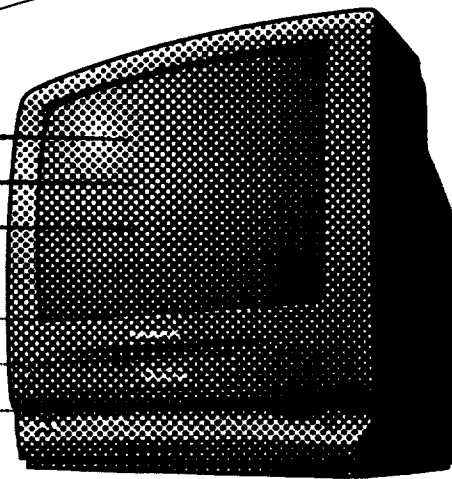


Thank you for choosing

Panasonic Omnivision **VHS**

LIBRARY:
Received _____
Copied _____
Entered _____
 NRPDS _____
Received _____
Scanned _____
Batch # _____

MAY 18 1998



Combination VCR

MODEL PV-M1378W

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 incluido.

P2 ~ P10
Getting Started

P11 ~ P15
Basic TV Operation

P16 ~ 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-M1378W** _____
 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>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</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>

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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

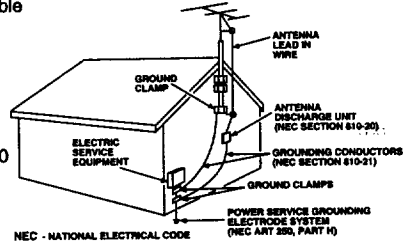
- Do not place unsecured equipment on a sloping surface.
- Do not place this unit on any support that is not firm, level and adequately strong. The unit could fall causing serious injury to child or adult and damage to the unit.
- An appliance and cart combination should be moved with care. Quick stops, 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

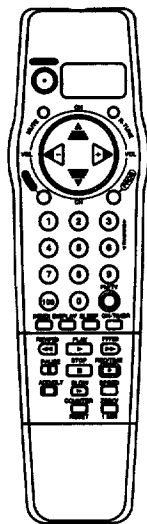
After any service or repairs to the unit, request the service technician to conduct a thorough safety check as described in the manufacturer's service literature to insure that the video unit is in safe operating condition.

Unpacking Your Combination VCR • Product Features

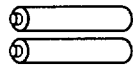
Unpacking Your Combination VCR

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

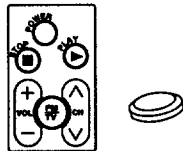
Accessories



Remote Control
VSQS1567



2 "AA" Batteries



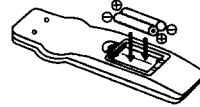
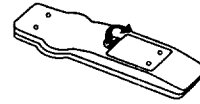
Kitchen (Easy-Find™)
Remote Control
(VSQS1572)
with one CR2025 Battery

• The Kitchen remote control has been loaded with battery.

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.

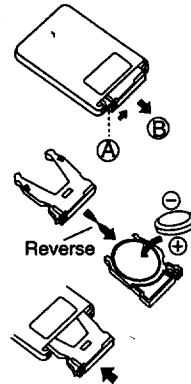


Battery replacement caution

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

Replace the battery for the Kitchen remote control

- 1 Ⓐ While pressing the stopper tab, Ⓑ pull the Battery Tray out.
- 2 Insert the battery into the Battery Tray with the ⊕ mark facing down. Do not reverse the polarity.
- 3 Replace the Battery Tray.



Replace battery with Panasonic PART NO. VSBW0004 (CR2025) only. Use of another battery may present a risk of fire or explosion. Caution-battery may explode if mistreated. Dispose of used battery promptly. Keep away from children. Do not recharge, disassemble or dispose of in fire.

Product Features

Alarm Timer	13
All Channel Auto Set/181-CH TV/CABLE 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)	24
Auto Repeat Function	24
Closed Caption System	14
Easy-to-Read English/Spanish/French On-Screen Displays	8, 9, 18, 19
FM Radio	15
Front-mounted A/V In Terminals	19
Kitchen (Easy-Find™) Remote Control.....	6
Kitchen Timer	12
One Minute Skip	24
One Month, 8 Program Auto Timer Recording	18, 19
One Touch Recording (OTR)	17
Quick Play Mechanism	26
Rapid Tune	11
Special Effects Playback	16
Special VCR Features (Channel Caption, Time Stamp, Blue Back ON/OFF Feature, VCR Lock, Warning Beeper)	20, 21
VHS Index Search System (Direct Access Index Search, Program Index Search, Index Scan Search)	22, 23
Zero Search	24

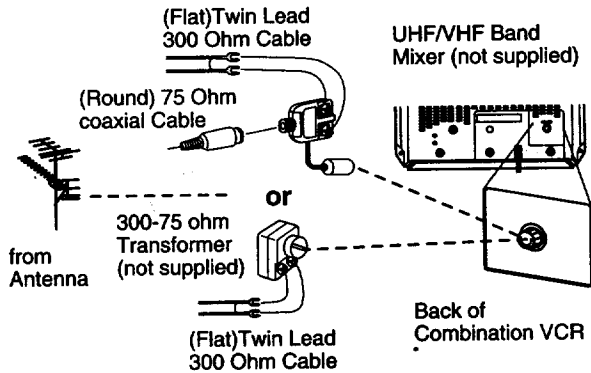


Antenna or Cable Connections

Getting Started

Outdoor Antenna Connection

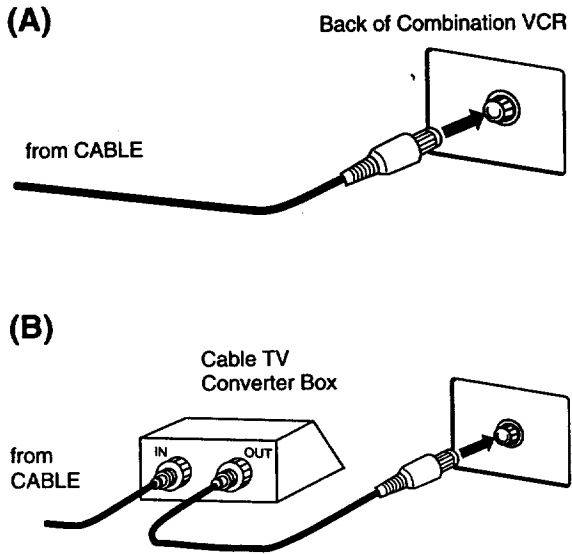
Unhook the antenna from your previous TV or VCR and connect it to the back of the Combination VCR as shown in the diagram. If your antenna system has separate UHF and VHF lead-ins, you need a UHF/VHF Band Mixer (not supplied).



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.

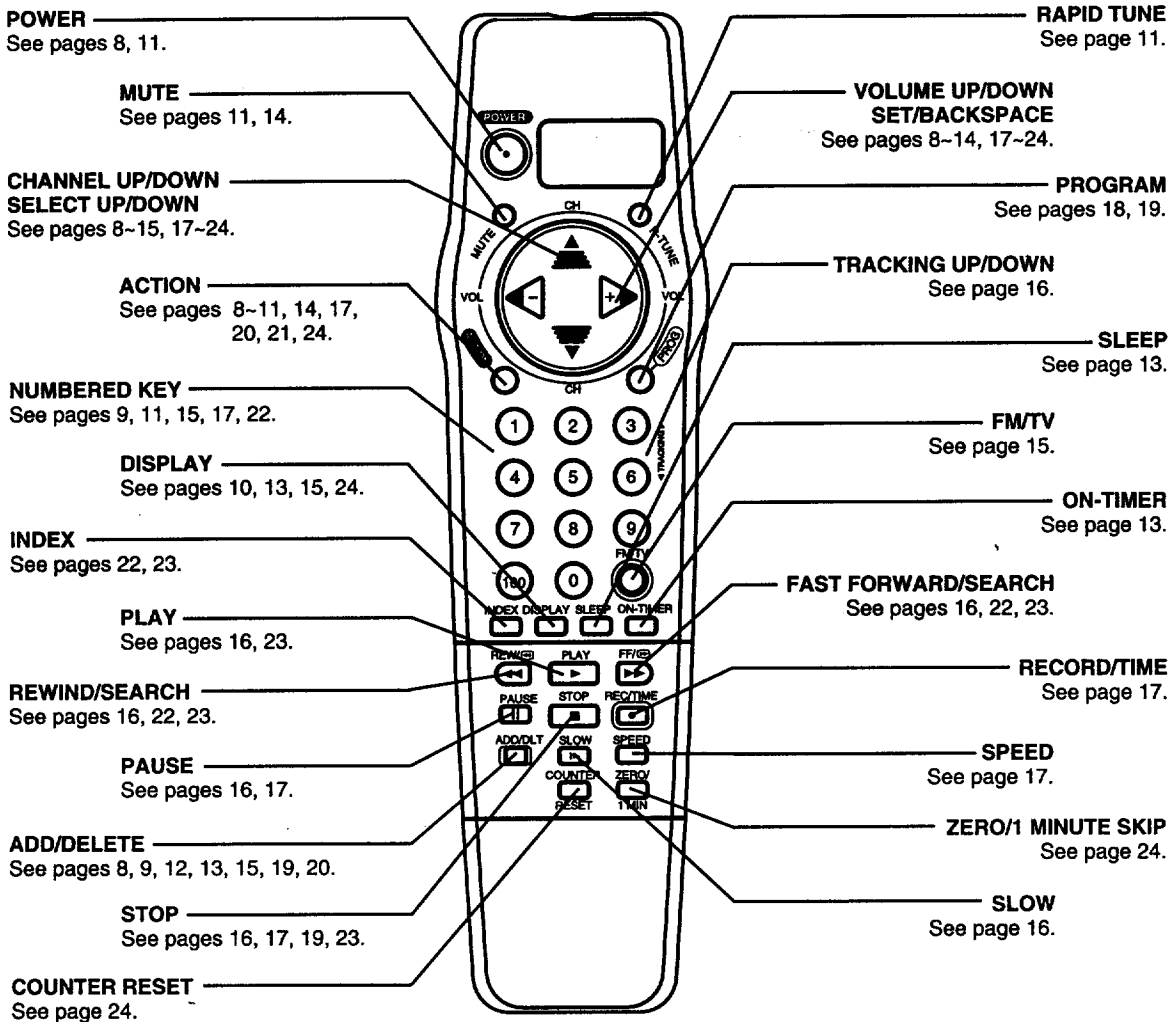
FCC WARNING: Any unauthorized changes or modifications to this equipment would void the user's authority to operate.

