

Thank you for choosing

Panasonic
Omnivision **VHS**



Combination VCR

MODEL PV-M2738



Operating Instructions

Please read these instructions carefully before attempting to connect, operate or adjust this product. Please save this manual.
Spanish Quick Use Guide is included.
Guía para rápida consulta en español está incluida.

P2 ~ P10
Getting Started

P11 ~ P14
Basic TV Operation

P15 ~ P17
Basic VCR Operation

P18 ~ P24
More you Can Do

P25 ~ Back Cover
Other Information

Things You Should Know

Congratulations

on your purchase of one of the most sophisticated and reliable products on the market today. Used properly, it will bring you and your family years of enjoyment. Please fill in the information at right. The serial number is on the tag located on the back of your Combination VCR.

Date of Purchase _____
Dealer Purchased From _____
Dealer Address _____
Dealer Phone No. _____
Model No. **PV-M2738**
Serial No. _____

Safety Precautions

Warning: To prevent fire or shock hazard, do not expose this equipment to rain or moisture.

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

This television receiver provides display of television closed captioning in accordance with §15.119 of the FCC rules.

	 <p>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.</p>
	 <p>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.</p>

Table of Contents

Things You Should Know.....	2
Important Safeguards and Precautions	3
Unpacking Your Combination VCR • Product Features	4

Getting Started

Antenna or Cable Connections (Outdoor Antenna, Cable Box, Scrambled/Unscrambled Channels)	5
Location of Controls (Remote Control, Combination VCR)	6, 7
One Time Setup (On-Screen Language, Channel Memory, Auto Clock Set)	8, 9
On-Screen Displays (OSD) (Function, Channel, Menu, VCR Status/Clock, Warning, Instruction)	10

Basic TV Operation

TV Operation (Main Operation, Using the 100 key, Rapid Tune, Audio Mute, Phones, SELF-DEMO Mode)	11
Picture Adjustment (Color, Tint, Brightness, Picture, Sharpness, Reset)	11
TV Timer Features (Alarm Timer, Sleep Timer)	12
Closed Caption System (Main Operation, Caption On Mute).....	13
FM Radio	14

Basic VCR Operation

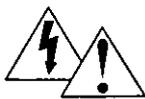
Playback a Tape (Main Operation, Special Effects, Quality Picture Features).....	15
Tape Operation (Repeat Play, One Minute Skip, Zero Search, Auto Functions)	16
Record On a Tape (Main Operation, One Touch Record, Input Select)	17

More You Can Do

Timer Recording (Main Operation, Cancel, Clear or Replace Program Contents)	18, 19
Copying Your Tapes (Dubbing) (Connection, Main Operation).....	19
Special VCR Features (VCR Lock, Warning Beeper)	20
MTS Broadcast /TV Stereo System (Stereo/SAP/Mono Broadcast, Select Audio Mode)	21
VCR Plus+ Setup	22, 23
VCR Plus+ Programming.....	24

Other Information

Unit and Cassette Information	25
Before Requesting Service (Self-check Items)	26
Service Center List.....	27
Spanish Quick Use Guide/Guía para rápida consulta	28-31
Warranty.....	Back Cover



Important Safeguards and Precautions

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

INSTALLATION

1 POWER SOURCE CAUTION

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

2 POLARIZED OR GROUNDING PLUG

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

POLARIZED PLUG CAUTION:

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

GROUNDING PLUG CAUTION:

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

3 POWER CORD

Make sure power cords are routed so that they are not likely to have anything rest on them, roll over them, or be in the way of walking traffic. If an extension cord is used, make sure it also has either a polarized or grounded plug and that the cords can be securely connected. Frayed cords, damaged plugs, and damaged or cracked wire insulation are hazardous and should be replaced by a qualified service technician. Overloaded outlets and extension cords are fire hazards and should be avoided.

4 DO NOT BLOCK VENTILATION HOLES

Ventilation openings in the cabinet release heat generated during operation. If they are blocked, heat build-up inside the unit can cause failures that may result in a fire hazard or heat damage to cassettes. For protection follow these rules:

- Never cover ventilation slots or the unit while in use, or operate the unit when placed on a bed, sofa, rug, or other soft surface.
- Avoid built-in installation, such as a book case or rack, unless proper ventilation is provided.

5 AVOID EXTREMELY HOT LOCATIONS OR SUDDEN TEMPERATURE CHANGES

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

6 TO AVOID PERSONAL INJURY

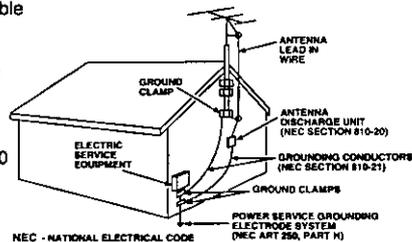
- Do not place unsecured equipment on a sloping surface.
- Do not place this unit on any support that is not firm, level and adequately strong. The unit could fall causing serious injury to child or adult and damage to the unit.
- An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
- Carefully follow all operating instructions and use the manufacturer's recommended accessories when operating this unit or connecting it to any other equipment.



OUTDOOR ANTENNA INSTALLATION

1 SAFE ANTENNA AND CABLE CONNECTION

If an outside antenna or cable system is connected to the equipment, be sure the antenna or cable system is grounded so as to provide some protection against built up static charges and voltage surges. Section 810 of the National Electrical Code, ANSI/NFPA 70 (in Canada, part 1 of the Canadian Electrical Code)



provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in 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.

2 KEEP ANTENNA CLEAR OF HIGH VOLTAGE POWER LINES OR CIRCUITS

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

USING THE VIDEO UNIT

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

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

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

3 DURING AN ELECTRICAL STORM

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

4 WHEN THE UNIT IS PLUGGED IN

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

5 USING ACCESSORIES

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

6 CLEANING THE UNIT

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

SERVICE

1 DO NOT SERVICE THIS PRODUCT YOURSELF

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

2 IF REPLACEMENT PARTS ARE REQUIRED

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

3 HAVE THE SERVICE TECHNICIAN PERFORM A SAFETY CHECK

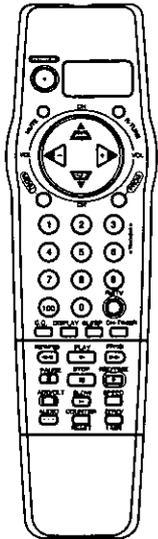
After any service or repairs to the unit, request the service technician to conduct a thorough safety check as described in the manufacturer's service literature to insure that the video unit is in safe operating condition.

Unpacking Your Combination VCR • Product Features

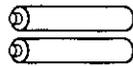
Unpacking Your Combination VCR

The accessories shown below are provided to help you use or set up your Combination VCR.

Accessories



Remote Control
VSQS1501

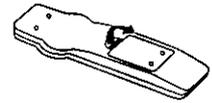


2 "AA" Batteries

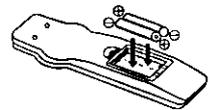
To order accessories,
call toll free 1-800-211-PANA(7262).

Load the batteries

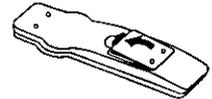
- 1** Press in and up on the latch with your thumb nail and lift off the lid.



- 2** Install two batteries, as indicated, inside the Battery Compartment.



- 3** Fit the lid's hinge piece into the indent on the case, and snap the lid into place.



Battery replacement caution

- Do not mix old and new batteries.
- Do not mix alkaline with manganese batteries.

Product Features

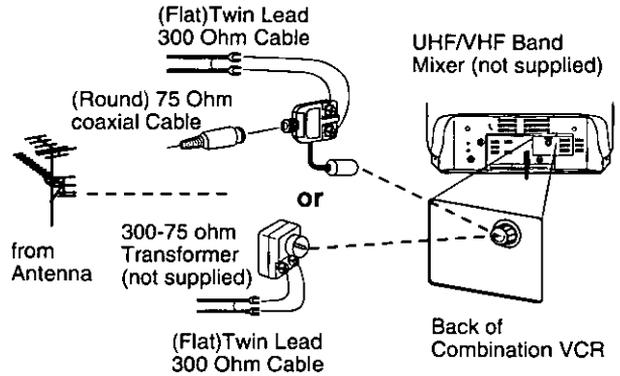
Alarm Timer	12
All Channel Auto Set/181-CH TV/CATV Tuner	8
Auto Clock Set	8, 9
Auto Daylight Saving Time	25
Auto Operation Functions (Auto Shut Off, Auto Playback, Rewind, Tape Eject, Power Off)	16
Auto Repeat Function	16
Closed Caption System	13
Easy-to-Read English/Spanish/French On-Screen Displays	8, 9, 18, 19
FM Radio	14
Front-mounted A/V In Terminals	19, 22
MTS Broadcast System	21
One Minute Skip	16
One Month, 8 Program Auto Timer Recording	18, 19
One Touch Recording (OTR)	17
PanaBlack™ Picture Tube	15
Quick Play Mechanism	26
Rapid Tune	11
Special Effects Playback	15
Special VCR Features (VCR Lock, Warning Beeper)	20
VCR Plus+ Recording	24
Zero Search	16



Antenna or Cable Connections

Outdoor Antenna Connection

Unhook the antenna from your previous TV or VCR and connect it to the back of the Combination VCR as shown in the diagram. If your antenna system has separate UHF and VHF lead-ins, you need a UHF/VHF Band Mixer (not supplied).



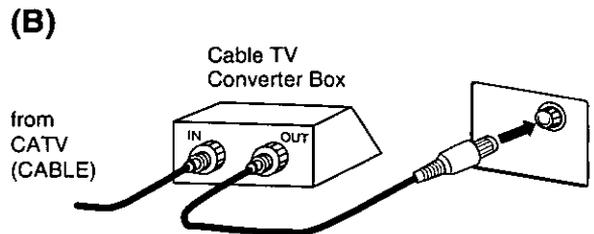
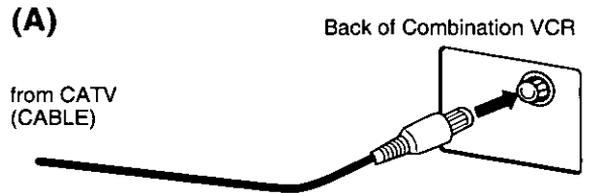
Cable Connections

(A) Without a Converter/Descrambler Box

With this connection, you can use your Combination VCR remote control to select channels for viewing and select unscrambled channels for timer recording. Scrambled channels may not be viewed or recorded with this connection.

(B) With a Converter/Descrambler Box

With this connection, you may record and view any channel including scrambled channels. Please note, however that channel selection must be made at the cable company converter box. Timer recording is limited to one channel at a time, and you can only view the channel you are recording.



To Watch and Record Scrambled/Unscrambled Channels

Set the Combination VCR to the output channel of the cable converter box (e.g. CH3). Now, select channels to be viewed or recorded at the cable converter box.

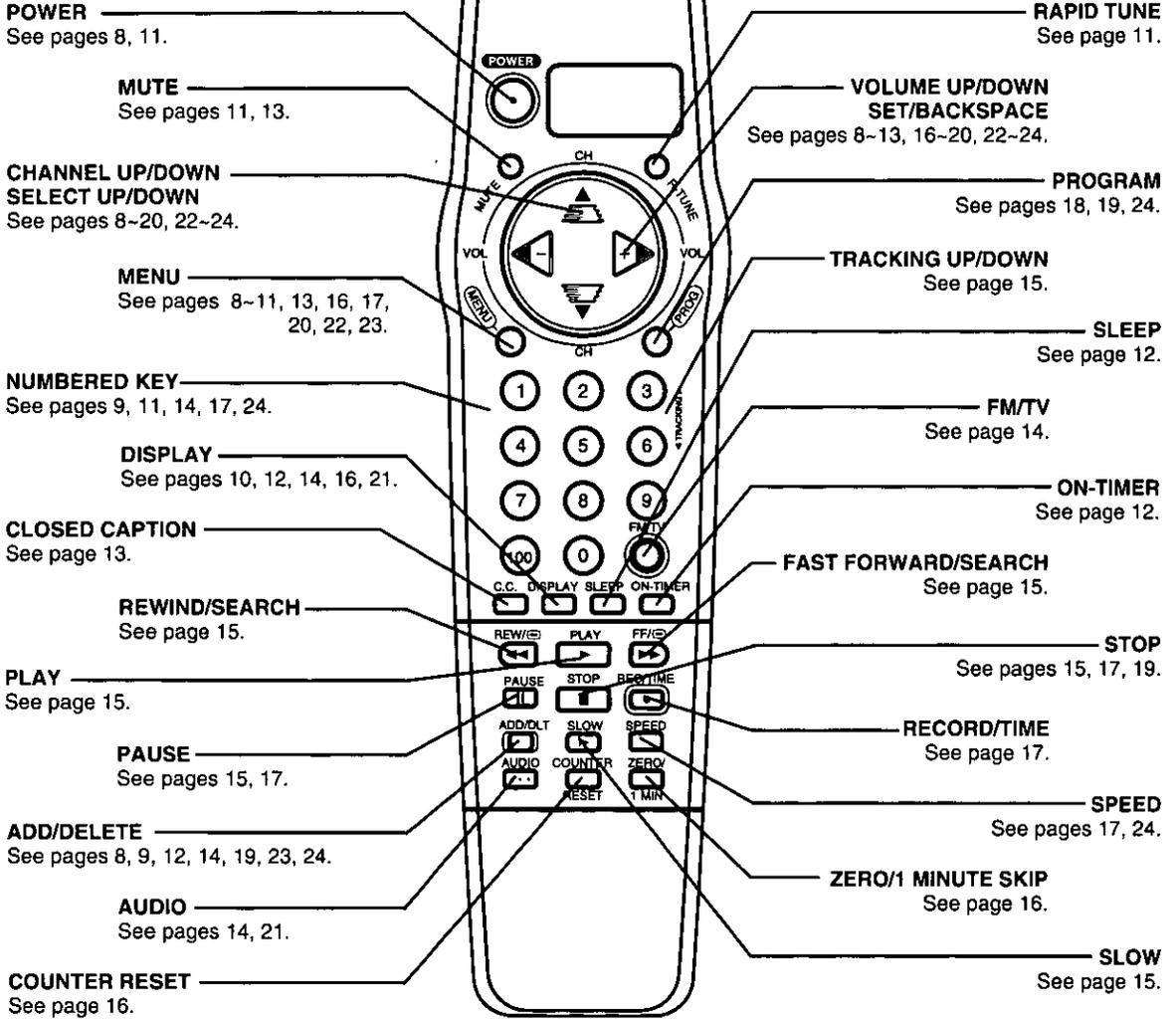
FCC WARNING: Any unauthorized changes or modifications to this equipment would void the user's authority to operate.

