

**TOSHIBA**

# OWNER'S MANUAL

**VHS**

**Video Cassette Recorder**

**M-211**



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Welcome to the high quality picture world created by the TOSHIBA M-211. Read this manual carefully before you use, and enjoy the various convenient functions of this VCR.

### PLEASE READ

	<b>CAUTION</b> RISK OF ELECTRIC SHOCK DO NOT OPEN	
<p><b>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.</b></p>		



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE. DO NOT OPEN THE CABINET. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.**

The unit is not disconnected from the AC power source as long as it is connected to the wall outlet, even if the unit itself has been turned off.

USER-INSTALLER CAUTION: YOUR AUTHORITY TO OPERATE THIS FCC CERTIFIED EQUIPMENT COULD BE VOIDED IF YOU MAKE CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THIS PARTY RESPONSIBLE FOR COMPLIANCE TO PART 15 OF THE FCC RULES.

**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.

**Copyright**

**It is permissible to record television programs, film video tapes and other material only in the event that third party copyrights and other rights are not violated.**

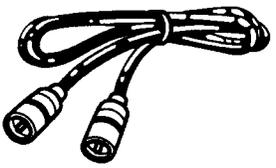
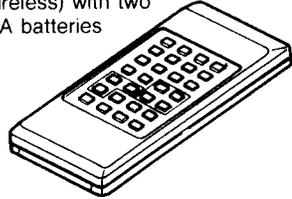
In the spaces provided below, record the Model and Serial No. located at the rear of your video cassette recorder.

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

Retain this information for future reference.

### Accessories

Check to make sure that you have all of the following accessories before disposing of the packing materials.

<p>Antenna Cable</p> 	<p>Remote Control Unit (Wireless) with two AAA batteries</p> 
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# INTRODUCTION

## Important Precautions

### Save Original Packing Materials

The original shipping carton and packing materials will come in handy if you ever have to ship your VCR. For maximum protection, repack the set as it was originally packed at the factory.

### Moisture Condensation

Never operate this unit immediately after moving it from a cold location to a warm location. When the VCR is exposed to such a change in temperature, moisture may condense on the cylinder inside the machine. If the VCR is operated as it is, the tape may stick to the tape head and damage to the tape and/or the deck will result. In order to prevent these damages, the dew detector is incorporated inside the VCR. When moisture is present inside the VCR, the DEW indicator in the display panel will blink. Under these circumstances, do not operate the VCR for about 2 hours with the power cord connected so that the VCR will dry out. Please make sure that the DEW indicator is not on whenever you operate the VCR.

### Compatibility

This video cassette recorder (VCR) is compatible with any other VCR bearing the VHS mark. HQ VHS equipment is also compatible with existing non-HQ VHS equipment.

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# IMPORTANT SAFEGUARDS

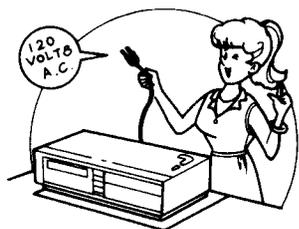
**CAUTION: PLEASE READ AND OBSERVE ALL WARNINGS AND INSTRUCTIONS GIVEN IN THE OWNER'S MANUAL FOR THIS UNIT AND THOSE MARKED ON THE UNIT. RETAIN THIS BOOKLET FOR FUTURE REFERENCE.**

This set has been designed and manufactured to assure personal safety. However, improper use can result in electric shock or fire hazard. The safeguards incorporated in this unit will protect you if you observe the following procedures for installation, use and servicing. This unit is fully transistorized and does not contain any parts that can be repaired by the user.

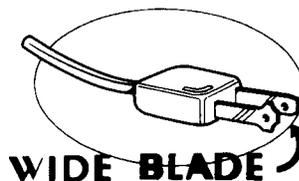
**DO NOT REMOVE THE CABINET COVER, OR YOU MAY BE EXPOSED TO DANGEROUS VOLTAGES. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**



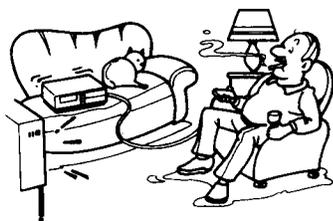
1. After unpacking this video product, read the owner's manual carefully, and follow all the operating and other instructions.



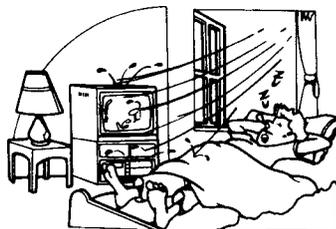
2. This video product should be operated only from the type of power source indicated on the marking labels. If you are not sure of the type of power supply to your home, consult your sales person or your local power company. For video products intended to operate from battery power, or other sources, refer to the operating instructions.



3. This video product 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.



4. Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the video product and to protect it from overheating and these openings must not be blocked or covered. The openings should never be blocked by placing the video product on a bed, sofa, rug or other similar surface. This video product should never be placed near or over a radiator or heat register. This video product 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.



5. Do not expose this video product to rain or use 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.



6. Unplug the video product from wall outlet before cleaning. Use only a soft damp cloth and never use benzine, thinner or other solvents for cleaning.



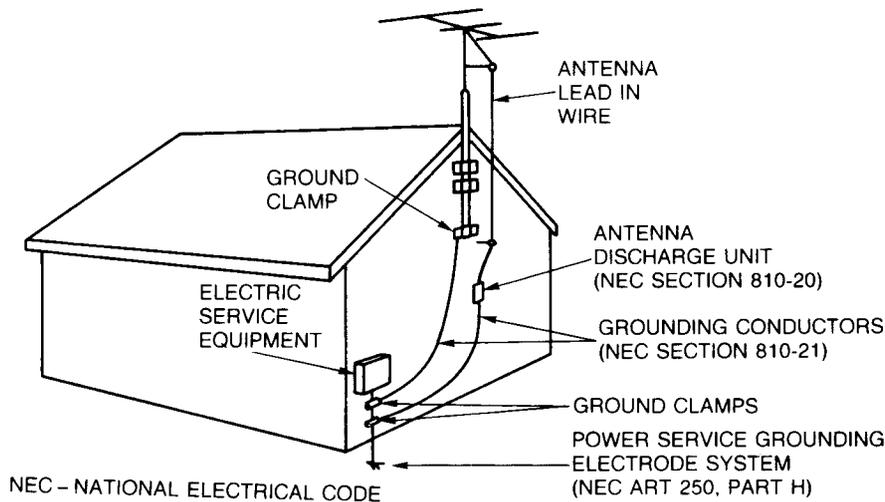
7. Do not allow anything to rest on the power cord. Do not locate this video product where the cord will be walked on.



8. Do not overload wall outlets and extension cords as this can result in fire or electric shock.

9. If an outside antenna or cable system is connected to the video product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No.70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

**EXAMPLE OF ANTENNA  
GROUNDING AS PER  
NATIONAL ELECTRICAL CODE**



NEC - NATIONAL ELECTRICAL CODE

S2898A

10. 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.



11. For added protection for this video product 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 video product due to lightning and power-line surges.



12. 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.

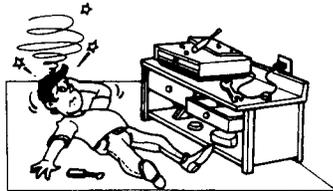
- 13. Never push objects of any kind into this video product through openings as they may touch **dangerous voltage points** or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the video product.
- 14. Do not use attachments not recommended by the video product manufacturer as they may cause hazards.
- 15. Do not place this video product on an unstable cart, stand, tripod, bracket, or table. The video product may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the video product.



- 16. Unplug this video product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
  - A. When the power-supply cord is damaged.
  - B. If liquid has been spilled, or objects have fallen into the video product.
  - C. If the video product has been exposed to rain or water.
  - D. If the video product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video product to its normal operation.
  - E. If the video product has been dropped or the cabinet has been damaged.
  - F. When the video product exhibits a distinct change in performance.



Do not attempt to service this video product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.



- 17. Upon completion of any service or repairs, request the service technicians assurance that only Factory Authorized Replacement Parts that have the same characteristics as the original parts were used, and that routine safety checks have been performed to determine that the video product is in safe operating condition. Unauthorized parts may result in fire, electrical shock, or other hazards.



# Features

## 1. Convenient Functions

### 1) Counter Function

The tape counter displays the amount of recorded tape. By setting the counter, you can return to any point on the tape.

- **Zero Return:** Rewinds or fast forwards the tape to the point where the counter reads "0000" and stops the tape there.

### 2) On-Screen Display

- With the on-screen display, the current VCR function mode or the currently selected TV or CATV channel can be easily confirmed. Settings of timer recording can be also confirmed with the on-screen display.

### 3) Programmable Timer Recording

6 programs for recording up to 2 weeks is possible.

### 4) Auto Playback

When a tape without a safety tab is loaded, the following operations start automatically.

- **Full Auto Playback:** If a cassette without a safety tab is loaded when the VCR is turned off, the VCR will be automatically turned on and the tape will be played back. At the end of the tape, it will be automatically rewound to its beginning, and the cassette will be ejected. Then the VCR will be automatically turned off.
- **Auto Playback:** This operation automatically plays back the tape when a cassette without a safety tab is inserted with the VCR power on. When the tape reaches its end, it will be automatically rewound to its beginning, and then will stop.
- **Auto Rewind:** This operation automatically rewinds the tape when tape playback comes to the end.

### 5) Auto Power On

When a tape is loaded with the VCR power off, power will be automatically turned on.

### 6) Daylight Savings Time Compensation

This function enables easy advance and delay of the clock time, by an hour, for use when shifting the standard time to the daylight savings time and back.

## 2. Special Effects

### • Picture Search:

Scans programs while fast forwarding or rewinding the tape, enabling you to watch the picture during this operation.

### • Still Frame:

Freezes the picture temporarily while playing back the tape.

## 3. Others

- **181 Channel Cable Compatible FS (Frequency Synthesized) Tuner:** This FS tuner automatically selects with highest accuracy, all receivable channels such as those for UHF, VHF and CATV.
- **Multi-Function Fluorescent Indicator Panel**
- **Infrared Remote Control Unit:** The VCR can be operated with the supplied wireless remote control unit up to a distance of about 23 feet (7 meters.)

# INSTALLATION

## TV Antenna and VCR Connections

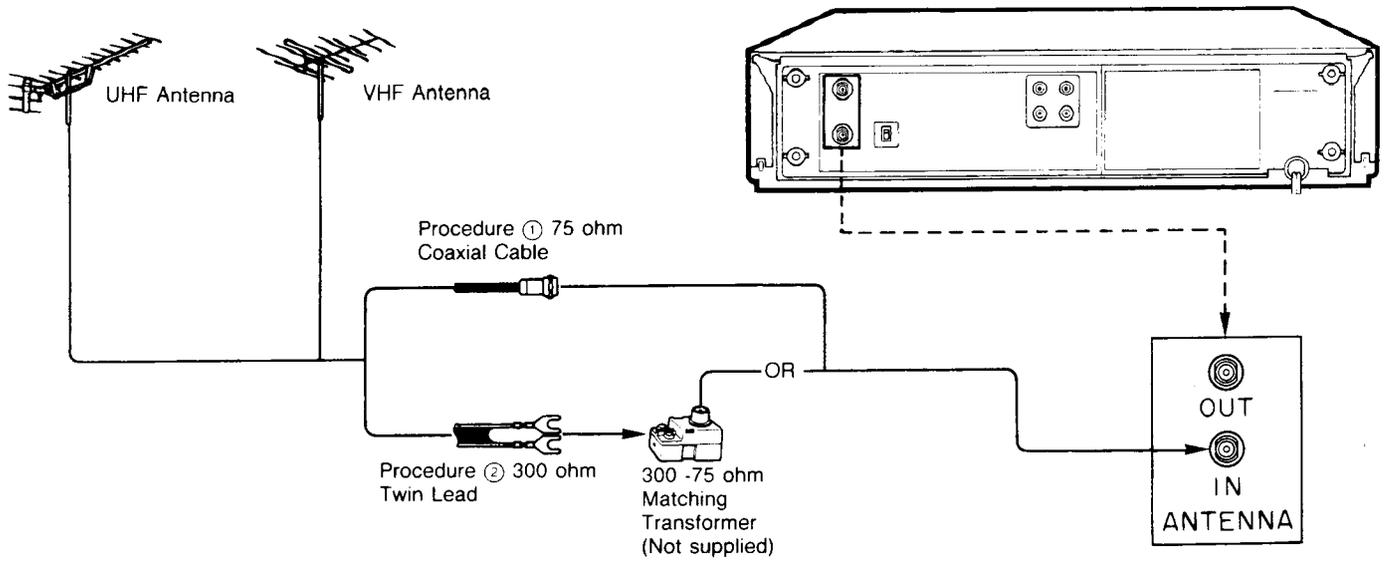
To connect the VCR to a VHF or UHF antenna (Fig. 1), follow the steps below.

