
HITACHI

TV/VCR Combination



13VR8B Owner's Manual

This TV/VCR Combination will display television closed captioning, (CC or), in accordance with paragraph 15.119 of the FCC rules



Your Complete Guide
to TV/VCR Combination
Viewing and Recording



Using these quality features:

- Rotary 4-head record/playback system
 - Bilingual on-screen menu display selectable in English or Spanish
 - Infrared remote control
 - Real time tape counter
 - 181 channel capability PLL frequency synthesizer tuner with direct station call
 - Closed caption system
 - Game mode
 - Auto power on and off system
 - Auto rewind when the end of a tape is reached
 - 2 Step picture search operation
 - Still
 - Digital Auto Tracking (DTR)
 - Rental play mode
 - Auto repeat
 - Time search
 - Index search
 - Three different tape speeds: SP/LP/SLP
 - OTR (One Touch Recording)
 - 1 Year, 8 events (including Daily and Weekly Timer Recording)
 - Auto return
 - Sleep timer
 - Jog and Shuttle
 - Auto clock setting
 - Alarm time
-

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
<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 INDICATES THAT DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THIS UNIT.</p>
	<p>THIS SYMBOL INDICATES THAT THERE ARE IMPORTANT OPERATING AND MAINTENANCE INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.</p>

The caution marking is located on the rear of the cabinet.

IMPORTANT SAFEGUARDS

1. **Read instructions**-All the safety and operating instructions should be read before the appliance is operated.
2. **Retain Instructions**-The safety and operating instructions should be retained for future reference.
3. **Heed Warnings**-All warnings on the appliance and in the operating instructions should be adhered to.
4. **Follow Instructions**-All operating and use instructions should be followed.
5. **Cleaning**-Unplug TV/VCR from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
EXCEPTION : A product that is meant for uninterrupted service and, that for some specific reason, such as the possibility of the loss of an authorization code for a CATV converter, is not intended to be unplugged by the user for cleaning or any other purpose, may exclude the reference to unplugging the appliance in the cleaning description otherwise required in item 5.
6. **Attachments**-Do not use attachments not recommended by the TV/VCR manufacturer as they may cause hazards.
7. **Water and Moisture**-Do not use this TV/VCR near water- for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.
8. **Accessories**-Do not place this TV/VCR on an unstable cart, stand, tripod, bracket, or table. The TV/VCR may fall, causing serious injury to someone, and serious damage to the appliance. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the TV/VCR. Any mounting of the appliance should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer. An appliance and cart combination should be moved with care.

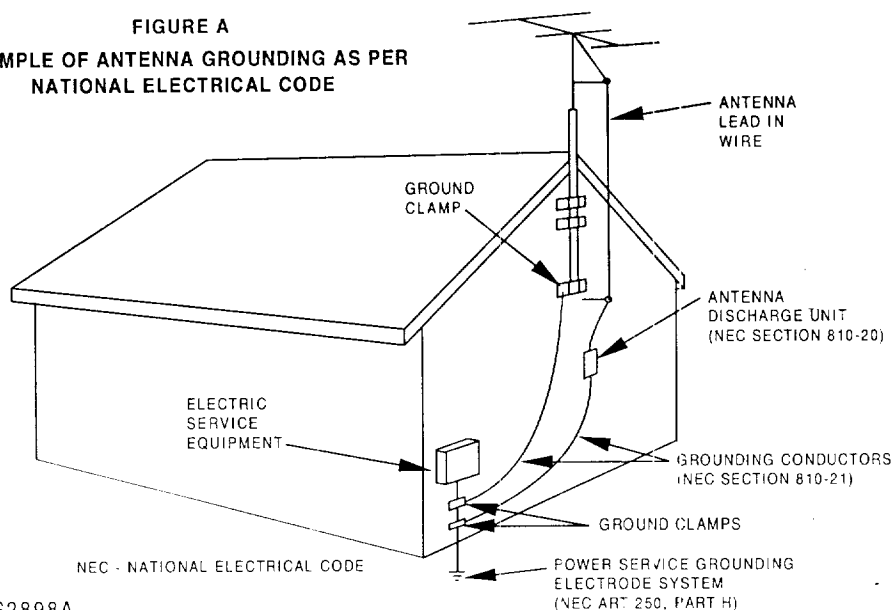
PORTABLE CART WARNING



Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

9. **Ventilation**-Slots and openings in the cabinet and the back or bottom are provided for ventilation and to ensure reliable operation of the TV/VCR and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the TV/VCR on a bed, sofa, rug, or other similar surface. This TV/VCR should never be placed near or over a radiator or heat register. This TV/VCR should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
10. **Power Sources**-This TV/VCR should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For TV/VCRs intended to operate from battery power, or other sources, refer to the operating instructions.
11. **Grounding or Polarization**-This TV/VCR is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
12. **Power-Cord Protection**-Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

FIGURE A
EXAMPLE OF ANTENNA GROUNDING AS PER
NATIONAL ELECTRICAL CODE



S2898A

13. Outdoor Antenna grounding-If an outside antenna or cable system is connected to the TV/VCR, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA No. 70, 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. (Fig. A)

14. Lightning-For added protection for this TV/VCR receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the TV/VCR due to lightning and power-line surges.

15. Power Lines-An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

16. Overloading-Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

17. Object and Liquid Entry-Never push objects of any kind into this TV/VCR through openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the TV/VCR.

18. Servicing-Do not attempt to service this TV/VCR yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

19. Damage Requiring Service-Unplug this TV/VCR from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- a. When the power-supply cord or plug is damaged or frayed.
- b. If liquid has been spilled, or objects have fallen into the TV/VCR.
- c. If the TV/VCR has been exposed to rain or water.
- d. If the TV/VCR does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the TV/VCR to its normal operation.
- e. If the TV/VCR has been dropped or damaged in any way.
- f. When the TV/VCR exhibits a distinct change in performance-this indicates a need for service.

20. Replacement Parts-When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, injury to persons or other hazards.

21. Safety Check-Upon completion of any service or repairs to this TV/VCR, ask the service technician to perform routine safety checks to determine that the TV/VCR is in proper operating condition.

22. Heat-This TV/VCR product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

PRECAUTIONS

LOCATION

For safe operation and satisfactory performance of your TV/VCR, keep the following in mind when selecting a place for its installation:

- Shield it from direct sunlight and keep it away from sources of intense heat.
- Avoid dusty or humid places.
- Avoid places with insufficient ventilation for proper heat dissipation. Do not block the ventilation holes at the top and bottom of the unit. Do not place the unit on a carpet because this will block the ventilation holes.
- Install unit in a horizontal position.
- Avoid locations subject to strong vibration.
- Do not place the TV/VCR near strong magnetic fields.
- Avoid moving TV/VCR to locations where temperature differences are extreme.

AVOID THE HAZARDS OF ELECTRICAL SHOCK AND FIRE

- Do not handle the power cord with wet hands.
- Do not pull on the power cord when disconnecting it from an AC wall outlet. Grasp it by the plug.
- If, by accident, water is spilled on your unit, unplug the power cord immediately and take the unit to an Authorized Service Center for servicing.
- Do not put your fingers or objects into the TV/VCR cassette holder.
- Do not place anything directly on top of the unit.

WARNING

Moisture condensation may occur inside the unit when it is moved from a cold place to a warm place, or after heating a cold room or under conditions of high humidity. If a tape is played in a TV/VCR which has moisture, it may damage the tape and TV/VCR. Therefore when the condensation occurs inside the unit turn the POWER button on and allow at least 2 hours for the unit to dry out.

FCC WARNING- This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

IMPORTANT COPYRIGHT INFORMATION

Unauthorized recording or use of broadcast television programming, video tape, film or other copyrighted material may violate applicable copyright laws. We assume no responsibility for the unauthorized duplication, use, or other acts which infringe upon the rights of copyright owners.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- 1) Reorient or relocate the receiving antenna.
- 2) Increase the separation between the equipment and receiver.
- 3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- 4) Consult the dealer or an experienced radio/TV technician for help.

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

Date of Purchase	
Dealer Purchase from	
Dealer Address	
Dealer Phone No.	
Model No.	
Serial No.	

FEATURES

- **Rotary 4-head record/playback system**
- **Infrared remote control**
- **Bilingual on-screen menu display selectable in English or Spanish**
- **Real time counter**– This shows the elapsed recording or playback time in hours, minutes, and seconds. (Does not work in blank areas of the tape.)
- **181 channel capability PLL frequency synthesizer tuner with direct station call**– (A converter may be necessary to view scrambled cable channels.)
- **Auto Clock Setting**– Allows you to use the clock function from the PBS broadcast.
- **Closed caption system**– You may view specially labeled (cc) TV programs, movies, news, prerecorded tapes, etc. with either a dialogue caption or text display added to the program.
- **Game mode**– Allows TV/VCR display to be suitable for use with TV games.
- **Auto power on and off system**– Automatically turns on the TV/VCR when you insert the cassette, turns off after auto-rewind, and ejects when the beginning of the tape is reached.
- **Auto rewind when the end of a tape is reached**– (Does not occur when using the timer recording).
- **2 Step picture search operation**– You can view a video program at a high speed or super high speed in either a forward or reverse direction in LP and SLP mode.
- **Still**– "Freeze" the picture at any time, for close viewing of a particular scene. Only tapes recorded in SLP mode will show a fairly clear picture.
- **Digital Auto Tracking (DTR)**– Automatically adjusts the tracking for each tape you play.
- **Rental play mode**– Improves playback picture quality of worn tapes, such as rental tapes.
- **Auto repeat**– Allows you to repeat a tape indefinitely without pressing the PLAY button.
- **Time search**– Let you set the TV/VCR to advance the tape by entering the desired playback time you want to skip.
- **Index Search**– Lets you Index the start of a recording.
- **Three different tape speeds : SP/LP/SLP**
- **OTR (One Touch Recording)**– Instant timed recording from 30 to 480 minutes is possible at the push of the REC/OTR button.
- **1 Year, 8 events (including Daily and Weekly Timer Recording)**– The built-in timer allows you to record up to 8 programs at different times on different channels up to 1 year in advance. The daily timer allows recordings to be made of daily broadcasts, and the weekly timer allows recording to be made once a week up to the end of the tape.
- **Auto return**– After timer recording is finished, you can return to the beginning of the recording.
- **Sleep timer**– Allows you to have the TV/VCR automatically turn off at a desired time.
- **Jog and Shuttle**– You can adjust the playback speed using the Shuttle Ring (the outer ring) or advance the frame one by one using the Jog Dial (the inner dial).
- **Alarm timer**– Allows you to turn on the TV/VCR without using the POWER button at a desired time.

VIDEO CASSETTE

This TV/VCR will operate with any cassette that has the VHS mark. For best results, we recommend the use of high-quality tapes. Do not use poor quality or damaged tapes.

