. Use this cassette only when a head clogging symptom occurs.

## LOAD THE BATTERIES AS FOLLOWS:

<b>1</b> Remove the Battery Compartment lid. 	<b>2</b> Place two batteries in the Battery Compartment as indicated inside the Battery Compartment. 	<b>3</b> Replace the lid. 
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## BATTERY REPLACEMENT CAUTION

The Wireless Remote Control is powered by two "AA" size batteries. The life of the batteries is about a year although this will depend on the number of times the unit is used. Replace or inspect the batteries once a year.

- Load the new batteries with their polarities ( $\oplus$  and  $\ominus$ ) aligned properly.
- Do not heat, disassemble or short-circuit the old batteries.
- If you do not intend to use the Remote Control for a long period of time, remove the batteries and store them in a cool, dry place.
- Remove spent batteries immediately and dispose of them.
- Do not mix old and new batteries. (Also never mix alkaline batteries with manganese batteries.)

# WARRANTY

in the <b>Continental U.S.A.</b> MATSUSHITA SERVICES COMPANY DIVISION OF MATSUSHITA ELECTRIC CORP OF AMERICA (MSC)	in <b>HAWAII</b> PANASONIC HAWAII, INC. (PHI)	in <b>PUERTO RICO</b> PANASONIC SALES COMPANY, DIVISION OF MATSUSHITA ELECTRIC OF PUERTO RICO, INC. (PSC)
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Your product is designed and manufactured to ensure a minimum of maintenance. However, should your unit ever require service, a nationwide system of FACTORY SERVICE CENTERS and AUTHORIZED INDEPENDENT SERVICE CENTERS is maintained to support your product's warranty.

To locate an Authorized Service center in Your Area within the Continental U.S.

**DIAL TOLL-FREE: 1-800-447-4700**  
 24 Hours a Day, 7 Days a Week

**Service in the Continental U.S.A....  
 Factory Service centers**

**MATSUSHITA SERVICES COMPANY**  
 Division of Matsushita Electric Corporation of America  
 50 Meadowland Parkway, Secaucus, New Jersey 07094

**ALABAMA**  
 2523-5th Avenue,  
 South Birmingham,  
 AL 35233  
 205-252-4195

**COLORADO**  
 14401 E. 33rd Place  
 Suite E  
 Aurora, CO 80011  
 303-371-6968

**ILLINOIS**  
 425 E. Algonquin Road  
 Arlington Heights, IL 60005  
 312-981-4840

**MINNESOTA**  
 7850-12th Avenue, South  
 Airport Business Center  
 Bloomington, MN 55420  
 612-854-8624

**TENNESSEE**  
 925-8th Avenue, South  
 Nashville, TN 37203  
 615-244-4434

**ARIZONA**  
 2121 Priest Drive, South  
 Suite 107  
 Tempe, AZ 85282  
 602-968-8645

**FLORIDA**  
 16175 NW 52nd Avenue  
 Miami, FL 33014  
 305-624-6521

2100 Mannheim Road  
 Northlake, IL 60164  
 312-681-2060.

**MISSOURI**  
 13711 Rider Trail North  
 Earth City, MO 63045  
 314-739-5301

**TEXAS**  
 7420 Harwin Drive  
 Houston, TX 77036  
 713-781-1528

**CALIFORNIA**  
 6550 Katella Avenue  
 Cypress, CA 90630  
 714-895-7425

4101 N. Dixie Highway  
 Oakland Park, FL 33334  
 305-563-5847

**MARYLAND**  
 Sulphur Spring Business Park  
 1638 Sulphur Spring Road  
 Baltimore, MD 21227  
 301-242-2607

**NEW JERSEY**  
 45 Hartz Way  
 Secaucus, NJ 07094  
 201-392-6000

1825 Walnut Hill Lane  
 Irving, TX 75062  
 214-659-1770

930 South Mt. Vernon Drive  
 Colton, CA 92324  
 714-825-3110

4115 W. Kennedy  
 Boulevard  
 Tampa, FL 33609  
 813-872-2686

**MASSACHUSETTS**  
 101 University Avenue  
 Westwood, MA 02090  
 617-329-4280

**OHIO**  
 494 Northland Boulevard  
 Cincinnati, OH 45240  
 513-851-4180

**WASHINGTON**  
 4060 Lind Avenue, SW  
 Renton, WA 98055  
 206-251-8283

800 Dubuque Avenue  
 So. San Francisco,  
 CA 94080  
 415-871-6373

**GEORGIA**  
 1575 Northside drive  
 Suite 325,  
 Atlanta, GA 30318  
 404-351-8978

151 Andover Street  
 Danvers, MA 01923  
 617-774-4356

**PENNSYLVANIA**  
 8362-80 State Road  
 Philadelphia, PA 19136  
 215-332-5550

20201 Sherman Way  
 Suite 102  
 Canoga Park, CA 91306  
 818-709-1775

4245 International Blvd.  
 Suite C  
 Norcross, GA 30093  
 404-925-6880

4986 Library Road, Rt. 88  
 Hillcrest Shopping Center  
 Bethel Park, PA 15102  
 412-343-0555

4830B Viewridge Avenue  
 San Diego, CA 92123  
 619-560-9200

Requests for assistance in obtaining repairs or technical information . . . contact any one of the following Service Administration offices:

**EASTERN**  
 45 Hartz Way  
 Secaucus, NJ 07094  
 201-348-7400

**MIDWEST**  
 425 East Algonquin Road  
 Arlington Heights, IL 60005  
 312-981-4842

**WESTERN**  
 6550 Katella Avenue  
 Cypress, CA 90630  
 714-895-7438

**SOUTHERN**  
 1854 Shackelford Court,  
 Norcross, GA 30093  
 404-925-6860

Correspondence requesting product information should be sent to: Panasonic Consumer Affairs, Panasonic Company, Division of Matsushita Electric Corporation of America, 1 Panasonic Way, Secaucus, NJ 07094.

PANASONIC  
HAWAII, INC.  
Ewa Beach P.O. Box 774  
Honolulu, Hawaii  
96808-0774

PANASONIC COMPANY, DIVISION OF  
MATSUSHITA ELECTRIC CORPORATION  
OF AMERICA ("PANASONIC COMPANY")  
1 Panasonic Way  
Secaucus, New Jersey 07094

PANASONIC SALES COMPANY, DIVISION  
OF MATSUSHITA ELECTRIC OF PUERTO  
RICO, INC. ("PSC")  
Ave 65 De Infanteria, KM 9.7  
Victoria Industrial Park  
Carolina, Puerto Rico 00630

### PHI PANASONIC COMPANY PSC PANASONIC Video Equipment Limited Warranty

Panasonic Company, PHI or PSC will repair this product, free of charge in the U.S.A. or Puerto Rico in the event of a defect in materials or workmanship as follows:

**Parts** (Except camera pick-up tube/CCD Image Sensor)  
New or rebuilt parts in exchange for defective parts for one (1) year from the date of original purchase.

**Camera Pick-Up Tube/CCD Image Sensor**  
New pick-up tube/CCD Image Sensor in exchange for defective pick-up tube/CCD Image Sensor for six (6) months from the date of original purchase.

**Batteries** (If included)

New rechargeable batteries in exchange for defective rechargeable batteries for ten (10) days from the date of original purchase. 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 from the date of original purchase.

**Labor**

Carry-in or mail-in service for ninety (90) days from the date of original purchase. After the labor warranty period is over, purchaser pays for all labor charges for removal and installation of parts and camera pick-up tube/CCD Image Sensor.

Carry-in or mail-in service in the continental U.S.A. can be obtained during the warranty period from a Matsushita Services Company (MSC) Factory Service center listed in the Service center Directory. Or call 800-447-4700, toll free, to locate an Authorized MSC Service center. Carry-in or mail-in service in Puerto Rico or Hawaii can be obtained during the warranty period by calling the telephone numbers listed in the Service center Directory. This warranty is extended only to the original purchaser. A purchase receipt or other proof of date of original purchase will be required before warranty performance is rendered.

This warranty only covers failures due to defects in materials or workmanship which occur during normal use. It does not cover normal maintenance, including, but not limited to, video and audio head cleaning, or failures due to damage which occurs in shipment or failures which are caused by products not supplied by Panasonic Company, PHI or PSC, or failures which result from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, improper antenna, inadequate signal pick-up, adjustment of consumer controls, modification or commercial use of the product or service by anyone other than a factory Service center or authorized Service center or damage that is attributable to acts of God.

#### LIMITS AND EXCLUSIONS

There are no express warranties except as listed above. PANASONIC COMPANY, PHI AND PSC SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. DURATION OF IMPLIED WARRANTIES, IF ANY, IS LIMITED TO ONE (1) YEAR. 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 your product develops during your warranty period, you may contact your dealer or Service center. If the problem is not handled to your satisfaction, then write to the Consumer Affairs Division at the company address indicated above.

#### If you ship the product

Carefully pack and send it prepaid, adequately insured and preferably in the original carton. Attach a postage-affixed letter, detailing the complaint, to the outside of the carton.

*DO NOT send the product to the Executive or Regional Sales offices. They are NOT equipped to make repairs.*

#### Service in Puerto Rico

MATSUSHITA ELECTRIC OF  
PUERTO RICO, INC.

Panasonic Sales Company  
Factory Service center  
Calle Cosarito, Edif  
D Ceramica Industrial Park  
Carolina, Puerto Rico 00630  
809-762-5135, 762-5235

#### Service in Hawaii

PANASONIC HAWAII, INC.  
91-238 Kauhī Street, Ewa Beach  
P.O. Box 774  
Honolulu, Hawaii 96808-0774  
908-632-2851

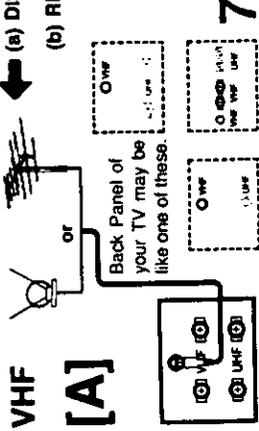
# CONNECTIONS TO MAKE BEFORE RECORDING

Each page of this Connection Guide has a different type of TV connection.