Remove the VHF and/or UHF cables from your TV terminals and reconnect them to the VCR terminals as shown in the diagrams below.

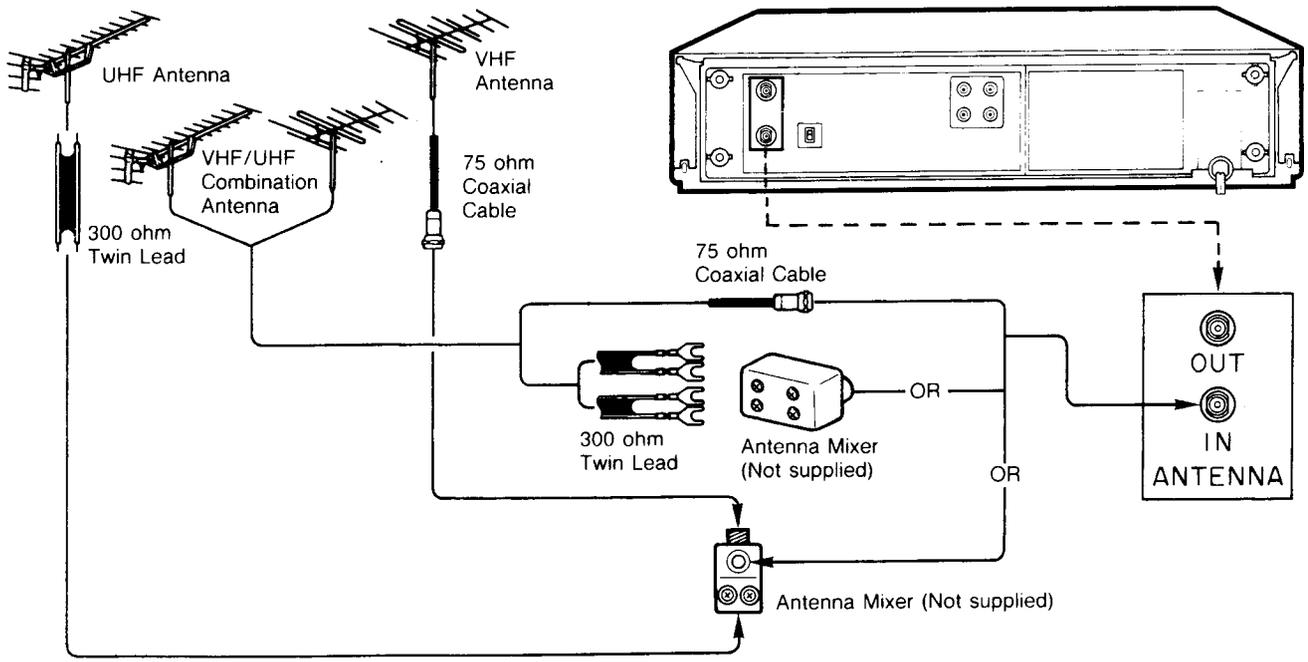
**Note**

For VHF or UHF connections follow procedure ①, if you have a 75 ohm coaxial cable, and follow procedure ② if you have a 300 ohm twin lead connector (i.e. use an optional 300 - 75 ohm transformer).

**Fig. 1 VHF or UHF Reception Areas**



**Fig. 2 Combined VHF/UHF Reception Areas**



# VCR and TV Connections

## Connection to TV Antenna Terminals

Fig. 1 VHF (75 ohm/300 ohm) or VHF (75 ohm) Terminal Connection

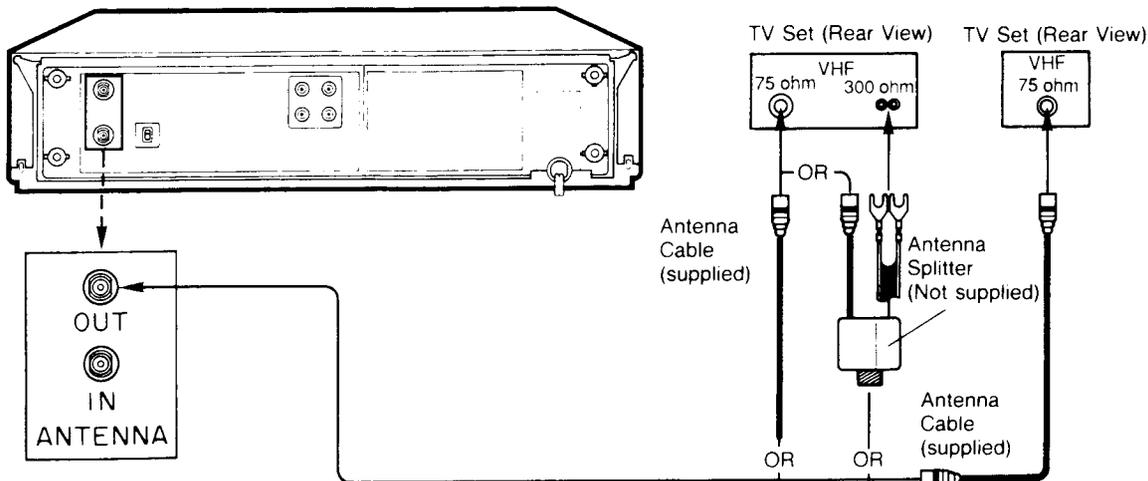
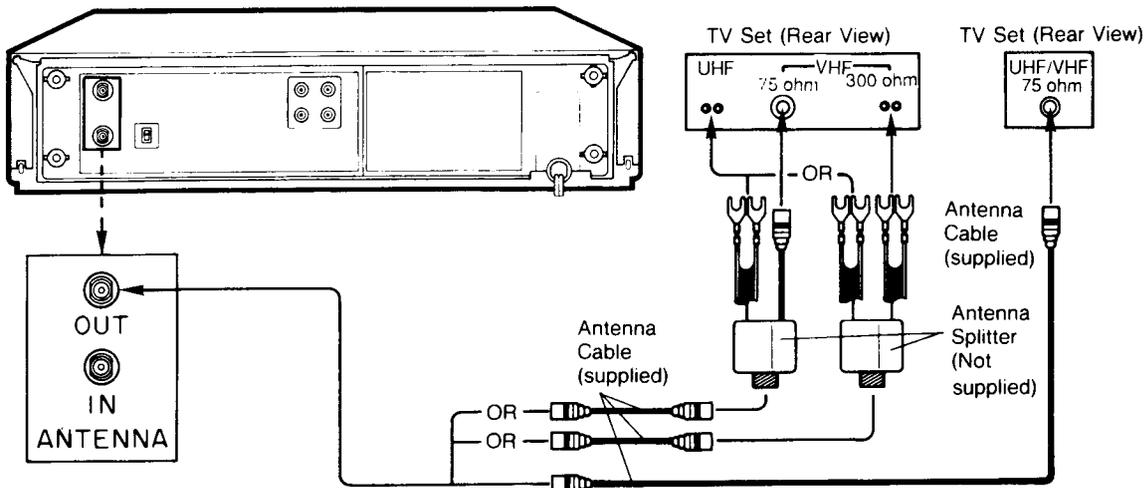
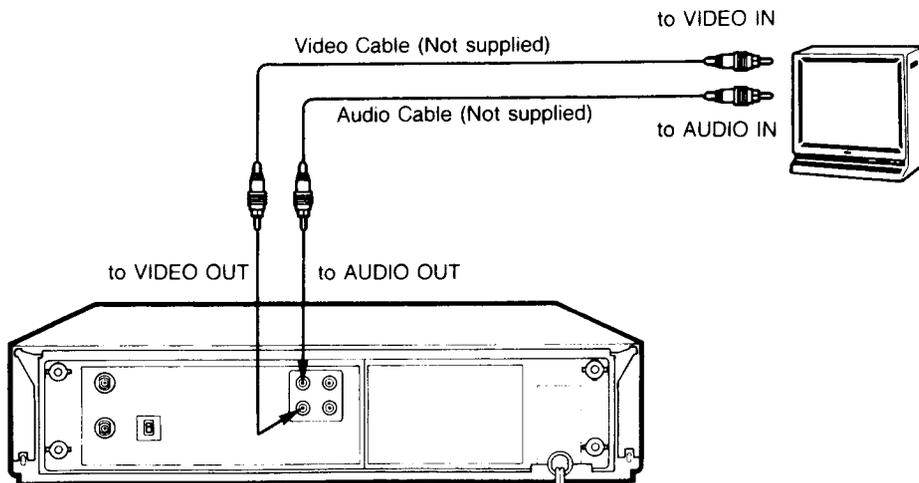


Fig. 2 VHF/UHF (75 ohm/300 ohm or 300 ohm/300 ohm) or VHF/UHF (75 ohm) Terminal Connection



**Note**  
Antenna Splitter/Mixer (VHF/UHF) is available from your local electric appliance store.

## Connection to TV with "VIDEO IN" and "AUDIO IN" Connections

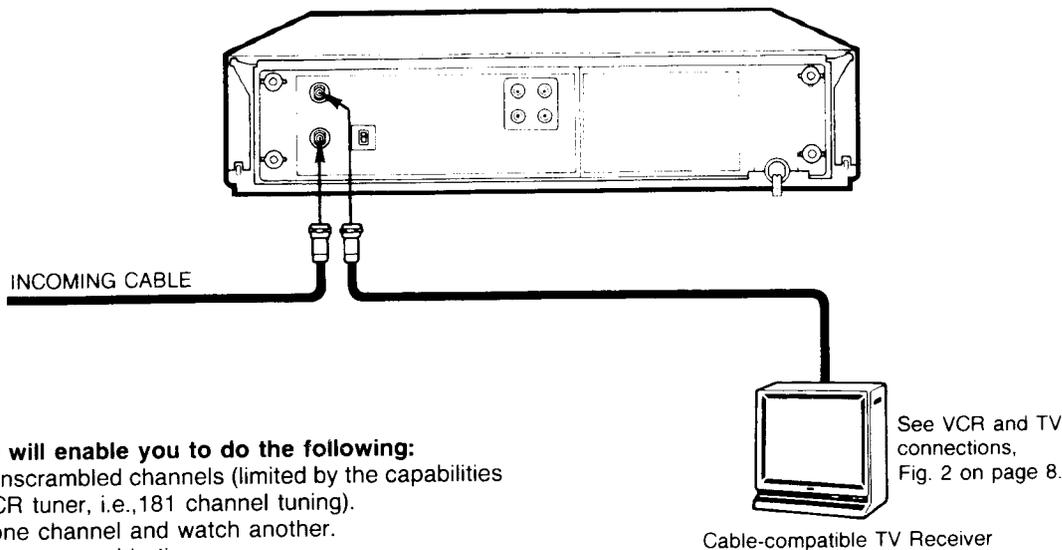


## CATV Connections

There are several different systems of cable television at present. Therefore, there may be times when you use this VCR with one of these cable TV services.

We recommend that you consult your cable TV company to make sure that the cable is connected properly to match the cable TV system you want to watch.