PRECAUTIONS

- Avoid moisture. Moisture condensation may occur on the tape if it is moved from a cold place to a warm place. Before using a tape with these conditions, to avoid damage of the tape and your TV/VCR, wait until the tape has warmed to room temperature and the moisture has evaporated.
- Avoid extreme heat, high humidity and magnetic fields.
- Do not tamper with the cassette mechanism.
- Do not touch the tape with your fingers.

THREE DIFFERENT TAPE SPEEDS

Before recording, select the tape speed from : **SP mode** (Standard Play), **LP mode** (Long Play) or **SLP mode** (Super Long Play).

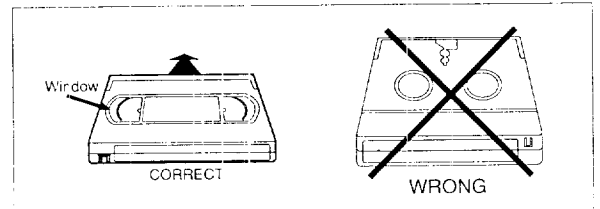
The table below shows the maximum recording/playback time using T60, T120 or T160 tapes in each mode.

Tape Speed	Recording/Playback Time			
	Type of tape	T60	T120	T160
SP mode		1 hour	2 hours	2-2/3 hours
LP mode		2 hours	4 hours	5-1/3 hours
SLP mode		3 hours	6 hours	8 hours

INSERTING A CASSETTE

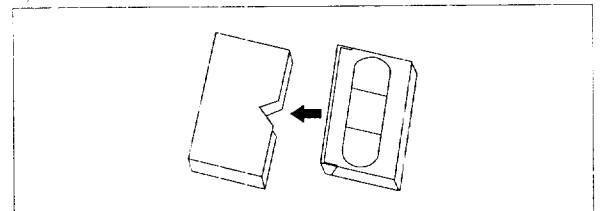
Insert the cassette in the direction as shown. Push in gently, but continuously, on the center-back of the cassette until it is drawn into the TV/VCR.

The TV/VCR will automatically turn on.



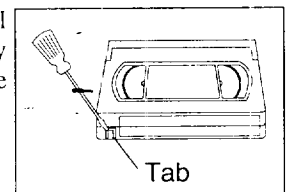
REMOVING A CASSETTE

- 1) In the Stop mode, press the EJECT button on the remote control or press the STOP/EJECT button on the TV/VCR. The cassette will eject.
- 2) Pull the cassette out of the cassette compartment.
- 3) Store the cassette in its case as shown.

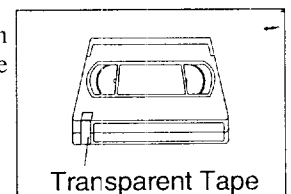


ERASE PREVENTION

You can prevent accidental erasing of recording by breaking off the tab on the back edge of the cassette.



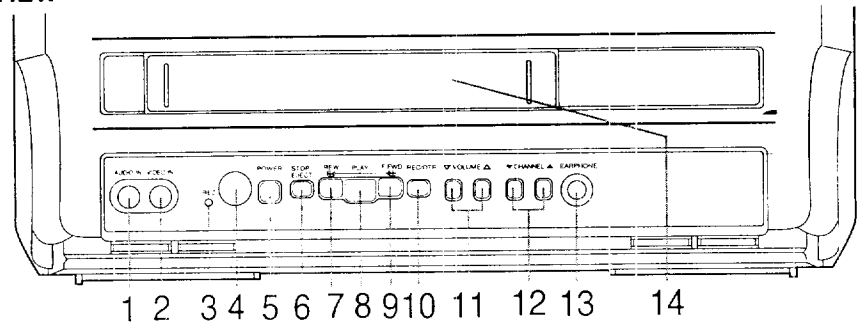
If you decide to record on the tape again, cover the hole with plastic tape.



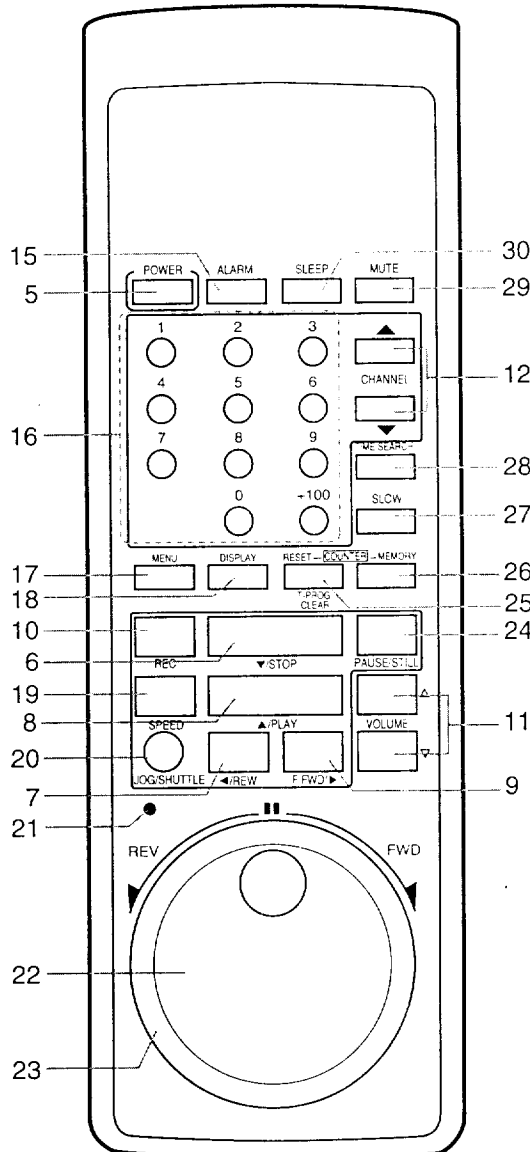
OPERATING CONTROLS AND FUNCTIONS

NOTE: Some controls are located on both the VCR and on the remote control, some are only located on one, some controls operate certain functions only in one location. See each description for details.

- FRONT VIEW -



- REMOTE CONTROL VIEW -



1 AUDIO input jack— Connect to the audio output jack of your audio equipment or another VCR.

2 VIDEO input jack— Connect to the video output jack of your video camera or another VCR.

3 RECORD indicator— Flashes during recording. Lights up in the Stand-by mode for Timer Recording.

4 Remote sensor window— Receives the infrared signals from the remote control.

5 POWER button— Press to turn TV/VCR on and off. Press to activate timer recording.

6 STOP button — Press to stop the tape motion.
EJECT button— Press in the Stop mode to remove tape from TV/VCR.

▼ button—

- Press to select setting modes from on screen menu.
- Press to enter digits when setting program (For example: setting clock or timer program).

7 REW button— Press to rewind the tape, or to view the picture rapidly in reverse during playback mode. (Rewind Search)

◀ button—

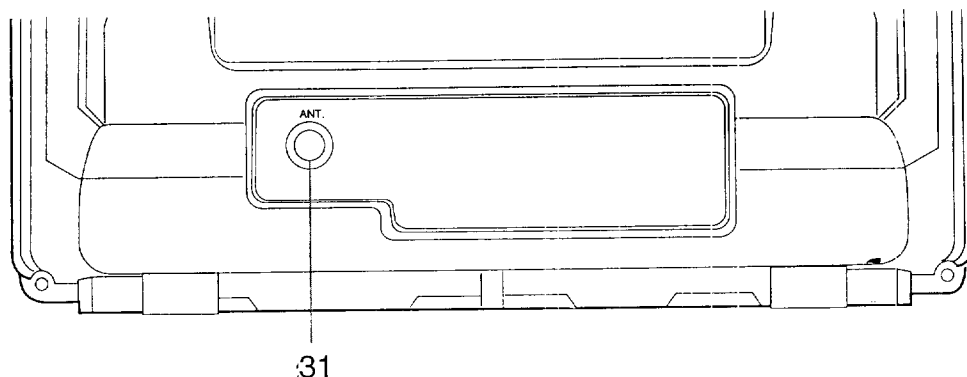
- Press to select a mode from a particular menu (For example: LANGUAGE or USER'S SET UP)

8 PLAY button— Press to begin playback.

▲ button—

- Press to select setting modes from on screen menu.
- Press to enter digits when setting program (For example: setting clock or timer program).

- REAR VIEW -



- 9 F.FWD button**— Press to rapidly advance the tape, or to view the picture rapidly in forward during playback mode. (Forward Search)
- ▶ button**—
- When setting program (For example: setting clock or timer program), press to determine your selection and proceed to the next step you want to input.
 - Press to determine setting modes from on screen menu.
 - Press to select a mode from a particular menu (For example: LANGUAGE or USER'S SET UP)
- 10 REC button**— Press for manual recording.
- OTR button**— Activates One Touch Recording. (only on the TV/VCR)
- 11 VOLUME ▲/▼ buttons**— Adjusts the volume level.
- 12 CHANNEL ▲/▼ buttons**— Press to select the desired channels for viewing or recording.
- TRACKING function**— Press to minimize video 'noise' (lines or dots on screen) during playback mode. (See page 19.)
- 13 EARPHONE jack**— Connect to earphone (not supplied) for personal listening. The size of jack is 1/8" monaural (3.5mm).
- 14 Cassette compartment**
- 15 ALARM button**— Press to set the time to turn on the TV/VCR automatically. (See page 28).
- 16 Number buttons**— Press to select desired channels for viewing or recording. To select channels from 1 to 9, first press the 0 button and then 1 to 9.
- +100 button**— When selecting cable channels which are higher than 99, press this button first, then press the last two digits. (To select channel 125, first press the "+100" button then press "2" and "5").
- 17 MENU button**— Press to display the main menu on the TV screen.
- 18 DISPLAY button**— Display the counter or the current channel number and current time on the TV screen. (See page 16)
- 19 SPEED button**— Press to choose the desired recording speed : SP/LP/SLP.
- 20 JOG/SHUTTLE button**— Press to use the Jog Dial or the Shuttle Ring. (See page 20.)
- 21 Jog/Shuttle indicator**— Lights on when JOG/SHUTTLE button is pressed. (See page 20.)
- 22 Jog Dial**— Turn to advance one frame in the forward or backward direction at the speed with which the dial is turned. (See page 20.)
- 23 Shuttle Ring**— Turn to make rewind or fast forward speed faster in the forward or backward direction in the Play mode or Still mode. The further the Shuttle Ring is rotated, the faster the playback speed. (See page 20.)
- 24 PAUSE/STILL button**— Press to temporarily stop the tape during the recording or to view a still picture during playback.
- 25 T-PROG. CLEAR button**— Press to cancel a setting of timer program (See page 27).
- COUNTER RESET button**— Press to reset counter to 0:00:00.
- 26 COUNTER MEMORY button**— Press to set counter memory on and off. (See page 22.)
- 27 SLOW button**— Press to reduce the playback speed.
- 28 TIME SEARCH button**— Press to activate Time Search mode.
- 29 MUTE button**— Mutes the sound. Press it again to resume sound.
- 30 SLEEP button**— Sets the Sleep Timer. (See page 28.)
- 31 ANT. terminal**— Connect to an antenna or CATV.