Note to CABLE System Installer
 This reminder is provided to call the CABLE (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.



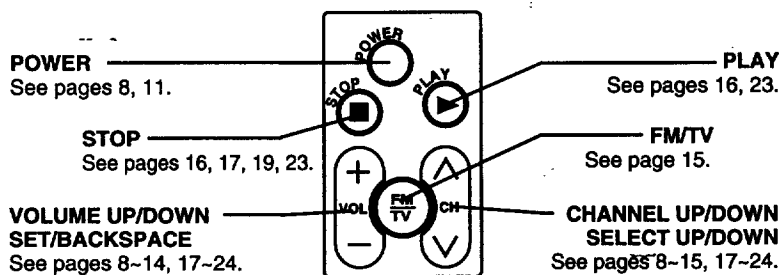
Location of Controls

Remote Control Buttons

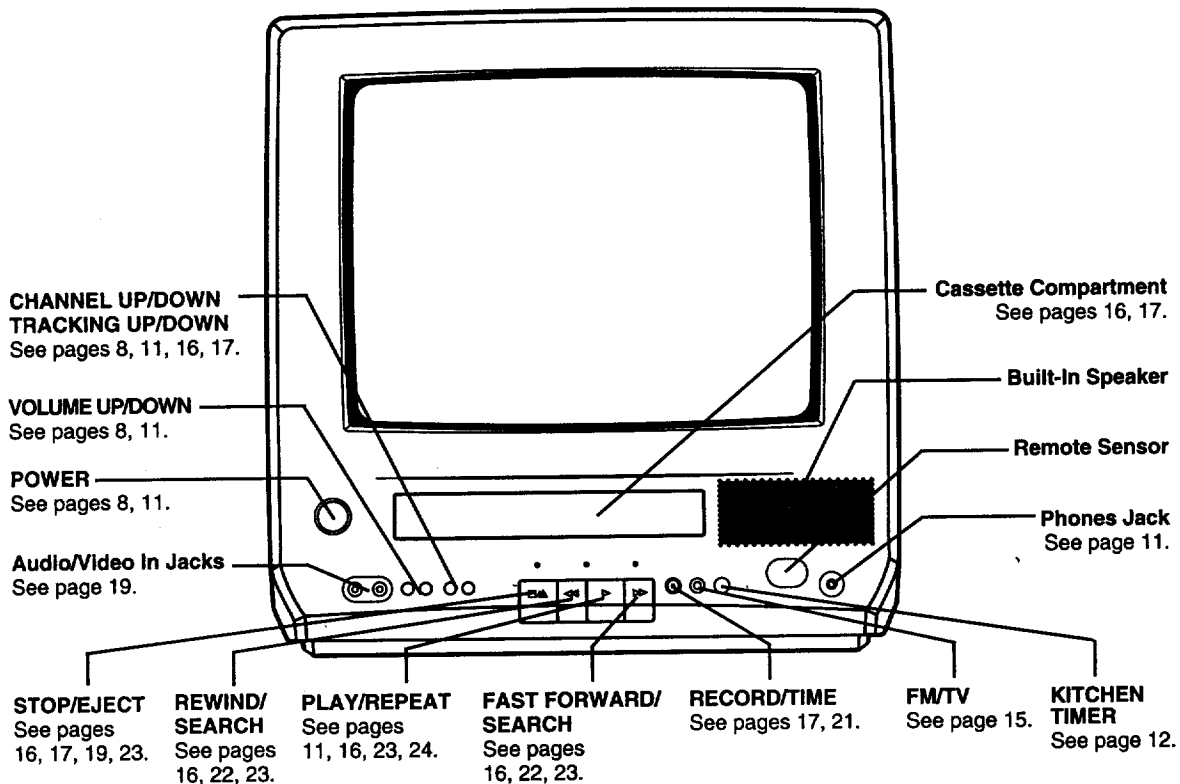


Kitchen (Easy-Find™) Remote Control

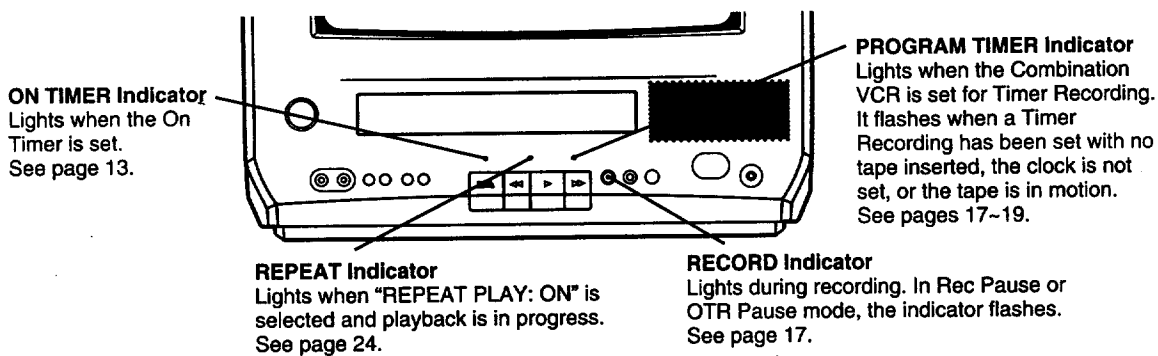
- This remote control has a magnet on the back so you can stick it to your refrigerator, etc. for convenience.
- The Kitchen remote control buttons work the same as the above remote control.



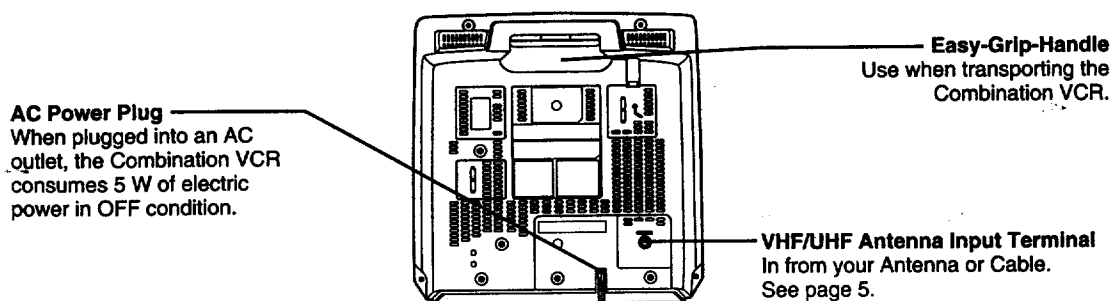
Front View of the Combination VCR



Indicators on the Front Panel



Rear View of the Combination VCR





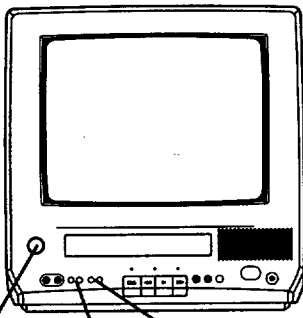
One Time Setup

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

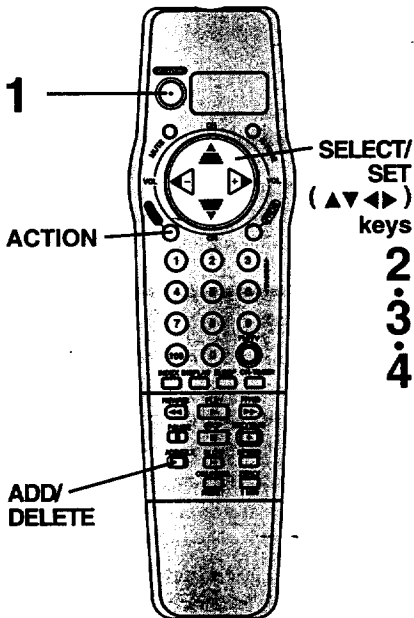
- Choose the language for on-screen menus and messages.
- Tell the Combination VCR how your equipment is hooked up (page 5) so the Combination VCR can correctly place channels into memory.
- Get the Combination VCR ready for clock set.