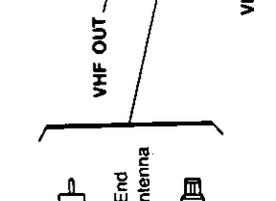
## [1] BASIC SIGNAL CONNECTIONS

The type of VCR and TV terminals you have may be found among those shown on this page.

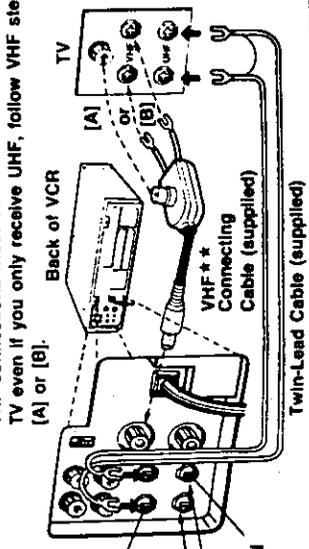
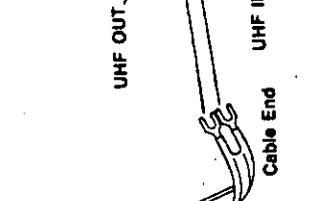
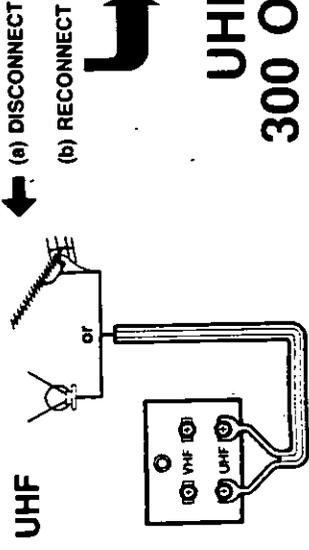
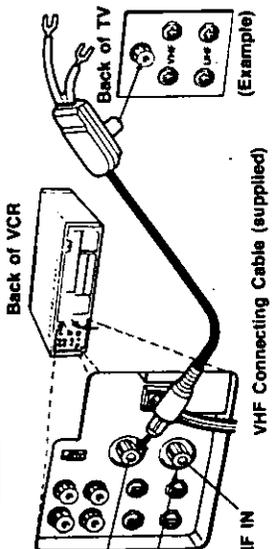
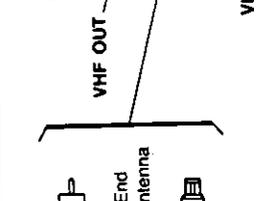
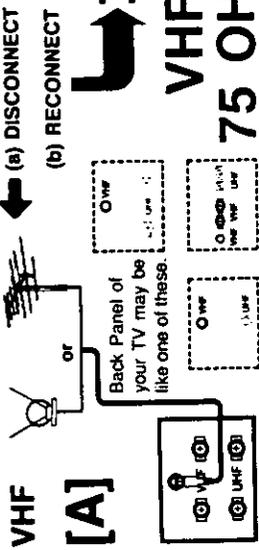
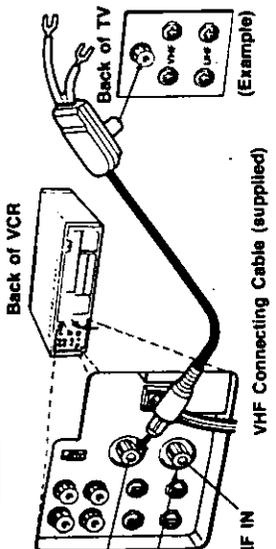
### ANTENNA-FROM-TV



### ANTENNA-TO-VCR

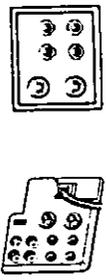


### VCR-TO-TV



### VCR Variation (s)

All Video Cassette Recorders (VCR) have VHF and UHF "In From Ant" and "Out To TV" terminals. The terminal placement may vary depending on which model VCR you own. See illustrations at right.



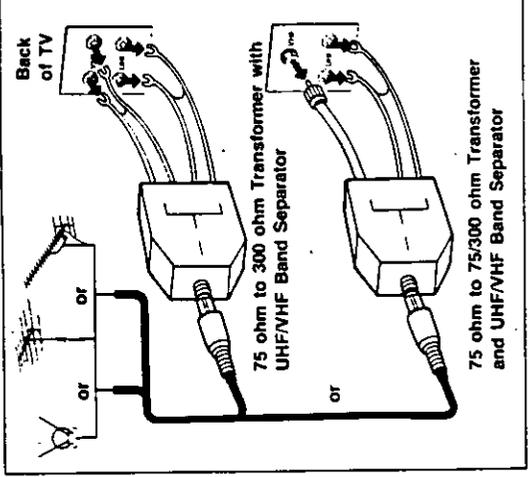
SOME ALTERNATE VCR TERMINAL PLACEMENTS

\* If your TV has both types of VHF connection, the 75 ohm connection is the preferred choice to minimize signal loss.