PREPARATION FOR USE

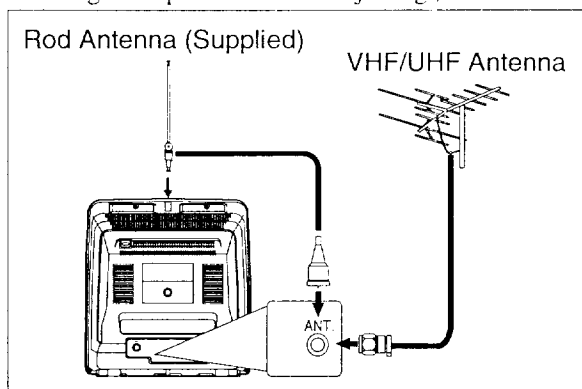
ANTENNA/CABLE CONNECTIONS

VHF/UHF COMBINED ANTENNA

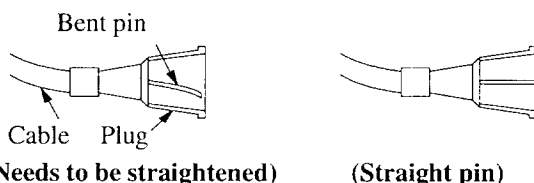
The VHF/UHF Rod Antenna (supplied) is detachable. Insert the stem of the antenna into the hole on the upper-back portion of the TV/VCR.

Connect the VHF/UHF Rod Antenna or VHF/UHF Combination Antenna to the ANT. terminal of the TV/VCR as shown in the diagram below.

For the best reception, fully extend the VHF/UHF Rod Antenna and make the necessary adjustments. (Avoid touching the top section when adjusting.)

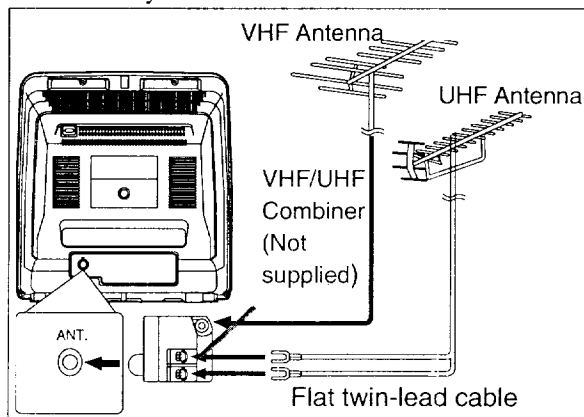


NOTE : Before plugging the Rod antenna into antenna terminal, check that the pin is not bent. If it is bent, straighten the pin as illustrated, then plug the pin into antenna terminal.



VHF/UHF SEPARATE ANTENNAS

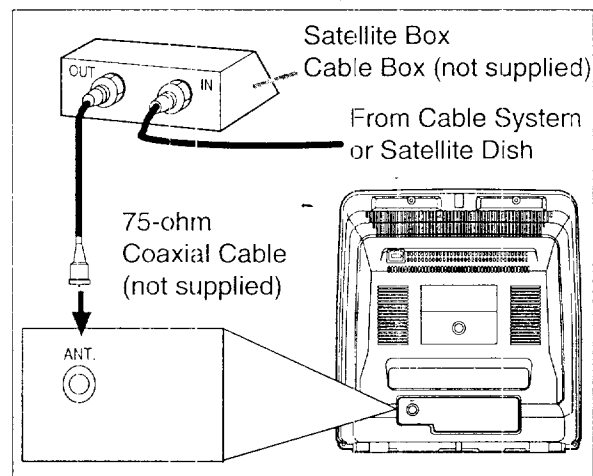
It is necessary in some area to use an outdoor antenna.



CABLE WITH CONVERTER/DESCRAMBLER BOX OR SATELLITE BOX

If your cable service supplies you with a converter box or if you use a satellite system, you can use the basic connection shown here.

By using this connection you can record and view any channel including scrambled channels. However, channel selection must be made with the converter box. This means that channels cannot be changed using the TV/VCR Remote Control. Unattended recording is limited to one channel at a time.



TO RECORD A SCRAMBLED/UNSCRAMBLED CHANNEL

1. Set the TV/VCR channel selector to the output channel of the Cable Converter Box or Satellite Box. (Ex. CH3)
2. Select which channel to record from your Cable Converter Box or Satellite Box.

Note to CATV system installer:

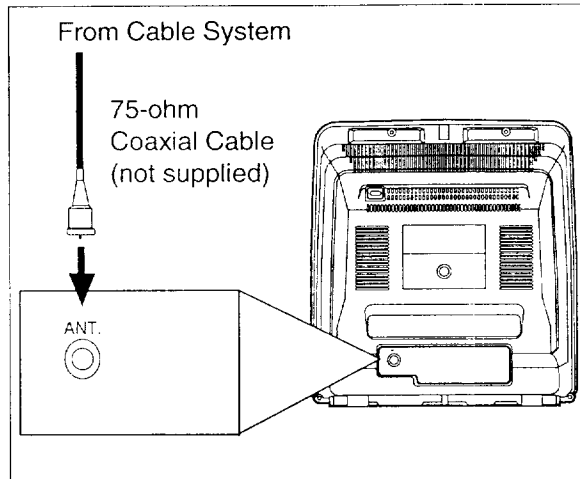
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.

CABLE WITHOUT CONVERTER/ DESCRAMBLER BOX

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

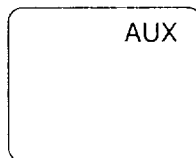
By using this connection you can:

- 1) Use the TV/VCR remote to select channels
- 2) Program one or more unscrambled channels for Automatic Timer Recording.



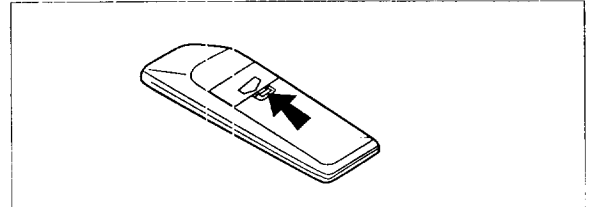
EXTERNAL INPUT MODE

When using an external input signal (another VCR or camcorder), connect the player's audio/video output cables to the AUDIO IN, VIDEO IN jacks of your TV/VCR. Then press the CHANNEL ▲ or ▼ button or enter "00" so that "AUX" screen appears.

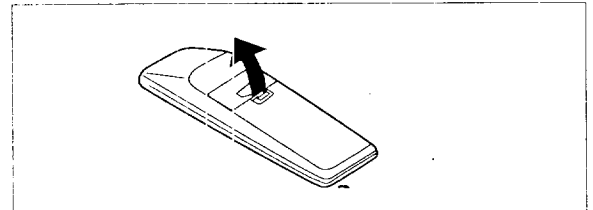


INSTALLING THE BATTERIES

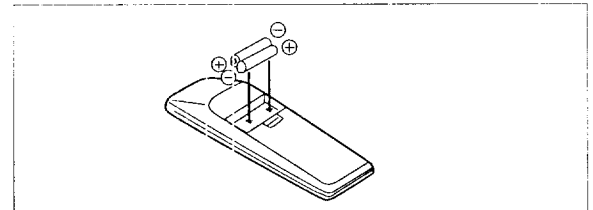
- 1) Press the tab in the direction of the arrow.



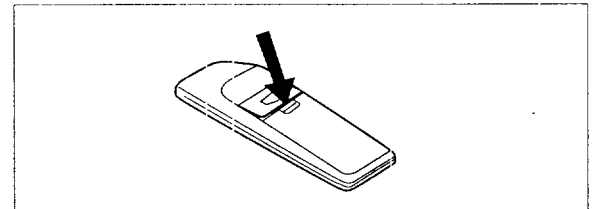
- 2) Pivot the cover up as shown by the arrow.



- 3) Insert 2 "AAA" batteries into the battery compartment in the direction as indicated by the polarity (+/-) markings.



- 4) Replace the cover.



CAUTIONS:

- Do not subject the remote control to shocks such as dropping it on the floor, etc. Precision parts may be damaged.
- Avoid placing the remote control in humid places or getting it wet. Do not leave it on or near a heater. Extreme heat or moisture may cause the remote control to cease operation.
- If the batteries become weak, remote control operation may become erratic or stop altogether. Replace the old batteries with two new "AAA" types.

PRESET FOR USE

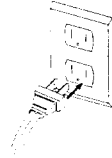
You can program the tuner to scan only the channels you receive in your area. **You must use the remote control for the this procedure.**

Channel memory programming is NOT needed when connected to a cable box. Just select the TV/VCR channel selector to the output channel of the cable box or satellite box (Ex CH3). Then select the channel to be viewed on the Cable Box or Satellite Box.

PRESET FOR THE FIRST TIME

1 Plug the TV/VCR power cord

Plug the TV/VCR power cord into a standard AC outlet.



2 Turn on the TV/VCR

Press the POWER button to turn on the TV/VCR.

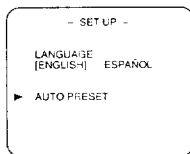
3 Select "ENGLISH" or "ESPAÑOL"

Select "ENGLISH" or "ESPAÑOL=Spanish" using the F.FWD/▶ or REW/◀ button. "[]" indicate the selected language.



4 Begin auto preset

Press the PLAY/▲ or STOP/▼ button to point to "AUTO PRESET".



Then press the F.FWD/▶ button. The tuner scans and memorizes all active channels in your area.

NOTES:

- The TV/VCR distinguishes between standard TV channels and cable channels.
- If you want to play or record a video tape **BEFORE** presetting the tuner, you must press the MENU button. To preset the tuner again, see "AUTO PRESET AGAIN".

5 After scanning

The tuner stops on the lowest memorized channel. If you want to recall the selected channels, you can select the desired channel directly with the remote control number button or CHANNEL ▲ or ▼.

TO RETURN TO TV MODE WHEN SCANNING

Press the MENU button in scanning mode.

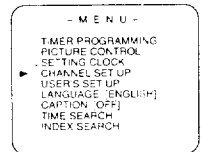
DELETING (OR ADDING) PRESET CHANNEL

The channels you no longer receive or seldom watch can be deleted from the memory. (Of course, you can add the deleted channel into the memory again.)

1 Select "CHANNEL SET UP"

Press the MENU button.

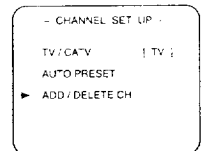
Press the PLAY/▲ or STOP/▼ button to point to "CHANNEL SET UP". Then, press the F.FWD/▶ button.