Note to CATV System Installer
This reminder is provided to call the CATV (Cable TV) System Installers attention to Article 820-40 of the NEC 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.



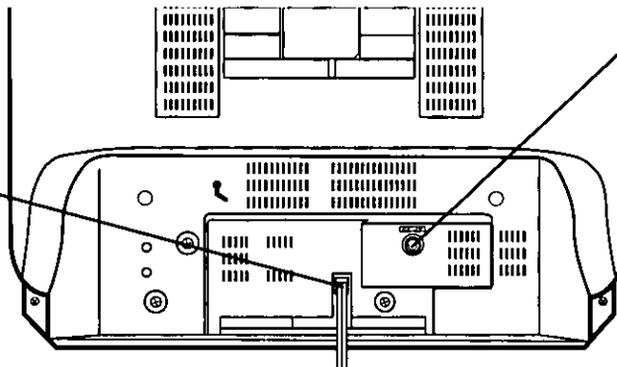
Location of Controls

Remote Control Buttons



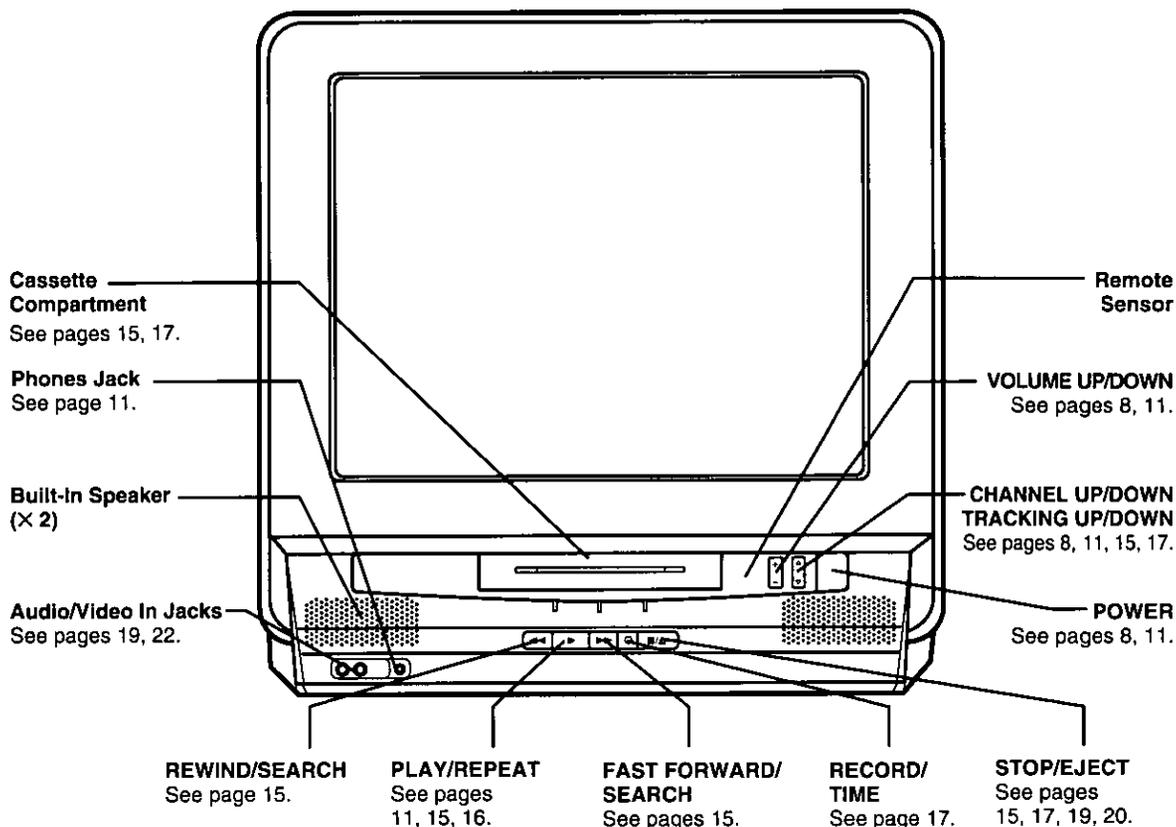
Rear View of the Combination VCR

AC Power Plug
When plugged into an AC outlet, the Combination VCR consumes 7 W of electric power in OFF condition.

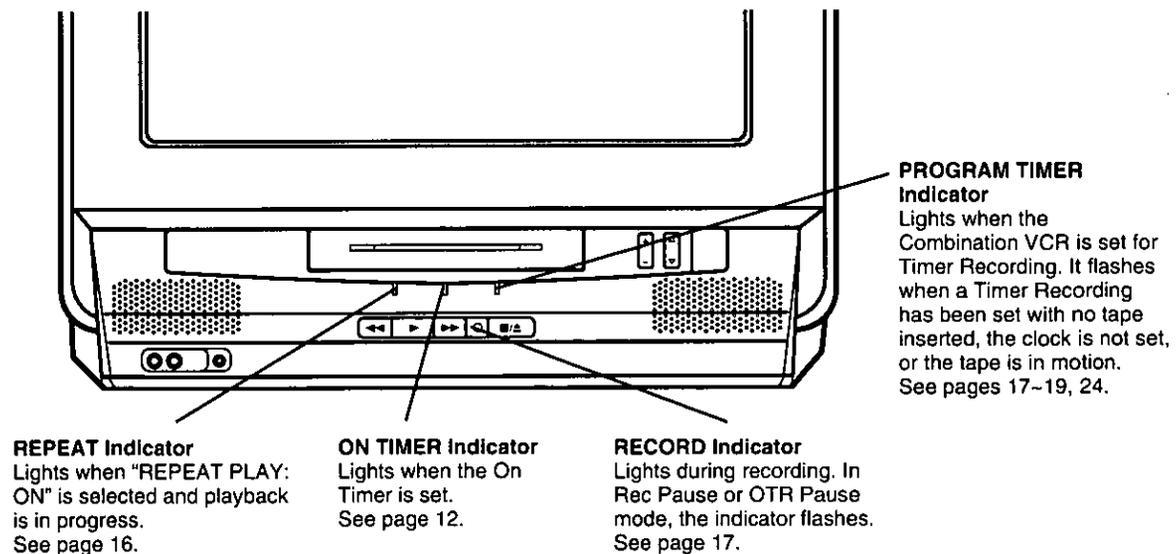


VHF/UHF Antenna Input Terminal
In from your Antenna or Cable.
See page 5.

Front View of the Combination VCR



Indicators on the Front Panel





One Time Setup

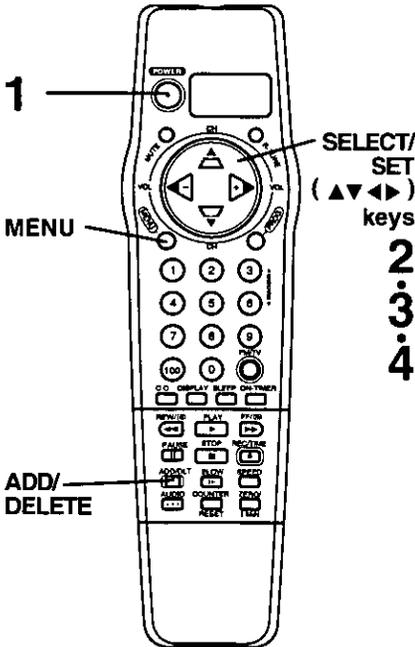
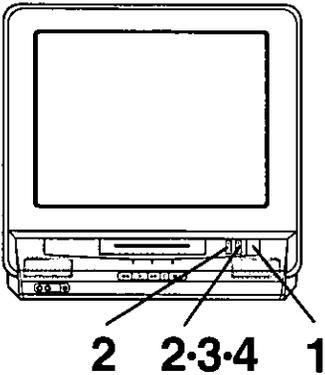
When the Combination VCR is turned on for the first time, it automatically enters the setup mode. Setup includes the following:

- Choose the language for on-screen menus and messages.
- Tell the Combination VCR how your equipment is hooked up (page 5) so the Combination VCR can correctly place channels into memory.
- Get the Combination VCR ready for clock set.



Check list before you begin.

- Your Combination VCR is connected to an Antenna or Cable system (see page 5).



Using the ▲▼◀▶ keys

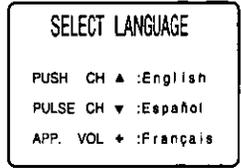


Whenever a menu or program screen is displayed, CHANNEL UP/DOWN and VOLUME UP/DOWN on the remote control function as ▲▼◀▶ only. For VOLUME UP/DOWN functions, use the buttons on the Combination VCR.

To Set Language, Channels, and Clock

1 Press **POWER** to turn the Combination VCR on.

2 Press **CH ▲▼**, or **VOL ▶** for on screen displays in English, Spanish or French.

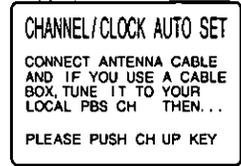


- If you choose the wrong language, please see the "Reset all Combination VCR Memory Functions" section on page 25.
- If you use a cable box, the cable box must be left on for auto channel set.

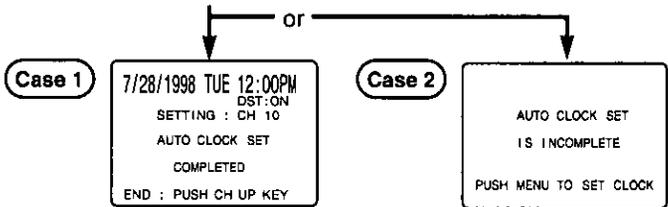
Important: If you use a cable box, turn it on and select the PBS station in your time zone.

3 Press **CH ▲** to start Channel Auto Set and Clock Auto Set.

These on-screen displays will appear in sequence.



- CH AUTO SET PROCEEDING
- CH AUTO SET COMPLETED
- AUTO CLOCK SET PROCEEDING



4 **Case 1** If the displayed time is correct, press **CH ▲** to exit.

- This concludes one time Combination VCR setup.
- See important note at the bottom of this page.

If the displayed time and DST. are not correct...

If you happen to live close to two time zones, the Combination VCR may have recognized the PBS channel (setting channel) in the wrong time zone. Please do the following to correct the situation.

- Make a note of the SETTING: CH number shown on-screen and press **CH ▲** to exit.
- Delete the setting channel from the Combination VCR channel memory. (See the Add or Delete a Channel section on the next page.)
- Press **MENU** to display the MAIN MENU.
- Press **▲▼◀▶** to select "CLOCK," and then press **MENU** to display the SET CLOCK screen.
 - If you use a cable box and have multiple PBS stations, tune the cable box to a different PBS station and try auto clock set again using the menu.
- Press **▲▼** to select "AUTO SET," and then press **▶** to set and **CH ▲** to start Auto Clock set.