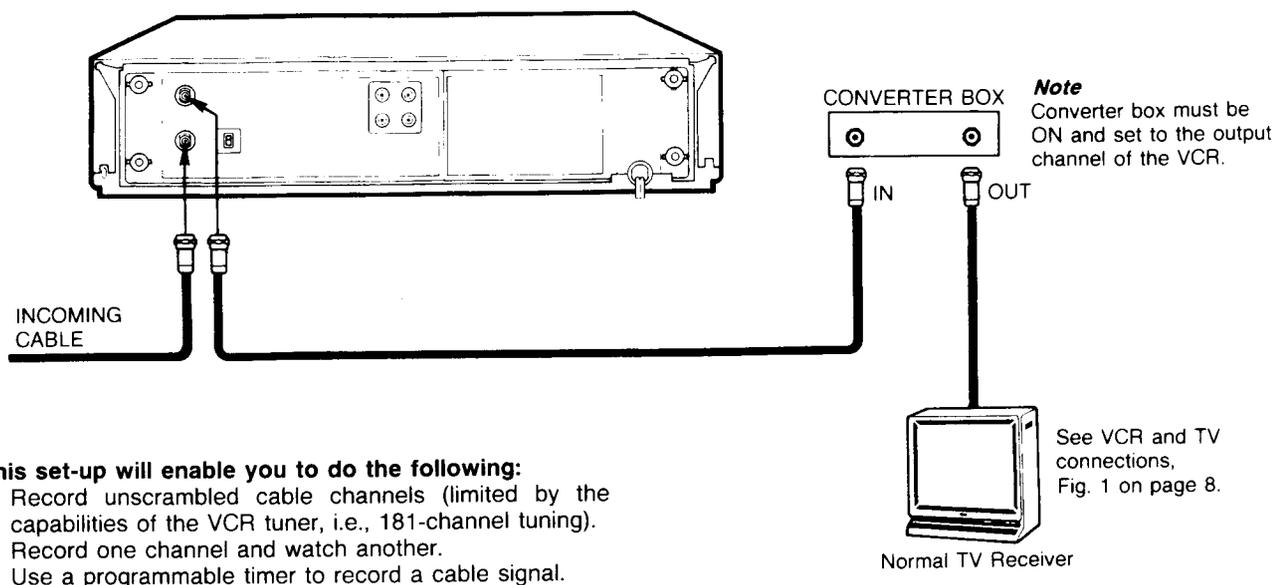
### To Record and Watch Unscrambled Channels



**This set-up will enable you to do the following:**

- Record unscrambled channels (limited by the capabilities of the VCR tuner, i.e., 181 channel tuning).
- Record one channel and watch another.
- Use the programmable timer.

### To Record an Unscrambled Channel and Watch Another Channel (Scrambled or Unscrambled)



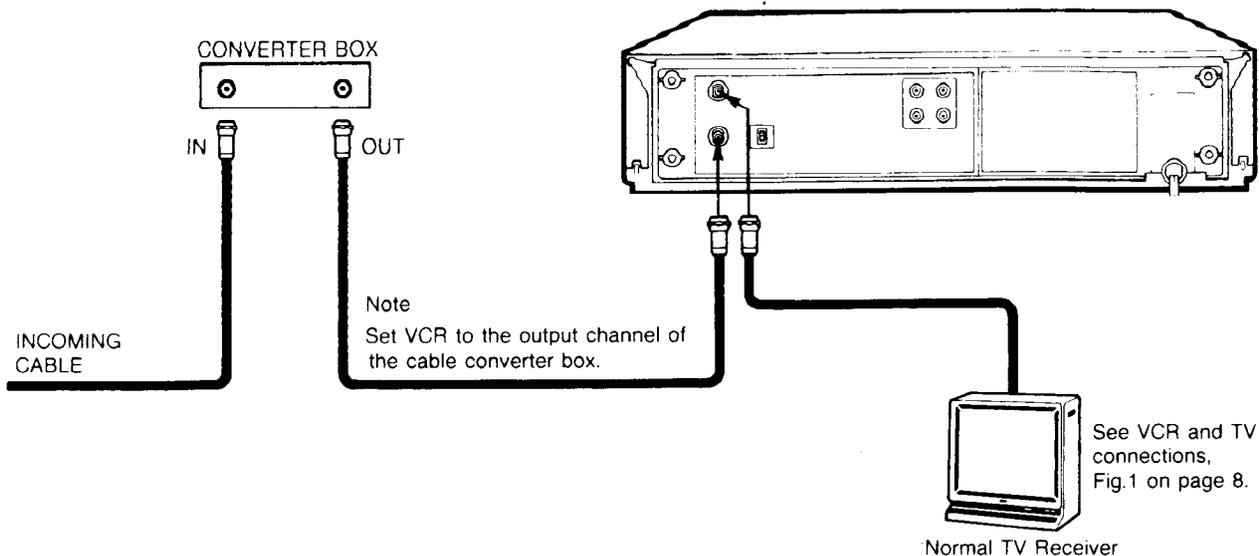
**This set-up will enable you to do the following:**

- Record unscrambled cable channels (limited by the capabilities of the VCR tuner, i.e., 181-channel tuning).
- Record one channel and watch another.
- Use a programmable timer to record a cable signal.

**Notes**

- This set-up will not allow you to record scrambled channels.
- When in playback or when using the VCR tuner ("VCR" is selected with the *TV/VCR* button on the remote control unit), the converter box must be set to channel 3 or 4.
- When the TV position is selected with the *TV/VCR* button, the converter box can tune into any available channel.

## To Record and Watch the Same channel (Unscrambled/Scrambled)



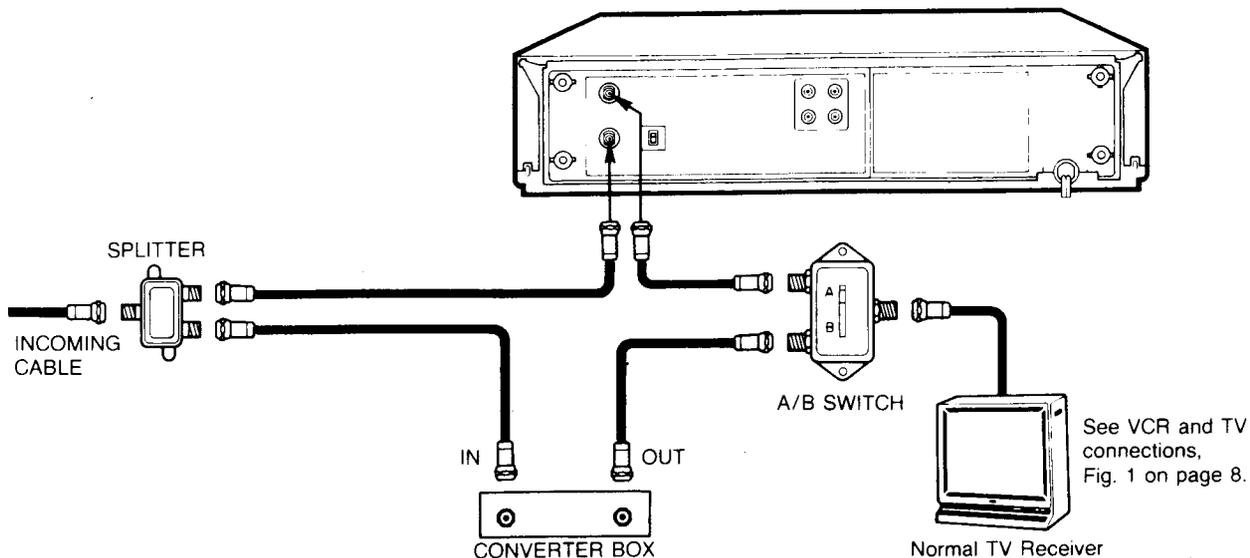
### This set-up will enable you to do the following:

- Record all available cable channels through the converter box.
- Use the programmable timer or record only the channel selected at the converter box.

### **Note**

This set-up will not allow you to record one channel and watch another.

## To Record an Unscrambled Channel and Watch Only Unscrambled or Scrambled Channels



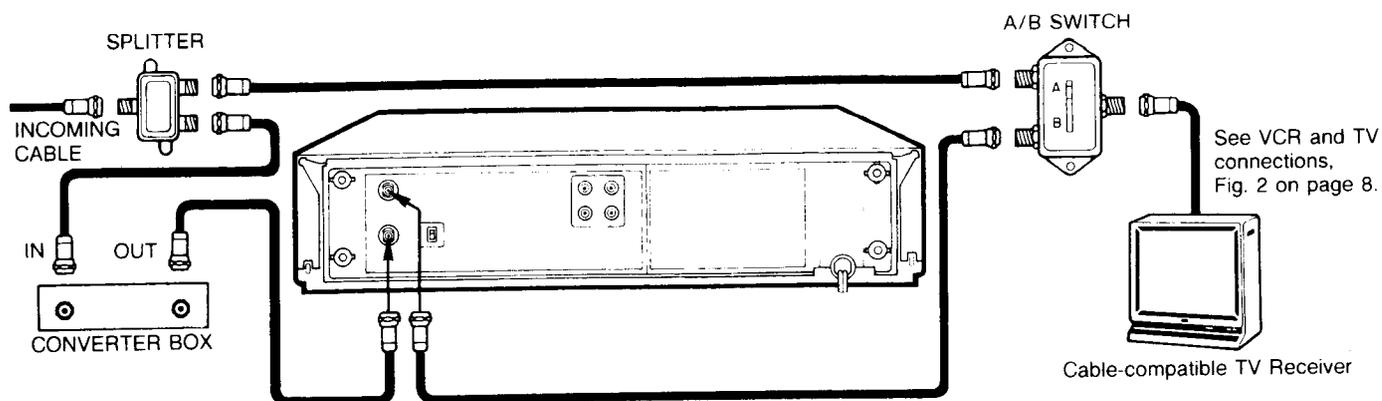
### This set-up will enable you to do the following:

- Record an unscrambled cable channel.
- Monitor all cable channels from converter box when A/B switch is in "B" position.
- Watch one channel and record another.
- Use VCR remote control when A/B switch is in "A" position.
- Use programmable timer to record cable signal.

### **Notes**

- This set-up will not allow you to record scrambled channels.
- Select the channel to watch on the converter.
- Set the TV channel selector to the output of the converter and VCR.

## To Record and Watch the Same Channel (Scrambled or Unscrambled) To Record one Unscrambled Channel and Watch Another Unscrambled Channel



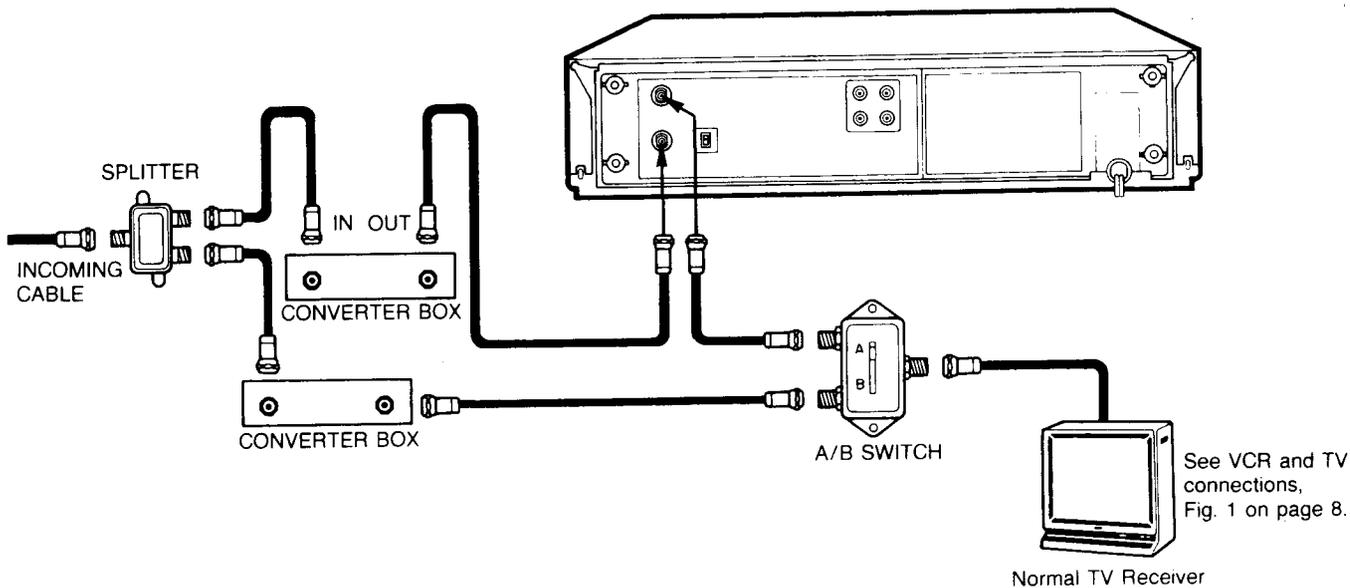
### This set-up will enable you to do the following:

- Record all cable channels from the converter box.
- Record one scrambled channel and watch another unscrambled channel.
- Use the TV remote control when the A/B switch is in the "A" position.
- Use the programmable timer to record only the channel selected on the converter box. (Converter box power must be ON.)