2 Select "ADD/DELETE CH"

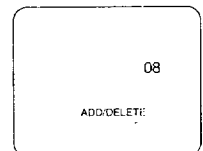
Press the PLAY/▲ or STOP/▼ button to point to "ADD/DELETE CH".

Press the F.FWD/▶ button.



3 Enter the desired channel number

Press the PLAY/▲ or STOP/▼ button until your desired channel number appears. (You can also use the number buttons or the CHANNEL ▲/▼ button to enter it) (Example: CH8)



4 Delete (or add) it from (into) memory

Press the F.FWD/▶ or REW/◀ button. The channel number changes to light red. The channel is deleted from memory.

- To delete another channel, repeat steps [3] and [4].
- If you press the F.FWD/▶ or REW/◀ button again, the channel is memorized again.

Added channel : Light blue.
Deleted channel : Light red.

5 Exit the channel setup mode

Press the MENU button to returns to TV mode.

NOTE: To confirm that channel(s) has been deleted or added, press the CHANNEL ▲ or ▼ button.

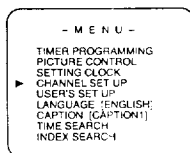
AUTO PRESET AGAIN

1 Select "CHANNEL SET UP"

Press the MENU button.

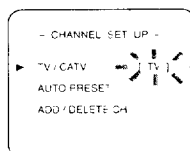
Press the PLAY/▲ or STOP/▼ button to point to "CHANNEL SET UP".

Then, press the F.FWD/▶ button.



2 Select "TV" or "CATV"

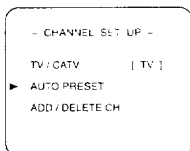
Select [TV] or [CATV] using the F.FWD/▶ or REW/◀ button.



3 Begin auto preset

Press the PLAY/▲ or STOP/▼ button to point to "AUTO PRESET".

Then, press the F.FWD/▶ button. The tuner scans and memorizes all the active channels in your area.



4 After scanning

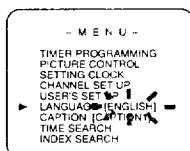
The tuner stops on the lowest memorized channel.

SELECTING THE LANGUAGE

1 Select "LANGUAGE"

Press the MENU button.

Press the PLAY/▲ or STOP/▼ button to point to "LANGUAGE".



2 Select "ENGLISH" or "ESPAÑOL"

Select "ENGLISH" or "ESPAÑOL= Spanish" using the F.FWD/▶ or REW/◀ button.

3 Exit the Language mode

Press the MENU button to return to TV mode.

DAYLIGHT-SAVING TIME

Select this feature and the TV/VCR's clock automatically will advance one hour in April, then reverse one hour in October.

When Daylight-Saving Time is ON, the clock will change automatically as follows:

- **First Sunday of April : from 2:00AM to 3:00AM (summer time):** When programmed recording starts between 2:00AM - 2:59AM on this day, the TV/VCR will start recording at 3:00AM.
- **Last Sunday of October : From 1:00AM to 2:00AM** When programmed recording ends between 1:00AM - 1:59AM on this day, the TV/VCR will stop at 2:00AM.

Make sure ...

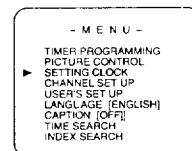
- Press the POWER button to turn on the TV/VCR.
- You must use the remote control for the following steps.

1 Select "SETTING CLOCK"

Press the MENU button.

Press the PLAY/▲ or STOP/▼ button to point to "SETTING CLOCK".

Then, press the F.FWD/▶ button.

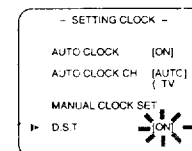


2 Set "D.S.T." (Daylight-Saving Time) to [ON]

Press the PLAY/▲ or STOP/▼ button to point to "D.S.T".

3 Set "D.S.T." (Daylight-Saving Time) to [ON]

Press the F.FWD/▶ or REW/◀ button until [ON] appears.



4 Exit the Daylight-Saving Time mode

Press the MENU button to return to TV mode.

TO CANCEL THE DAYLIGHT-SAVING TIME

Repeat steps [1] to [3]. Then, press the F.FWD/▶ or REW/◀ button until [OFF] appears and press the MENU button to return to TV mode.

SETTING THE CLOCK (AUTO / MANUAL)

Set the clock accurately for proper automatic timer recording. If the Public Broadcasting Station (PBS) is available in your area, follow "AUTO CLOCK SETTING". If it is not, follow "MANUAL CLOCK SETTING".

AUTO CLOCK SETTING

You can have the TV/VCR set the clock automatically by using the Public Broadcasting Station (PBS) channel in your area. Once you have set the clock by using the following procedure, the TV/VCR will automatically monitor the correct time and date being broadcast by the PBS station in your area, using a new service called Extended Data Service (XDS).

Make sure ...

- Use the remote control for this procedure.
- TV/VCR power must be turned on.
- Confirm that the antenna connections are correct.
- The cable converter box must be turned on if your TV/VCR is connected directly to it. (See NOTES:)
- The channel you want to record is properly set in advance. (See page 13)

NOTES:

- Auto clock setting only needs to be set once. You but can be done again if the clock's time has become incorrect for some reason.
- If the TV/VCR is connected directly to a cable converter box, the local PBS station must be selected on the cable box itself, and the TV/VCR must be set to the output channel of the cable converter box (usually channel 3 or 4), to be able to set up or correct the clock automatically.

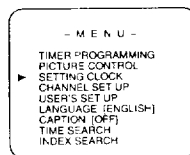
The TV/VCR cannot control the channels of the cable converter box.

1 Select "SETTING CLOCK"

Press the MENU button.

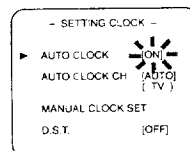
Press the PLAY/▲ or STOP/▼ button to point to "SETTING CLOCK".

Then, press the F.FWD/▶ button.



2 Set "AUTO CLOCK" to [ON]

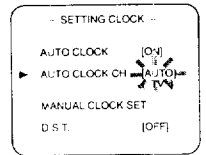
Press the F.FWD/▶ or REW/◀ button repeatedly until [ON] appears.



3 Enter the channel number for the PBS station

Press the PLAY/▲ or STOP/▼ button to point to "AUTO CLOCK CH".

Then press the F.FWD/▶ or REW/◀ button until the channel number for your local PBS station appears.



If you do not know the PBS channel number, leave it set to [AUTO]. The TV/VCR will search automatically all available channels for the local PBS station, and will select that channel.

4 Exit the Auto Clock Setting

Press the MENU button to return to TV mode.

5 Turn off the TV/VCR

Press the POWER button to turn off the TV/VCR for searching the local PBS station. **The power must remain off during this search.**

If you enter the channel number manually,

- it may take for about a few minutes for this search to be completed.

If you choose [AUTO],

- the TV/VCR must search through all the available channels. It must scan each channel for a couple of seconds to determine if that channel is transmitting the XDS signal. This search could take up to 10 minutes if the local PBS station is on a high numbered channel in your area or on your cable system.
- if the time that is automatically set by this selected PBS station is incorrect, it may not be your local PBS station, but one from a different time zone. Or there is a case that no channel is broadcasting the XDS signal in your area, as shown by no time being set even after 10 minutes search. In these cases, you must manually enter the correct local PBS station, or set the clock manually and turn off the Auto Clock Setting feature.

MANUAL CLOCK SETTING

Make sure ...

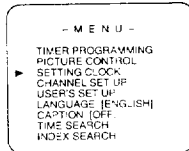
- Use the remote control for this procedure.
- TV/VCR power must be turned on.

1 Select "SETTING CLOCK"

Press the MENU button.

Press the PLAY/▲ or STOP/▼ button to point to "SETTING CLOCK".

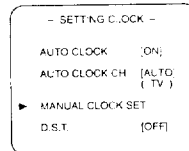
Then, press the F.FWD/▶ button.



2 Select "MANUAL CLOCK SET"

Press the PLAY/▲ or STOP/▼ button to point to "MANUAL CLOCK SET".

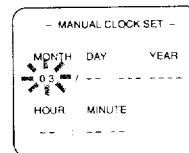
Then, press the F.FWD/▶ button.



3 Select the month

Press the PLAY/▲ or STOP/▼ button until your desired month appears. (Example: March → 03)

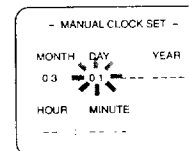
Then, press the F.FWD/▶ button.



4 Select the day

Press the PLAY/▲ or STOP/▼ button until your desired day appears. (Example: 1st → 01)

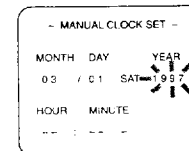
Then, press the F.FWD/▶ button.



5 Select the year

Press the PLAY/▲ or STOP/▼ button until your desired year appears. (Example: 1997)

Then, press the F.FWD/▶ button.



PLEASE NOTE:

If there is no local PBS station in your area or on your cable system, select "AUTO CLOCK " and press the CHANNEL ▲ or ▼ button to turn [OFF] this function.. Then you can manually adjust the clock.

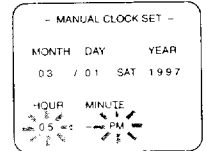
In the example below, the clock is to be set to:

DATE March 1st, 1997
 SETTING TIME 5:40PM

6 Select the hour

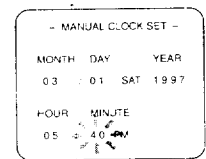
Press the PLAY/▲ or STOP/▼ button until your desired hour appears. (Example: 5, PM)

Then, press the F.FWD/▶ button.



7 Select the minute

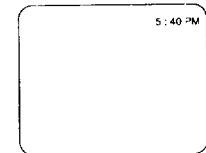
Press the PLAY/▲ or STOP/▼ button until the desired minute appears. (Example: 40)



8 Start the clock

Press the MENU button.

Although seconds are not displayed, they begin counting from 00 when you press the MENU button. Use this feature to synchronize the clock with the correct time.



- This unit has a built in calendar up to the year 2010.

TO CHANGE CLOCK SETTING

If you want to change the clock, -

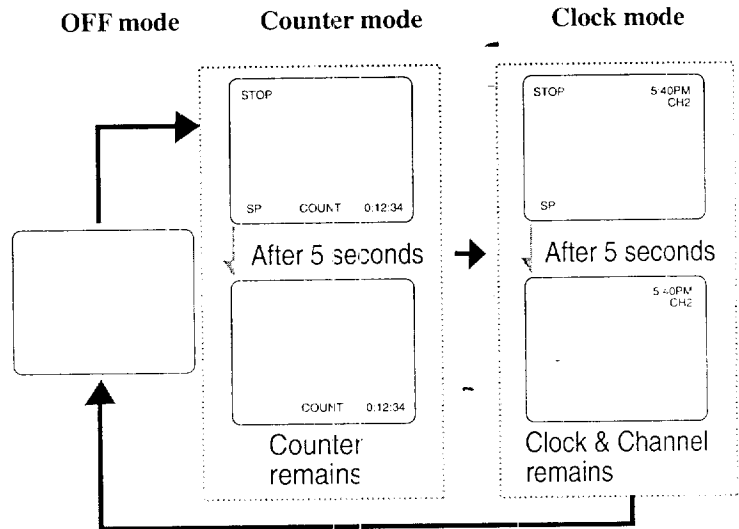
- 1) Follow steps [1] and [3].
- 2) Select where you want to change using the F.FWD/▶ or REW/◀ button.
- 3) Enter correct numbers using the PLAY/▲ or STOP/▼ button.
- 4) Press the MENU button to start the clock.