IMPORTANT NOTE FOR AUTO CLOCK SET

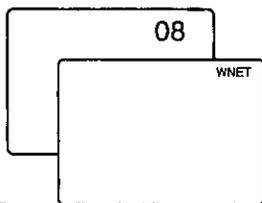
- Auto clock set will be performed when the Combination VCR is turned off the first time each day. If you use a cable box and you want auto clock set to be performed, the cable box must be left on and tuned to the PBS channel at the time the Combination VCR power is turned off.
- If for any reason the time is changed manually, automatic time correction will not occur.



On-Screen Displays (OSD)

Channel & Function Display

Whenever the channel is changed, the channel number will appear for a few seconds on-screen. (Some station names may also appear.)



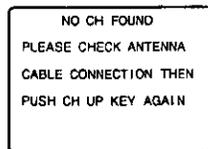
When a function button is pressed (PLAY, FF, etc.), the Combination VCR mode will be displayed.

- When a recording is started, both REC and the channel number will appear together.

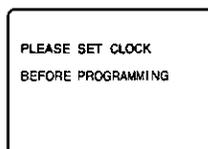
Warning and Instruction Displays

These displays will alert you of a missed operation or provide further instructions.

If no active channels are found for CHANNEL MEMORY... (see page 5.)

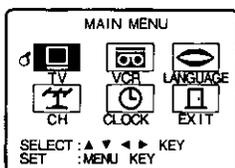


If you attempt to set or review a Timer Recording or set the On-Timer and the Clock is not set... (see pages 8, 9.)



Menu Screen

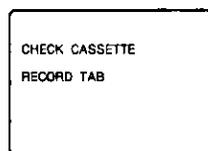
1 Press **MENU** to display the MAIN MENU.



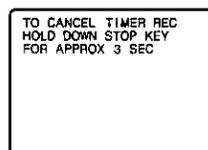
2 Press **▲▼◀▶** and **MENU** to make your selection (see page 8.)

- To get the most from each feature, please read the Operation Manual before attempting any operation.

If you press REC on the remote control or the Combination VCR, and a cassette is inserted with no record tab... (see page 17.)

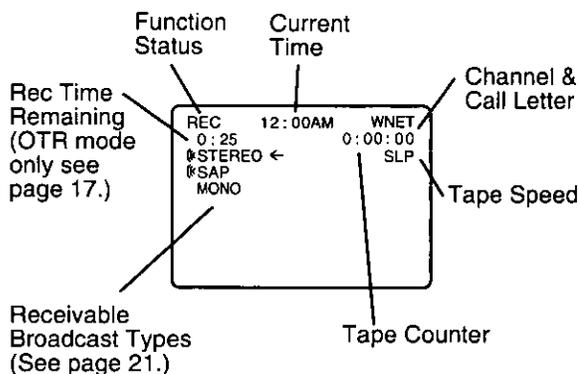


If you press STOP during a Timer Recording... (see page 19.)

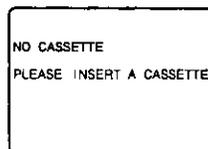


VCR Status & Clock Display

Press **DISPLAY** to display and remove the overlay shown below.



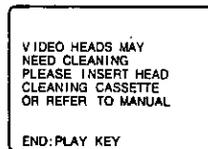
If you press PLAY, FF, REW, or REC on the remote control or the Combination VCR without a cassette inserted... (see pages 15, 17.)



If the Combination VCR is not in Stop mode or a cassette with record tab is not inserted two minutes before a Timer Recording is about to begin... (see pages 18, 19.)



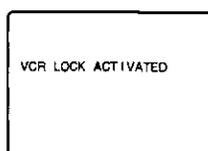
If head cleaning becomes necessary while playing back a tape... (see page 25.)



Blank Tape/ No Video Signal Indication

When a blank section of tape comes up in Play mode, or the selected channel has no broadcast signal, the TV screen will turn a solid blue.

If you press a function button other than STOP/EJECT or POWER while the Combination VCR is in VCR Lock mode... (See page 20.)

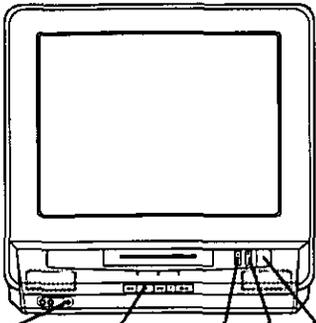




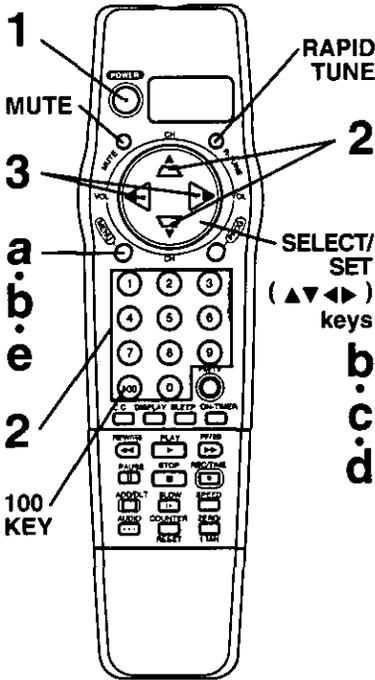
TV Operation/Picture Adjustment

✓ Check list before you begin.

- All connections are made (see page 5).
- Your Combination VCR is plugged in.



PHONES Jack PLAY/REPEAT 3 2 1



TV Operation

- 1 Press **POWER** to turn the Combination VCR on.
- 2 Select a channel using **CH ▲▼** or the **NUMBERED** keys.
- 3 Press **VOL ◀▶** to adjust the volume level.

Using the 100 key

When selecting CATV channels 100 to 125 with the **NUMBERED** keys, first press the 100 key, and then enter the remaining two digits. For example, for channel 125: Press **NUMBERED** keys 100-2-5.

Rapid Tune

Press **R-TUNE** to display the last channel you were watching.

- When selecting channels with **CH ▲▼**, the channels must be displayed for at least 4 seconds in order for the Combination VCR to recognize them as a new selection.
- Previous channel Present channel
CH08 ←→ CH10

Audio Mute

Press **MUTE** to instantly mute the sound. Press again, to restore the previous sound level.

Phones

Connect an earphone (not supplied) or headphones (not supplied) to the Phones Jack.

SELF-DEMO Mode

In Power ON condition, hold down **PLAY/REPEAT** on the Combination VCR, with no tape inserted, for 5 seconds. The demo screen appears. To cancel: Repeat the above operation. The demo screen disappears.

Picture Adjustment

a Press **MENU** to display the **MAIN MENU**.

b Press **▲▼◀▶** to select "TV," and then press **MENU** to display the **SET UP TV** screen.

c Press **▲▼** to select "VIDEO ADJUST," and then press **▶** to display the **VIDEO ADJUST** screen.

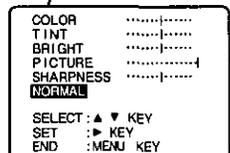
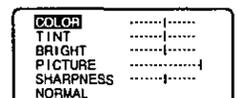
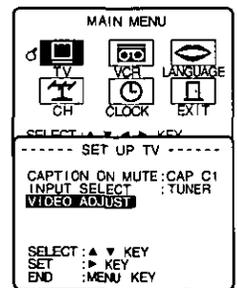
d Press **▲▼** repeatedly to select the desired adjust item, and then press **◀▶** to adjust. (See description at left.)

To Reset Picture Controls to the Factory Setting

Press **▲▼** and **▶** to select and set "NORMAL."
All controls return to their factory settings.

e Press **MENU** three times to return to the normal screen.

- If no button is pressed within 5 minutes, the video adjust overlay disappears.



Picture Adjustment

COLOR Control

To adjust the intensity of the color.

TINT Control

To adjust for the most natural fleshtones.

BRIGHTNESS Control

To adjust the brightness of the picture.

PICTURE Control

To adjust the intensity of the picture by adjusting contrast and color level at the same time and in the proper balance.

SHARPNESS Control

To adjust the sharpness of the picture.

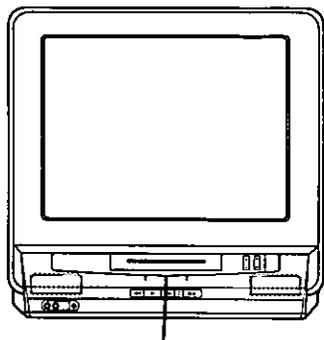


TV Timer Features

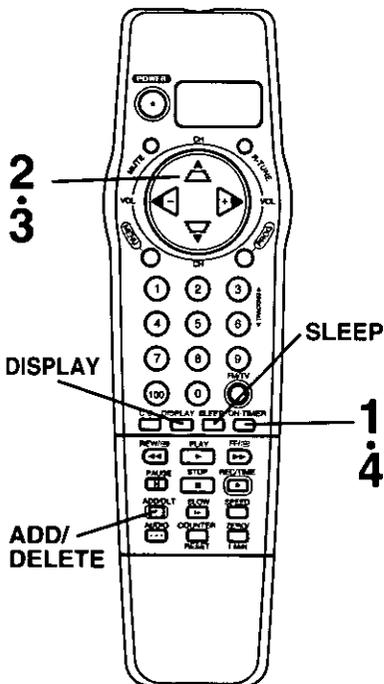


Check list before you begin.

- All connections are made (see page 5).
- Your Combination VCR is plugged in.



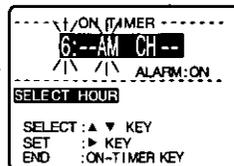
ON TIMER Indicator



On-Timer with Alarm Feature

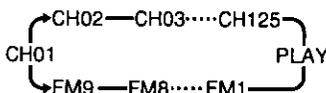
The Combination VCR can be set to automatically power on in one of 3 modes (TV, Playback, or FM radio). You can also combine the On-Timer with a one minute alarm that gradually increases in volume.

1 Press **ON-TIMER** to display the ON TIMER screen.



2 Press **▲▼** to select and **▶** to fix the On-Timer time and also to choose the On-Timer mode (TV, PLAY, or FM radio). See the **▲▼** selection order shown below.

- Make sure a tape is inserted if Playback mode is selected.
- See "FM Radio Feature" on page 14 for instructions on how to preset FM stations.



3 Press **▲▼** to select alarm "ON" or "OFF."

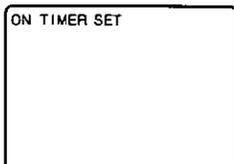
When "ON" is selected, an alarm will gradually increase in volume for one minute or until cancelled by pressing any button on the remote or Combination VCR (including VOL **◀▶**). When the alarm sound stops, the sound of the mode you selected will ensue.



To Make Corrections, use **▲▼** and **◀▶** to move back and correct as necessary.

4 Press **ON-TIMER** to set the On Timer. This screen will appear for about 5 seconds.

- The ON TIMER indicator lights on the front panel.



To cancel, press ON-TIMER to redisplay the screen in step 3. Then, press ADD/HLT to clear the time ("6" is flashing). Now, press ON-TIMER to end. "ON TIMER END" appears on-screen for a few seconds.



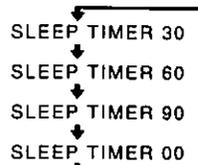
If no button on the remote or Combination VCR (including a button used to turn off the alarm) is pressed within 60 minutes after the Combination VCR turns itself on, it will turn itself back off.

Set the Sleep Timer

The Combination VCR can be set for auto power off.

Press **SLEEP** repeatedly to set the sleep timer.

- Each press will change the time in the order shown at right.
- If you press DISPLAY with the SLEEP TIMER set, the remaining time will appear on-screen.

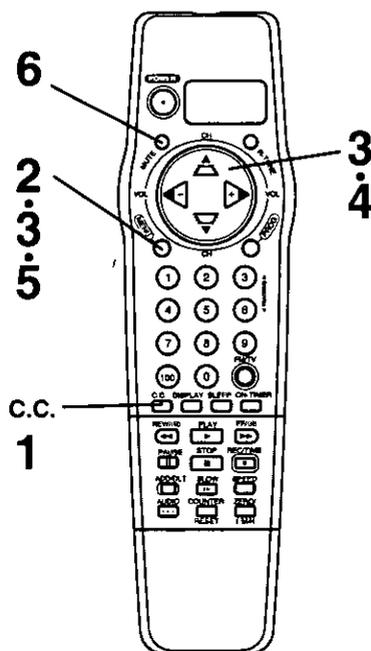


To Cancel, press SLEEP repeatedly until "SLEEP TIMER 00" appears.

CC Closed Caption System

✓ Check list before you begin.

- All connections are made (see page 5).
- Your Combination VCR is plugged in.

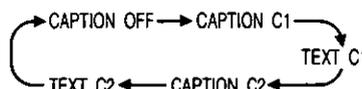


Closed Caption Mode Feature

This multi-use system not only allows the hearing impaired to enjoy selected programs, but also makes useful information from TV stations available to everyone. At first, read through the different closed caption options below left.