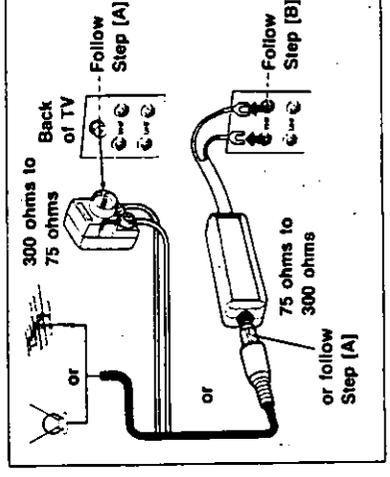
BE SURE TO READ THE INSTRUCTIONS IN THE "PREPARATIONS" SECTIONS OF YOUR OPERATING MANUAL BEFORE ATTEMPTING RECORDING.

The following adaptor arrangements shown below are the ones most commonly used to separate the UHF and VHF signals from a single antenna source:  
**FIRST:** Disconnect Separator or Transformer from antenna panel on back of TV.  
**THEN:** Reconnect as shown in VHF [A] (b) or [B] (b).

## FOR SEPARATORS



## FOR VHF ANTENNAS TRANSFORMERS



# CONNECTIONS TO MAKE BEFORE RECORDING (CONTINUED)

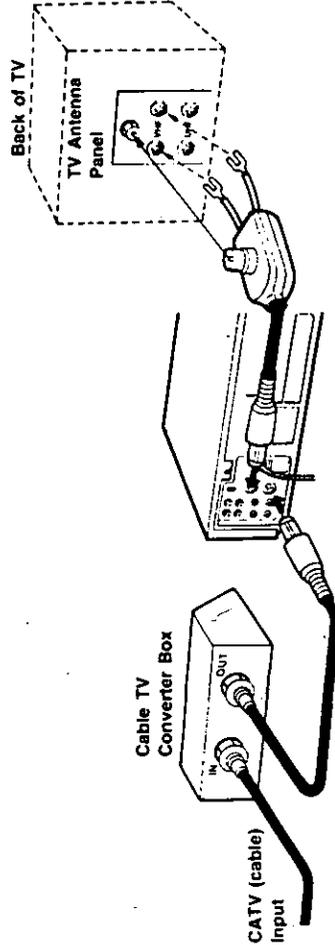
## CABLE CONNECTIONS

[2]

### BASIC CABLE CONNECTION

#### WITH A (CABLE TO VCR) CONVERTER/DESCRAMBLER BOX

If your cable service supplies you with a converter box, you can use the basic connection shown here. If your cable system is different, refer to "ALTERNATE CABLE CONNECTIONS" on the following pages.



With this connection, you can record and view any channel including scrambled channels. However, channel selection must be made at the cable company converter box. Therefore, the VCR's remote channel control feature cannot be used, unattended recording is limited to one channel at a time, and you cannot view another channel other than the one you are recording.

#### TO RECORD AND VIEW A SCRAMBLED/UNSCRAMBLED CHANNEL

1. Set the VCR/TV selector located on the front of VCR to "VCR".
2. Set TV channel selector to the output channel of the VCR.
3. Set VCR channel selector to the output channel of the Cable Converter Box. (e.g. CH 3).
4. Select channel to be recorded at the Cable Converter Box.

#### TO WATCH TV (WITH THE VCR OFF)

1. Set TV channel selector to the output channel of the Cable Converter Box.
2. Select the desired channel on cable converter channel selector.

#### Note to CATV system installer:

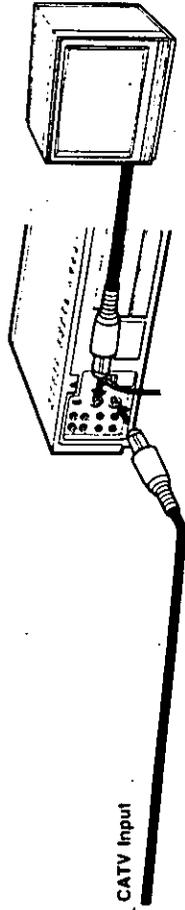
This reminder is provided to call the CATV system installer's attention to Article 820-22 of the NEC in USA (and to the Canadian Electrical code in Canada) that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

[3]

### ALTERNATE CABLE [A] CONNECTION

#### WITHOUT A CONVERTER/DESCRAMBLER BOX

Use this connection if your cable system connects directly to your TV without a converter box.



The following features will operate with this connection.

- a) All VCR remote functions.
- b) Full programmability of unscrambled channels for unattended recording.
- c) Viewing a different channel than the one being recorded.