ON SCREEN DISPLAY

To check the Counter, Clock and Channel number on the TV screen, press the DISPLAY button on the remote control. Each time you press the DISPLAY button on the remote control, the TV screen will change as follows:

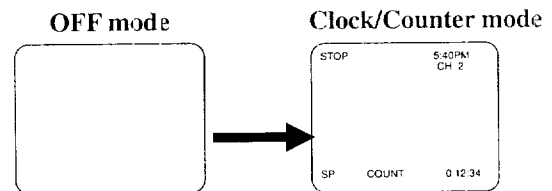
When the Closed Caption mode is OFF:

- Counter mode : After 5 seconds, only the counter remains. To clear it, press the DISPLAY button.
- Clock mode : After 5 seconds, only the clock and the channel number remain. To clear them, press the DISPLAY button.



When the Closed Caption mode is ON:

- The On Screen Display disappears after 5 seconds.
- This is true even if the MUTE button is pressed, or the PAUSE/STILL button is pressed while recording.



SPECIAL FEATURES

DEGAUSSING

Magnetism from nearby appliances might affect the color of the TV picture.

If this happens, move this unit away from the appliance. If the color is still not correct, disconnect power cord from AC outlet then reconnect it after 30 minutes.

AUTO REWIND-EJECT

- When the end of a tape is reached during recording, playback, or fast-forward, the tape will automatically rewind to the beginning. After rewinding finishes, the TV/VCR will eject the tape and turn itself to off.
- This function is operative when Repeat Play is set to the [OFF] position.
- The tape will not auto-rewind during timer recording or One Touch Recording.
- When the Counter Memory is activated, the tape will rewind to the MEMORY 0:00:00 and the TV/VCR will go into the Stop mode.

TV OPERATION

WATCHING A TV PROGRAM

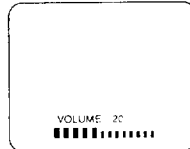
1 Turn on the TV/VCR

2 Select the channel number

Press the CHANNEL ▲ or ▼ button to select your desired channel number.

3 Adjust sound

Press the VOLUME ▲ or ▼ button to adjust the volume.



GAME MODE

This function enables you to adjust the TV screen making it suitable to use for a TV GAME.

Make sure ...

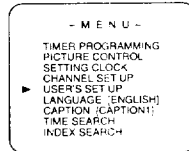
- Use the remote control for this procedure.

1 Select "USER'S SET UP"

Press the MENU button.

Press the PLAY/▲ or STOP/▼ button to point to "USER'S SET UP".

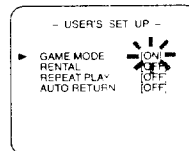
Then, press the F.FWD/▶ button.



2 Set "GAME MODE" to [ON]

Confirm "GAME MODE" is pointed.

Press the F.FWD/▶ or REW/◀ button repeatedly until [ON] appears.



3 Exit the Game mode

Press the MENU button to return to TV mode.

TO CANCEL THE GAME MODE

Repeat step [1] and [2], selecting [OFF]. Press the MENU button to return to TV mode.

PICTURE CONTROL

The TV/VCR's picture controls – **BRIGHT**, **CONTRAST**, **COLOR**, **TINT** and **SHARPNESS** – are preset to factory specifications. Although they are usually the best, you may need to make some further adjustments for a natural looking image.

NOTES:

- Procedures must be followed within 5 seconds or the Picture Control mode will be cancelled.
- When setting the Picture Control, the Game mode will be automatically set to [OFF].

Make sure ...

- Use the remote control for this procedure.

1 Select "PICTURE CONTROL"

Press the MENU button.

Press the PLAY/▲ or STOP/▼ button to point to "PICTURE CONTROL".

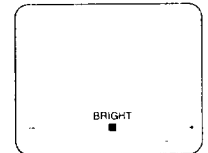
Then, press the F.FWD/▶ button.



2 Select item you want to adjust

Press the PLAY/▲ or STOP/▼ button until desired control is displayed.

BRIGHT
CONTRAST
COLOR
TINT
SHARPNESS



3 Adjust the picture control

Press the F.FWD/▶ or REW/◀ button to adjust to your desired level.

	REW/◀	F.FWD/▶
BRIGHT	to decrease brightness	to increase brightness
CONTRAST	to decrease contrast	to increase contrast
COLOR	to pale	to brilliant
TINT	to purple	to green
SHARPNESS	to soft	to clear

CLOSED CAPTION SYSTEM

You can view specially labeled (cc) TV programs, movies, news, pre-recorded tapes with either a dialogue caption or text display.

CAPTION mode: By choosing the caption mode, you can watch dramas, movies and news while captioning the dialogues and the contents of news.

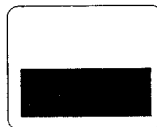
TEXT mode: By choosing the text mode, you can watch half screen text information if you want.

1/2: You may get these captions or text information by selecting either "1" or "2". "2" is used, usually for a second language is available.

NOTE: Not all programs are broadcast with closed captions. Your television is designed to provide error free closed captions from high quality antenna, cable and VCR signals. Conversely, poor quality signals are likely to result in caption errors or no captions at all. Common signal conditions which may cause captions errors are listed below:

- Automobile ignition noise
- Electric motor brush noise
- Weak snowy reception on TV screen
- Multiplex signal reception displaying picture ghosts or airplane flutter
- Playback of poorly recorded or worn VCR tapes

NOTE: If the TV/VCR displays a black box on the TV screen, this means that the TV/VCR is set to the TEXT mode. To clear screen, select [CAPTION1], [CAPTION2] or [OFF].



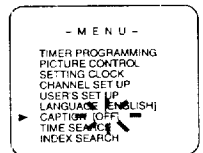
Make sure ...

- Use the remote control for this procedure.
- TV/VCR power must be turned on.

1 Select "CAPTION"

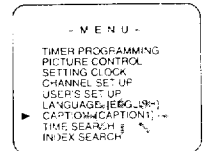
Press the MENU button.

Press the PLAY/▲ or STOP/▼ button to point to "CAPTION".



2 Select your desired caption menu

Press the F.FWD/▶ or REW/◀ button until your desired caption menu appears. ([CAPTION1], [CAPTION2], [TEXT1] or [TEXT2])



3 Exit the caption setting mode

Press the MENU button to return to TV mode.

TO CANCEL THE CLOSED CAPTION SYSTEM

Repeat steps [1] and [2], selecting [OFF] using the F.FWD/▶ or REW/◀ button.

WHEN THE CLOSED CAPTION MODE IS ON

The On-Screen Display will disappear after 5 seconds.

- This is true when the MUTE button is pressed, and when the PAUSE/STILL button is pressed while recording.

NORMAL PLAYBACK

Make sure ...

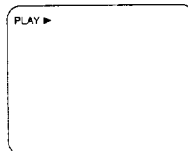
- TV/VCR power must be turned on.

1 Insert a prerecorded tape

If the erase-protection tab has been removed, the TV/VCR will start playback automatically.

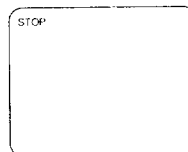
2 To begin playback

Press the PLAY button.



3 To stop playback

Press the STOP button when playback is completed.



PICTURE SEARCH

This feature is very useful in finding or skipping over a particular scene on a tape. In this mode, the sound will be muted.

- 1) You may view a video tape at a high speed in either a forward or reverse direction by pressing the F.FWD or REW button. (in the SP / LP / SLP modes)
- 2) Press it again and the TV/VCR will now search in super high speed. (in the LP / SLP modes only)

NOTE: Tapes recorded in the SP or LP mode will display a noise bar on the TV screen and the picture may revert to Black and White. This is normal.

- 3) Press the PLAY button to return to normal speed.

STILL PICTURE

You can view a still picture on the screen during playback (the Still mode). Press the PAUSE/STILL button during playback.

Press the PLAY button to return to playback.

NOTE: If it is left in the Pause mode for more than five minutes, the TV/VCR will automatically switch to the Stop mode.

SLOW MOTION

Press SLOW button to reduce the playback speed. The VCR mutes the sound during slow motion. You can control the speed by pressing the F.FWD button (faster) or the REW button (slower).

Press the PLAY button to return to normal playback.

NOTE: If it is left in the Slow mode for more than five minutes, the TV/VCR will automatically switch to the Stop mode.

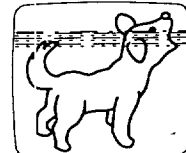
TRACKING ADJUSTMENT

- Tracking adjustment will be set automatically (Digital Tracking function) when you start playback.
- When playing pre-recorded tapes or tapes recorded on units other than your own, noise lines (black and white streaks) may appear on the playback picture. If this occurs, you can adjust the tracking control manually by pressing the CHANNEL ▲ or ▼ button until the streaks disappear.

To return to the DTR function, stop the tape once and start playback again.

- You can reduce the noise lines by pressing the CHANNEL ▲ or ▼ button in slow mode, too. Slow tracking adjustment will not be set automatically.

NOTE: In Still mode, press the SLOW button and press the CHANNEL ▲ or ▼ button until the streaks disappear. To return to Still mode, press the PAUSE/STILL button again.

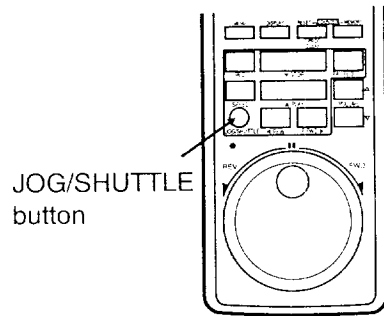


JOG AND SHUTTLE FUNCTION

You can view the playback picture at a high speed or advance one frame using the Jog and Shuttle function.

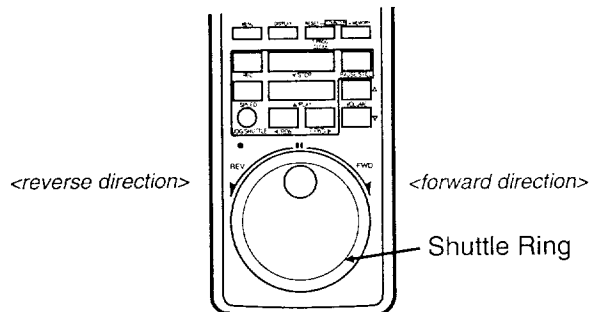
1 Select Jog/Shuttle mode

Press the JOG/SHUTTLE button in the Play mode or Still mode. The Jog/Shuttle indicator lights on. The picture will freeze on the screen. No action for Jog/Shuttle in 30 seconds makes the Jog/Shuttle indicator light turn off.