Press C.C. repeatedly to select the desired caption mode. (See "Caption Mode description" below left).

- Selected mode is displayed on screen.
- Each press C.C. will change the display as shown below.



Closed Caption Modes From which to Choose

Caption Mode: CAPTION C1 or C2
A narration of selected TV programs will be displayed on the screen.

Check your TV program listings for C.C. (Closed Caption) broadcasts.

Caption Mode: TEXT C1 or C2
The lower half of the screen will be blocked out. When the TV station broadcasts text, such as program listings, special information, etc., it will appear in this space.

Caption Mode: OFF
Narration will not appear on the screen even if a closed caption or text broadcast is received.

Note: The closed caption or text signal may be broadcast over C1, C2, or both. Also, text contents can vary so you may wish to try different settings.

Recording and Playing Back a Closed Caption/Text Program

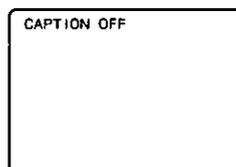
Record: Your Combination VCR will automatically record the Closed Caption/Text signal. Just follow normal recording operation.

Playback: To display the Closed Caption narration or Text during playback, simply press C.C. until the desired caption mode is displayed.

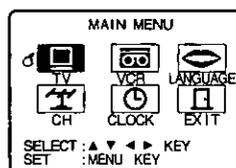
Caption On Mute Feature

This feature allows you to turn off the sound and, at the same time, display Closed Caption narration. Perfect for when you need silence, but would like to continue watching the program.

1 Press C.C. until CAPTION OFF is displayed on screen.



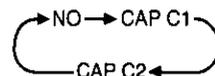
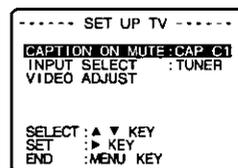
2 Press MENU to display the MAIN MENU.



3 Press ▲▼◀▶ to select "TV," and then press **MENU** to display the SET UP TV screen.

4 Press ▶ repeatedly to select the desired caption on mute mode.

- Each press of ▶ will change the display as shown at right.
- The caption may be broadcast over CAP C1 or C2.



5 Press MENU twice to return to the normal screen.

6 Press MUTE to mute the sound. The closed caption narration (if available) is displayed on the screen.

- Press MUTE again to resume normal sound and picture.
- Not all programs have Closed Caption information, therefore, narration may not be displayed.



FM Radio

The Combination VCR has an FM radio with built-in antenna, 9 station preset, and a band range of 87.5–108.1 MHz. You can even set the On-Timer (page 12) to wake up to your favorite radio station.

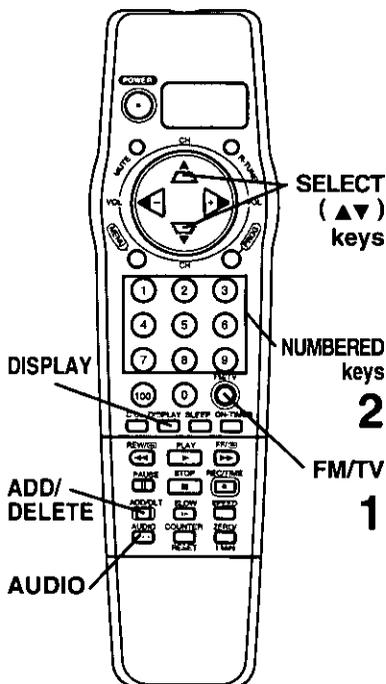
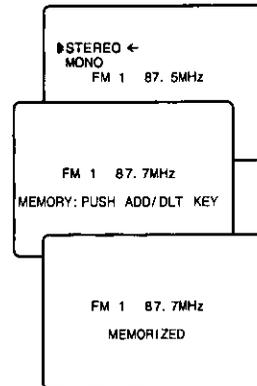
Check list before you begin.

- All connections are made (see page 5).
- Your Combination VCR is plugged in.

FM Radio Feature Setup

- a** Press FM/TV on the remote control to select FM Radio mode.
- b** In FM Radio mode, press a NUMBERED key (1~9).
- c** Press ▲▼ to select the desired radio station. (Each press changes the frequency by 200 KHz.)
- d** Press ADD/HLT to memorize the desired station.
 - To preset other stations, repeat steps b~d.

To Make Corrections, press the NUMBERED key to select the memorized number, and then repeat steps b~d to change the memorized station.

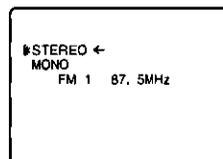


Using the FM Radio

- 1** Press FM/TV on the remote control to select FM Radio mode.

- 2** Press a NUMBERED key (1~9) to select a preset station (see steps a~d above).

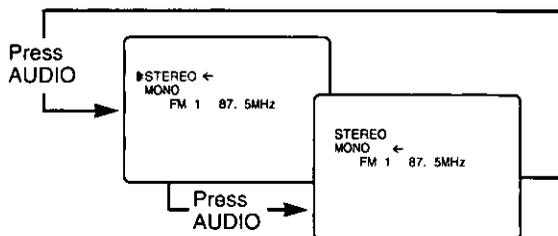
To cancel FM Radio mode, press FM/TV again to return to the normal screen.



To Select Audio Mode for FM Radio

Press AUDIO in FM Radio mode to select "STEREO" or "MONO." An arrow points to the current mode.

< Example >

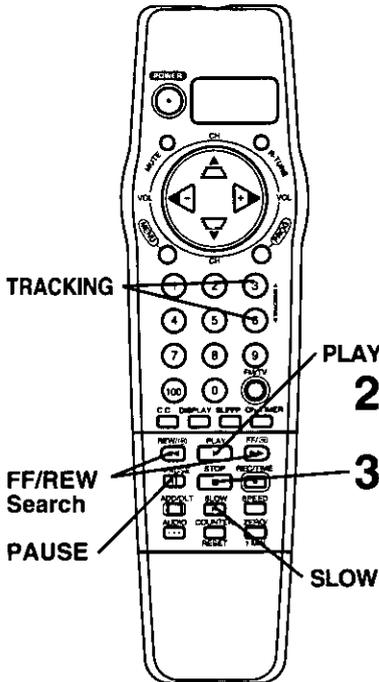
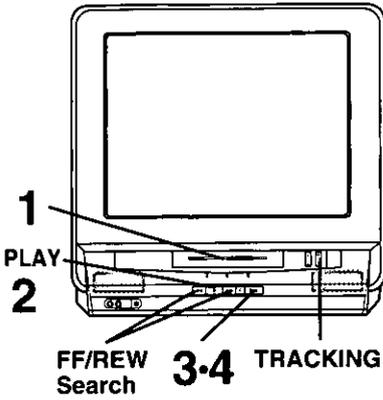


- You can not record FM radio stations onto a Video cassette tape.
- You may get improved FM reception for some stations by repositioning the Combination VCR.
- You can not select the FM Radio mode during playback or record, or while a blue back screen (MENU, PROG, and ON-TIMER) is displayed.

▶ Playback a Tape

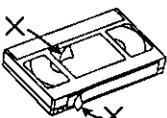
✓ Check list before you begin.

- All connections are made (see page 5).
- Your Combination VCR is plugged in.



Caution:

Please inspect your cassette tapes and remove any loose or peeling labels to prevent them from becoming jammed in your unit.



1 Insert a cassette.

- The Combination VCR power comes on automatically.

2 Press **PLAY** on the remote control or Combination VCR to start playback.

- Playback begins automatically if cassette has no record tab (see page 16).

3 Press **STOP** on the remote control or Combination VCR to stop playback.

- To rewind the tape, press **REW**.

4 Press **STOP/EJECT** on the Combination VCR to eject the cassette.

- You may eject a cassette with power on or off.

To Find a Particular Scene During Playback

Press **REW** or **FF** on the remote control or Combination VCR to quickly locate a scene.

- Search speed for SLP mode tapes is 21 times the normal speed.
- Some noise bars will appear during search.

Special Effects During Playback

These features work best in SLP mode. The sound will be muted.

Slow Motion Playback

Press **SLOW** to start slow motion playback. Press **PLAY** or **SLOW** to release.

Still (Freeze) Frame Picture

Press **PAUSE** to freeze and release the picture.

- To reduce picture noise, first press **SLOW**. Next, use the 3 or 6 **NUMBERED** key on the remote control or **CH ▲▼** on the Combination VCR to clear up the picture. Now, press **PAUSE**.

Frame by Frame Advance

While in Still mode, press **SLOW** repeatedly or hold down to advance the still picture one frame at a time. Press **PAUSE** or **PLAY** to release.

(After the Combination VCR is in Still or Slow mode for 3 minutes, it will switch to the Stop mode automatically to protect the tape and the video head.)

Features for a Quality Picture

Digital Auto Tracking

This feature continuously analyzes the signal and adjusts for optimum picture quality.

Manual Tracking Control

Use during Playback and Slow Motion mode to reduce picture noise. Press the 3 or 6 **NUMBERED** key on the remote control or **CH ▲▼** on the Combination VCR until the picture clears up. To return to Auto Tracking, press **POWER** off and then on again.

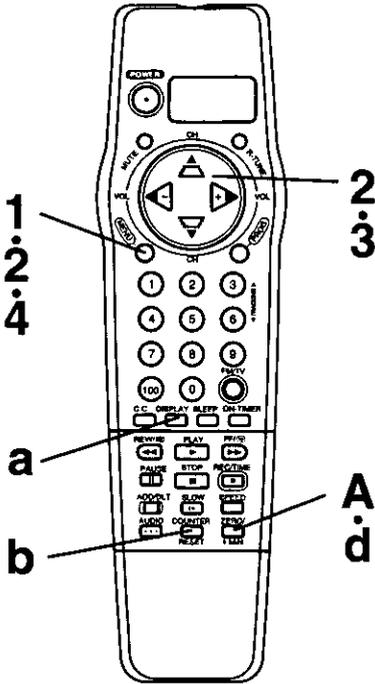
PanaBlack™ Picture Tube

This Combination VCR uses a PanaBlack™ picture tube for better color reproduction and picture contrast.



Tape Operation

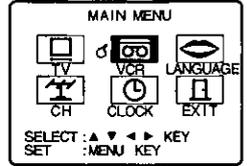
Your Combination VCR is equipped with several time saving features as well as convenient automatic functions which make tape operation easier than ever.



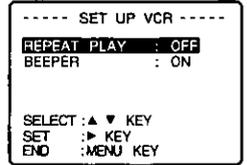
Repeat Play

You can set your Combination VCR up to play a recording over and over.

1 Press **MENU** to display the MAIN MENU.



2 Press **▲▼◀▶** to select "VCR," and then press **MENU** to display the SET UP VCR screen.



3 Press **▲▼** to select "REPEAT PLAY," and then press **▶** repeatedly to select "ON" or "OFF."

- When **REPEAT PLAY : ON** is selected (the REPEAT indicator lights on the front panel), the Combination VCR will playback the tape to its end, or until a blank portion of 30 seconds or more is reached. (Erased portions of tape are not considered blank.) The tape is then automatically rewound and played again. This operation is repeated until you cancel Repeat Play.
- All function buttons (REW, FF, etc.) are operational during Repeat Play.

4 Press **MENU** twice to return to the normal screen.



You may also turn the repeat play feature on and off at the Combination VCR. During playback, press **PLAY/REPEAT** on the Combination VCR once or twice until the REPEAT indicator lights up (ON), or goes out (OFF).

Auto Operation Functions

Auto Shut Off

In TV mode, when a broadcast signal is not received for 5 minutes, the Combination VCR will automatically power off (except when LINE INPUT is selected).

In Playback mode, when a Video signal is not detected for 5 minutes, the Combination VCR will automatically power off and the tape will be rewound.

- This feature is deactivated when any button on the unit or remote control is pressed even if there is no signal present.

Auto Playback

When a tape is inserted, the power turns on (Auto). If the record tab* is removed, playback begins (Auto).

Auto Rewind

When a tape reaches its end during playback or fast forward the Combination VCR will rewind the tape and go into Stop mode.

Playback Auto Eject (Repeat Play is "OFF.")

When a tape without a record tab* is played to its end, the Combination VCR will rewind and then eject the tape.

Memory Rewind Off

When **POWER** is pressed during tape rewind, rewinding will be completed even though the Combination VCR turns off.

* For record tab information, see page 25.

One Minute Skip

With this feature, you can skip over commercials recorded on a tape.

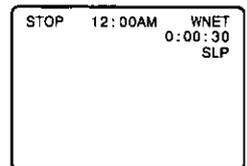
A Press **ZERO/1 MIN** in Play mode.

- The Combination VCR will go into FF search mode and skip over 60 seconds of recorded time. Then, normal playback will resume.