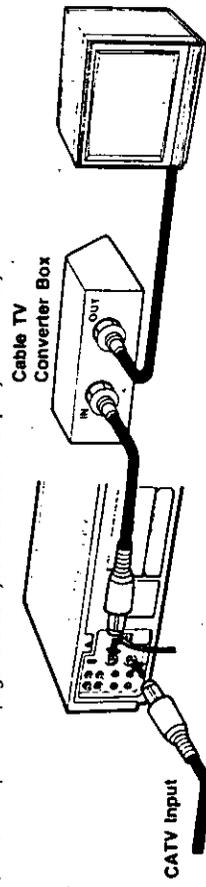
**NOTE:** • Use the VCR CHANNEL UP/DOWN Keys to select the desired channel.  
• You cannot record or view scrambled channels with this connection.

[4]

### ALTERNATE CABLE [B] CONNECTION

#### WITH A (VCR TO TV) CONVERTER/DESCRAMBLER BOX

If your cable system uses a converter box, you may use this connection instead of the basic cable connection shown on the previous page. Consult your local cable company if necessary.



With this connection, you regain:

- a) Full programmability of unscrambled channels for unattended recording.
- b) Viewing a different channel than the one being recorded.

**NOTE:** • Use the VCR CHANNEL UP/DOWN Keys to select the desired channel.  
• You cannot record scrambled channels with this connection.

#### Settings for Recording of One Channel and TV Viewing of Another Channel

1. Select channel to be recorded with the VCR CHANNEL UP/DOWN Keys.
2. On the VCR set the VCR/TV selector to TV.
3. Set the channel selector on the TV to the output channel for Converter Box.
4. Select channel to be viewed on Converter Box.

### Settings for Tape Playback

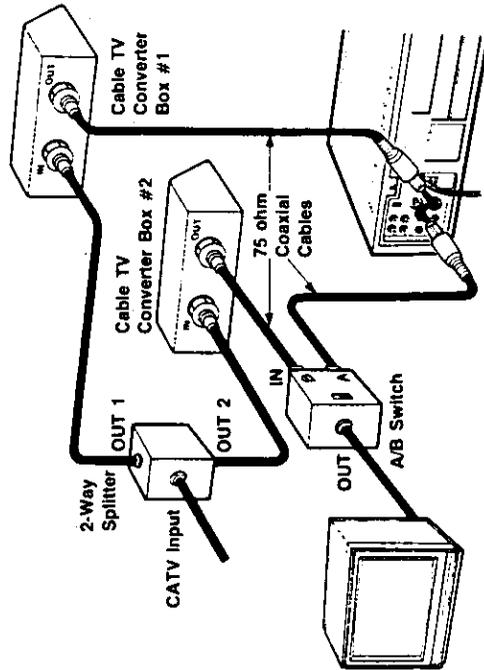
1. Set VCR/TV selector to VCR.
2. Set TV channel selector to the output channel of Converter Box.
3. Set Converter Box channel selector to VCR output channel (channel 3 or 4).

## [5]

### ALTERNATE CABLE CONNECTION

#### WITH TWO CONVERTER/DESCRAMBLER BOXES

If you want to record and view combinations of scrambled/unscrambled channels, you will need additional equipment. A typical connection using two converter boxes, an A/B Switch, and a 2-Way Splitter is shown here.



#### Settings for Recording and TV Viewing

1. Set VCR channel selector to the output channel of Converter #1.
2. Select channel to be recorded on Converter #1.

#### To view the channel being recorded:

- Set VCR/TV selector to VCR.
- Set A/B Switch to position A.
- Set TV channel selector to VCR output channel (channel 3 or 4).

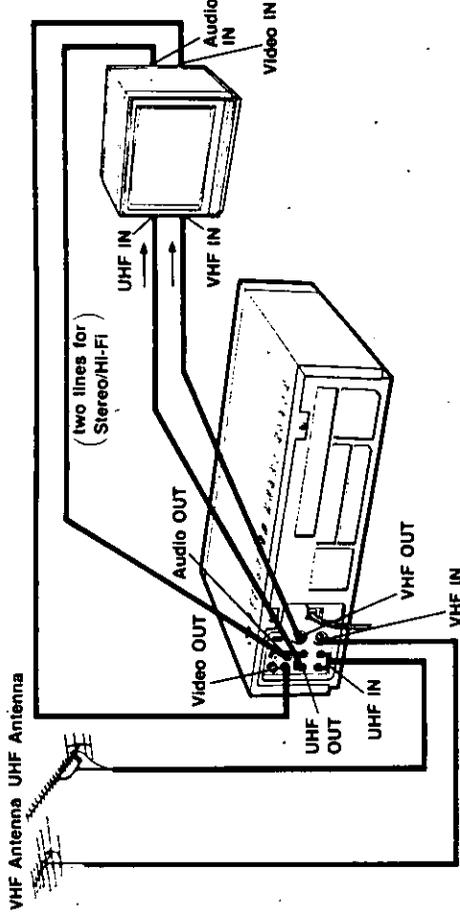
**NOTE:** These settings are also used to view playback of a tape.

#### To view a different channel:

- Set A/B Switch to position B.
- Set TV channel selector to output channel of Converter #2.
- Select channel to be viewed on converter #2.