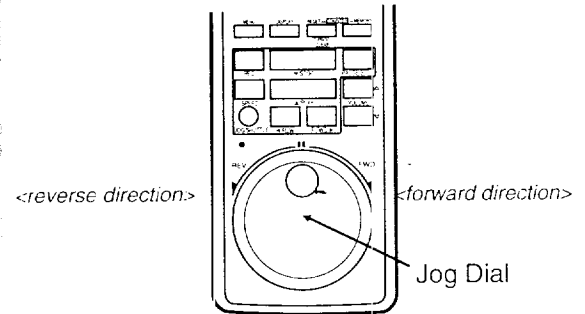
2 To make the playback speed faster

Hold and turn the Shuttle Ring (the outer ring) in either direction. The further the ring is rotated, the faster the playback speed in the forward (FWD) or reverse (REV) direction. If you release the ring, the ring will return to the original position and the picture will be in the Still mode.



3 To advance the frame one by one

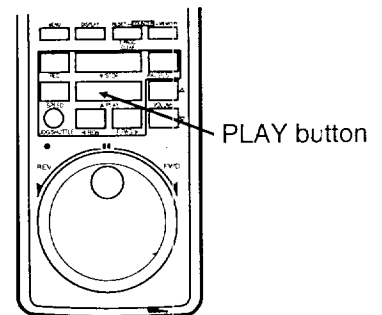
Turn the Jog Dial (the inner dial) in either direction. The faster the dial is rotated, the faster the frames advance one by one in the forward (FWD) or reverse (REV) direction.



4 To return to normal playback

Press the PLAY button.

NOTE: When noise lines appear on the still picture, change to slow mode and adjust tracking as described in Slow Tracking.



SPECIAL PLAYBACK

Make sure ...

- Use the remote control for this procedure.
- TV/VCR power must be turned on.
- Insert a prerecorded tape.
- Before playback, follow steps below.

RENTAL PLAYBACK

This function enables you to improve the picture quality when playing back worn cassettes such as rented tapes.

1 Insert rental tape into VCR

Begin playback.

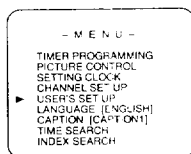
- Selecting [ON] or [OFF] must be done **during playback**.

2 Select "USER'S SET UP"

Press the MENU button.

Press the PLAY/▲ or STOP/▼ button to point to "USER'S SET UP".

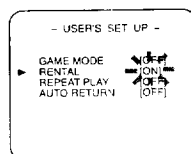
Then, press the F.FWD/▶ button.



3 Set "RENTAL" to [ON]

Press the PLAY/▲ or STOP/▼ button to point to "RENTAL".

Press the F.FWD/▶ or REW/◀ button until [ON] appears.



4 Exit the Rental setting

Press the MENU button to return to the TV mode.

5 Start playback

Press the PLAY button to start playback. "RENTAL PLAY▶" appears.

- Once you select the Rental mode, it stays in effect even after you turn off the TV/VCR.

TO CANCEL THE RENTAL MODE

Repeat steps [1] to [3]. Then press the F.FWD/▶ or REW/◀ button so that [OFF] appears on the TV screen. Press the MENU button to return to TV mode.

REPEAT PLAYBACK

The TV/VCR has the auto repeat function that allows you to repeat a tape indefinitely without touching the PLAY button.

ALL REPEAT: Repeats playback from the beginning to the end of the tape.

BLANK REPEAT: Repeats playback from the beginning to a blank part, which is blank for more than 10 seconds.

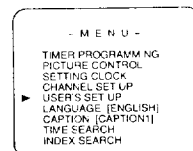
NOTE: All buttons except the POWER and STOP buttons do not work during Repeat Playback. Always set the Repeat Playback to [OFF] when not using this function.

1 Select "USER'S SET UP"

Press the MENU button.

Press the PLAY/▲ or STOP/▼ button to point to "USER'S SET UP".

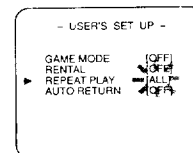
Then, press the F.FWD/▶ button.



2 Select "ALL" or "BLANK"

Press the PLAY/▲ or STOP/▼ button to point to "REPEAT PLAY".

Press the F.FWD/▶ or REW/◀ button repeatedly until your desired selection [ALL] or [BLANK] appears.



3 Exit the Repeat Play setting

Press the MENU button to return to the TV mode.

4 Start playback

Press the PLAY button to start the Repeat Play. "REPEAT PLAY▶" appears.

- Once you select the Repeat Play mode, it stays in effect even after you turn off the TV/VCR.
- If the Rental mode is set [ON], the "RENTAL PLAY▶" display has priority.

TO CANCEL THE REPEAT PLAY MODE

Press the STOP button to stop playback. And repeat steps [1] and [2]. Then press the F.FWD/▶ or REW/◀ button so that [OFF] appears on the TV screen. Press the MENU button to return to TV mode.

SEARCH

Make sure ...

- Use the remote control for this procedure.
- TV/VCR power must be turned on.
- Insert a tape.

COUNTER MEMORY

Use this feature to memorize a beginning point that you want to return to. And you can search it easily by rewinding or fast forwarding.

NOTE: If the All Repeat or Blank Repeat is set to [ON], the Counter Memory function does not work.

1 Stop a tape at your desired point

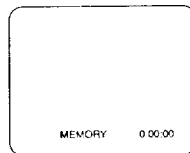
Rewind or fast forward the tape to the beginning point at which you want to mark.

2 Reset the counter to 0:00:00

Press the COUNTER RESET button on the remote control.

3 Select the Counter Memory mode

Press the COUNTER MEMORY button on the remote control so that "MEMORY" appears on the TV screen.



4 Begin recording or playback

Press the RECORD or PLAY button.

Press the STOP button when recording or playback is completed.

5 To activate the Counter Memory

Press the REW (or F.FWD) button. The TV/VCR will stop automatically when the counter has returned to approximately 0:00:00.

TO CANCEL THE COUNTER MEMORY

First press the COUNTER MEMORY to display the counter on the TV/VCR screen. Then press the COUNTER MEMORY continuously until "COUNT" appears.

TIME SEARCH

The Time Search function makes it possible to quickly advance the tape to your desired position simply by entering the exact amount of playback time you want to skip.

NOTES:

- Time Search can be set up to a maximum of 9 hours 50 minutes (9:50) by 10 minutes at a time.
- This function will not operate in the recording mode.
- Counter Memory function is not operative in this mode.
- This function is not operative when a cassette tape is not inserted in the TV/VCR.

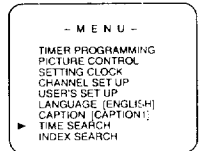
In the example below: To watch a program after 2 hour 50 minutes from the present position, in either direction.

1 Select "TIME SEARCH"

Press the TIME SEARCH button.

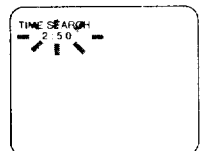
OR

Press the MENU button. Press the PLAY/▲ or STOP/▼ button to point to "TIME SEARCH". Then, press the F.FWD/▶ button.



2 Enter your desired time

Press the PLAY/▲ or STOP/▼ button until your desired time appears. (Example: "2:50" stands for 2 hours 50 minutes)



3 Begin Time Search

By pressing the REW or F.FWD button, the TV/VCR will rewind or fast forward to the specified point.

The time counts down as the searching progresses. When 0:00 is reached, the tape will start playback automatically.

TO CANCEL THE TIME SEARCH

Press the STOP/EJECT button on the TV/VCR or the remote control. This will delete the selected time.

INDEX SEARCH

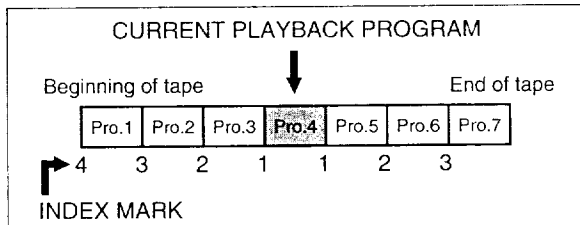
This feature provides a method of indexing the starting point. And you can easily search the index mark in either fast forward or rewind direction.

- The index mark will be made automatically when the REC button is pressed. It will also be marked at the starting point of Timer recording and OTR.
- The index mark is not recorded if the PAUSE/STILL button is pressed and released during recording.
- The time gap between making the index marks on the tape should be greater than 1 minute for SP recording, 2 minutes for LP recording and 3 minutes for SLP recording.
- Index marks cannot be made if the erase-protection tab on the cassette has been removed.
- Index search can be set up to 20.
- This function is not operative in recording mode.
- Counter Memory function is not operative in this mode.
- You must use the remote control for this procedure.

Make sure ...

- Power must be turned on and insert a tape.

In the example below: You are watching fourth program (program number 4) and want to fast forward to seventh program (program number 7). You must skip three programs.

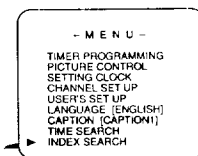


1 Select "INDEX SEARCH"

Press the MENU button.

Press the PLAY/▲ or STOP/▼ button to point to "INDEX SEARCH".

Then, press the F.FWD/▶ button.



2 Enter your desired number of program that you want to skip

Press the PLAY/▲ or STOP/▼ button repeatedly until your desired number of program that you want to skip is appeared. (Example: To skip three programs)



3 Begin Index Search

Press the REW or F.FWD button. The TV/VCR begins rewinding or fast forwarding then goes into the Play mode at the beginning of desired program.

NOTE: Every time a 1 index signal is skipped, the number in the program indicator decreases by one.

4 After Index Search

When the preset program is reached, normal playback will start.

TO CANCEL THE INDEX SEARCH

- **While setting:** Press the MENU button.
- **While the Index Search is in progress:** Press the STOP/EJECT button on the TV/VCR or the remote control. This will end the Index Search.

RECORDING

Make sure ...

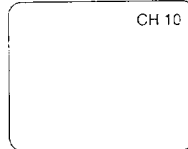
- TV/VCR power must be turned on.
- Insert a cassette tape with its erase prevention tab in place. (If necessary, rewind or fast forward the tape to the point at which you want to begin recording.)

NORMAL RECORDING

You can only watch the same TV program that is being recorded.

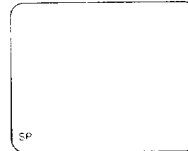
1 Select the channel to be recorded

Press the number buttons on the remote control or the CHANNEL ▼ or ▲ button.