Zero Search

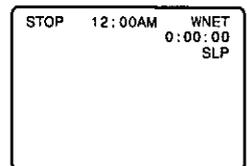
You can reset the Time Counter to zero and then return to that point.

a Press **DISPLAY** to display the Time Counter overlay during playback.



b Press **COUNTER RESET** to reset the Time Counter to "0:00:00" at the desired position.

c Continue playback, rewind, or fast forward.



d Press **ZERO/1MIN** in Stop mode when you want to return to "0:00:00."

- The Combination VCR will go into FF or REW mode and stop at the last point the Time Counter was set to 0:00:00.

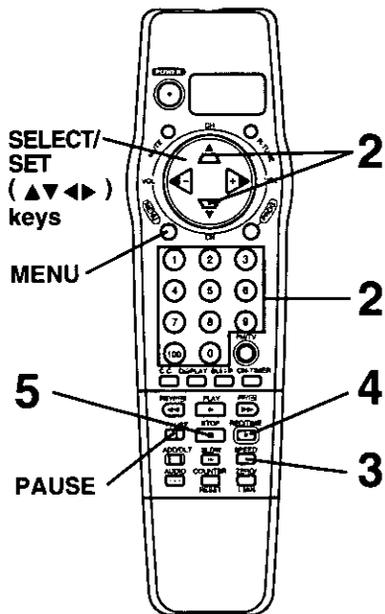
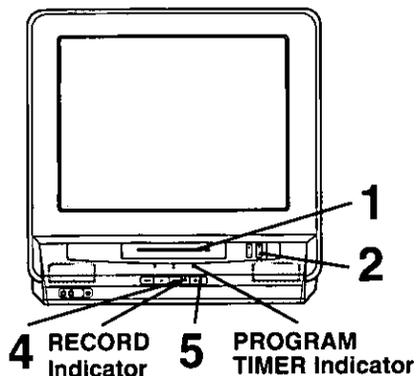


Record On a Tape



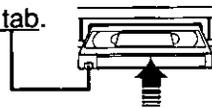
Check list before you begin.

- All connections are made (see page 5).
- Your Combination VCR is plugged in.



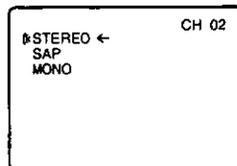
1 Insert a cassette with record tab.

- The Combination VCR power comes on automatically.



2 Press CH ▲▼, or NUMBERED keys on the remote control to select a channel.

- Or, press CH ▲▼ on the Combination VCR.
- To record from an outside source, press CH ▲▼ to select LINE input (see bottom of this page).



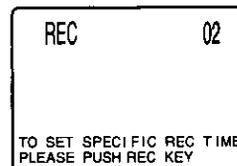
3 Press SPEED repeatedly until the desired tape speed is displayed (see page 25).

- SP = Standard Play
- LP = Long Play
- SLP = Super Long Play



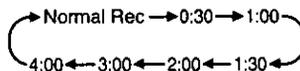
4 Press REC/TIME on the remote control to start recording.

- Or, press REC/TIME on the Combination VCR.
- To edit out unwanted portions, press PAUSE to pause the recording in progress. To release, press PAUSE again.
- You can not view another channel during recording.



One Touch Timer Recording (OTR)

The Combination VCR stops recording at a preset time. In step 4, press REC/TIME repeatedly to set the length of the recording. Each press will change the time as shown.

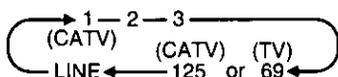


- The PROGRAM TIMER indicator lights on the front panel.

Selecting the Input Mode

You can select the Input Mode in either of the following ways.

- Press CH ▲▼. The display will change in the order below.



- a Press MENU to display the MAIN MENU.
- b Press ▲▼◀▶ to select "TV," and then press MENU to display the SET UP TV screen.
- c Press ▲▼ to select "INPUT SELECT," and then press ▶ repeatedly to select "TUNER" or "LINE."

5 Press STOP on the remote control to stop recording.

- Or, press STOP/EJECT on the Combination VCR.



- While it is possible to change the tape speed when you are recording, there will be some distortion on the tape where the change occurred.
- The remaining recording time of an OTR can be displayed by pressing DISPLAY.
- After the Combination VCR has been in Rec Pause mode for 5 minutes, it will stop automatically to protect the tape and video head.

Basic VCR Operation



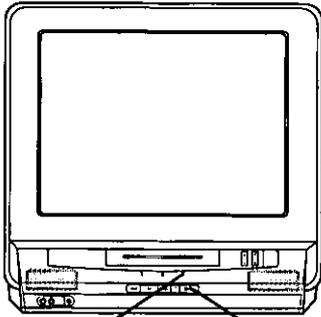
Timer Recording

Your Combination VCR can be set up to do a recording while you are away or otherwise occupied. Up to 8 programs can be placed in memory. You can choose to record one time, daily, or weekly.



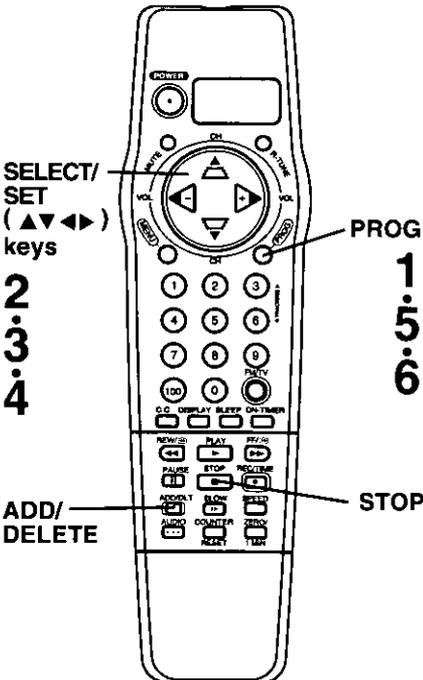
Check list before you begin.

- All connections are made (see page 5).
- Your Combination VCR is plugged in.
- The clock is set.
- The tape is long enough.
- The record tab is in place.



PROGRAM
TIMER Indicator

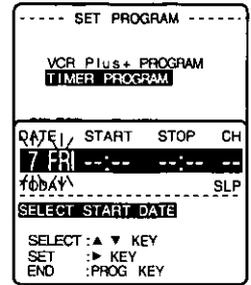
STOP/EJECT



1 Press PROG to display the SET PROGRAM screen.

2 Press ▲▼ to select "TIMER PROGRAM" and then press ► to display the program screen.

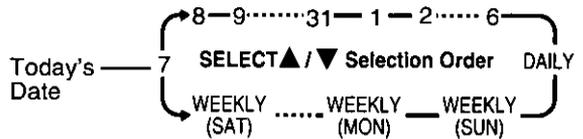
- If a program is already in memory, press ▲▼ repeatedly, and then ► to select an unused program number.



3 Press ▲▼ and ► to select and set one of the following as the DATE:

- 1-31 = One time recording
- DAILY = Same time MON ~ FRI
- WEEKLY SUN~SAT = Same time once a week

Example



4 Press ▲▼ and ► to select and set each of the remaining items as follows.

Remaining Items:

- START time
- STOP time
- CH(annel) number, or LINE for outside source recording
- Speed (SP, LP, SLP)

To Make Corrections

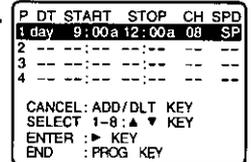
Repeatedly press ► or ◀ to move the cursor to the right or left, and then make the correction.

5 Press PROG to end the program.

- This screen appears for confirmation.

To Enter More Programs

Press ▲▼ and ► to select and set a blank program number, and then repeat steps 3 and 4.



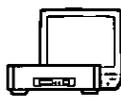
6 Press PROG twice to exit this mode and return to the normal screen.

- The PROGRAM TIMER indicator lights on the front panel.
- If you're using a cable box, make sure that it is tuned to the desired channel and the power is left on for timer recording.

Two minutes before the Timer Recording starts, "TIMER REC WILL START SOON" will appear on-screen.



- If "PLEASE PREPARE FOR TIMER REC" appears and/or the PROGRAM TIMER indicator flashes, check that a cassette with record tab is loaded and the Combination VCR is in Stop mode.
- If the start times of two programs overlap, the lower numbered program will have priority.
- If the start time for a timer recording comes up during a normal recording or One Touch Recording (page 17), the timer recording will not be performed.
- If there is a power interruption of more than one minute, the recording may not be performed or continue.
- If "INCOMPLETE" appears after all items have been set, check all entries and make necessary corrections.



Copying Your Tapes (Dubbing)

Cancel a Timer Recording: (Recording is in progress)

Hold down STOP for a few seconds to cancel the Timer Recording.

- Any future daily or weekly recordings will be performed as programmed.

Replace Program Contents: (Recording is not in progress)

1 Do steps 1 and 2 on previous page. All currently set programs will be displayed on-screen.

- 2 Press ▲▼ repeatedly to select the desired program, and then press ► to display the settings. (See page 18.)

P	DT	START	STOP	CH	SPD
1	--	--	--	--	--
2	8	10:00p	12:00p	125	SLP
3	10	8:00p	9:00p	10	SP
4	SU	9:00p	10:00p	L	SLP

SELECT 1-8: ▲ ▼ KEY
ENTER : ► KEY
END : PROG KEY

- 3 Press ▲▼ repeatedly to select, and then press ► to enter replacement information.

DATE	START	STOP	CH
8 SAT	10:00P	11:00P	125
----- SLP			
SELECT START DATE			
SELECT : ▲ ▼ KEY			
SET : ◀ ▶ KEY			
END : PROG KEY			

- 4 Press PROG three times to exit this mode and return to the normal TV screen.

Review or Clear Program Contents: (Recording is not in progress)

- a Do steps 1 and 2 on previous page. All currently set programs will be displayed on-screen.

P	DT	START	STOP	CH	SPD
1	day	9:00a	12:00a	08	SP
2	8	10:00p	12:00p	125	SLP
3	10	8:00p	9:00p	10	SP
4	SU	9:00p	10:00p	L	SLP

CANCEL: ADD/HLT KEY
SELECT 1-8: ▲ ▼ KEY
ENTER : ► KEY
END : PROG KEY

- b Press ▲▼ repeatedly to select the desired program number.

P	DT	START	STOP	CH	SPD
1	8	10:00p	12:00p	125	SLP
2	10	8:00p	9:00p	10	SP
4	SU	9:00p	10:00p	L	SLP

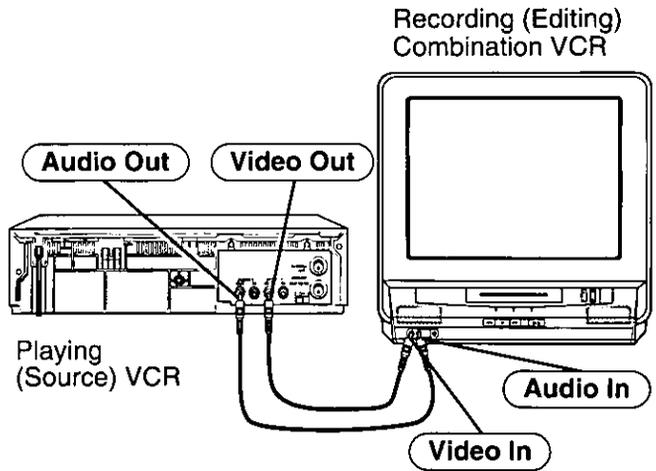
SELECT 1-8: ▲ ▼ KEY
ENTER : ► KEY
END : PROG KEY

- c Press the ADD/HLT if you want to clear the program.

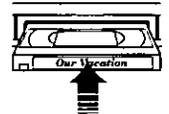
- d Press PROG twice to exit this mode and return to the normal TV screen.

Connections you'll need to make.

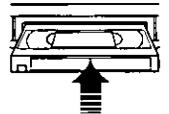
- Use this same connection for your video camera, laser disc player, video games, etc.



- 1 Insert a pre-recorded tape into the Playing (source) VCR.



- 2 Insert a blank tape with record tab into the Recording (editing) Combination VCR.



- 3 Select "LINE" as the input on the Combination VCR.

- See "Selecting the Input Mode" section on page 17.

- 4 Press PLAY on the VCR. Then, press PAUSE when the tape reaches the point at which you want to start copying.

- 5 Press REC on the Combination VCR, and then immediately press PAUSE on the remote control.

- 6 Press PAUSE on both units at the same time to begin copying.

You can edit out unwanted parts of the original recording by using PAUSE (on the Recording unit) while copying is in progress.

- 7 Press STOP on both units to stop copying.