Check list before you begin.

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



1 2 2-3-4



Using the **▲▼◀▶** keys

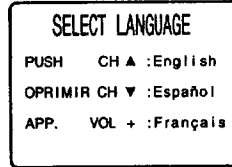


Whenever a menu or program screen is displayed, CHANNEL UP/DOWN and VOLUME UP/DOWN on the remote control function as **▲▼◀▶** only. For VOLUME UP/DOWN functions, use the buttons on the Combination VCR.

To Set Language, Channels and Clock

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

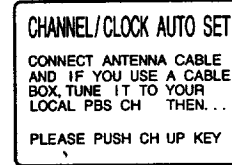
2 Press **CH ▲▼**, or **VOL ▶** for on screen displays in English, Spanish or French.



- 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.

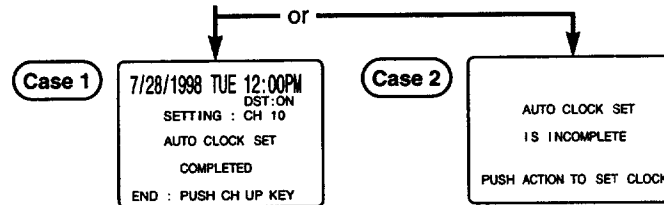
Important: If you use a cable box, turn it on and select the PBS station in your time zone.

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 **ACTION** to display the MAIN MENU.
- Press **▲▼◀▶** to select "CLOCK," and then press **ACTION** 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 CLOCK SET," and then press **▶** to set and **CH ▲** to start Auto Clock set.

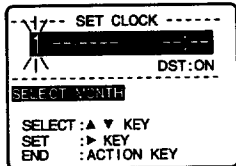
IMPORTANT NOTE FOR AUTO CLOCK SET

- 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 you use Audio/Video Jack connection between the Combination VCR and Cable Box, you must also connect the RF coaxial cable in order to use the auto clock set and channel auto set features.
- If for any reason the time is changed manually, automatic time correction will not occur.

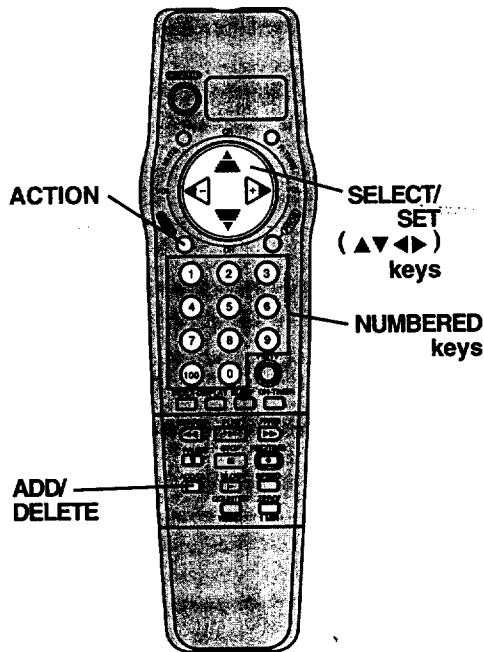
Case 2 If AUTO CLOCK SET IS INCOMPLETE appears, please set the clock manually.

- Press ACTION to display the SET CLOCK screen.
- Press ▲▼ to select and ► to enter the month, date, year, time and DST. (Daylight Saving Time).

- To Make Corrections,** repeatedly press ◀▶ to move the cursor to the incorrect entry and make the correction.
- Press ACTION twice to start the clock and exit the MAIN MENU.

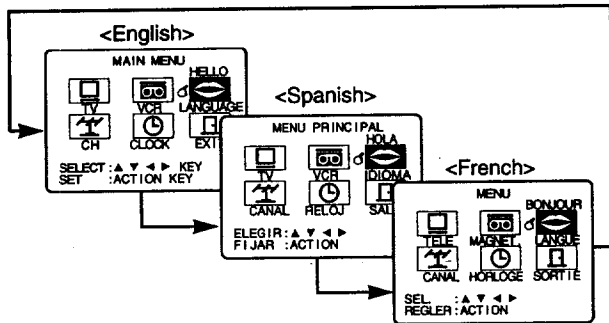


• "DST:ON" automatically adjusts for daylight saving time. (See page 25.)



To Change the OSD Language

- Press ACTION to display the MAIN MENU.
- Press ▲▼◀▶ to select the language selection icon.
- Press ACTION repeatedly to change the language as shown.

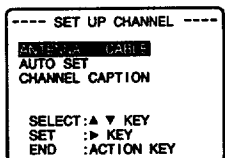
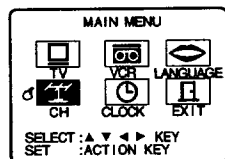


- Press ▲▼◀▶ to select "EXIT," and then press ACTION to exit the MAIN MENU.

To Replace Channels in Memory

In case, you have cable installed, etc.

- Press ACTION to display the MAIN MENU.
- Press ▲▼◀▶ to select "CH," and then press ACTION to display the SET UP CHANNEL screen.
- Press ▲▼ repeatedly to select "ANTENNA," and then press ► to select your antenna system ("TV" or "CABLE").
- Press ▲▼ to select "AUTO SET," and then press ► to start.

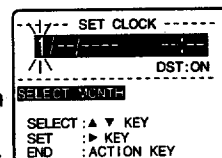
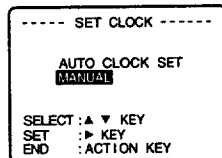


• To exit the SET UP CHANNEL screen, press ACTION twice.

To Set or Reset the Clock

In case the clock is wrong, or a power failure occurred.

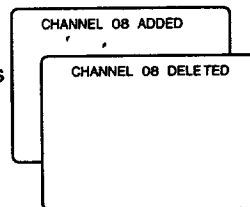
- Press ACTION to display the MAIN MENU.
- Press ▲▼◀▶ to select "CLOCK." Then, press ACTION to display the SET CLOCK screen.
- Press ▲▼ to select "MANUAL," and then ► to display the SET CLOCK screen.



- Please do steps b and c at the top of this page.

To Add or Delete a Channel

- Select a channel using the NUMBERED keys to add or CH ▲▼ to delete.
- Press ADD/DLT to add or delete the channel.



• To select a channel once it's deleted, use the NUMBERED keys.



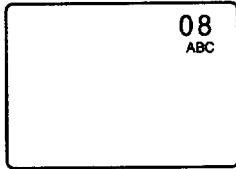
The combination VCR will automatically maintain its calendar up to Dec 31, 2089, 11:59PM.
Normal TV or Cable channels are automatically selected and placed in memory depending on how your combination VCR is hooked up.



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 if Channel Caption is set. See page 20.)



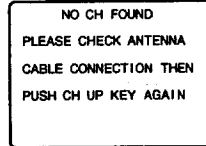
When a function button is pressed (PLAY, FF, etc.), the Combination VCR mode will be displayed.

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

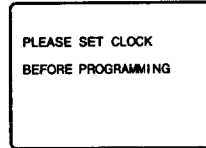
Warning and Instruction Displays

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

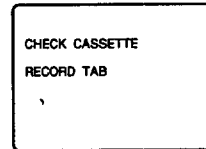
If no active channels are found for CHANNEL MEMORY... (see page 5.)



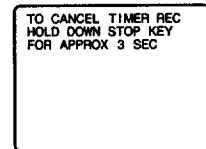
If you attempt to set or review a Timer Recording or set the On-Timer and the Clock is not set... (see pages 8, 9.)



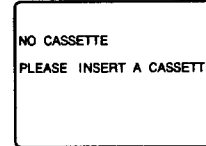
If you press REC on the remote control or the Combination VCR, and a cassette is inserted with no record tab... (see page 17.)



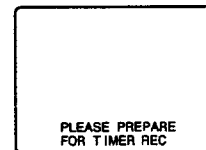
If you press STOP during a Timer Recording... (see page 19.)



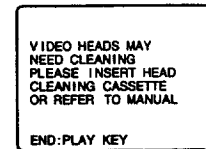
If you press PLAY, FF, REW, or REC on the remote control or the Combination VCR without a cassette inserted... (see pages 16, 17.)



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.)

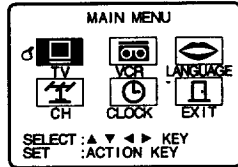


If head cleaning becomes necessary while playing back a tape... (see page 25.)



Menu Screen

1 Press ACTION to display the MAIN MENU.

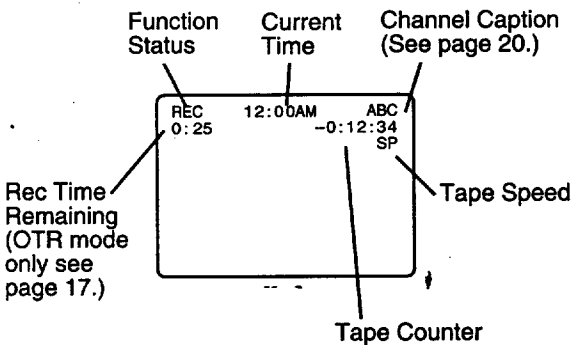


2 Press ▲▼◀▶ and ACTION to make your selection (see page 8).

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

VCR Status & Clock Display

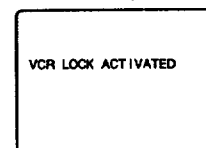
Press DISPLAY to display and remove the overlay shown below.