### Notes

- Set the VCR channel selector to the output channel of the converter.
- Select the channel to be recorded on the converter.
- Set the TV channel selector to the output channel or VCR (3 or 4).

## To Record and Watch a Scrambled or Unscrambled Channel



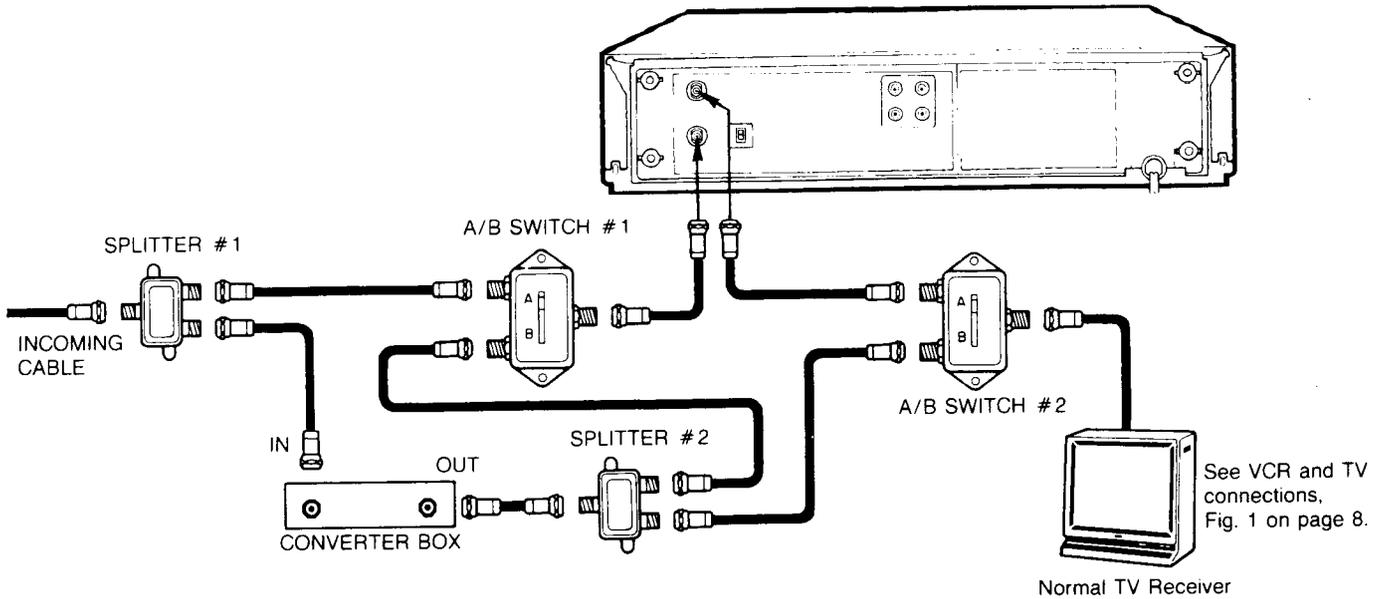
### This set-up will enable you to do the following:

- Record any cable channel.
- Record one channel and watch another.
- Use programmable timer to record only the channel selected at the converter box.

### Notes

- Set the TV channel selector to the output channel of the VCR and the converter box (3 or 4).
- Set the VCR channel selector to the output channel of converter box.

## To Record and Watch the Same Channel (Scrambled/Unscrambled) To Record One Unscrambled Channel and Watch Another Unscrambled Channel



### This set-up will enable you to do the following:

- Record an unscrambled cable channel (A/B switch #1 in "A" position).
- Record all cable channels from the converter box (through splitter # and A/B switch #1 "B" position).
- Record one channel while watching another.
- Use the programmable timer when A/B switch #1 is in the "A" position.

### Notes:

- Set the VCR and TV channel selector to the output of the converter.
- Select the channel to record at the converter.

### Notes:

#### "Unscrambled" Cable Channels

Cable companies usually include "Unscrambled" channels in their basic subscription price. Depending on the tuning capability of your TV (how many cable channels your TV is capable of tuning to) you may not need a cable converter box (supplied by the cable company) to view "unscrambled" cable channels on your TV set.

#### "Scrambled" Channels

Extra (optional) pay cable channels, like HBO and Cinemax in some localities, are often "scrambled" by the cable company. To view these channels on your TV, you must use the cable converter (decoder) box supplied by the cable company.

#### Cable Converter Box (supplied by Cable Company)

Until recently, all television and VCR receivers were equipped with 68 channel tuners capable of tuning the 12 standard VHF channels (2-13) and the 56 UHF channels (14-69). Since cable television systems do not use the UHF band, once they began expanding beyond 12 channel capacity (some cable companies transmit up to 100 channels) some form of converter became necessary to enable their subscribers to tune in the additional channels. This "cable converter box" rebroadcasts the programs to your TV set or VCR on one designated channel, usually channel 2, 3, or 4. When you use a converter box, you will normally change channels using the channel selector on the box. Some cable converters have built-in decoders that translate "scrambled" pay TV channels (i.e. HBO) so they can be used by your TV set.

#### Cable Compatible

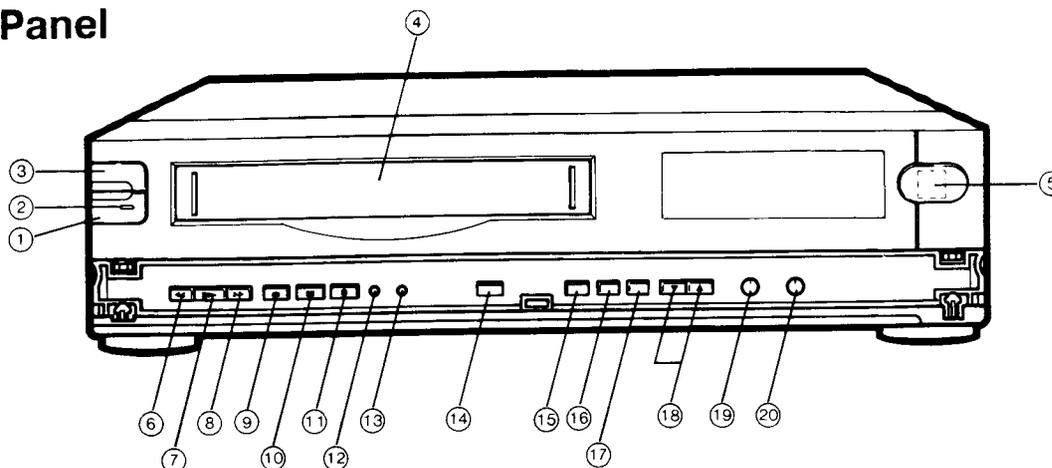
Either TV or VCR when cable is connected can tune to unscrambled cable channels, without the use of a cable converter box. There is a limitation to the tuning mechanism of the TV or VCR. This is usually as 105 channel tuning, 117 channel tuning, 133 channel tuning.

#### Frequency Conversion

This simply means the ability to change one frequency to another (e.g. when Channel 7 is selected, the converter box takes the Channel 7 information and outputs this on Channel 3 frequency; when Channel 11 is selected, the converter box takes the Channel 11 information and outputs this on Channel 3 frequency.) The converter box and the VCR use this principle of frequency conversion.

# CONTROLS

## Front Panel

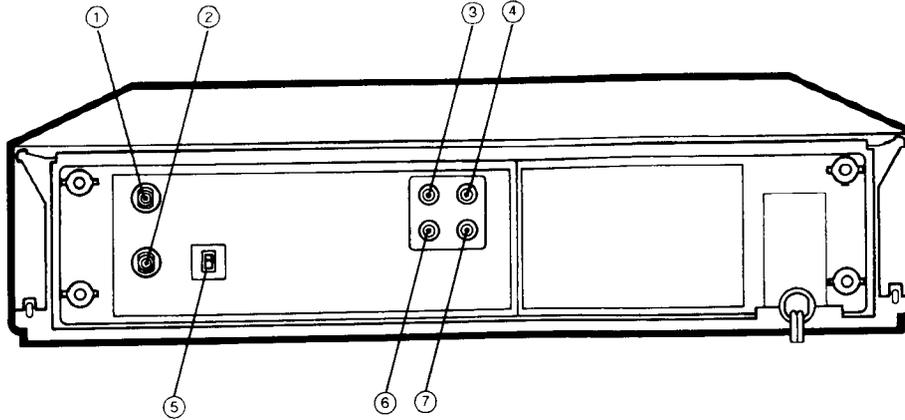


- ① POWER/TIMER SET button**  
 Press this button to turn the VCR on after it is plugged in. Note that the power goes on automatically (Auto Power ON) when a cassette is inserted in the compartment.  
 To turn the VCR off, press this button again. If any event for timer recording is programmed and a cassette with a safety tab is inserted, the timer recording standby mode is assumed.
- ② POWER indicator**  
 Illuminates when the unit is turned on.
- ③ EJECT button**  
 Press this button to eject a tape from the cassette compartment.
- ④ Cassette Compartment**  
 When a cassette is loaded, the power goes on automatically. When a pre-recorded tape (without safety tab) is loaded into the unit, the power goes on, then the VCR's Full Auto Playback function is activated.
- ⑤ Infrared remote control receiver**  
 This receiver picks up infrared light commands from the remote control.
- ⑥ REW/PIC SEARCH button**

  - When this button is pressed during Stop or Fast Forward mode, the VCR enters Rewind mode.
  - When the button is pressed during Playback, Still, or Forward Picture Search mode, the VCR enters Reverse Picture Search mode.
- ⑦ PLAY button**  
 Press this button to begin playing back a tape.  
 Also used to release the still frame and return to the normal playback.
- ⑧ FF/PIC SEARCH button**