## [6] TV AUDIO/VIDEO CONNECTIONS

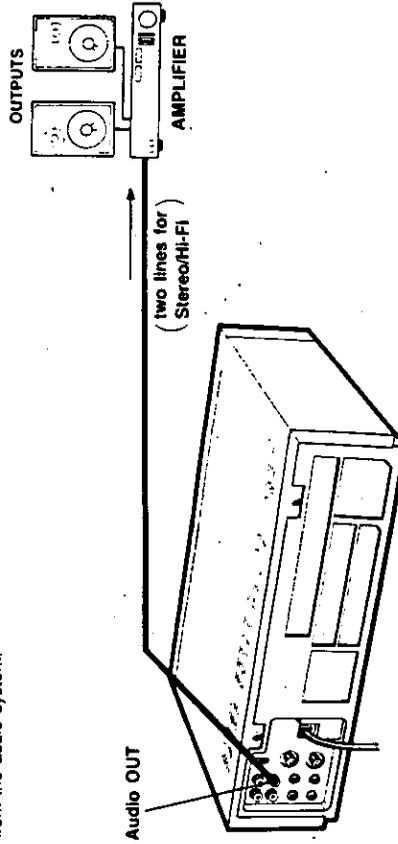
If your TV has AUDIO IN and VIDEO IN terminals, you can connect the AUDIO OUT and VIDEO OUT connectors of your VCR to these terminals on your TV to receive a higher quality picture and sound.



#### NOTE:

- For viewing the program from the VCR, set the VIDEO/TV selector on the TV (Monitor/Receiver) to the "VIDEO" mode.

If you connect the VCR to a component stereo audio system, you can view the VCR picture on TV with sound from the audio system.



# BASIC GUIDE For VCR CONNECTIONS

## IMPORTANT SAFEGUARDS AND PRECAUTIONS

### CONNECTIONS TO MAKE BEFORE RECORDING

- BASIC SIGNAL CONNECTIONS ..... [1]  
 CABLE CONNECTIONS ..... [2]~[5]  
 TV AUDIO/VIDEO CONNECTIONS ..... [6]

## IMPORTANT SAFEGUARDS AND PRECAUTIONS

### INTRODUCTION

Careful attention has been given to this Video product to assure a quality standard devoted to your safety and enjoyment. This quality standard together with your personal responsibility for the safety of yourself and others will contribute to your enjoyment. This Video product uses electrical energy and requires proper handling at all times.

### CAUTION:

READ AND RETAIN THE SAFETY AND OPERATING INSTRUCTIONS  
 To make full use of the safeguards incorporated in this unit, read and follow this basic guide adopted in part from Underwriter's Laboratories Standard 1409, Second Edition, before operating this Video product. FOLLOW THE INSTRUCTIONS AND BE SURE TO HEED ALL WARNINGS on unit and in manual, for easy maintenance, confident operation and trouble free service of this Video product.

### INSTALLATION

1. OPERATE FROM A POWER SOURCE INDICATED on this Video product, or in this Manual. Your Electric Utility Service Company or Video Products Dealer will be happy to verify the power source in your home.

2. THE GROUNDED OR POLARIZED PLUG IS A SAFETY FEATURE  
 This Video product may be equipped with either a polarized 2-wire AC line plug or a 3-wire grounding type plug.  
 The two wire polarized plug (having one blade wider than the other) will fit into the power outlet only one way. If it is a three wire grounding type plug (having a third pin), it will fit into a grounding type outlet.

3. DO NOT DEFEAT THE SAFETY PURPOSE OF THE GROUNDED OR POLARIZED PLUG by tampering with it.  
 If the plug does not fit fully into the socket, try reversing it. If you should still be unable to fully insert the plug into the socket, you may find that a proper outlet is needed to meet today's Electrical Standards. An electrician will replace your outlet safely.

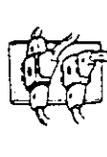
4. POWER SUPPLY CORDS SHOULD BE PROTECTED and routed so that they are not likely to have anything rest on them, roll over them, or be subject to walking traffic or abuse; particularly at plug-ins, convenience receptacles, or cord exit points from the unit. Where an extension is needed, use a grounded or polarized cord.  
 HAZARDOUS FRAYED CORDS OR DAMAGED PLUGS SHOULD BE REPLACED BY A QUALIFIED SERVICE TECHNICIAN.

5. OVERLOADED WALL OUTLETS AND EXTENSION CORDS PRESENT DANGEROUS RISKS OF FIRE OR ELECTRICAL SHOCK.

6. AVOID BLOCKING VENTILATION HOLES  
 Your video unit has ventilation openings in its cabinet to release heat generated during operation. Blocking these openings can cause heat build-up inside the unit, causing failures that may result in a fire hazard or heat damage to cassettes. For protection:  
 a. Never cover the bottom ventilation slots or the unit with soft material, or operate the unit placed on a bed, sofa, rug, or soft accessory.  
 b. Avoid built-in installations, such as a bookcase or rack, unless proper ventilation is provided.

7. AVOID EXTREMELY HOT LOCATIONS OR SUDDEN CHANGES IN TEMPERATURE  
 such as placing the unit near or over a radiator, in direct sunlight, closed vehicles, or transporting it suddenly between areas of extreme temperature variation.  
 If the unit is suddenly moved from a cold place to a warm place, moisture may form on the tape and inside the unit. In this case, the DEW indicator will appear and the unit will not operate.