Caution:

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

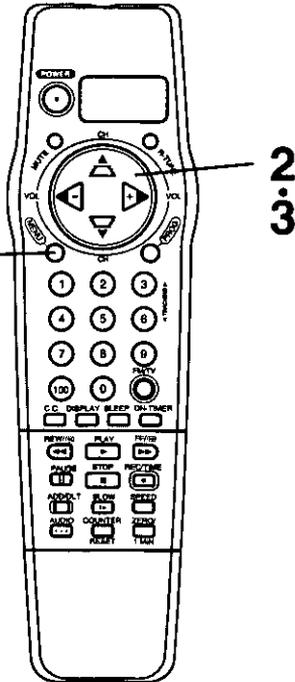
SPECIAL Special VCR Features

✓ Check list before you begin.

- All connections are made (see page 5).
- Your Combination VCR is plugged in.



STOP/EJECT



VCR Lock Feature

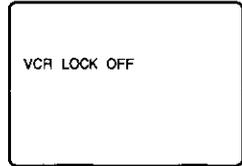
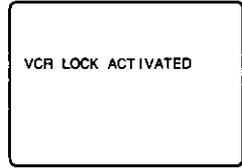
When activated, this feature prohibits all operations except for timer recording and tape eject. This feature may be used to keep young children from operating the Combination VCR.

Hold down STOP/EJECT on the Combination VCR for 7 seconds during Stop or Power OFF mode.

To Cancel the VCR Lock feature, Hold down STOP/EJECT on the Combination VCR for 7 seconds again during Stop or Power OFF mode.

- VCR Lock mode is cancelled automatically after 24 hours as long as the clock is set.
- This feature cannot be activated or cancelled when a timer or one touch recording is in progress.

NOTE: The on screen message will only be displayed on your TV screen if the VCR Lock feature is activated in the Power on mode.



Warning Beeper Feature

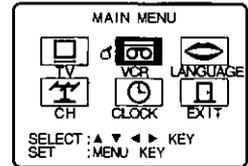
When you select BEEPER ON, a short warning will sound each time an invalid entry or incomplete operation is made.

1 Press MENU to display the MAIN MENU.

2 Press ▲▼◀▶ to select "VCR," and then press MENU to display the SET UP VCR screen.

3 Press ▲▼ to select "BEEPER," and then press ▶ to select "ON" or "OFF."

4 Press MENU twice to exit this screen.



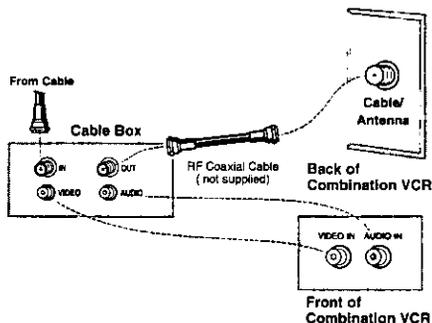
VCR Plus+ programming allows you to set most items of a timer recording by simply entering a special code (PlusCode) found in *TV GUIDE* magazine as well as the TV listings in selected newspapers. In order for your Combination VCR to do a VCR Plus+ recording, or a timer recording of cable stations, some setup is required.

At first, choose your Connection Type.

(Then, follow the instructions under the diagram.)

Connection Type A

<CABLE BOX → COMBINATION VCR>

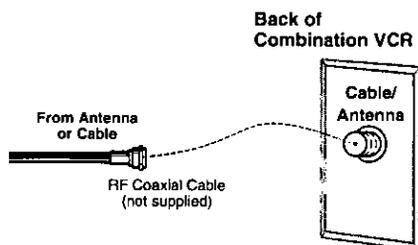


If your system looks like this, do the following.

1. Complete the "Cable Box Setup" section at right.
2. Skip page 23 and go directly to page 24 for VCR Plus+ Programming.

Connection Type B

<CABLE or ANTENNA → COMBINATION VCR>



If your system looks like this, do the following.

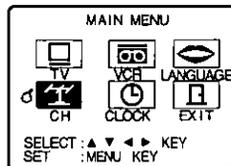
1. Skip the "Cable Box Setup" section at right and turn to page 23.
2. Complete the "VCR Plus+ Channel Setup" section on page 23.
3. Turn to page 24 for VCR Plus+ Programming.

VCR Plus+ and PlusCode are trademarks of Gemstar Development Corporation. The VCR Plus+ system is manufactured under license from Gemstar Development Corporation.

Cable Box Setup

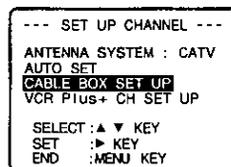
For Connection Type A (see left) only

1 Press **MENU** to display the MAIN MENU.

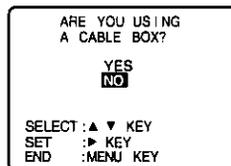


2 Press **▲▼◀▶** to select "CH," and then press **MENU** to display the SET UP CHANNEL screen.

3 Press **▲▼** to select "CABLE BOX SET UP," and then **▶** to set.



4 Press **▲▼** and to select "YES" or "NO," and then press **▶** to set.

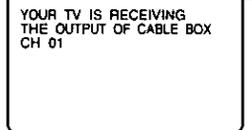
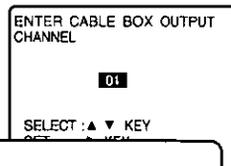


Select **YES** if all channels are received via the cable box (connection "A" at left). Then, go to step 5.

Select **NO** if your cable connection resembles "B" at left. Press **MENU** to exit and turn to page 23.

5 Press **▲▼** to select Cable box output channel number, and then press **▶** to enter.

- If necessary, refer to your cable box manual.
- If you are using Audio/Video jack connection for your cable box, select and set "VIDEO OUT" as the output channel.

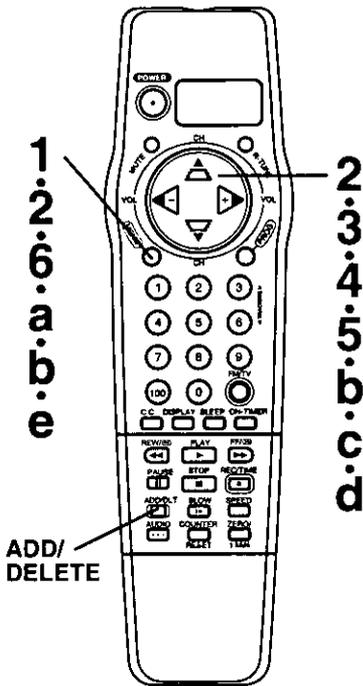


- This display appears for 5 seconds. (Channel shown is example only)

6 Press **MENU** twice to end the setup and return to the normal screen.

Go directly to VCR Plus+ Programming on page 24.

In order for the Combination VCR to read the VCR Plus+ code, some setup is required. A Guide (VCR Plus+) channel number is assigned to each local broadcast and cable station. Because this number sometimes differs from the channel your TV receives the station on, it is necessary to program the Combination VCR with local channel information.



VCR Plus+ Channel Setup

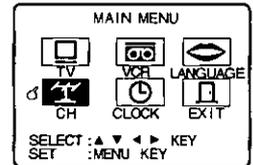
For Connection Type B (page 22) only

- Before you begin, complete the Channel Setup Preparations below left.

Important Note:

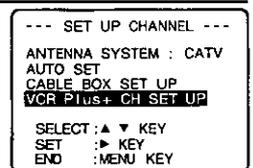
if your Combination VCR Connection type changes, from Type A to B, repeat step 4 of previous page, select "NO."

- a** Press **MENU** to display the MAIN MENU.



- b** Press **▲▼◀▶** to select "CH," and then press **MENU** to display the SET UP CHANNEL screen.

- c** Press **▲▼** to select "VCR Plus+ CH SET UP," and then press **▶** to display the VCR Plus+ CH SET UP screen.



Channel Setup Preparations

NOTE:

Complete the steps on this page if your Combination VCR hook-up resembles "B" on page 22.

Prepare a list like the example below.

This list will help you smoothly enter the information needed in step "d" at right.

You will need the following to complete the list:

- A line up of normal and/or cable stations you receive along with the channel numbers your TV receives them on. A cable channel line-up chart is supplied by your cable company.
- A list of Guide (VCR Plus+) channel numbers assigned to the stations you receive. This list is available in TV Guide and the TV listings found in selected newspapers.

- 1 Make a chart with 3 columns like the example below. In the left column, fill in the name or call letters of the stations you receive.
- 2 In the middle column, fill in each station's assigned Guide (VCR Plus+) number found in TV Guide, newspapers, etc.
- 3 In the right column, fill in the channel number that your TV receives the station on from your channel line-up.

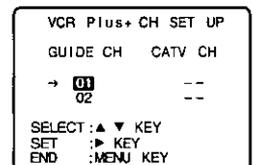
< EXAMPLE ONLY >

Broadcast or Cable Station Name	Assigned Guide (VCR Plus+) Channel No.	Channel No. your TV receives the station on
HBO	33	15
Nickelodeon	38	20
CBS	34	04
FOX	11	

IMPORTANT NOTE:

For step "d", use the list you prepared at left. You may leave lines blank if you don't receive that station, or if the GUIDE CH number and the CATV (or TV) CH numbers are the same.

- d** Press **▶** to move the shaded area to the right side.



Then, press **▲▼** to change the CATV (or TV) CH number.

Next, press **◀** to set the CATV (or TV) CH number.

Now, press **▲▼** to continue. Repeat this operation until the list is complete.

To Make Corrections

Press **▲▼** and **▶** to select the incorrect CATV or TV CH number.

Then, press **▲▼** to change, or ADD/DLT to delete the channel.

- e** Press **MENU** three times to exit the VCR Plus+ CH SET UP mode.



- Make each entry within 5 minutes or the Combination VCR will leave this mode.
- Once local channels have been programmed, they will stay in memory, even in the case of a power failure.

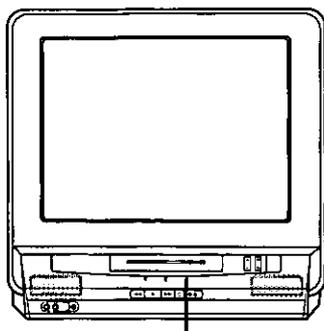


VCR Plus+ Programming

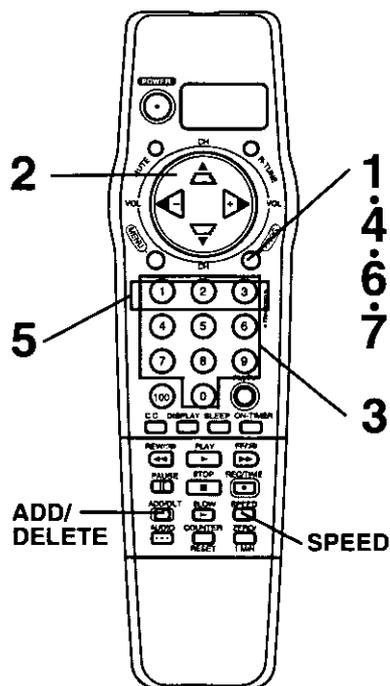
Easy Taping.

Before you begin, make sure...

- The clock is set.
- VCR Plus+ Setup is complete (See pages 22, 23).



PROGRAM TIMER Indicator



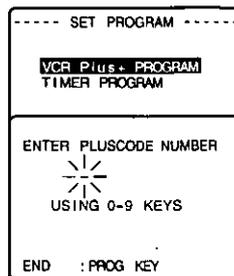
Use normal Timer Recording steps if:

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

See page 19 to:

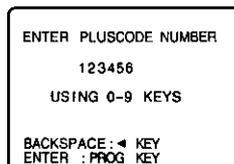
- cancel a timer recording in progress.
- replace program contents.
- review or clear program contents once set.

1 Press **PROG** to display the SET PROGRAM screen.



2 Press **▲▼** to select "VCR Plus+ PROGRAM" and then press **▶** to display the Plus Code screen.

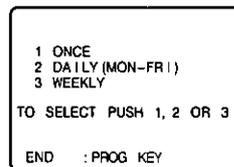
3 Press **NUMBERED** keys to enter the PlusCode number from your local TV listings.



To Make Corrections
Press **◀** repeatedly to delete the PlusCode number. Then, enter the correct number.

4 Press **PROG** to lock in your program.

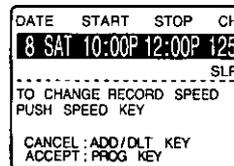
5 Press the **1, 2, or 3** key to select the program type.



To Change the Recording Speed
Press **SPEED** for SP, LP, SLP.

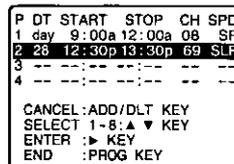
To Cancel Program Contents
Press **ADD/DLT**.

- If you use connection type "A" on page 22, the channel shown in this on-screen display will always be the cable box output channel number.



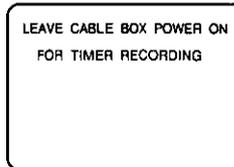
6 Press **PROG** to end the program.

- This screen appears for confirmation.