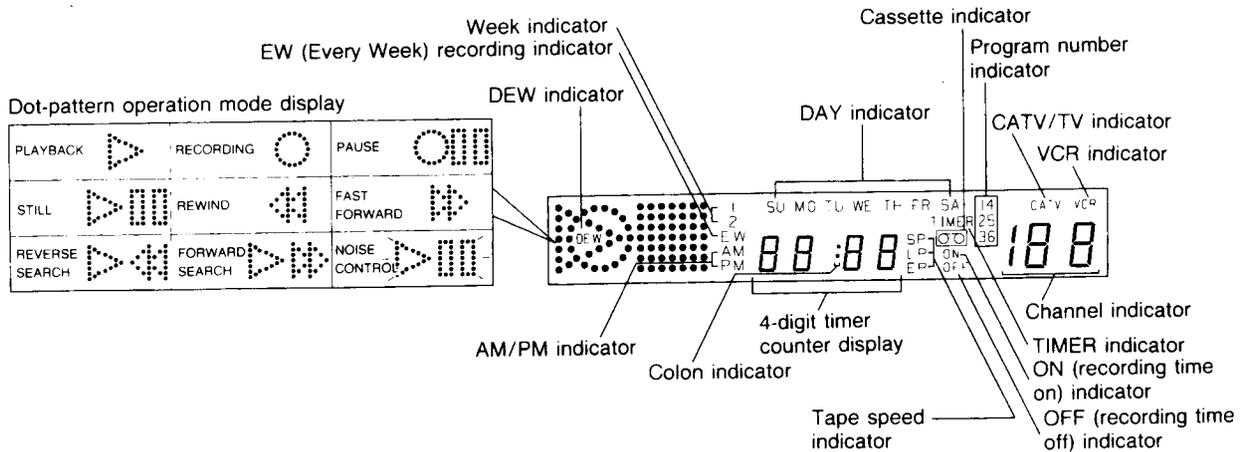
  - When this button is pressed during Stop or Rewind mode, the VCR enters Fast Forward mode.
  - When the button is pressed during Playback, Still, or Reverse Picture Search mode, the VCR enters Forward Picture Search mode.
- ⑨ STOP button**  
 Press this button to stop a tape during all tape related functions.
- ⑩ PAUSE/STILL button**  
 Press this button during recording to edit out unwanted materials. It is also used during playback of a tape recorded in EP mode to partially freeze a certain frame. If this button is held in during Still Frame mode, frames advance one by one.
- ⑪ REC button**  
 Press this button to begin recording a program.  
 Also used to release recording pause mode and to return to the normal recording.
- ⑫ CLEAR button**  
 Press this button to clear all the user-programmed data and to resume the factory-preset initial values.
- ⑬ CLOCK ADJUST button**  
 Press this button to select Clock Time Adjust mode and Daylight Savings Time Setting mode.
- ⑭ TV/CATV button**  
 To view CATV, press this button to select "CATV".  
 To view VHF or UHF, press this button to select "TV".
- ⑮ SP/LP/EP selector**  
 Press this button to select the tape speed of recording among SP, LP or EP.
- ⑯ PROG. button**  
 Press this button to start and cancel programming data for timer recording.
- ⑰ SET button**  
 Press this button to enter the programmed data, proceeding to the next step of operation.
- ⑱ CHANNEL UP & DOWN (^/∇)/SHIFT buttons**  
 The **UP** (^) button is used for sequential selection in the upper direction, and the **DOWN** (∇) button is for sequential selection in the lower direction.  
 Also used to input data for clock adjustment and timer recording.  
 "AU" position for an external A/V source can be also selected with these buttons.
- ⑲ TRACKING control**  
 Adjust this knob to eliminate noise from your picture during playback.
- ⑳ PICTURE control**  
 Adjust this knob to soften or sharpen the picture during playback.

## Rear Panel



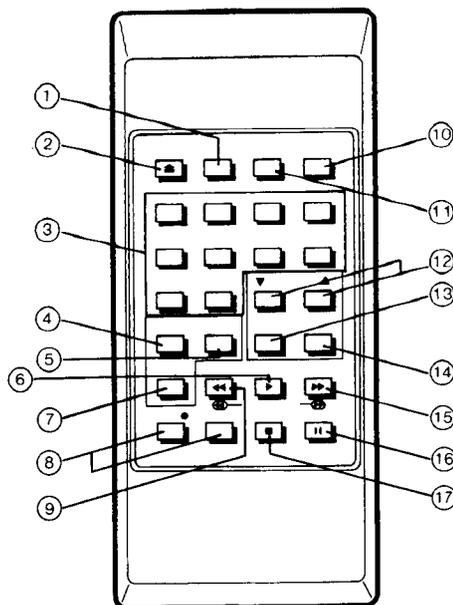
- ① **ANTENNA OUT terminal**  
Connect this terminal to the TV set's VHF IN terminal or VHF/UHF IN terminal.
- ② **ANTENNA IN terminal**  
For VHF reception, UHF reception or cable TV reception, connect this terminal to a VHF antenna, a UHF antenna or cable TV terminal.
- ③ **AUDIO OUT jack**  
Audio signals being recorded or played back are available at this connector. Connect to the audio input of a TV receiver, another video recorder or other audio/video equipment.
- ④ **AUDIO IN jack**  
Connect to the audio output from another video recorder or other audio sources for recording.
- ⑤ **3-4 output channel selector**  
In order that signals received by the VCR can be converted into signals suitable for your TV set, move this switch to either 3CH or 4CH, whichever channel is unused in your area.
- ⑥ **VIDEO OUT jack**  
For external recording or monitoring, connect this jack to the VIDEO input of a VCR or TV set.
- ⑦ **VIDEO IN jack**  
To record from an external video source, such as a VCP, VCR or TV set, connect this jack to the VIDEO output jack of one of those sources.

## Multidisplay



## Remote Control Unit

The buttons that are not followed by explanations have the same functions as the buttons similarly marked on the VCR.



- |  |  |
|--|--|
| <p>① <b>CH 100 button</b><br/>To select channel numbers higher than 100, press this buttons.</p> <p>② <b>EJECT button</b></p> <p>③ <b>Number buttons (1-9, 0)</b><br/>To select channels directly, press these buttons. Press two keys such as 02, 03,... or 09 when a channel from 2 to 9 is selected.</p> <p>④ <b>ZERO RTN button</b><br/>Press this button to return to "0000" reading of the counter.</p> <p>⑤ <b>CLK/CNTR button</b><br/>This button is used to display the clock (present time and day) or the tape counter.</p> <p>⑥ <b>PLAY button</b></p> <p>⑦ <b>RESET button</b><br/>Press to reset the counter to "0000".</p> <p>⑧ <b>REC buttons</b><br/>To start recording on a tape, press both buttons together.</p> | <p>⑨ <b>REW button</b></p> <p>⑩ <b>POWER button</b></p> <p>⑪ <b>TV/VCR button</b><br/>To use the VCR tuner, press this button to select "VCR". To view the TV set, press this button so that the indication "VCR" disappears.</p> <p>⑫ <b>CHANNEL UP (^) &amp; DOWN (v)/SHIFT buttons</b></p> <p>⑬ <b>PROG. button</b></p> <p>⑭ <b>SET button</b><br/>Press this button to enter the programmed data, proceeding to the next step of operation.</p> <p>⑮ <b>FF button</b></p> <p>⑯ <b>PAUSE/STILL button</b></p> <p>⑰ <b>STOP button</b></p> |
|--|--|

## Using the Remote Control Operation

The VCR can be operated with the remote control unit up to a distance of about 23 feet (7 meters) and within an angle of 15 degrees either side of center. There must be no obstacles between the remote control unit and the remote sensor of the VCR.

### Battery Installation

- ① Remove the battery cover on the rear of the unit. (See Figure 1.)
- ② Install two size "AAA" batteries into the battery compartment. (See Figure 2.)
- ③ Close the battery cover. (See Figure 3.)



Fig. 1

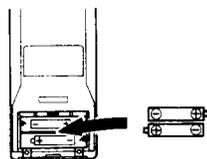


Fig. 2



Fig. 3

### Notes

- Be sure to install batteries properly to match the polarity diagrams drawn inside the battery compartment.
- Do not mix to use a new battery with an old one.
- Do not heat, disassemble, short or throw used batteries into a fire.

### Precautions on Using

- Pressing two or more function buttons on the remote control unit (except **REC** buttons) at the same time may result in improper operation or unwanted damage.
- Do not place the remote control unit in an area where it may be wet.
- Do not place the remote control unit near high heat.
- Dropping the remote control unit on a hard surface may result in damages.
- Do not use benzene, thinner or other petroleum based solvent to clean the remote control unit. To clean, wipe a soft cloth slightly moistened with a mild detergent, and then wipe dry with a soft cloth.

## Using of the Video Cassette

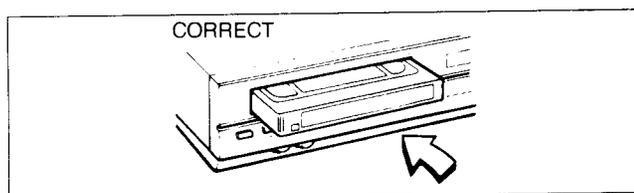
Only the video cassette tapes marked VHS can be used with this VCR.

A cassette tape cannot be loaded or unloaded unless the AC power cord is connected to the AC outlet.

### Loading and Unloading

#### Loading

Insert a cassette tape with its labeled side up as shown into the cassette compartment. The cassette will be automatically drawn inside the compartment.

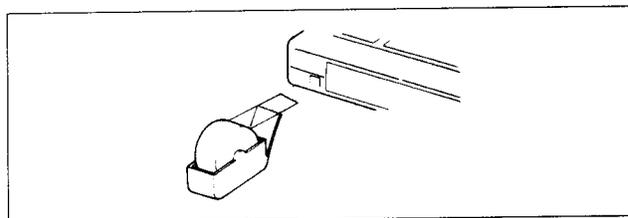


#### Unloading

- ① Press the **EJECT** button. The cassette will be ejected from the cassette compartment.
- ② Remove the cassette by pulling it toward you.

### To Prevent Accidental Erasure

Every video cassette has a safety tab to prevent accidental erasure. Breaking off the safety tab is recommended for prevention from accidental erasure of the contents. If a tape without the safety tab is to be reused, cover the gap with a piece of adhesive tape.



### Tape Speeds and Maximum Recording Playback Time

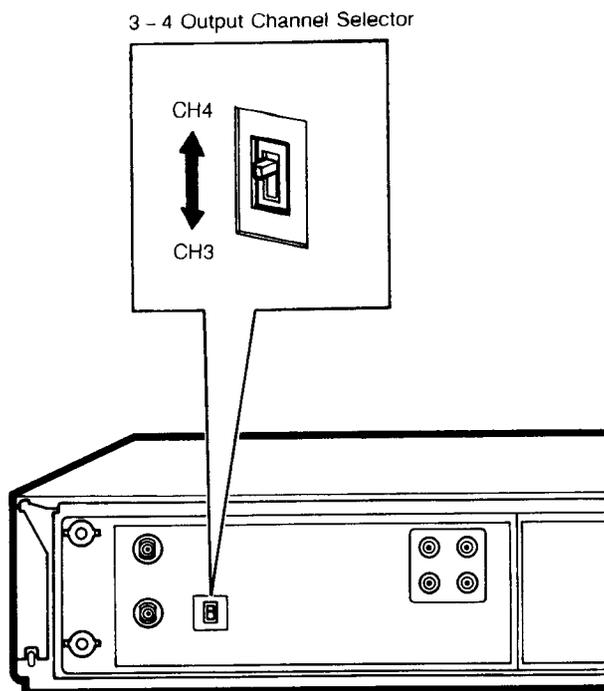
Video Cassette Record Mode	T-160	T-120	T-60	T-30
EP	480 min	60 min	180 min	90 min
LP	320 min	240 min	120 min	60 min
SP	160 min	120 min	60 min	30 min

### Care of the Video Cassette Tape

- Avoid violent vibration or shock.
- Do not place in a location where strong magnetic fields exist (near a motor, transformer or magnet).
- Never place or store in direct sunlight.
- Avoid dusty places.
- Place the cassette in the cassette case and store vertically.
- Never store tape in a high humidity location.

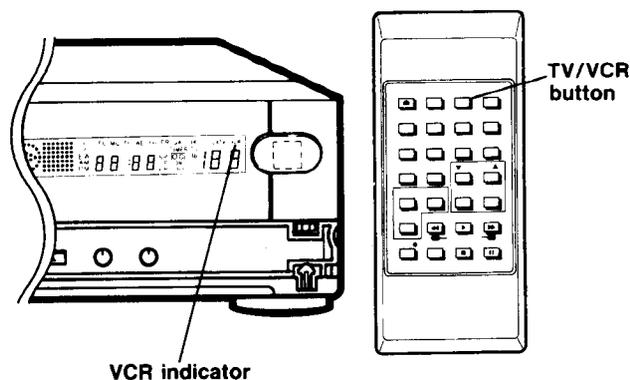
## Setting the VCR Output Channel

Set the 3-4 output channel selector on the rear panel to the vacant channel in your area (3 or 4).