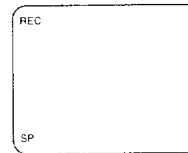
2 Select the tape speed

Press the SPEED button to select the desired tape speed (SP/LP/SLP).



3 Begin recording

Press the RECORD button. The REC indicator flashes.



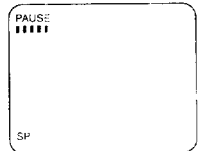
4 Stop recording

Press the STOP button when recording is completed.

SKIPPING SOME MATERIALS DURING RECORDING

Press the PAUSE/STILL button to temporarily stop recording. The REC indicator flashes.

Press the PAUSE/STILL or RECORD button to resume recording.



NOTES:

- After five minutes, the TV/VCR will automatically switch to the Recording mode to prevent tape damage.
- You may review the time remaining with ■ marks on the TV screen. Each ■ mark represents one minute.
- If "CLOSED CAPTION [ON]" is selected from the "CLOSED CAPTION SET UP" menu, the On-Screen Display will appear for 5 seconds, then disappear.
- If you want to check the remaining pause time available using the On-Screen Display, press the DISPLAY button. The On-Screen Display again will disappear after 5 seconds.

OTR (One Touch Recording)

This function enables you to set a recording length simply by pressing the REC/OTR button on the TV/VCR.

Make sure ...

- TV/VCR power must be turned on.
- Insert a cassette tape with its erase prevention tab in place. (If necessary, rewind or fast forward the tape to the point at which you want to begin recording.)

NOTES:

- This function CANNOT be done from the remote control.
- Recording starts immediately when the REC/OTR button is pressed.
- When the REC/OTR button is pressed 18 times, the TV/VCR returns to the normal recording mode.
- To stop the OTR operation, press the STOP button on the TV/VCR or on the remote control.
- To show the remaining time, press the DISPLAY button on the remote control so that "OTR" appears on the TV screen. (It will show up momentarily then disappear.)
- Recording stops when 0:00 is reached.
- Please note that in the SLP mode maximum recording time, assuming the tape is started at the beginning, is 8 hours using T-160 (or 6 hours using T-120).
- If the tape runs out before the end time, the TV/VCR will switch to the Stop mode immediately, eject the tape and turn power off.

1 Select the channel to be recorded

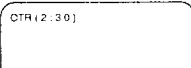
Press the number buttons on the remote control or the CHANNEL ▼ or ▲ button.

2 Begin OTR

Press the REC/OTR button on the TV/VCR as many times as needed. The recording length will be determined by the number of times you press the REC/OTR button.

Each additional push will increase the recording time by 30 minutes. It is set up to 8 hours.

Push(es)	Display	Recording length
1 push		(normal recording)
2 pushes	0:30	30 minutes
3 pushes	1:00	60 minutes
↓	↓	↓
17 pushes	8:00	480 minutes

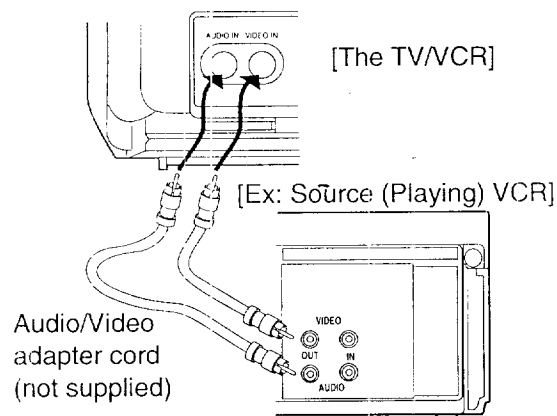


COPYING A VIDEO CASSETTE

You can make copies of video tapes made by friends or relatives for your enjoyment.

WARNING: Unauthorized recordings of copyrighted video tapes may be an infringement of copyright laws.

Connect your TV/VCR and a source (playing) VCR using the following diagram.



1

Insert a pre-recorded video cassette into the source (playing) VCR.

2

Insert a blank video cassette, or one you want to record over, into the TV/VCR's cassette compartment.

3

Press the SPEED button to select the desired recording speed (SP/LP/SLP).

4

Press the CHANNEL ▲ or ▼ button until "AUX" appears on the screen.

5

Press the RECORD button on the TV/VCR.

6

Begin playback of the tape in the source (playing) VCR.

NOTE: For best results during dubbing, use the TV/VCR's front panel controls whenever possible. The remote control might affect the source (playing) VCR's playback operation.

AUTOMATIC TIMER RECORDING

You may set the TV/VCR to start and end a recording while you are away. You can set 8 programs to record on specific days, daily or weekly within a 1 year period.

In the example below, the timer is being set to record:

DATE: MAY 6th, 1997
 SETTING TIME: from 7:30PM to 8:50PM
 CHANNEL: CH61
 TAPE SPEED: LP

Make sure ...

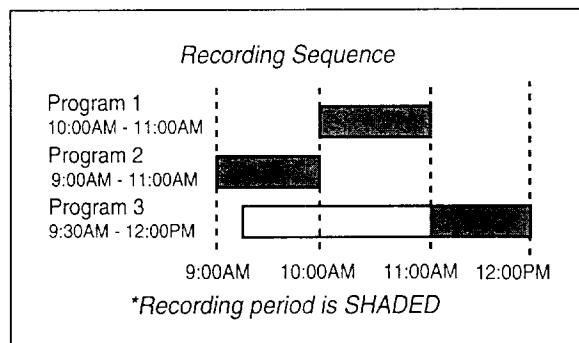
- Use the remote control for this procedure.
- If a cable box or satellite box is connected with the TV/VCR you will be limited to record only one channel. And the channel selector on the TV/VCR must be selected to the output channel of the boxes 3 or 4 and then the actual channel to be recorded must be selected on the boxes.
- Clock must be set to the correct time and date before setting the timer.
- TV/VCR power must be turned on to program it.
- Insert a cassette tape with its erase prevention tab in place. (If necessary, rewind or fast forward the tape to the point at which you want to begin recording.)
- The channel you want to record is properly set in advance. (See page 13)

Avoid over lap of programs ...

There is a case that a program will not be performed. When programs overlap;

- The program with an earlier start has priority.
- Once the earliest program finishes, the overlapping programs will begin recording in sequence.
- The illustration below demonstrates the sequence of recordings.

Program 1	10:00AM - 11:00AM
Program 2	9:00AM - 10:00AM
Program 3	11:00AM - 12:00PM



1 Select "TIMER PROGRAMMING"

Press the MENU button.

Confirm "TIMER PROGRAMMING" is pointed.

Then, press the F.FWD▶ button.

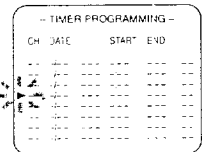


- If you have not yet set the clock, "MANUAL CLOCK SETTING" appears. If so, follow steps [3] to [8] on page 15. Then set the timer recording.

2 Select your desired program number (1-8)

Press the PLAY/▲ or STOP/▼ button to select the desired program.

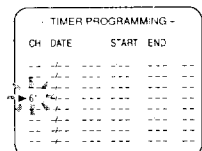
Then, press the F.FWD▶ button.



3 Set the channel number

Press the PLAY/▲ or STOP/▼ button until the desired channel number appears. (Example: CH61)

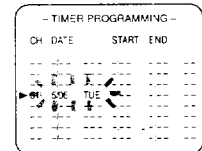
Then, press the F.FWD▶ button.



4 Select once every day or weekly recording

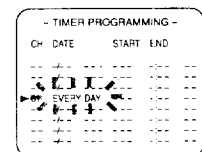
For once recording :

Press the PLAY/▲ (up) button until the desired date appears. (Example: "5/06" for May 6th). Then, press the F.FWD▶ button.



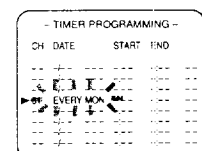
For every day recording : To record a TV program at the same time on the same channel every day. (Example: Monday through Sunday)

Press the STCP/▼ (down) button until "EVERY DAY" appears. Then, press the F.FWD▶ button.



For weekly recording : To record a TV program at the same time on the same channel every week. (Example: every Monday on channel 7 at 5:00PM)

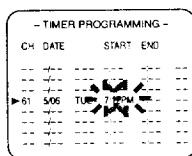
Press the STCP/▼ (down) button until "EVERY" and your desired day of the week appear together. Then, press the F.FWD▶ button.



5 Set start hour

Press the PLAY/▲ or STOP/▼ button until the desired hour appears. (Example: "7, PM" for 7:30PM)

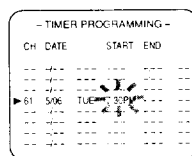
Then, press the F.FWD/▶ button.



6 Set start minute

Press the PLAY/▲ or STOP/▼ button until the desired minute appears. (Example: "30" for 7:30PM)

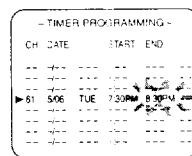
Then, press the F.FWD/▶ button.



7 Set end hour

Press the PLAY/▲ or STOP/▼ button until the desired hour appears. (Example: "8, PM" for 8:50PM)

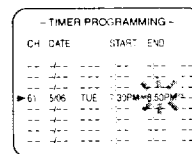
Then, press the F.FWD/▶ button.



8 Set end minute

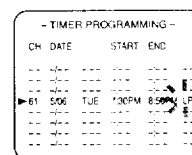
Press the PLAY/▲ or STOP/▼ button until the desired minute appears. (Example: "50" for 8:50PM)

Then, press the F.FWD/▶ button.



9 Set the tape speed

Press the PLAY/▲ or STOP/▼ button until the desired tape speed appears. (Example: LP)



10 Finish setting the program

Press the F.FWD/▶ or REW/◀ button. Program 4 is now completed.

- To set another program, repeat steps [2] to [10].
- Press the MENU button to return to original mode.

11 Set the timer

Press the POWER button to set automatic timer recording. The TIMER REC indicator lights up.

- You must turn off the TV/VCR to activate automatic timer recording.

If power is not turned off and you continue watching TV, "TIMER REC STANDBY" starts flashing on the TV screen 2 minutes before the programmed start time.

TO CORRECT A PROGRAM

- **While setting a program:** press the REW/◀ button to go back one step and enter the correct numbers using the PLAY/▲ or STOP/▼ button.
- **After setting a program:**
 - 1) Press the POWER button.
 - 2) Repeat steps [1] - [2].
 - 3) Press the F.FWD/▶ button (or press the REW/◀ button to go back one step) until the part you want to correct begins flashing, then make the changes.
 - 4) Press the POWER button to set automatic timer recording.

TO CANCEL AN AUTOMATIC TIMER RECORDING

- **While setting or after setting a program;**
 - 1) Press the POWER button.
 - 2) Repeat steps [1] ~ [2] and select a program you want to cancel.
 - 3) Press the T-PROG. CLEAR button.
 - 4) Press the MENU button to return to TV mode.