7 Press **PROG** twice to exit this mode and return to the normal screen.

- The PROGRAM TIMER indicator lights on the front panel.
- If you're using a cable box, make sure that it is tuned to the desired channel and the power is left on for timer recording.



- This display appears if you use a cable box.

- You can obtain unlisted PlusCode numbers by calling 1-900-454-7587. Call costs approximately \$.95 per minute.
- Avoid overlapping program times.
- An on-screen display will indicate if an invalid PlusCode number has been entered.
- An on-screen display will indicate when all timer programs are full.





Unit and Cassette Information

Maximum Record/Playback Time

Only use tapes with the **VHS** mark in this unit.

Tape Speed Setting	Type of Video Cassette		
	T60	T120	T160
SP (Standard Play)	1 Hour	2 Hours	2 Hours 40 minutes
LP (Long Play)	2 Hours	4 Hours	5 Hours 20 minutes
SLP (Super Long Play)	3 Hours	6 Hours	8 Hours

DST. (Daylight Saving Time)

Your Combination VCR can be set to automatically adjust the clock for Daylight Saving Time. (page 9.)

Spring (First Sunday in April)

When set to DST:ON, the Combination VCR will automatically set the clock ahead one hour.

Autumn (Last Sunday in October)

When set to DST:ON, the Combination VCR will automatically set the clock back one hour.

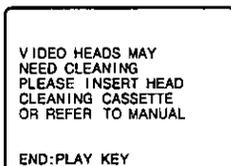
- If your area does not observe Daylight Saving Time, select DST: OFF.
- Keep these time changes in mind when programming the Combination VCR for timer recordings.

Head Cleaning

Your Combination VCR will not normally require head cleaning, however, the heads may become clogged when playing an old or damaged tape.

Head Clog Sensor

If head cleaning becomes necessary, the Combination VCR will display the screen shown to the right during playback of a recorded signal. To exit this screen, press **PLAY** on the remote control or Combination VCR.



- Use "dry" type head cleaning cassette* only.
- Be sure to follow the cleaning cassette instructions carefully. Excessive use of a cleaning cassette can shorten head life.
- If using a head cleaning cassette does not solve the problem, contact your nearest Factory Service Center or authorized Service Center. (See page 27.)
- * Cleaning cassette part No. NV-TCL30PT is recommended.

Erase Protection (Record Tab)

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

To prevent accidental erasure, break off the tab with a screwdriver.



To record again, cover the hole with cellophane tape.



Reset all Combination VCR Memory Functions

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

- Make sure a tape is not inserted in the Combination VCR.
- 1) Press **POWER** to turn the Combination VCR on.
 - 2) Hold down both the **PLAY** and **REWIND** buttons on the Combination VCR for more than 5 seconds.
 - The power will shut off.
 - 3) Turn the power back on and perform the One Time Setup section on page 8.

Product Specifications

Display

Picture Tube: 27 inch measured diagonal 100° deflection Picture Tube

VCR

Video Recording System: 2 rotary heads helical scanning system

Audio Track: 1 track

Tuner

Broadcast Channels: VHF 2~13, UHF 14~69
 CATV Channels: Midband A through I (14~22)
 Superband J through W (23~36)
 Hyperband AA~EEE (37~64)
 Lowband A-5~A-1 (95~99)
 Special CATV channel 5A (01)
 Ultraband 65~94, 100~125

FM Radio

Band range: 87.5~108.1 MHz

General

Power Source: 120V AC, 60 Hz
 Power Consumption: Approx. 157 watts (Power on)
 Approx. 7 watts (Power off)

Television System: EIA Standard NTSC color

Speaker: 2 pieces

Operating Temperature: 41°F~104°F (5°C~40°C)

Operating Humidity: 10%~75%

Weight: 86 lbs. (39 Kg)

Dimensions: 27-1/16" (W) X 27-15/16" (H) X 21-5/16" (D)
 688 (W) X 659 (H) X 542 (D) mm

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



Before Requesting Service

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

Power	Correction
No power...	<ul style="list-style-type: none">• Completely insert the Power Plug into an AC wall outlet.• Set the POWER button to ON.
Monitor	Correction
No picture or sound...	<ul style="list-style-type: none">• Make sure your antenna or cable system is connected to the Combination VCR. (P. 5)• Check that the power plug is completely plugged into an AC outlet.• Check that the POWER button is set to on.
Poor picture with normal sound...	<ul style="list-style-type: none">• Adjust the BRIGHT, SHARPNESS, and PICTURE controls in the SET UP TV menu. (P.11)
Poor sound with normal picture...	<ul style="list-style-type: none">• Adjust the VOLUME control. (P.11)
Poor TV reception...	<ul style="list-style-type: none">• Adjust the SHARPNESS and PICTURE controls in the SET UP TV menu. (P.11)
No color or poor color...	<ul style="list-style-type: none">• Adjust the TINT and COLOR controls in the SET UP TV menu. (P.11)
Ghost (multiple) images...	<ul style="list-style-type: none">• Install a directional antenna.
TV programs cannot be watched...	<ul style="list-style-type: none">• Make sure that the channel being received is in the Combination VCR's memory. (P. 8)
Channel can not be selected...	<ul style="list-style-type: none">• The design of this unit is such that only the channel being recorded can be viewed.
VCR	Correction
TV program cannot be recorded...	<ul style="list-style-type: none">• Make sure your antenna or cable system is connected to the Combination VCR. (P. 5)• Make sure that the record tab is intact on the cassette. (P. 25)
Stereo or SAP broadcasts cannot be recorded...	<ul style="list-style-type: none">• This unit is not designed for stereo/SAP broadcast recording.
Timer recording cannot be performed...	<ul style="list-style-type: none">• Set the recording Start/Stop time correctly. (P.18-19)• Timer recording may not be performed or continued if a power interruption of more than 1 minute occurs before or during a Timer Recording, after power is restored.
No playback picture, or the playback picture is noisy or contains streaks...	<ul style="list-style-type: none">• Adjust the TRACKING control in either direction. (P.15)
VCR cannot be controlled...	<ul style="list-style-type: none">• Make sure that VCR LOCK is set to off. (P. 20)
Remote Control	Correction
Combination VCR cannot be controlled...	<ul style="list-style-type: none">• Aim the Remote Control directly at the remote sensor on the Combination VCR. (P. 7)• Avoid all obstacles which may interfere with the signal path.• Inspect the remote batteries for possible replacement. (P. 4)• Make sure that VCR LOCK is set to off. (P. 20)• Exposing the Combination VCR remote sensor to direct fluorescent or outdoor light may cause signal interference.
Miscellaneous	Correction
Video cassette cannot be inserted...	<ul style="list-style-type: none">• Insert the cassette window side up; record tab facing you.
Video cassette cannot be removed...	<ul style="list-style-type: none">• Check that the power plug is completely plugged into an AC outlet.
Eject does not function or insertion cannot be done...	<ul style="list-style-type: none">• Turn the POWER off and then on, and try ejecting or inserting the tape again.
Video cassette ejects when a recording is started, or the power is turned off for timer recording...	<ul style="list-style-type: none">• Make sure the record tab is intact on the cassette. (P. 25)
In stop mode, the VCR motor (CYLINDER) continues to rotate...	<ul style="list-style-type: none">• To enable the quick play mechanism, the VCR cylinder will rotate for about 5 minutes. This reduces response time from Stop to Play mode and from Play to Rewind Search mode.
VCR cannot be controlled...	<ul style="list-style-type: none">• Make sure that VCR LOCK is set to off. (P. 20)

If you cannot resolve the problem, please call the Customer Satisfaction Center for product assistance at 201-348-9090.

To locate an authorized servicer call toll free 1-800-211-PANA(7262).

Service Center List

Panasonic Quasar Technics

For Product Information, Operating Assistance, Literature Request, Dealer Locations, and all Customer Service inquiries please contact:
800-211-PANA(7262), Monday-friday 9am-9pm Saturday-Sunday 9am-7pm, EST.

Web Site: <http://WWW.Panasonic.com>
You can purchase parts, accessories or locate your nearest servicenter by visiting our Web Site.

Factory Servicenters Locations

CALIFORNIA

6550 Katella Avenue
Cypress, CA 90630

800 Dubuque Avenue
S. San Francisco,
CA 94080

20201 Sherman Way
Suite 102
Canoga Park, CA
91306

3878 Ruffin Road
Suite A
San Diego, CA 92123

COLORADO

1640 South Abilene
Street
Suite D
Aurora, CO 80012

FLORIDA

3700 North 29th Avenue
Suite 102
Hollywood, FL 33020

GEORGIA

8655 Roswell Road
Suite 100
Atlanta, GA 30350

ILLINOIS

1703 North Randall
Road
Elgin, IL 60123
(Pick-up / Drop-off only)

9060 Golf Road
Niles, IL 60714

MARYLAND

62 Mountain Road
Glen Burnie, MD21061

MASSACHUSETTS

60 Glacier Drive,
Suite G
Westwood, MA 02090

MICHIGAN

37048 Van Dyke
Avenue
Sterling Heights,
MI 48312

MINNESOTA

7850-12th Avenue South
Airport Business Center
Bloomington, MN 55425

OHIO

2236 Waycross Road
Civic Center Plaza
Forest Park, OH 45240

PENNSYLVANIA

2221 Cabot Blvd West
Suite B
Langhorne, PA 19047

Chartiers Valley
Shopping Center
1025 Washington Pike
Bridgeville, PA 15017

TENNESSEE

919-8th Avenue South
Nashville, TN 37203

TEXAS

7482 Harwin Drive
Houston, TX 77036

13615 Welch Road
Suite #101
Farmers Branch,
TX 75244

WASHINGTON

20425-84th Avenue
South
Kent, WA 98032

HAWAII

99-859 Iwaiwa Street
Aiea, Hawaii 96701
Phone (808) 488-1996
Fax (808) 486-4369

Service in Puerto Rico

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

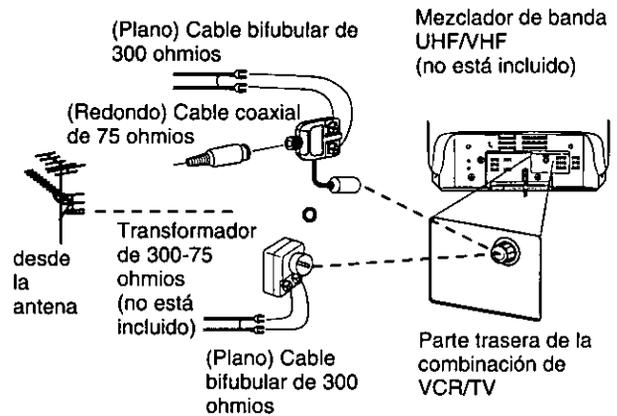
Accessory Purchases:

Customer Orders Only 800-211-PANA(7262)

As of October '97

Conexión de la antena externa

Desenganche la antena del televisor o de la videograbadora que tuviera anteriormente y conéctela a la parte trasera del registrador Combinación de VCR/TV, como se muestra en el diagrama. Si el sistema de su antena tiene conductores UHF y VHF separados, usted necesita un mezclador de banda UHF/VHF (no viene con el equipo).



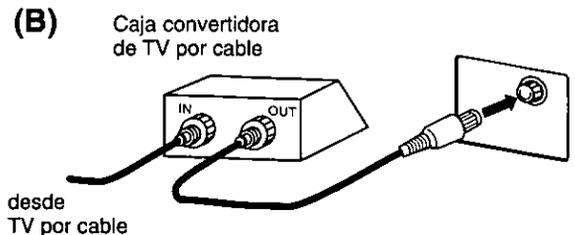
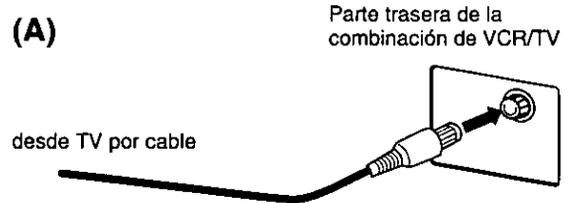
Conexiones de TV por cable

(A) Sin la caja convertidora/decodificadora

Con esta conexión usted podrá utilizar su control remoto de la combinación de VCR/TV para seleccionar los canales que desea ver y seleccionar canales no codificados para su grabación programada. Esta conexión no permite ver ni grabar canales codificados.

(B) Con una caja convertidora/decodificadora

Con esta conexión, usted podrá grabar y ver cualquier canal, incluyendo los canales codificados. Sin embargo, la selección de canales se debe efectuar en la caja convertidora de TV por cable que suministra esta empresa. La grabación programada está limitada a un canal cada vez, y sólo se podrá ver el canal que esté grabando.



Para ver y grabar un canal codificado/ no codificado

Sintonice el canal del Registrador de la combinación de VCR/TV en el canal de salida de la caja convertidora de televisión por cable (por ejemplo el canal 3). Después, seleccione en la caja convertidora de TV por cable el canal que se quiera ver o grabar.