## Using the TV/VCR Button on the Remote Control Unit

Use this button to select the TV mode or the VCR mode.



### TV mode (using the TV Tuner)

- ① If the VCR power is OFF, simply turn your TV set ON. There is no need to turn the VCR ON.
- ② Select the channel you want to watch by using the channel select buttons of the TV set.

#### Note

If the VCR is ON and the VCR indicator "VCR" is lit on the VCR multidisplay, press the **TV/VCR** button on the remote control unit so that "VCR" indicator is OFF.

### VCR mode (using the VCR Tuner)

- ① Turn your TV set ON. Set your TV to the same channel as the VCR output channel selector (3 or 4).
- ② Turn the VCR power ON. The power indicator lights ON.
- ③ Press the **TV/VCR** button on the remote control unit to VCR mode. The "VCR" indicator will light ON on the VCR multidisplay.
- ④ Use the **CHANNEL** buttons on the VCR or remote control unit to choose the channel you want to watch and/or record.  
The program on that channel will be shown on your TV screen.

#### Notes

- If you have cable TV, choose the channel which gives you the best reception.
- To play back a tape, set your TV to the same channel as the VCR output channel selector (3 or 4).

# PREPARATION

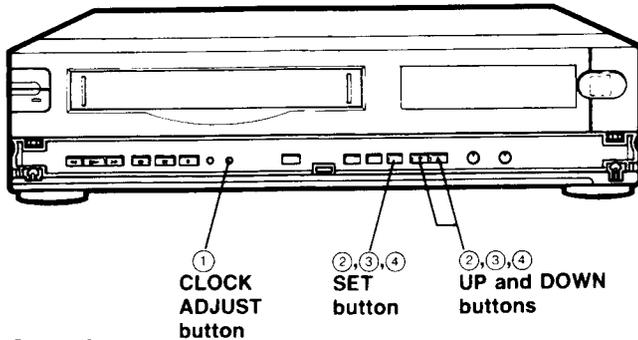
## Setting the VCR Clock

When the VCR is plugged into the AC outlet at the initial installation or after a power failure, the clock indication will be reset to "SU" and "AM 12:00". This indication means the clock setting is necessary. Adjust the clock as follows when the VCR is turned on (or off).

While setting the clock, the item whose indication is blinking in the multidisplay needs setting.

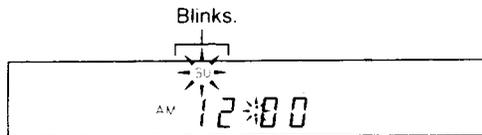
### EXAMPLE:

Setting at 8:30 PM on Wednesday

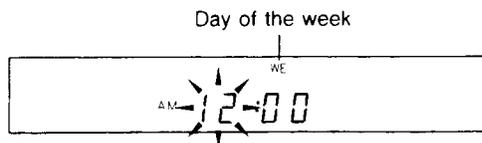


### Operation

- 1 Press the **CLOCK ADJUST** button.

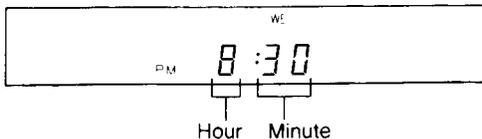


- 2 Press the **UP** (^) or **DOWN** (v) button to select the current day of the week. Then press the **SET** button.



- 3 Press the **UP** (^) or **DOWN** (v) button to adjust the current hour. Then press the **SET** button.

- 4 Press the **UP** (^) or **DOWN** (v) button to adjust the current minute. Then press the **SET** button.



### HINTS ON CLOCK SETTING

- To set the time exactly to the second, press the **SET** button at the exact time corresponding with a time signal from the accurate clock, radio, telephone and so on after adjusting the current minute in step 4 above.
- The **UP** (^) and **DOWN** (v) buttons can be pressed in two ways. When the button is pressed momentarily and released, the indication will advance or reverse by one. If the button is held in for longer than 0.5 second, the indication will advance or reverse continuously.
- With the memory back-up circuitry incorporated in this unit, the programming data for the clock and timer recording can be retained securely when a power failure of approximately 1 minute or less occurs.

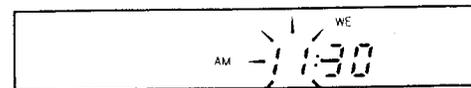
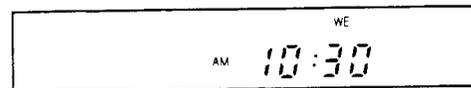
## Daylight Savings Time Compensation

You can easily advance or delay the clock by an hour when shifting the time indication from the standard time to the daylight savings time, or vice versa.

### EXAMPLE:

The present time is 10:30 AM. Advancing/delaying the clock by an hour.

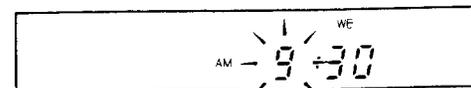
- 1 Press the **CLOCK ADJUST** button and hold it in for longer than 3 seconds. While you keep holding the **CLOCK ADJUST** button the time indication alternately shows the time advanced/delayed by one hour.



Advanced by one hour



Delayed by one hour



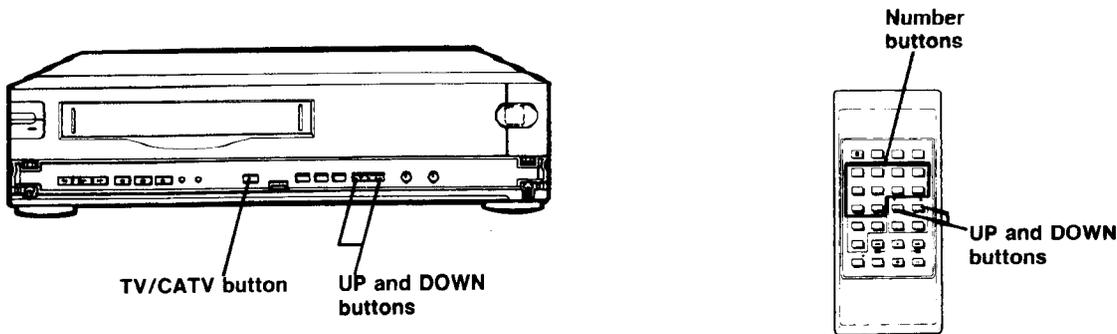
- 2 In the case of advancing from the Standard time to the Daylight time:
  - Release the **CLOCK ADJUST** button when 11:30 AM is displayed.
- 3 In the case of delaying from the Daylight time to the Standard time:
  - Release the **CLOCK ADJUST** button when 9:30 AM is displayed.

### Note

The selected mode (i.e., advancing or delaying the clock) is put into memory in this instance. Thereafter, you only need to hold in the **CLOCK ADJUST** button for 3 seconds to shift clock back or forward by one hour as required.

# Operating the FS Tuner

This VCR has an FS (Frequency Synthesized) tuner and is designed to receive the following TV signals and CATV signals. This VCR can select CATV signals easily.



## Setting the CATV Mode

Press the **CATV** button to display the CATV indicator and then the CATV channel indicator. Press the button again and the CATV indicator goes off to return to the TV mode.

## To Select CATV Signals

This VCR is designed to select CATV signals (STD/HRC/IRC) automatically.

## Channel Select

### 1. Using the number buttons (on the remote control)

A) In case of a single digit channel (2 -9), press "0" first, then the appropriate digit.

**Example:** To tune to channel 9:  
Press "0", and then "9".



- B) In case of a two-digit channel (10 -99), press ten's digit, then the one's digit.
- C) In case of a three-digit CATV channel (100-126), press the **CH100** button first, then press ten's digit and one's digit in sequence.

**Example:** To tune to channel 126: Press "**CH100**" first, then "2" and "6" in sequence.  
The channel will be automatically tuned in.

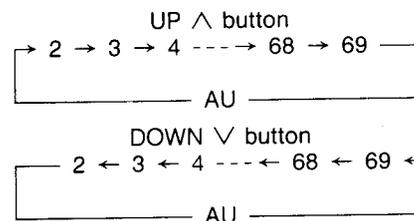
### Note

- If the channel other than those listed is entered, it will not be valid and the previous channel will be re-tuned.

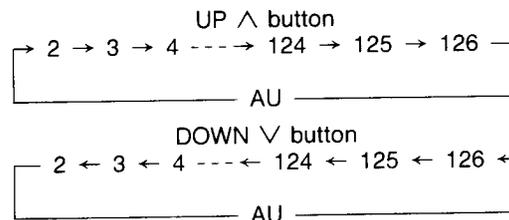
### 2. Using the CHANNEL UP /DOWN buttons (front panel or remote control)

Press and release the **CHANNEL UP /DOWN** buttons. The channel steps up or down automatically.

#### • TV mode



#### • CATV mode



### Notes

- If the **CHANNEL** button is pressed and immediately released, the channel steps up or down to the next channel.
- If the **CHANNEL** button is held in for longer than 0.5 second, channels will keep changing until the button is released.
- The auxiliary position (displayed as "AU") may be selected by pressing the **CHANNEL** button repeatedly. When the "AU" position is selected, recording from an external A/V source may be performed with the AUDIO/VIDEO IN jacks connected to an external source via RCA connector lead(s).

## TV/CATV Channel Display

When selecting TV or CATV channels, the specified TV or CATV channel number is displayed on the TV screen.

## Channel Reference Chart

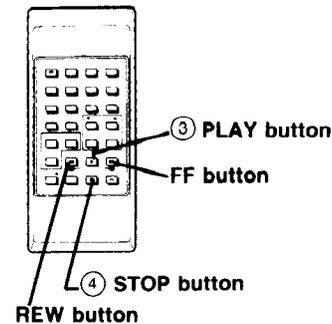
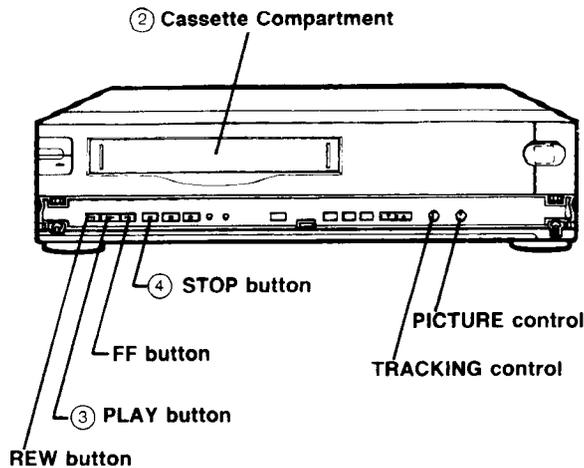
The cable channels are numerically indicated in the multidisplay in place of each actual channel name originally assigned. Refer to the chart below for cable channel numbers to be shown.