Blank Tape/ No Video Signal Indication

Whenever a blank section of a tape comes up in Play mode, or when the selected channel has no broadcast signal with the "Blue Back ON/OFF Feature" (page 21) set to ON, the TV screen will turn 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 21.)

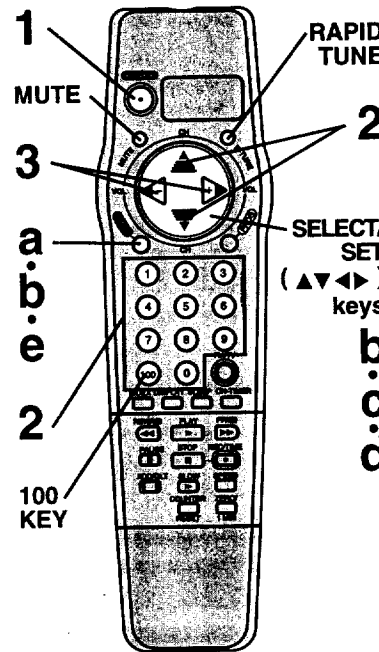
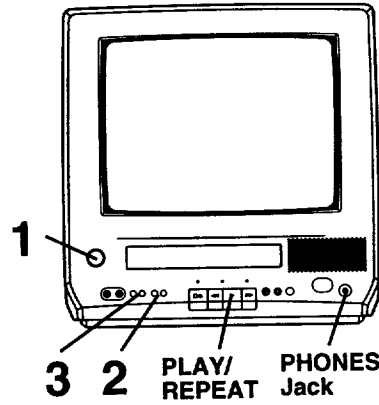




TV Operation/Picture Adjustment

✓ Check list before you begin.

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



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 CABLE 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 **CH08** ↔ Present channel **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 **ACTION** to display the MAIN MENU.

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

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

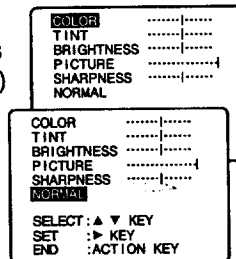
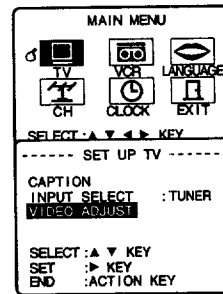
d Press **▲▼** repeatedly to select the desired adjust item, and then press **◀▶** to adjust. (See description at left.)

To Reset Picture Controls to the Factory Setting

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

e Press **ACTION** 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 flesh tones.

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.

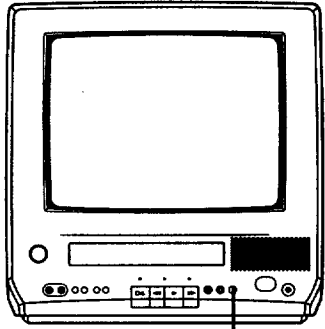
Kitchen Timer

This feature allows you to set a timer alarm for up to 60 minutes. Useful for when you are cooking and need to leave the kitchen.

- 1** Repeatedly press **KITCHEN TIMER** on the Combination VCR to display the **KITCHEN TIMER** screen and select the desired time (as shown below).

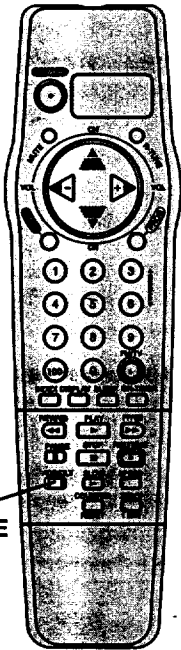
- The countdown will start three seconds after the Kitchen Timer has been set.

To cancel the countdown, press **ADD/DELETE**.

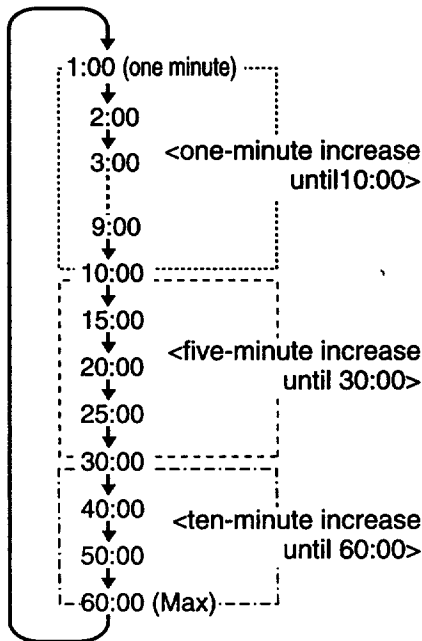


KITCHEN TIMER

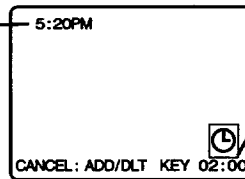
1



ADD/
DELETE



The current time (only if clock is set) and remaining time change positions on the screen every 10 seconds.



Remaining Time

NOTE:

During the countdown, pressing **KITCHEN TIMER** once will restart the countdown rounded up to the nearest 1, 5, or 10 minute interval.

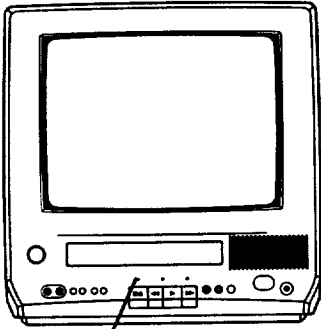
<Example>

- a If the current remaining time is 12:15, pressing **KITCHEN TIMER** will restart the countdown from 15:00.
- b If the current remaining time is 9:15, the countdown will restart from 10:00.

- 2** The alarm will go off at 0:00 (the **KITCHEN TIMER** screen display disappears). The volume of the alarm gradually increases for one minute and then **continues to beep** until any one of the remote control or Combination VCR buttons is pressed.

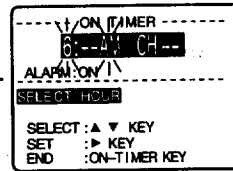
On-Timer with Alarm Feature

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.



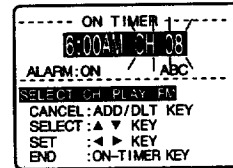
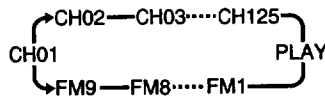
ON TIMER Indicator

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



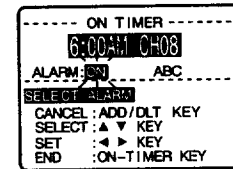
2 Press **▲▼** to select and **►** to fix the On-Timer time and also to choose the On-Timer mode (TV, PLAY, or FM radio). See the **▲▼** selection order shown below.

- Make sure a tape is inserted if Playback mode is selected.
- See "FM Radio Feature" on page 15 for instructions on how to preset FM stations.



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

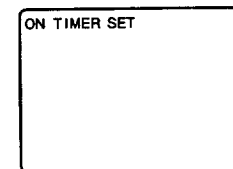
When "ON" is selected, an alarm will gradually increase in volume for one minute or until cancelled by pressing any button on the remote or Combination VCR (including VOL ◀▶). When the alarm sound stops, the sound of the mode you selected will ensue.



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

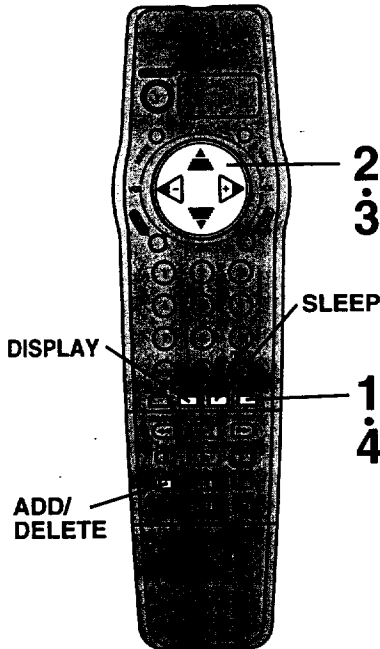
4 Press **ON-TIMER** to set the On Timer. This screen will appear for about 5 seconds.

- 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.

NOTE 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.

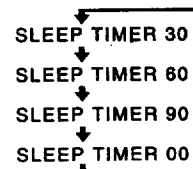


Set the Sleep Timer

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.

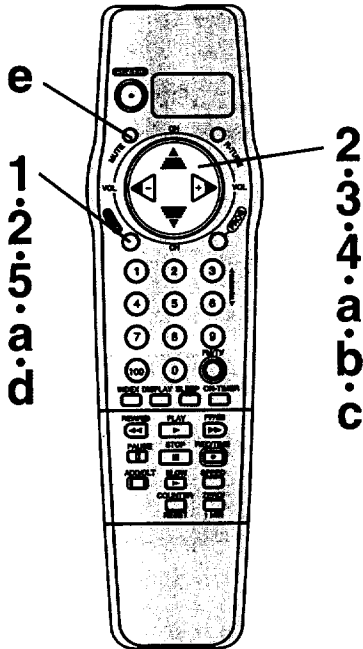


To Cancel, press **SLEEP** repeatedly until "SLEEP TIMER 00" appears.