Para fijar el idioma, canal y reloj

Al encender la combinación de VCR/TV por primera vez, aparecerán las pantallas para fijar automáticamente los canales y el reloj.

1 Oprimir POWER para encender el aparato.

2 Oprimir CH ▲▼, o VOL ► para la exhibición de la pantalla en inglés, español o francés.

```

SELECT LANGUAGE
PUSH CH ▲ :English
PULSE CH ▼ :Español
APP. VOL + :Français
    
```

Importante: si está usando una caja de TV por cable, encienda la caja y sintonice al canal PBS de su zona.

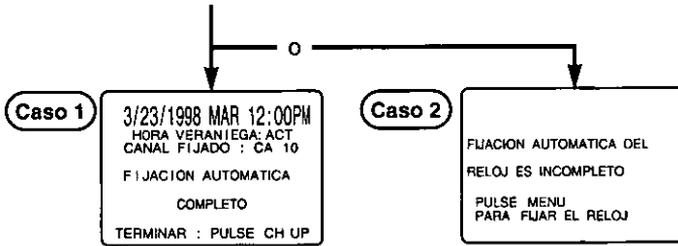
3 Oprimir CH ▲ para iniciar la fijación de los canales y el reloj.

```

FIJACION AUTO. (CA/RELOJ)
CONECTE EL CABLE DE LA
ANTENA Y SI ESTA USANDO
UNA CAJA DE TV POR CABLE
SINTONICE AL CANAL PBS
DE SU LOCAL LUEGO...
POR FAVOR OPRIMIR CH UP
    
```

Las siguientes informaciones aparecerán seguidamente:

- AUTOPROGRAMACION EN PROCESO
- AUTOPROGRAMACION COMPLETO
- FIJACION AUTOMATICA DEL RELOJ EN PROCESO



4 **Caso 1** Si la hora demostrada es correcta, oprima CH ▲ para salir.

Si la hora y la hora veraniega es incorrecta, Raras veces, en caso de que ud. vive cerca de dos zonas con hora diferente, el aparato puede elegir un canal PBS con diferente hora de su zona. En este caso, haga los siguientes pasos:

- Tome nota del canal que está fijado en la pantalla y salga desde este modo oprimiendo el botón ▲.
- Anule este canal desde los canales memorizados en la combinación de VCR/TV.
- Oprima el botón MENU para que aparezca la pantalla del MENU.
- Oprima ▲▼◀▶ para elegir "RELOJ" y luego oprima MENU para que aparezca la pantalla de FIJACION RELOJ.
 - Si ud. esta usando una caja de TV por cable y tiene muchos canales PBS, sintonice la caja de TV por cable a un canal PBS diferente e intente la fijación automática otravez usando el menú.
- Oprima ▲▼ para elegir "FIJACION AUTOMATICA", luego oprimir ► para fijar y oprimir ▲ para iniciar.

Caso 2 Si aparece FIJACION AUTOMATICA DEL RELOJ ES INCOMPLETO, por favor fije el reloj manualmente.

- Oprimir MENU para que aparezca la pantalla de la fijación del reloj
- Oprimir ▲▼ para elegir y oprimir ► para fijar el mes, la fecha, el año, la hora y la hora veraniega.

Para hacer correcciones,

Oprimir ◀▶ repetidamente para retroceder o avanzar hasta el paso que desea corregir.

- Oprimir MENU para iniciar a funcionar el reloj. Luego oprimir ▲▼◀▶ para elegir "SALIR" y oprimir MENU para salir de la pantalla del MENU PRINCIPAL.

Para fijar o fijar de nuevo el reloj

En caso de que el reloj es incorrecto o ha ocurrido un corte eléctrico.

- Oprima MENU para que parezca el MENU PRINCIPAL.
- Oprima ▲▼◀▶ para elegir "RELOJ". Luego, oprima MENU para que aparezca la pantalla de la FIJACION RELOJ.
- Oprima ▲▼ para elegir "FIJACION MANUAL", y luego ► para que aparezca la pantalla de la FIJACION RELOJ.
- Por favor continúe con los pasos b. y c. de la instrucción anterior (Caso 2).

```

----- FIJAR RELOJ -----
| 11 / 12 |-----|
| 3 / 23 |-----|
| 1998 |-----|
| MAR |-----|
| 12:00 |-----|
| PM |-----|
|-----|
| HORA VERANIEGA: ACT |
|-----|
| ELEGIR MES |
| ELEGIR: ▲▼ |
| FIJAR: ► |
| TERMINAR: MENU |
    
```

Operaciones para ver la TV

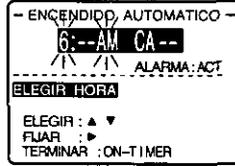
- Oprimir POWER para encender la combinación de VCR/TV.
- Elegir el canal usando CH ▲▼, o usando la teclas numéricas.
- Oprimir VOL ◀▶ para ajustar el nivel del volumen.

Spanish Quick Use Guide/Guía para rápida consulta

Encendedor automático con alarma

La combinación de VCR/TV se puede fijar para que se encienda automáticamente en uno de los tres modos (TV, reproducción o radio FM). Ud. también puede combinar con un alarma despertador de un minuto.

- 1 Oprimir ON TIMER para que aparezca la pantalla del encendedor automático.

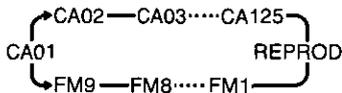


- 2 Oprimir ▲▼ para elegir y oprimir ► para fijar la hora del encendedor automático y luego para elegir el modo (TV, reproducción o radio FM).



Vea el orden para elegir a la derecha.

- Asegúrese de que una cinta de video esté introducido en la combinación de VCR/TV, si ha elegido la reproducción de la videograbadora.



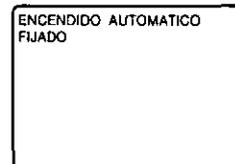
- 3 Oprimir ▲ para elegir la fijación del alarma.

Si ha elegido "ACT", sonará un alarma por un minuto o hasta cancelar oprimiendo cualquiera de las teclas del control remoto. Cuando se apaga el alarma, sonará el sonido del modo que ha elegido.



Para hacer correcciones, use ▲▼ y ◀▶ para retroceder o avanzar como se necesita.

- 4 Oprimir ON TIMER para fijar la función del encendedor automático. Esta pantalla aparecerá cerca de 5 segundos.



- El indicador de ON TIMER (encendedor automático) se encenderá en el panel delantero.

Para cancelar, oprima ON-TIMER para que aparezca de nuevo la pantalla del paso 3. Luego, oprima ADD/HLT para anular la hora ("6" destellará). Ahora, oprima ON-TIMER para terminar. "ENCENDIDO AUTOMATICO ANULADO" aparecerá unos segundos en la pantalla.

60 minutos luego de que la combinación de VCR/TV se ha encendido automáticamente, éste se apagará por sí mismo si no se ha oprimido ningún botón del control remoto o del aparato.

Fijación del temporizador para dormir

La combinación de VCR/TV se puede fijar para que se apague automáticamente.

- Oprimir SLEEP para que aparezca el tiempo de la fijación.

- Si ud. oprime el botón DISPLAY con el temporizador para dormir fijado, aparecerá en la pantalla el tiempo que sobra para apagarse



Para cancelar, oprimir SLEEP sucesivamente hasta que aparezca "TEMPORIZADOR PARA DORMIR 00".

Operaciones básicas para la reproducción

- 1 Introducir una cinta.

- La combinación de VCR/TV se enciende automáticamente.

- 2 Oprimir PLAY en el control remoto o combinación de VCR/TV para comenzar a reproducir.

- Si la cinta no tiene la lengüeta para evitar el borrado, la combinación de VCR/TV comienza a reproducir automáticamente.

- 3 Oprimir STOP en el control remoto o combinación de VCR/TV para parar la reproducción.

- Para rebobinar la cinta, oprimir REW.

- 4 Oprimir STOP/EJECT en la combinación de VCR/TV para expulsar la cinta.

- Usted puede expulsar la cinta cuando el aparato está encendido o apagado.

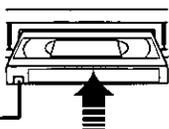
Para buscar una escena en particular durante la reproducción

Oprimir REW o FF durante la reproducción para buscar una escena.

- La velocidad de la búsqueda es a 21 veces más rápida en el modo SLP.

Operaciones básicas para la grabación

- 1** Introducir una cinta de video que tenga la lengüeta para evitar el borrado.

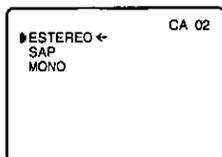


- La combinación de VCR/TV se enciende automáticamente.

- 2** Oprimir $\blacktriangle/\blacktriangledown$ o las teclas numéricas para elegir un canal.

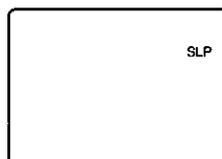
- U oprimir $\blacktriangle/\blacktriangledown$ de la combinación de VCR/TV.

- Para grabar desde una fuente externa, oprimir $\blacktriangle/\blacktriangledown$ y elija LINEA.



- 3** Oprimir SPEED hasta que aparezca la velocidad deseada.

- SP = reproducción normal
- LP = reproducción larga
- SLP = reproducción super larga



- 4** Oprimir REC/TIME del control remoto para empezar a grabar.

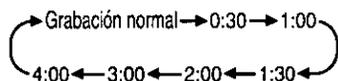
- U oprimir REC/TIME de la combinación de VCR/TV.
- Oprimir PAUSE para hacer una pausa en la grabación de un toque.



Grabación de un toque (OTR)

La combinación de VCR/TV se puede fijar para parar la grabación a una hora fijada anteriormente.

En el paso 4, oprimir repetidamente REC/TIME para fijar el tiempo de grabación.



- La luz indicador de la grabación programada (TIMER) se enciende en el panel delantero.

- 5** Oprimir STOP para parar la grabación.

- U oprimir STOP/EJECT de la combinación de VCR/TV.

Grabación con temporizador

- 1** Oprimir PROG para que aparezca la pantalla "FIJAR PROGRAMACION."



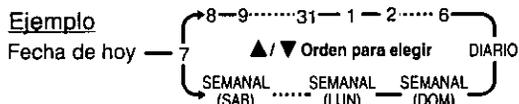
- 2** Oprimir $\blacktriangle/\blacktriangledown$ para elegir "TEMPORIZADOR" y luego oprimir \blacktriangleright para exhibir la pantalla de la programación.



- Si ya existe una programación memorizada, oprima $\blacktriangle/\blacktriangledown$ y \blacktriangleright para elegir un número sin programación.

- 3** Oprimir $\blacktriangle/\blacktriangledown$ y \blacktriangleright para elegir y fijar uno de los siguientes:

- 1-31 = Grabación de una sola vez
- DIARIO = A una misma hora LUN ~VIE
- SEMANTAL DOM-SAB= Una vez a la semana a una misma hora



- 4** Oprimir $\blacktriangle/\blacktriangledown$ y \blacktriangleright para elegir y fijar las siguientes fijaciones.

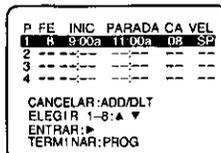
Fijaciones:

- Hora de inicio
- Hora de parada
- Canal o LINEA para una fuente externa
- Velocidad de la cinta (SP, LP, SLP)

Para hacer correcciones

Oprimir \blacktriangleright sucesivamente para avanzar u \blacktriangleleft para retroceder hasta el paso que desea corregir.

- 5** Oprimir PROG para terminar la programación.



Para hacer más programaciones

Oprimir $\blacktriangle/\blacktriangledown$ y \blacktriangleright para elegir y fijar un número de programación en blanco y luego repita los pasos 3 y 4.

- 6** Oprimir PROG dos veces para salir desde este modo y volver a la pantalla normal.

- La luz indicador de la grabación programada (TIMER) se enciende en el panel delantero.
- Si ud. está usando una caja de TV por cable, asegúrese de que esté sintonizado el canal deseado y que esté encendido para la grabación con temporizador.

Dos minutos antes de empezar la grabación, "GRABACION PROGRAMADA INICIARA ENSEGUIDA" aparecerá en la pantalla.

Warranty

Panasonic Consumer Electronics Company,
Division of Matsushita Electric Corporation
of America,
One Panasonic Way
Secaucus, New Jersey 07094

Panasonic Sales Company,
Division of Matsushita Electric of Puerto Rico, Inc.
AVE. 65 de Infantería, Km. 9.5
San Gabriel Industrial Park
Carolina, Puerto Rico 00985

PANASONIC Video Products Limited Warranty

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

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

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

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

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

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

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

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

LIMITS AND EXCLUSIONS

There are no express warranties except as listed above.

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

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

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

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

warvid 10/20/97

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