BAND	CH NAME	DISPLAY	BAND	CH NAME	DISPLAY	BAND	CH NAME	DISPLAY
VHF	2	2		AA	37		81	81
	3	3		BB	38		82	82
LOW	4	4		CC	39		83	83
	A-7	5		DD	40		84	84
BAND	A-6	6		EE	41		85	85
	A-5	95	CATV	FF	42	CATV	86	86
	A-4	96		GG	43		87	87
CATV	A-3	97		HH	44		88	88
	A-2	98		II	45		89	89
	A-1	99		JJ	46		90	90
MID	A	14		KK	47		91	91
	B	15		LL	48		92	92
	C	16		MM	49		93	93
	D	17		NN	50		94	94
	E	18		OO	51		100	100
BAND	F	19		PP	52		101	101
	G	20		QQ	53		102	102
	H	21		RR	54		103	103
	I	22		SS	55		104	104
	7	7		TT	56		105	105
VHF	8	8	HYPER	UU	57	HYPER	106	106
	9	9		VV	58		107	107
HIGH	10	10		WW	59		108	108
	11	11		XX	60		109	109
BAND	12	12		YY	61		110	110
	13	13		ZZ	62		111	111
	J	23		AAA	63		112	112
	K	24		BBB	64		113	113
CATV	L	25		CCC	65		114	114
	M	26		66	66		115	115
	N	27		67	67		116	116
	O	28		68	68		117	117
	P	29		69	69		118	118
SUPER	Q	30		70	70		119	119
	R	31		71	71		120	120
	S	32		72	72		121	121
	T	33		73	73		122	122
	U	34		74	74		123	123
	V	35	BAND	75	75	BAND	124	124
BAND	W	36		76	76		125	125
				77	77		126	126
				78	78			
				79	79			
				80	80			

### Notes

- Since cable services may vary from area to area, please consult your local cable company for cable compatibility.
- Direct tuning to cable channels is limited to unencoded (unscrambled) channels only.

# PLAYBACK



## Basic Playback

- ① Turn on the TV set. Select 3 or 4 (according to the setting of VCR 3-4 output channel selector).
- ② Load the prerecorded tape into the cassette compartment. The VCR is turned ON automatically. (If a tape without the safety tab is loaded, the AUTO PLAY function operates to start playing back the tape automatically.)
- ③ Press the **PLAY** button. Playback starts. VCR enters into the VCR mode automatically.
- ④ Press **STOP** button to stop playback.

## Auto Rewind System

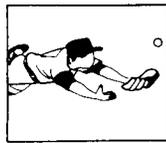
When a tape reaches its end in Playback, Forward Picture Search or Fast Forward mode, it will be automatically rewound to its beginning and the unit will be switched to Stop mode.

## TRACKING control (Picture)

Tracking adjustment is needed when noise bars (as lines) appear on the screen while playing back a prerecorded tape.



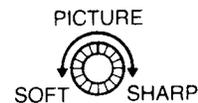
A picture with noise bars



A picture adjusted with the **TRACKING** control

## PICTURE control

This control adjusts the picture sharpness during playback.



## Auto Playback System

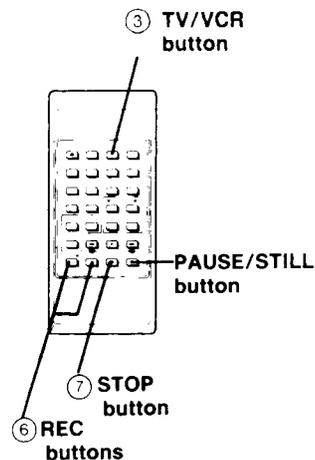
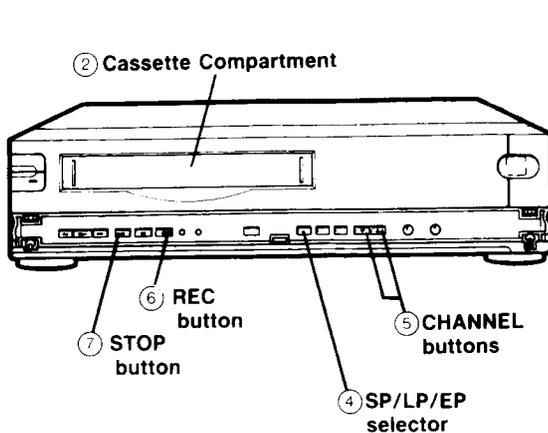
If a cassette tape without the safety tab is loaded into the cassette compartment, it will be automatically played back.

1. Insert a cassette tape without the safety tab. If the VCR's power was off, it will be turned on.
2. The tape is played back to its end.
3. The tape is rewound to the beginning.
4. The unit is switched to the stop mode (Auto Playback).
5. The VCR is turned off if the VCR was off in Step 1 above (Full Auto Playback).

### Note

The Auto Playback or Full Auto Playback will be released if one of the tape related buttons (**FF**, **REW**, **PAUSE/STILL**, **EJECT**, **PLAY** or **POWER**) is pressed.

# RECORDING



## Basic Manual Recording

- ① Turn on the TV set. Select Channel 3 or 4 (according to the setting of the VCR 3-4 output channel selector).
- ② Load a tape with the safety tab for recording. The VCR is turned on automatically.
- ③ Press the **TV/VCR** button on the remote control unit. The VCR indicator on the display turns on.
- ④ Press the **SP/LP/EP** selector to select the recording tape speed (SP, LP or EP).
- ⑤ Press the **CHANNEL** buttons to select the desired channel for recording.
- ⑥ Press the **REC** button on the unit or the two **REC** buttons on the remote control unit simultaneously to start recording.
- ⑦ Press the **STOP** button to stop recording.

### Notes

- If the tape reaches its end during recording, it will be automatically rewound to its beginning and the unit will be switched to Stop mode.
- If a cassette without the safety tab is inserted, it will be automatically ejected when the **REC** button is pressed. This protects the recorded contents on the tape against accidental erasure.
- In Recording mode, the **EJECT** button is not operative.
- To change channels or eject a cassette tape during recording, first set the VCR in the Pause mode by pressing the **PAUSE/STILL** button, and then change channels or eject the cassette.
- The tape speed cannot be changed immediately after the VCR has entered the rec pause mode.

## Checking the Picture Being Recorded

Turn on the TV and tune to channel 3 or 4 for video viewing.

## Watching Another TV Program While Recording

- 1 While recording, press the **TV/VCR** button on the remote control unit to set the VCR into TV mode. The "VCR" on the multidisplay goes OFF.
2. Select the desired TV channel with the TV tuner.
3. Press the **TV/VCR** button when a TV program is finished. The VCR indicator on the multidisplay lights. Next set the TV channel to 3 or 4 (according to the setting of VCR 3-4 output channel selector).

## PAUSE/STILL button

Use this button when you want to skip unnecessary scenes during recording or to edit a prerecorded tape.

1. Press the **PAUSE/STILL** button during recording to stop recording momentarily.
2. Press the **REC** button again to resume recording.

### Notes

- If the VCR is left paused for more than 5 minutes, it automatically enters the stop mode to protect the tape.
- The recorded pictures on the tape may be distorted around where the **PAUSE/STILL** button is used. This is not a malfunction.

## Video Operation Mode Display

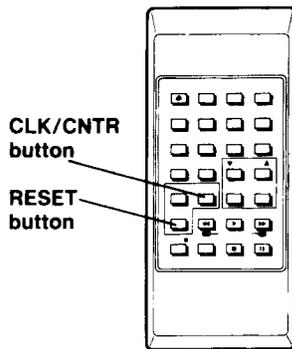
When the following operation mode is selected by pressing the respective button on the mainframe or on the remote control unit, the operation mode display is superimposed on the TV screen for a few seconds.

OPERATION MODE	DISPLAY
Recording	REC
Playback	PLAY
Fast Forward	FF
Rewind	REW
Pause	PAUSE
Stop	STOP

# COUNTER FUNCTION

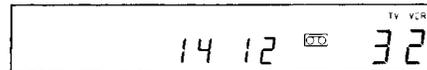
## Counter Display

When a cassette tape is inserted, the counter display appears. The counter starts counting up or down when the **PLAY**, **REC**, **FF** or **REW** button is pressed.

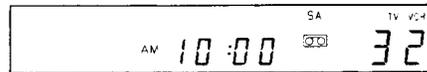


## CLOCK/COUNTER Display Switching

To change the counter display to the clock display, press the **CLK/CNTR** (clock/counter) button on the remote control unit.



Counter Display



Clock Display

## Counter Reset

To reset the counter to "0000", press the **RESET** button on the remote control unit.

### Note

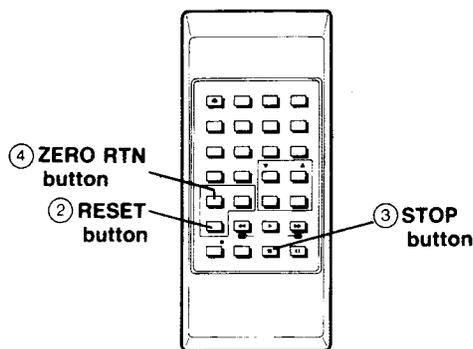
The counter display automatically reverts to the clock display when the unit is turned off or a cassette tape is ejected.

### Note

The **RESET** button will not function if the clock display is shown in the multidisplay.

## Zero Return Function

The zero return function is convenient for returning the tape to a desired point.



- 1 Locate a desired point on the tape where you want to return later while you play back or record.
- 2 Press the **RESET** button on the remote control unit to reset the counter to "0000".
- 3 After recording or playback, press the **STOP** button to stop tape movement.
- 4 Press the **ZERO RTN** button to enable the zero return option to function.
- 5 Upon returning to the "0000" reading of the counter, the tape will stop.

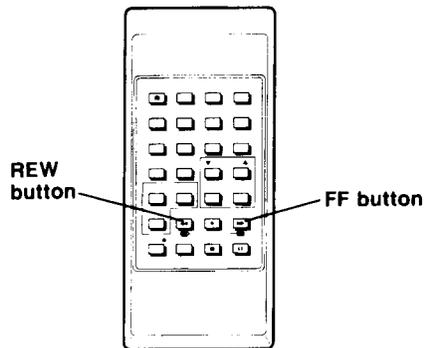
### Note

The VCR does not stop exactly at the counter read zero (0000), but stops around zero, depending on the tapes you use.

# SPECIALIZED EFFECTS

## Picture Search

You can advance or rewind a tape rapidly without a picture using the **FF** or **REW** button. Picture Search operation is convenient to locate a desired portion of the tape quickly while watching a picture on the screen.



### FF button

During Playback mode, press the **FF** button to view high speed picture in the forward direction. To resume normal playback, press the **FF** button again or press the **PLAY** button.

### REW button

During Playback mode, press the **REW** button to view high speed pictures in the reverse direction. To resume normal playback, press the **REW** button again or press the **PLAY** button.

### Notes

- During Picture Search the sound is muted and several horizontal noise bars appear across the screen as shown in Figure (1). This is a normal operation. If noise patterns appear on your screen as shown in Figures (2) and (3), adjust the appropriate horizontal/vertical controls on your TV set.

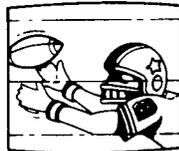


Fig. 1

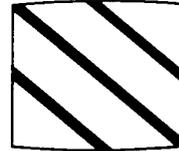


Fig. 2

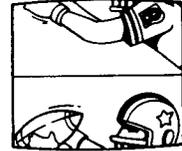
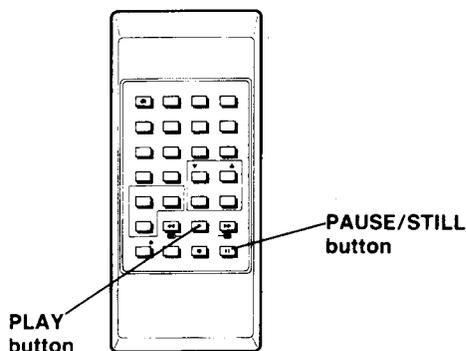


Fig. 3

- Noise bars appear on the the picture during picture search. This does not indicate a malfunction of the VCR.
- Noises on the picture may increase with tapes recorded in SP and LP tape speeds.
- The color of the picture may be lost during picture search.

## Still Frame (in EP mode only)

This function enables you to freeze a picture, so that you can watch important scenes closely.

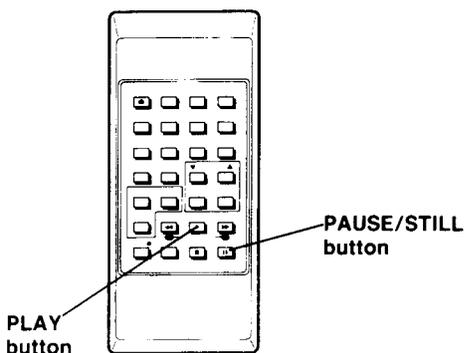


- Press the **PAUSE/STILL** button during playback to freeze the picture. Press the **PLAY** button again to return to normal playback.