CC Closed Caption System

Check list before you begin.

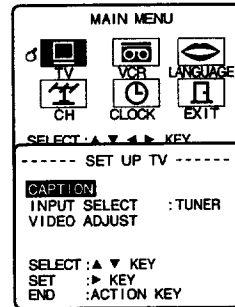
- All connections are made (see page 5).
- Your Combination VCR is plugged in.



Closed Caption Mode Feature

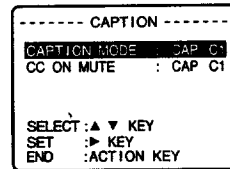
This multi-use system not only allows the hearing impaired to enjoy selected programs, but also makes useful information from TV stations available to everyone. At first, read through the different closed caption options below left.

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



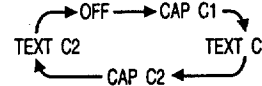
2 Press **▲▼◀▶** to select "TV," and then press **ACTION** to display the **SET UP TV** screen.

3 Press **▲▼** to select "CAPTION," and then press **▶** to display the **CAPTION** screen.



4 Press **▲▼** to select "CAPTION MODE," and then press **▶** repeatedly to select the desired caption mode. (See "Caption Mode description" below left).

- Each press **▶** will change the display as shown at right.



5 Press **ACTION** three times to exit the caption mode and return to the normal screen.

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.

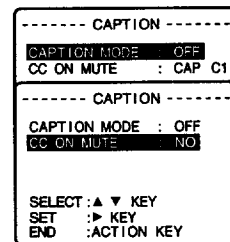
Playback: To display the Closed Caption narration or Text during playback, follow steps 1~3 in the above section, and then select the desired caption mode in step 4.

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.

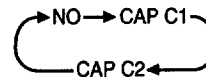
a Follow steps 1~3 in the above section.

b In step 4, press **▶** to select "OFF."



c Press **▲▼** to select "CC ON MUTE," and then 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.



d Press **ACTION** three times to return to the normal screen.

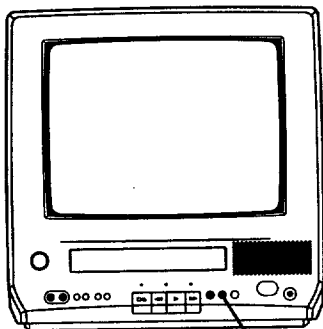
e Press **MUTE** to mute the sound. The closed caption narration (if available) is displayed on the screen.

- Press **MUTE** again to resume normal sound and picture.

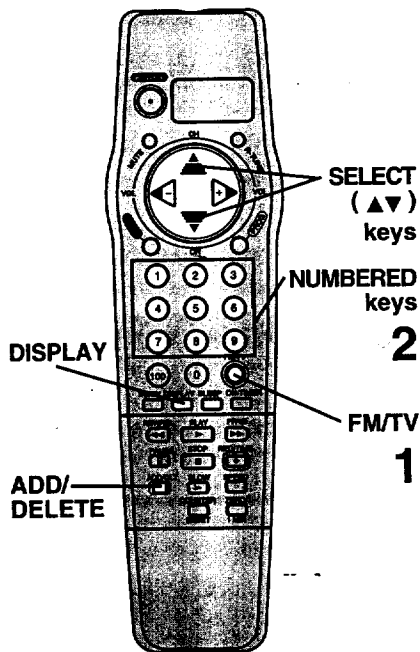
FM Radio

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 13) to wake up to your favorite music station.

- Check list before you begin.
- All connections are made (see page 5).
 - Your Combination VCR is plugged in.



1



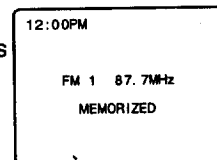
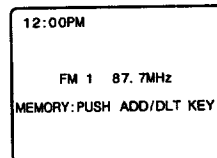
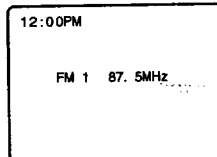
FM Radio Feature Setup

- a Press FM/TV on the remote control or Combination VCR 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.)

Quick Station Scan

Hold down ▲ or ▼ for more than one second, and then release. The Combination VCR automatically advances the frequency 200KHz at a time. When nearing the desired station, press ▲ or ▼ to select the station.

- d Press ADD/DLT to memorize the desired station.
 - To preset other stations, repeat steps b-d.

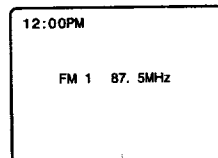


To Make Corrections, press the NUMBERED key to select the memorized number, and then repeat steps b-d to change the memorized station.

Basic TV Operation

Using the FM Radio

- 1 Press FM/TV on the remote control or Combination VCR to select FM Radio mode.



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

Note: Once stations are preset, the selected station and current time will be displayed when FM/TV is pressed ON. After 10 seconds the station disappears. To remove the time, press DISPLAY. If DISPLAY is pressed while the station is still on screen or there is no display, the Combination VCR status screen appears.

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

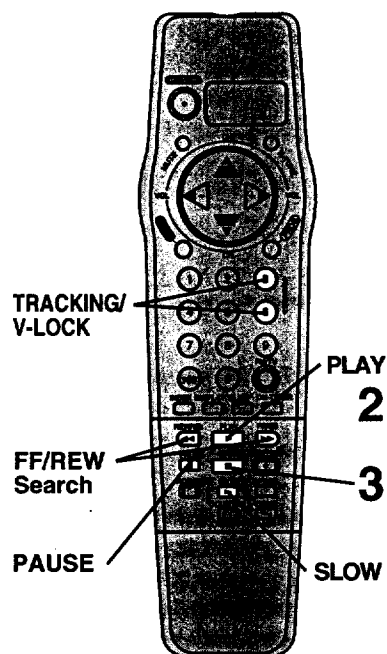
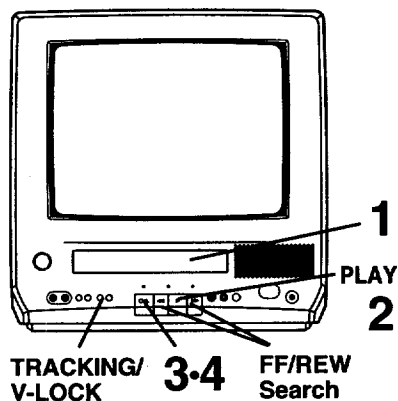


- If INDEX is pressed while in the FM radio mode, you will not be able to select other stations with the NUMBERED keys.
- You can not record FM radio stations onto a Video cassette tape.
- You may get improved FM reception for some stations by repositioning the Combination VCR.
- You can not select the FM Radio mode during playback or record, or while a blue back screen (ACTION, PROG, and ON-TIMER) is displayed.

▶ Playback a Tape

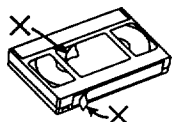
Check list before you begin.

- 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 24).

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 SP mode tapes is 7 times and SLP mode tapes 21 times the normal speed.
- Some noise bars will appear during search.

Special Effects During Playback

These features work best in SP or 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.

V-Lock Control

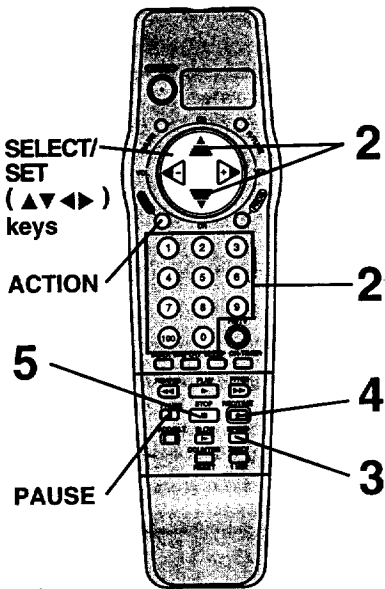
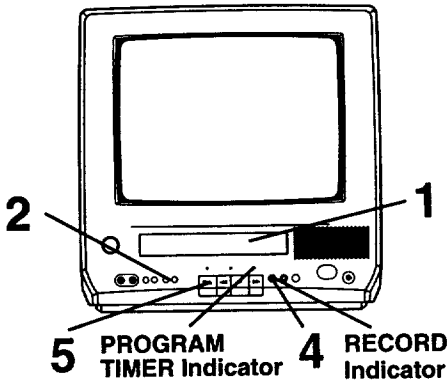
In Still mode, the 3 or 6 NUMBERED key on the remote control or CH ▲▼ on the Combination VCR operate as a V-Lock control to reduce jitter. Press one of these keys until the picture is stabilized.



Record On a Tape

✓ Check list before you begin.

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



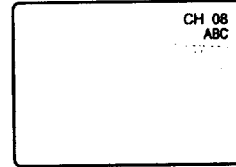
1 Insert a cassette with record tab.

- The Combination VCR power comes on automatically.



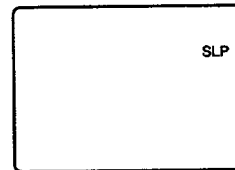
2 Press CH ▲▼, or NUMBERED keys on the remote control to select a channel.