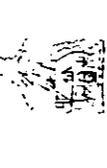
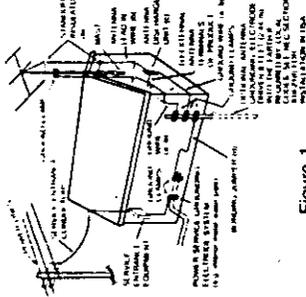
8. TO AVOID INJURY TO A CHILD, ADULT, OR COSTLY DAMAGE:  
 a. Do not place unsecured equipment on a sloping surface or any heavy object on unit. (Use the unit in a horizontal position and do not place anything heavy on it.)  
 b. Support for VCR should be adequately firm, level, and strong. Replace any unstable cart, table or support.  
 c. Carefully follow all operating instructions and use the manufacturer's recommended accessories when operating this unit or connecting it to any other equipment.



### OUTSIDE ANTENNA, EQUIPMENT, AND POWERLINE EXPOSURE

- INSURE SAFE ANTENNA AND CABLE CONNECTIONS  
 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. Part 1 of the Canadian Electrical Code, in USA Section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, 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. See figure 1 for items a-d below.  
 a. Use No. 10 AWG (5.3 mm) copper, No. 8 AWG (6.4 mm) aluminum, No. 17 AWG (1.0 mm) copper-clad steel or bronze wire, or larger, as ground wire.  
 b. Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4 feet (1.22 m) to 6 feet (1.83 m) apart.  
 c. Mount antenna discharge unit as close as possible to where lead-in enters house.  
 d. Use jumper wire not smaller than No. 6 AWG (13.3 mm) copper, or the equivalent, when a separate antenna-grounding electrode is used. See NEC Section 810-21(j) for installation in USA.
- ELIMINATE ANTENNA PROXIMITY TO HIGH VOLTAGE POWER SOURCES. OR CHANGE OF ACCIDENTAL CONTACT BY INSTALLER  
 An outside antenna system should be located where it will never be reached by power lines, electric light or power circuits and where it will never contact these power sources if it falls. Installer should use extreme care to avoid possible fatal contact by touching power lines, circuits or other power sources when installing outside antenna.

Figure 1



### USE

- AFTER STORING OR WHEN MOVING THE UNIT REFER TO THE INSTALLATION SECTION OF THE SAFEGUARDS
- DO NOT USE THIS VIDEO UNIT NEAR WATER around bathtubs, sinks, laundry, wet basement, swimming pool or any water sources.
  - USE ACCESSORIES RECOMMENDED ONLY BY THE MANUFACTURER to avoid risk of fire, shock or other hazards.
  - UNPLUG ALL EQUIPMENT EXPOSED TO RAIN, MOISTURE, OR STRONG IMPACT AND GET A QUALIFIED INSPECTOR  
 If your unit has been exposed to rain, water, excessive moisture, or subjected to strong impact, unplug it and have it inspected by a service technician before use.
  - UNPLUG UNUSED UNIT, AND ALL EQUIPMENT DURING A STORM  
 During a lightning storm, when indoors or outdoors, or before leaving unit unused for extended periods of time, disconnect all equipment from power source, antenna and cable system.
  - UNPLUG ALL EQUIPMENT BEFORE CLEANING, after unit has been unplugged use a dry, clean, chemically untreated, cloth. Use no cleaning fluids, aerosols, or forced air that could over-spray, or soak into the unit, and cause electrical shock. Any substance such as wax, adhesive tape, etc. may affect the cabinet surface. Exposure to greasy, humid, or dusty areas may affect internal parts.
  - WHEN PLUGGED-IN: KEEP WATER AWAY; NO FINGERS INSIDE NOR ANY OBJECTS INSIDE; AND NO MAGNETS OR ELECTRICAL INTERFERENCE NEARBY.  
 a. Never operate the unit if liquid has been spilled into it. Immediately unplug the unit, have it inspected by a service technician. Fire and shock hazards can result from electrical shorts caused by liquid contact inside.  
 b. Caution the children about dropping or pushing objects into the unit. Some parts inside carry hazardous voltages and contact can cause electric shock. Objects dropped in electrical equipment can cause fire hazards.  
 c. Separate the unit from any interference causing appliances. Placing the unit directly above or below your TV set may cause electrical interference. Keep all magnets away from electronic equipment.

### SERVICE

- DO NOT ATTEMPT TO SERVICE THIS PRODUCT YOURSELF  
 If this Video product does not operate as described, when the detailed Operating Instructions are followed do not attempt to open or remove covers, or make any adjustments not described in the manual. Attempting to service this unit yourself may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- CHECK ON REPLACEMENT PARTS REQUIRED, be sure the service technician has used replacement parts specified by the manufacturer or having the same characteristics as the original part. Unauthorized substitutes may result in fire, electric shock or other hazards.
- HAVE TECHNICIAN PERFORM SAFETY CHECK described in the manufacturer's service literature, after any service or repairs, to determine the Video unit's safe operating order.