- **While recording is in progress;**
 - 1) Press the POWER button.
 - 2) Press the STOP/EJECT button on the TV/VCR.If you press the POWER button to turn off before the ends time, timer recording will continue to function. Repeat steps [1] ~ [2], select a program you want to cancel and press the T-PROG. CLEAR button. Press the MENU button to return to TV mode.

TO CHECK THE START/END TIME

- 1) Press the POWER button so that the REC indicator goes off.
- 2) Press the MENU button.
- 3) Confirm "TIMER PROGRAMMING" is chosen.
- 4) Press the F.FWD/▶ button. The details of programs appear on the TV screen.
- 5) Press the MENU button to return to TV mode.

HINTS:

- Make sure the channel you want to record is properly set in advance.
- It is not necessary to press the RECORD button for timer recording.
- Recording begins automatically at the Start time.
- If you are recording using a Timer mode, you may not operate the unit manually.
- The erase prevention tab on the cassette must be in place (or you must put tape over the hole).
- If the erase prevention tab is removed, the cassette will be ejected when the POWER button is pressed to off.
- If the tape runs out before the end time, the TV/VCR will switch to the Stop mode immediately, and the tape will be ejected.

AUTO RETURN

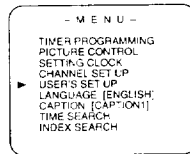
With this feature, after timer recording is finished, the beginning of the recorded program(s) can be searched for automatically.

1 Select "USER'S SET UP"

Press the MENU button.

Press the PLAY/▲ or STOP/▼ button to point to "USER'S SET UP".

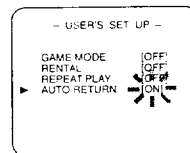
Then, press the F.FWD/▶ button.



2 Set "AUTO RETURN" to [ON]

Press the PLAY/▲ or STOP/▼ button to point to "AUTO RETURN".

Press the F.FWD/▶ or REW/◀ button until [ON] appears.



3 Auto Return will begin

When all the timer recordings are completed, the TV/VCR will rewind to the beginning of the recorded program(s).

NOTES:

- If you press the POWER button while tape is rewinding, the Auto Return will stop.
- The Counter Memory function cannot be used in this mode.

4 Watch the recorded program

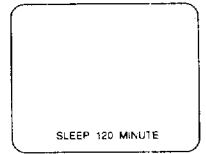
Press the PLAY button.

SLEEP TIMER

The Sleep Timer function turns off the TV/VCR without using the POWER button after a desired time period of time.

Press the SLEEP button on the remote control until your desired sleep time appears.

Each additional push will increase the time by 30 minutes up to 120 minutes.



PRESS	SLEEP TIME
1 time	0 minute
2 times	30 minutes
3 times	60 minutes
4 times	90 minutes
5 times	120 minutes
6 times	0 minute

TO CANCEL THE SLEEP TIMER

Press the SLEEP button until "SLEEP 0 MINUTE" appears.

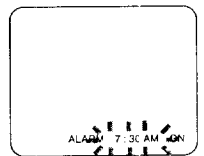
ALARM TIMER

The alarm function enables you to turn on the TV/VCR without using the POWER button at a desired time.

In the example below, the alarm timer is being set to 7:30 AM.

1 Select "ALARM" mode

Press the ALARM button on the remote control. If the screen shows "ALARM OFF", press the F.FWD/▶ button until [ON] appears.



2 Select the alarm time

Press the PLAY/▲ or STOP/▼ button until your desired time appears. (Example: 7:30AM)

Then, press the ALARM button.

The TV/VCR will turn on automatically at the set time.

TO CANCEL THE ALARM TIMER

After pressing the ALARM button on the remote control, press the F.FWD/▶ button until [OFF] appears.

TROUBLESHOOTING GUIDE

If you have followed the instructions contained in this manual and have difficulty in operating your TV/VCR, locate the SYMPTOM in the left column below. Check the corresponding POSSIBLE CAUSE and CORRECTIVE ACTION columns to remedy the problem.

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
No power.	<ul style="list-style-type: none"> • Power cord is not connected. • The TV/VCR power is turned off. 	<ul style="list-style-type: none"> • Connect power cord to AC outlet. • Press the POWER button to turn on the TV/VCR.
No picture and sound.	<ul style="list-style-type: none"> • TV/VCR is not plugged into an active AC outlet. • Antenna is not connected. • No channel in memory. 	<ul style="list-style-type: none"> • Plug power cord into an active AC outlet. • Check antenna connection. • Program tuner's memory.
No picture or poor picture on playback.	<ul style="list-style-type: none"> • Direction or condition of antenna is not adequate. • Picture control is not adequate. 	<ul style="list-style-type: none"> • Adjust direction or replace antenna. • Adjust picture controls.
No sound or poor sound.	<ul style="list-style-type: none"> • Volume control on the TV/VCR or the remote control is in minimum position. • The MUTE button on the remote control is in the ON position. 	<ul style="list-style-type: none"> • Adjust volume control on remote control unit or set. • Press the MUTE button.
Timer recording is not possible.	<ul style="list-style-type: none"> • The timer recording is set incorrectly. • TV/VCR power is turned on. • TV/VCR clock is not set correctly. 	<ul style="list-style-type: none"> • Set the timer recording correctly. • Press the POWER button to turn off the TV/VCR. • Set TV/VCR clock correctly.
Recording mode cannot be engaged.	<ul style="list-style-type: none"> • The erase prevention tab on cassette is missing. 	<ul style="list-style-type: none"> • Cover the hole with plastic tape.
Playback picture is partially noisy.	<ul style="list-style-type: none"> • Tracking control is not set correctly. 	<ul style="list-style-type: none"> • Adjust tracking control for better picture using the CHANNEL ▲ or ▼ button.
Noise in picture on playback.	<ul style="list-style-type: none"> • Video heads are dirty. 	<ul style="list-style-type: none"> • Head cleaning is necessary, consult the nearest Authorized Service Center.
No operation by infrared Remote Control.	<ul style="list-style-type: none"> • Weak batteries. 	<ul style="list-style-type: none"> • Check batteries in remote control.
Video or color fades in and out when making a copy of a video tape.	<ul style="list-style-type: none"> • You are copying a copyrighted video tape and are experiencing copy guard protection. 	<ul style="list-style-type: none"> • None.

CLOSED CAPTION PROBLEM	POSSIBLE REMEDY
My TV/VCR is showing captions that are misspelled.	You are watching a live broadcast and spelling errors made by the closed captioning production company may pass through uncorrected. A prerecorded program will not show any misspelled words because of the normal time available for editing the captions.
My TV/VCR will not show the text in its entirety or there is a delay of what is being said.	Captions that are delayed a few seconds behind the actual dialogue are common for live broadcasts. Most captioning production companies can display a dialogue to a maximum of 220 words per minute. If a dialogue exceeds that rate, selective editing is used to insure that the captions remain up-to-date with the current TV screen dialogue.
My captions are scrambled with white boxes on the TV screen.	Interference caused by building, power lines, thunderstorms, etc. may cause scrambled or incomplete captions to appear.
My program guide listed a TV show as being closed captioned but none of the captions were displayed.	Broadcasters may at times use a time compression process to speed up the actual program so that additional advertising time can be given. Since the decoder cannot read the compressed information, captions will be lost.
Although the tape box says it has closed captions, my pre-recorded video tape does not show any captions.	The video tape was either an illegal copy or the tape duplicating company accidentally left out the captioning signals during the copying process.
My TV screen shows a black box on certain channels.	You are in the TEXT mode. Select CAPTION mode or CAPTION [OFF].

MAINTENANCE

CABINET CLEANING

- Wipe the front panel and other exterior surfaces of the TV/VCR with a soft cloth immersed in lukewarm water and wrung dry.
- Never use a solvent or alcohol. Do not spray insecticide liquid near the TV/VCR. Such chemicals may cause damage and discoloration to the exposed surfaces.

HEAD CLEANING

- Picture playback may become blurred or interrupted while the TV program reception is clear. Dirt accumulated on the video heads after long periods of use, or the usage of rental or worn tapes can cause this problem. In this case, video head cleaning requires highly technical attention, therefore consult the nearest Authorized Service Center. Clean heads only when problems occur.

SERVICING

Should your TV/VCR become inoperative, do not try to correct the problem by yourself. There are no user-serviceable parts inside. Turn off, unplug the power cord, and take the unit to the nearest Authorized Service Center for servicing.

TECHNICAL SPECIFICATIONS

Format:	VHS
Television System:	NTSC-M
Record/Playback System:	Video: 4 heads
Tape Speed:	33.40mm/sec (SP), 16.67mm/sec (LP), 11.12mm/sec (SLP)
RF Input:	UHF/VHF 75 ohm
Tuner:	181 channel tuning ability *(125 cable channels)
Type:	Auto programming frequency synthesis
Power Input:	AC120V 60Hz
Power Consumption:	75 W nominal
Cabinet Size:	15-3/16" (W) x 15-13/16" (H) x 14-3/4" (D) 38.6cm (W) x 40.2cm (H) x 37.5cm (D)
Weight:	25.35 lbs. (11.5 kg)
Accessories:	1 rod antenna (Part No. OEMN00673), 1 remote control unit (Part No. UREMT33SR004), 2 AAA batteries 1 warranty card (Part No. OEMN01165)

*Check your cable company's compatibility requirements.

Design and specifications subject to change without notice.

CABLE CHANNEL DESIGNATIONS

If you subscribe to cable TV, the channels are displayed as 1-125. Cable companies often designate channels with letters or letter-number combinations. Please check with your local cable company. The following is a chart of common cable channel designations.

CATV channel	5A	2	3	4	5	6	7	8	9	10	11	12	13	A	B
TV Display	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CATV channel	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
TV Display	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
CATV channel	R	S	T	U	V	W	W+1	W+2	W+3	W+4	W+5	W+6	W+7	W+8	W+9
TV Display	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
CATV channel	W+10	W+11	W+12	W+13	W+14	W+15	W+16	W+17	W+18	W+19	W+20	W+21	W+22	W+23	W+24
TV Display	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CATV channel	W+25	W+26	W+27	W+28	W+29	W+30	W+31	W+32	W+33	W+34	W+35	W+36	W+37	W+38	W+39
TV Display	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
CATV channel	W+40	W+41	W+42	W+43	W+44	W+45	W+46	W+47	W+48	W+49	W+50	W+51	W+52	W+53	W+54
TV Display	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
CATV channel	W+55	W+56	W+57	W+58	A-5	A-4	A-3	A-2	A-1	W+59	W+60	W+61	W+62	W+63	W+64
TV Display	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
CATV channel	W+65	W+66	W+67	W+68	W+69	W+70	W+71	W+72	W+73	W+74	W+75	W+76	W+77	W+78	W+79
TV Display	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
CATV Channel	W+80	W+81	W+82	W+83	W+84										
TV Display	121	122	123	124	125										