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



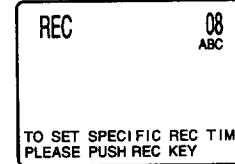
3 Press SPEED repeatedly until the desired tape speed is displayed (see page 25).

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



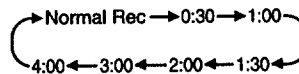
4 Press REC/TIME on the remote control to start recording.

- 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.

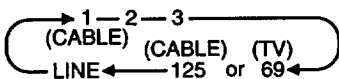


- The PROGRAM TIMER indicator lights on the front panel.

Selecting the Input Mode

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

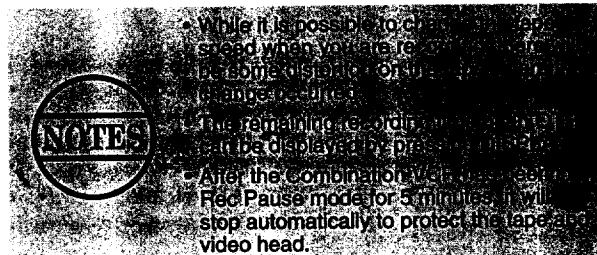
- Press CH ▲▼. The display will change in the order below.



- a Press ACTION to display the MAIN MENU.
- b Press ▲▼◀▶ to select "TV," and then press ACTION 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.



Basic VCR Operation

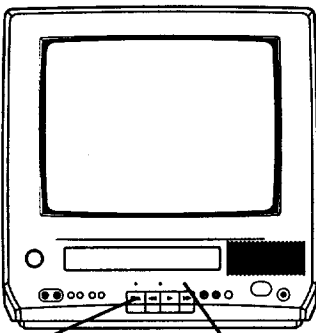


Timer Recording

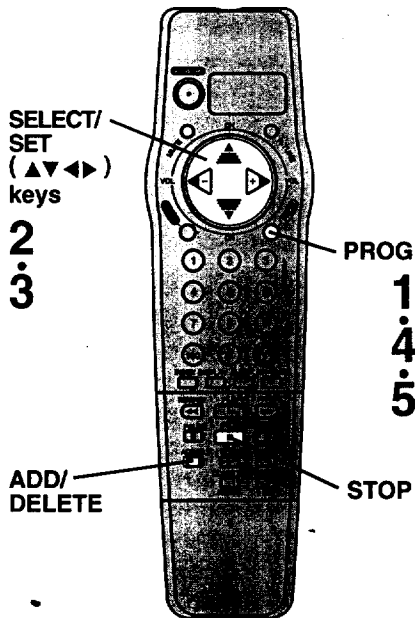
Your Combination VCR can be set up to do a recording while you are away or otherwise occupied. Up to 8 programs can be placed in memory. You can choose to record one time, daily, or weekly.

✓ 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.



STOP/EJECT PROGRAM TIMER Indicator



1 Press PROG to display the SET PROGRAM screen.

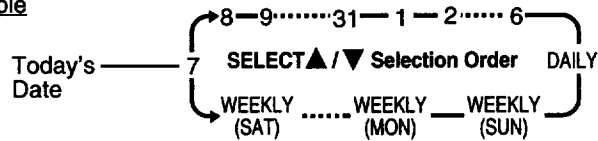
- If a program is already in memory, press ▲▼ repeatedly, and then ► to select an unused program number.

DATE	START	STOP	CH
7 FRI	--:--	--:--	--
TODAY			
CATEGORY: N/A		SLP	
SELECT: START DATE			
SELECT: ▲ ▼ KEY			
SET : ► KEY			
END : PROG KEY			

2 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



3 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
- Category [N/A (not applicable), SPORTS, MOVIE, COMEDY, MUSIC, DRAMA]
- Speed (SP, LP, SLP)

To Make Corrections

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

4 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 2 and 3.

P	DT	START	STOP	CH	SPD
1	day	9:00a	12:00a	08	SP
2	---	---	---	---	---
3	---	---	---	---	---
4	---	---	---	---	---

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

5 Press PROG 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.

NOTES

- If "PLEASE PREPARE FOR TIMER REC" appears and/or the PROGRAM TIMER indicator flashes, check that cassettes with record tabs are 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.

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 step 1 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	SP
3	10	8:00p	9:00p	10	SP
4	SU	9:00p	10:00p	L	LP

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	12:00P	102
TODAY			
CATEGORY:		CBS	
CATEGORY:		SP	
SELECT START DATE			
SELECT: ▲ ▼ KEY			
SET : ◀ ▶ KEY			
END : PROG KEY			

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

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

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

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

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	---	---	---	---	---
2	8	10:00p	12:00p	125	SP
3	10	8:00p	9:00p	10	SP
4	SU	9:00p	10:00p	L	LP

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

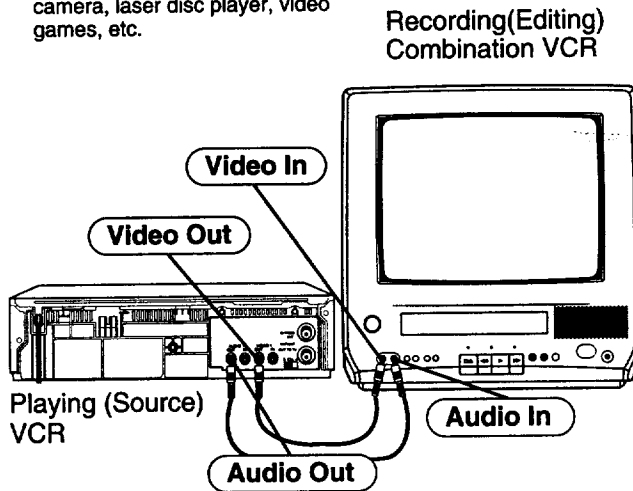
- c Press the ADD/HLT if you want to clear the program.

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

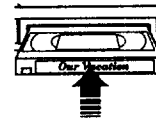
Copying Your Tapes (Dubbing)

Connections you'll need to make.

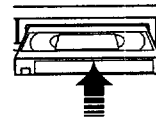
- Use this same connection for your video camera, laser disc player, video games, etc.



- 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.

More You Can Do

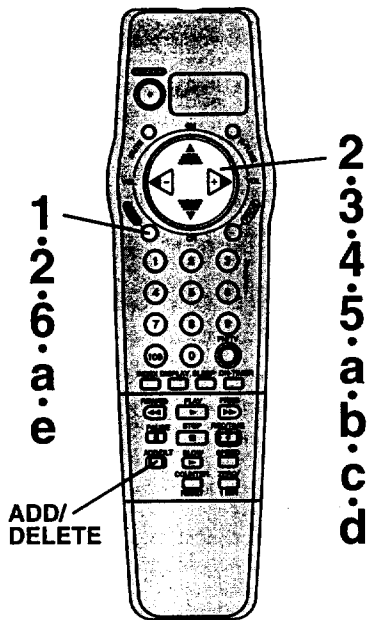
SPECIAL

Special VCR Features

Channel Caption

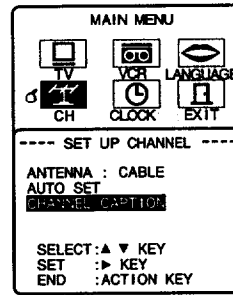
You can set channel names, i.e. ABC, CBS, so that when selected, the channel name and number appear on-screen for easy identification. You can go with preset names (up to 24), or manually create your own (up to 10).

Note: You will need a list of channels received in your area and the channel numbers you receive them on.



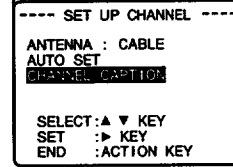
Preset Caption

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

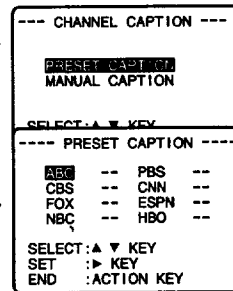


2 Press **▲▼◀▶** to select "CH," and then press **ACTION** to display the **SET UP CHANNEL** screen.

3 Press **▲▼** to select "CHANNEL CAPTION," and then press **▶** to display the **CHANNEL CAPTION** screen.

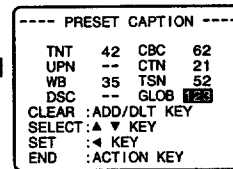


4 Press **▲▼** to select "PRESET CAPTION," and then press **▶** to display the **PRESET CAPTION** screen.



You can set up to twenty-four channel captions. If you want to set a station name other than these, go to the "Manual Caption" section below.

5 Press **▶** to move the shaded area to the right side. Then, press **▲▼** to change the memorized channel number to match the caption.



Next, press **◀** to set the memorized channel number. Now, press **▲▼** to continue. Repeat step 5 until the Caption List is complete.

To Make Corrections

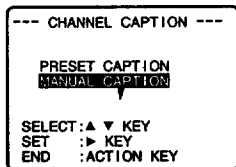
Press **▲▼** and **▶** to select the memorized channel number. Then, press **▲▼** to change, or **ADD/HLT** to delete the memorized channel number.

6 Press **ACTION** four times to exit this mode and return to the normal screen.

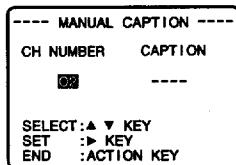
Manual Caption

a Follow steps 1~3 in the above section.

b In step 4, press **▲▼** to select "MANUAL CAPTION," and then press **▶** to display the **MANUAL CAPTION** screen.