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P.O. Box 171066  
Denver, Colorado 80217-1066

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Please do not send any products or correspondence to this address.

90M

Please fold here.

(CONTINUE  
HERE)

17 To help us understand our customers' lifestyles, please indicate the interests and activities in which you or your spouse enjoy participating on a regular basis:

- |   |   |  |
|---|---|--|
| 1. <input type="checkbox"/> Bicycling Frequently      | 20. <input type="checkbox"/> Automotive Work                | 39. <input type="checkbox"/> Coin/Stamp Collecting             |
| 2. <input type="checkbox"/> Golf                      | 21. <input type="checkbox"/> Electronics                    | 40. <input type="checkbox"/> Collectibles/Collections          |
| 3. <input type="checkbox"/> Physical Fitness/Exercise | 22. <input type="checkbox"/> Home Workshop/Do it Yourself   | 41. <input type="checkbox"/> Our Nation's Heritage             |
| 4. <input type="checkbox"/> Running/Jogging           | 23. <input type="checkbox"/> Motorcycles                    | 42. <input type="checkbox"/> Real Estate Investments           |
| 5. <input type="checkbox"/> Snow Skiing Frequently    | 24. <input type="checkbox"/> Recreational Vehicles          | 43. <input type="checkbox"/> Stock/Bond Investments            |
| 6. <input type="checkbox"/> Tennis Frequently         | 25. <input type="checkbox"/> Stereo, Records/Tapes/Discs    | 44. <input type="checkbox"/> Veterans Benefits                 |
| 7. <input type="checkbox"/> Bowling                   | 26. <input type="checkbox"/> Avid Book Reading              | 45. <input type="checkbox"/> Entering Sweepstakes              |
| 8. <input type="checkbox"/> Camping/Hiking            | 27. <input type="checkbox"/> Bible/Devotional Reading       | 46. <input type="checkbox"/> Home Video Games                  |
| 9. <input type="checkbox"/> Fishing Frequently        | 28. <input type="checkbox"/> Current Affairs/Politics       | 47. <input type="checkbox"/> Household Pets (dogs, cats, etc.) |
| 10. <input type="checkbox"/> Hunting/Shooting         | 29. <input type="checkbox"/> Health Foods/Vitamins          | 48. <input type="checkbox"/> Money Making Opportunities        |
| 11. <input type="checkbox"/> Power Boating            | 30. <input type="checkbox"/> House Plants                   | 49. <input type="checkbox"/> Science Fiction                   |
| 12. <input type="checkbox"/> Sailing                  | 31. <input type="checkbox"/> Photography                    | 50. <input type="checkbox"/> Wildlife/Environment Issues       |
| 13. <input type="checkbox"/> Crafts                   | 32. <input type="checkbox"/> Attend Cultural/Arts Events    | 51. <input type="checkbox"/> Career-Oriented Activities        |
| 14. <input type="checkbox"/> Crossword Puzzles        | 33. <input type="checkbox"/> Charities/Volunteer Activities | 52. <input type="checkbox"/> Personal/Home Computers           |
| 15. <input type="checkbox"/> Grandchildren            | 34. <input type="checkbox"/> Fashion Clothing               | 53. <input type="checkbox"/> Science/New Technology            |
| 16. <input type="checkbox"/> Needlework/Knitting      | 35. <input type="checkbox"/> Fine Art/Antiques              | 54. <input type="checkbox"/> Self Improvement                  |
| 17. <input type="checkbox"/> Outdoor Gardening        | 36. <input type="checkbox"/> Foreign Travel                 | 55. <input type="checkbox"/> VCR Recording/Viewing             |
| 18. <input type="checkbox"/> Sewing                   | 37. <input type="checkbox"/> Gourmet Cooking/Fine Foods     | 56. <input type="checkbox"/> Watching Cable TV                 |
| 19. <input type="checkbox"/> Walking for Health       | 38. <input type="checkbox"/> Wines                          | 57. <input type="checkbox"/> Watching Sports on TV             |
|   |   | 58. <input type="checkbox"/> NONE OF THE ABOVE                 |

18 From the above list, please indicate the numbers representing the 3 most important activities for:

You    Spouse

Thanks for taking the time to fill out this questionnaire. Your answers will be used for market research studies and reports — and will help us better serve you in the future. They will also allow you to receive important mailings and special offers from a number of fine companies whose products and services relate directly to the specific interests, hobbies, and other information indicated above. Through this selective program, you will be able to obtain more information about activities in which you are involved and less about those in which you are not. Please check here, if for some reason, you would prefer not to participate in this opportunity.

If you have comments or suggestions about our product, please write to:

Customer Service  
PANASONIC COMPANY  
One Panasonic Way  
Secaucus, NJ 07094

# Panasonic®

Panasonic Company  
Division of Matsushita Electric  
Corporation of America  
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New Jersey 07094

Panasonic Hawaii, Inc.  
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H.O. Box 774  
Honolulu, Hawaii 96808-0774

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of Puerto Rico, Inc.  
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Carolina, Puerto Rico 00630

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