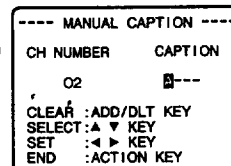


c Press **▲▼** to select "CH NUMBER," and then press **▶** to move the shaded area to the right side.

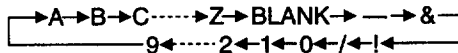


• Channels already set in the "Preset Caption" section are not displayed.
• You can set a total of ten channel captions with up to four characters each.

d Press **▲▼** to select, and then press **▶** to enter each character of the caption.



• Characters will change in the following order.



Now, press **◀** repeatedly to move the cursor back to "CH NUMBER." Repeat steps c~d as desired.

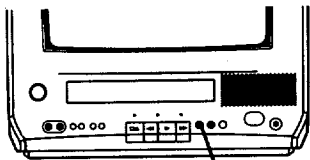
To Make Corrections, repeatedly press **▶** to move the cursor to the right, or **◀** to move to the left to the incorrect entry and make the correction.

To Clear the caption, press **ADD/HLT**.

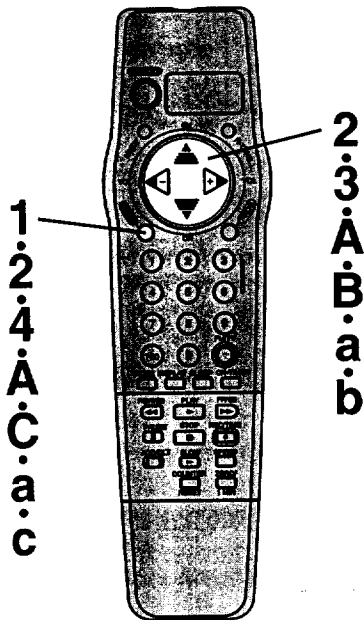
e Press **ACTION** four times to exit this mode and return to the normal screen.

Check list before you begin.

- The clock is set to correct time.



RECORD/TIME

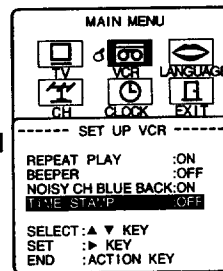


Time Stamp Feature

For about the first 10 seconds of each recording, the Combination VCR automatically writes the following program data on the tape: Date, Start time, Scheduled stop time (for Timer Rec. only), Channel No., and Category (for Timer Rec. only). Then, if playback is started at the starting point of the recording, this information will be displayed about 7 seconds after playback begins for a few seconds.

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

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



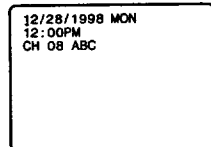
3 Press **▲▼** to select "TIME STAMP," and then press **▶** to select "ON" or "OFF."

- When "OFF" is selected, the program data is written on the tape, but will not be displayed for the first 5 seconds of playback.

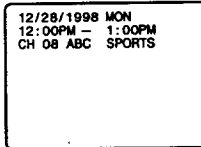
4 Press **ACTION** twice to return to the normal screen.

<Time Stamp Example >

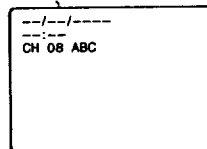
Normal/ One Touch Recording



Timer Recording



When Clock is not set...



- If the tape speed is changed immediately after recording begins, the display may be incorrect.

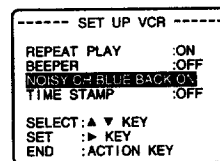
Blue Back ON/OFF Feature

You may choose whether or not you want the Combination VCR to display a solid blue back screen when the broadcast signal is very weak or the playback signal is not present.

A Follow steps 1-2 in the above section.

B Press **▲▼** to select "NOISY CH BLUE BACK," and then press **▶** to select "ON" or "OFF."

- When "ON" is selected, a solid blue screen appears whenever the signal is weak or nonexistent. When "OFF" is selected, the picture is displayed regardless of the signal condition.



- The picture cannot always be seen clearly when OFF is selected.

C Press **ACTION** twice to return to the normal screen.

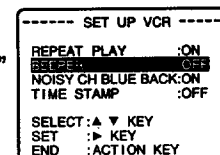
Warning Beeper Feature

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

a Follow steps 1-2 in the above section.

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

C Press **ACTION** twice to exit this screen.

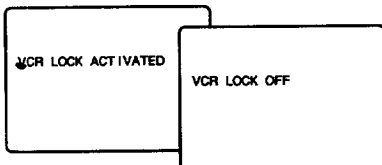


VCR Lock Feature

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 **REC/TIME** on the Combination VCR without a cassette inserted for **7 seconds** during Power On mode.

- "NO CASSETTE PLEASE INSERT A CASSETTE" is displayed when **REC/TIME** is pressed. Please disregard this warning and continue to hold down **REC/TIME** for 7 seconds.



To Cancel the VCR Lock feature, with or without a cassette inserted, hold down **REC/TIME** on the Combination VCR for 7 seconds again during Power On mode.

- VCR Lock mode is cancelled automatically after about 24 hours as long as the clock is set.

More you Can Do



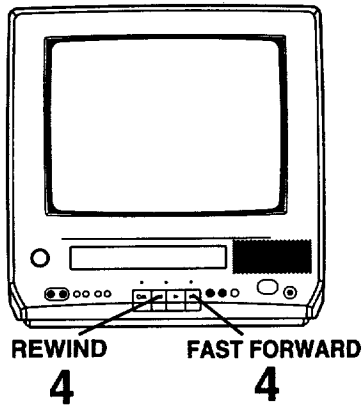
Tape Operation

VHS Index Search System

Each time you start a recording, an invisible index mark is placed on the tape. When timer recordings are made, program index and program information (see "Time Stamp Feature" on page 21) are also included. You can then use these index marks to access or scan your recordings.

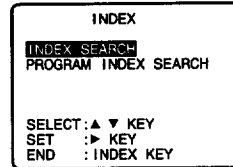
Direct Access Index Search (For normal and/or timer recordings.)

This feature allows you to go directly to the recording you want from anywhere on the tape by entering the appropriate index number.

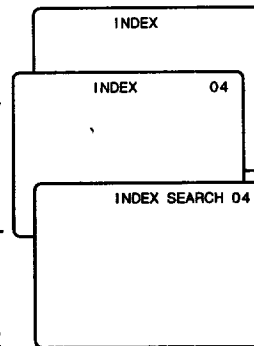


1 Press **INDEX** in Playback or Stop mode to display the INDEX screen.

- This screen appears only if there are timer recordings on the Program Index list. If this screen does not appear, go to step 3.



2 Press **▲▼** to select "INDEX SEARCH," and then press **►** to display the INDEX screen.

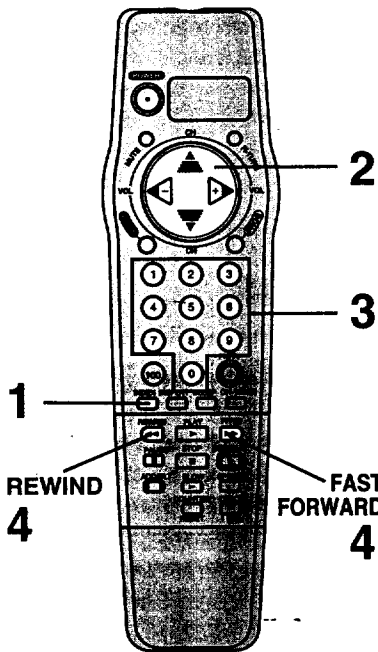


3 Press a **NUMBERED** key to select the desired recording.

- To calculate the number, see below.

4 Press **REW** or **FF** to start a reverse or forward search.

- When the designated location is reached, the Combination VCR goes into Playback mode.



To calculate the Index Number

Count forward or backward each recording start point, including the recording you want to see, from wherever you are on the tape.

Example 1:

If you are watching recording 4 and you want to watch recording 2, count the start points to number 2. The total is 3. Enter 3 in step "3" and press REW.



Example 2:

If you are watching recording 2 and you want to watch recording 6, count the start points to number 6. The total is 4. Enter 4 in step "3" and press FF.



NOTE: ↓ indicates start points of each recording.

NOTES

- Make each entry within 10 seconds or the Index Search mode will be cancelled.
- If any of the VHS Index Search System features are initiated extremely close to an index mark, the index mark may not be counted in the search.
- In the Program Index Search mode, this Combination VCR can memorize a total of 8 programs in order of recording. If you memorize more than 8 programs, the first program will be deleted and the new program will be listed.

Timer recordings must be recorded back to back in order for them to be placed on the Program Index list. If a timer recording is followed by a function, such as REW or PLAY the data is lost.

Program Index Search (For timer recordings only.)

This feature allows you to choose a timer recorded program from a Program Index list, and then start a search for that program.

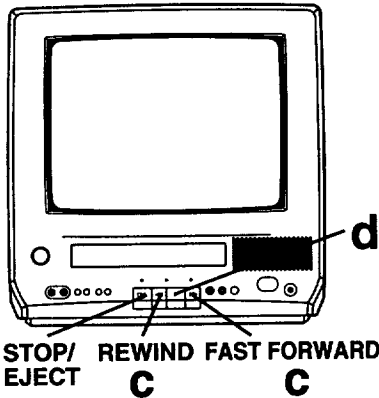
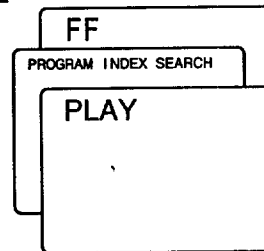
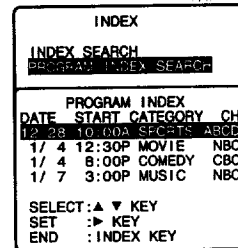
- Once a tape is ejected or normal recording is started, all program index data is erased.

1 Press INDEX in Playback or Stop mode to display the INDEX screen.

2 Press ▲▼ to select "PROGRAM INDEX SEARCH," and then press ► to display the PROGRAM INDEX screen.

3 Press ▲▼ to select the desired recorded program, and then press ► to start the forward or rewind search.

- When the designated program is reached, the Combination VCR automatically goes into Playback mode.



Index Scan (For normal and/or timer recordings.)

This feature allows you to scan (forward or reverse) each recording for 10 seconds in Playback mode.

a Press INDEX in Playback or Stop mode to display the INDEX screen.

- This screen appears only if there are timer recordings on the Program Index list. If this screen does not appear, go to step c.

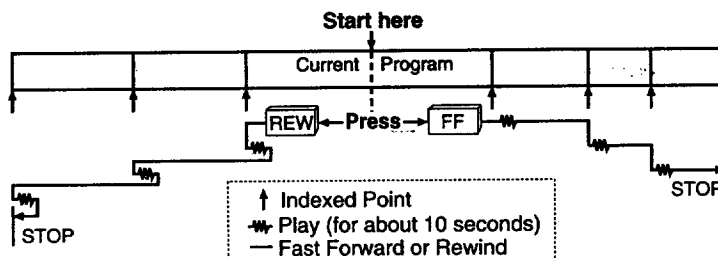
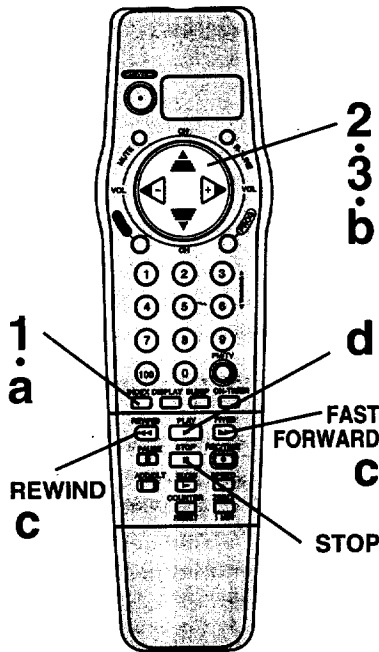
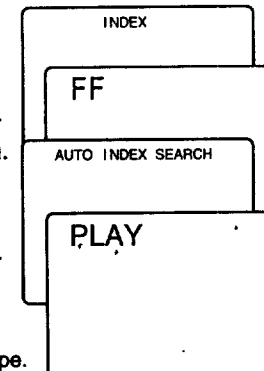
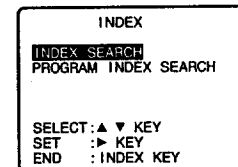
b Press ▲▼ to select "INDEX SEARCH," and then press ► to display the INDEX screen.

c Press REW or FF to begin the scan.

- As each index mark is reached, a short playback will be performed after which FF or REW resumes.

d Press PLAY to cancel the scan and begin playback.

- You may also press STOP to stop the tape.

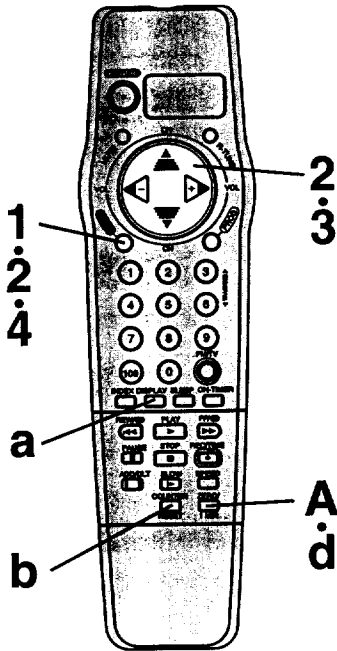


More you Can Do



Tape Operation (continued)

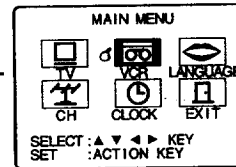
Your Combination VCR is equipped with several time saving features as well as convenient automatic functions which make tape operation easier than ever.



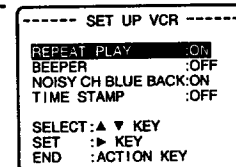
Repeat Play

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

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



2 Press **▲▼◀▶** to select "VCR," and then press **ACTION** 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 during playback), 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 **ACTION** 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.
- This feature is not available if the Kitchen Timer is activated (see page 12).

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.

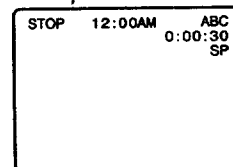
A Press **ZERO/1 MIN** in Play mode.

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

Zero Search

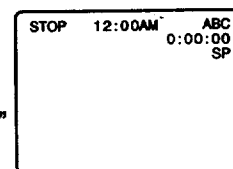
You can reset the Time Counter to zero and then return to that point.

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.



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 video tape. To exit this screen, press PLAY on the remote control or Combination VCR.

VIDEO HEADS MAY
NEED CLEANING
PLEASE INSERT HEAD
CLEANING CASSETTE
OR REFER TO MANUAL

END:PLAY KEY

- 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: 13 inch measured diagonal 90° deflection Picture Tube

VCR
Video Recording System: 4 rotary heads helical scanning system

Audio Track: 1 track

Tuner
Broadcast Channels: VHF 2-13, UHF 14-69
CABLE Channels: Midband A through I (14-22)
Superband J through W (23-36)
Hyperband AA-EEE (37-64)
Lowband A-5-A-1 (95-99)
Special CABLE channel 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. 69 watts (Power On)
Approx. 5 watts (Power Off)
EIA Standard NTSC color

Television System: 1 piece
Speaker: 41°F-104°F (5°C-40°C)
Operating Temperature: 10%-75%
Operating Humidity: 26.4 lbs. (12 Kg)
Weight: 15-3/16" (W) X 15-3/16" (H) X 16-11/16" (D)
Dimensions: 386(W) X 385(H) X 424(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)
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. 21)
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. 21) • 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. 21)

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

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

Service Center List

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

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

Factory Servicenters Locations

<p>CALIFORNIA 6550 Katella Avenue Cypress, CA 90630</p> <p>800 Dubuque Avenue S. San Francisco, CA 94080</p> <p>20201 Sherman Way Suite 102 Canoga Park, CA 91306</p> <p>3878 Ruffin Road Suite A San Diego, CA 92123</p> <p>COLORADO 1640 South Abilene Street Suite D Aurora, CO 80012</p> <p>FLORIDA 3700 North 29th Avenue Suite 102 Hollywood, FL 33020</p>	<p>GEORGIA 8655 Roswell Road Suite 100 Atlanta, GA 30350</p> <p>ILLINOIS 1703 North Randall Road Elgin, IL 60123 (Pick-up/Drop-off only)</p> <p>9060 Golf Road Niles, IL 60714</p> <p>MARYLAND 62 Mountain Road Glen Burnie, MD21061</p> <p>MASSACHUSETTS 60 Glacier Drive, Suite G Westwood, MA 02090</p>	<p>MICHIGAN 37048 Van Dyke Avenue Sterling Heights, MI 48312</p> <p>MINNESOTA 7850-12th Avenue South Airport Business Center Bloomington, MN 55425</p> <p>OHIO 2236 Waycross Road Civic Center Plaza Forest Park, OH 45240</p> <p>PENNSYLVANIA 2221 Cabot Blvd West Suite B Langhorne, PA 19047</p> <p>Chartiers Valley Shopping Center 1025 Washington Pike Bridgeville, PA 15017</p>	<p>TENNESSEE 919-8th Avenue South Nashville, TN 37203</p> <p>TEXAS 7482 Harwin Drive Houston, TX 77036</p> <p>13615 Welch Road Suite 101 Farmers Branch, TX 75244</p> <p>WASHINGTON 20425-84th Avenue South Kent, WA 98032</p> <p>HAWAII 99-859 Iwaiwa Street Aiea, Hawaii 96701 Phone (808) 488-1996 Fax (808) 486-4369</p>
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Service in Puerto Rico

Matsushita Electric of Puerto Rico, Inc. Panasonic Sales Company Factory Servicenter:
 Ave. 65 de Infantena, 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

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 Infanteria, 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):

PRODUCT	PARTS	LABOR
CAMCORDER	ONE (1) YEAR, EXCEPT CCD IMAGE SENSOR	NINETY (90) DAYS
	CCD IMAGE SENSOR - SIX (6) MONTHS	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	NINETY (90) DAYS
	CRT - TWO (2) YEARS	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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