### Notes

- If noise bars appear in the picture during the still frame, repeatedly press the **PAUSE/STILL** button. When the best still frame is obtained, release your finger from the button.
- Still frame is cancelled automatically after about 5 minutes operation, to return to normal playback.
- The audio output is muted in STILL mode.
- The color of the picture may be lost during still frame.

## Frame Feeding (in EP mode only)

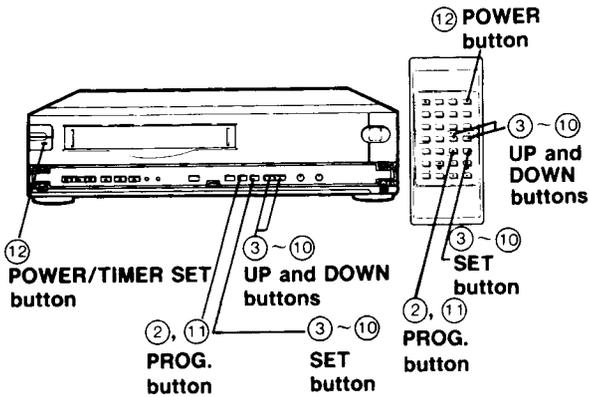


- Press the **PAUSE/STILL** button during playback and keep the button pressed. Frames will be continuously advanced. To return to normal playback, press the **PLAY** button a second time.

SPECIALIZED EFFECTS

# PROGRAMMABLE TIMER RECORDING

A maximum of 6 events can be programmed within a period of 2 weeks (14 days) including the present day for timer recording. A timer recording can be activated at the same time on the same day of every week, or on every day, as well as on a particular day. While setting timer, the item whose indication is blinking in the multidisplay needs setting.



## Preparation

Make sure the following:

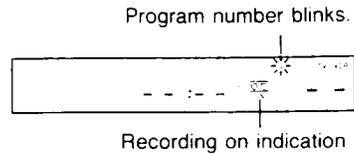
- The **SP/LP/EP** selector has been pressed for the appropriate tape speed: SP, LP, or EP.
- The clock is showing the current time, including the day of the week and the AM/PM indication.
- The VCR is not set to the timer recording standby mode. Confirm that the **TIMER** indicator is not illuminated.

## EXAMPLE:

Current time: 8:30 P.M. Wednesday.

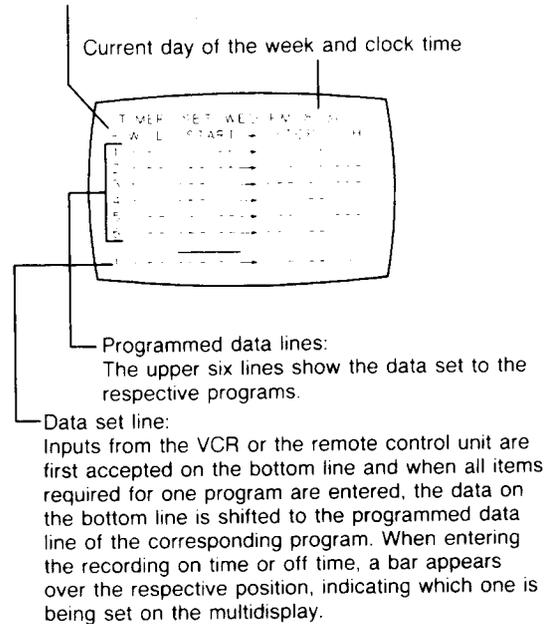
To program on program number "2", on channel "CATV 7", from "9:00 P.M." to "10:30 P.M." on "Friday next week".

## MULTIDISPLAY



## TV SCREEN

- P: Program number
- W: Week
- D: Day of the Week
- START: Recording on time
- STOP: Recording off time
- CH: Channel number (c: CATV)



## Operation

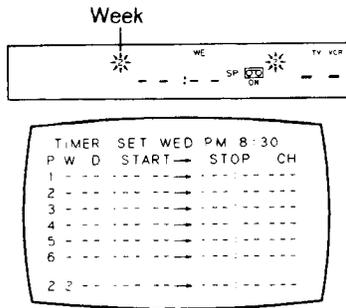
- ① Load a cassette with the safety tab into the VCR.
- ② Press the **PROG.** button. The multidisplay on the VCR changes to the programming display and the Programmable Timer Recording Display appears on the TV screen.

- ③ Select the desired program number "2" by pressing the **UP** (Λ) or **DOWN** (∇) button, and then press the **SET** button on the unit or the remote control unit.

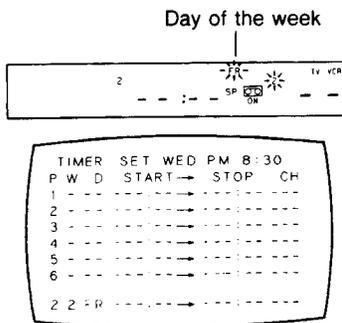
## Note

"--:" display means that the selected program number is vacant. If a time display appears, it means that the selected number contains programmed data.

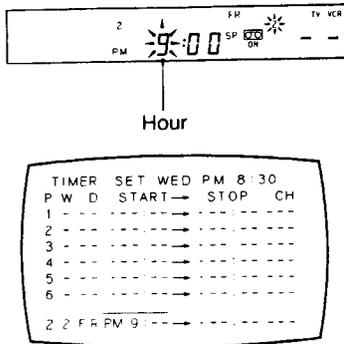
- ④ Select the desired week "2 (next week)" by pressing the **UP** or **DOWN** button, and then press the **SET** button.



- ⑤ Select the desired day of the week "FR" by pressing the **UP** or **DOWN** button, and then press the **SET** button.



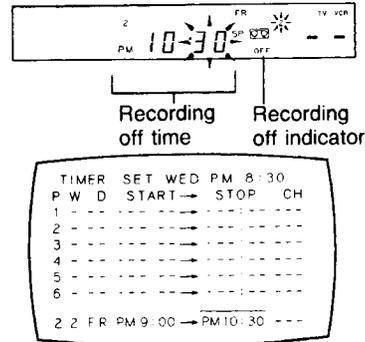
- ⑥ Set the desired hour of the recording "ON" time "PM 9" by pressing the **UP** or the **DOWN** button, and then press the **SET** button.



- Make sure that the correct AM or PM indication is selected.

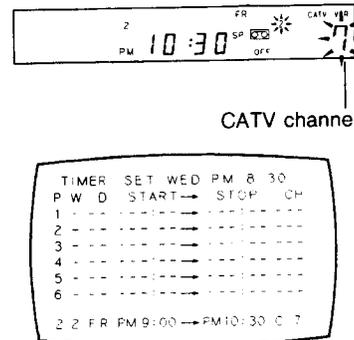
- ⑦ Set the desired minute of the recording on time 00 by pressing the **UP** or **DOWN** button, and then press the **SET** button.

- ⑧ Set the desired hour and minute of the recording "OFF" time "PM 10:30" with the **UP/DOWN** button and the **SET** button as in steps 6 and 7.



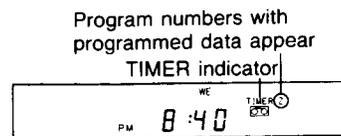
- ⑨ Select CATV mode by pressing the **UP** or **DOWN** button, and then press the **SET** button.

- ⑩ Select the desired CATV channel "7" by pressing the **UP** or **DOWN** button, and then press the **SET** button.



- ⑪ Press the **PROG.** button.

- ⑫ Press the **POWER/TIMER SET** button. The VCR enters the timer recording stand-by mode. **TIMER** indicator on the multidisplay lights on.



If programming of another event is desired, repeat the steps 3 through 10 described above.

### Notes

- The unit will be set in Pause mode 15 seconds prior to the programmed recording on time, and then timer recording starts on time.
- When a timer recording is executed, the programmed data except for the weekly recording is erased.
- To release Timer Recording mode, press the **POWER** button again.

## Cancelling Programming

To cancel programming on the way and resume the normal mode, press the **PROG.** button.

## Confirming Programmed Contents

1. Press the **PROG.** button to call the program number.
2. Press the **UP** (^) or **DOWN** (v) button repeatedly. The REC ON time and REC OFF time of each program number will be displayed in sequence.

## Clearing Programmed Contents

1. Press the **POWER** button to release the timer recording mode.
2. Press the **PROG.** button.
3. Press the **UP** (^) or **DOWN** (v) button so that the program number to be cleared blinks.
4. Press the **SET** button.
5. Press the **PROG.** button to return to the normal mode.

---

### Note

To clear the programmed data after the timer recording has started, press the **POWER** button.

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## Changing the Program Contents

When this VCR is in the recording stand-by mode with the indicator on:

1. Press the **POWER** button to cancel the timer recording stand-by mode. The VCR will be turned on.
2. Press the **PROG.** button to display the program menu.
3. Find the program number you want to change by pressing the **UP** or **DOWN** button.
4. Press the **SET** button repeatedly until the data you want to change blinks..
5. Re-enter the necessary data.
6. Press the **POWER** button to reenter the recording stand-by mode.

---

### Notes

- If the cassette has the safety tab removed, it will be ejected if the **POWER** button is pressed for timer recording.
  - When the tape reaches the end in timer recording, recording will be stopped and the tape will be ejected.
  - During timer recording, pause mode cannot be operated.
- 

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### HINTS ON PROGRAMMING

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The program number changes as follows:

When the (^) button is pressed:

REC ON time of Program No.1 → REC OFF of Prog. No.1 → REC ON of Prog. No.2 → ... → REC OFF of Prog. No.6

When the (v) button is pressed:

REC ON time of Program No.1 → REC OFF of Prog. No.6 → REC ON of Prog. No.6 → ... → REC OFF of Prog. No.1

The week indication:

"1": Seven days including the present day.

"2": The next seven days (beginning from the present day of the next week)

"EW": Every week (to repeat the recording at the same time every week)

The day of the week indication changes as follows:

When the "1" or "2" week indication is selected, the day of the week indication changes sequentially from SU, MO, TU, WE, TH, FR, to SA, and then goes back to SU.

When the "EW" indication is selected, the day of the week indication changes sequentially from SU, MO, TU, WE, TH, FR, SA, to SU/MO/TU/WE/TH/FR/SA\*, and then goes back to SU.

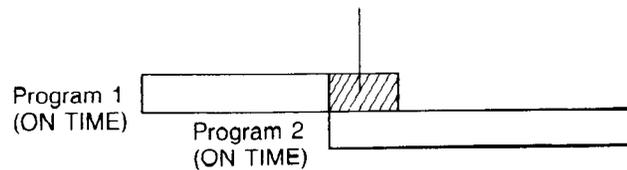
\* To execute the recording at the same time every day, select "SU/MO/TU/WE/TH/FR/SA (daily recording)" indication.

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## Overlap of Programs

If two programs programmed for timer recording overlap, the recording ON time of the second program has priority over the recording OFF time of the first program.

This section for the first program cannot be recorded.



If the same REC ON time is set on two or more programs, the lowest program number has priority over the other program numbers. The programmed data of the other program numbers will be erased when the timer recording starts.

## Power Failure during Timer recording

When a power failure has occurred, the time indication will be reset to "SU" and "AM 12:00" on the multidisplay. Recording is no longer possible. Reset the clock, then reprogram. (See page 18.)

## Using the VCR during Timer Stand-by for Normal Playback and Recording

You can use the VCR for normal playback and recording even when it is in Timer Stand-by mode ("TIMER" indicator is lit on the multidisplay).

1. Press the **POWER** button to turn off the "TIMER" indicator.
2. Follow the normal procedures for recording and playback.
3. When you have finished using the VCR for normal purpose, press the **POWER** button again and the VCR returns to Timer Stand-by mode.

# COPYING

## Copyright

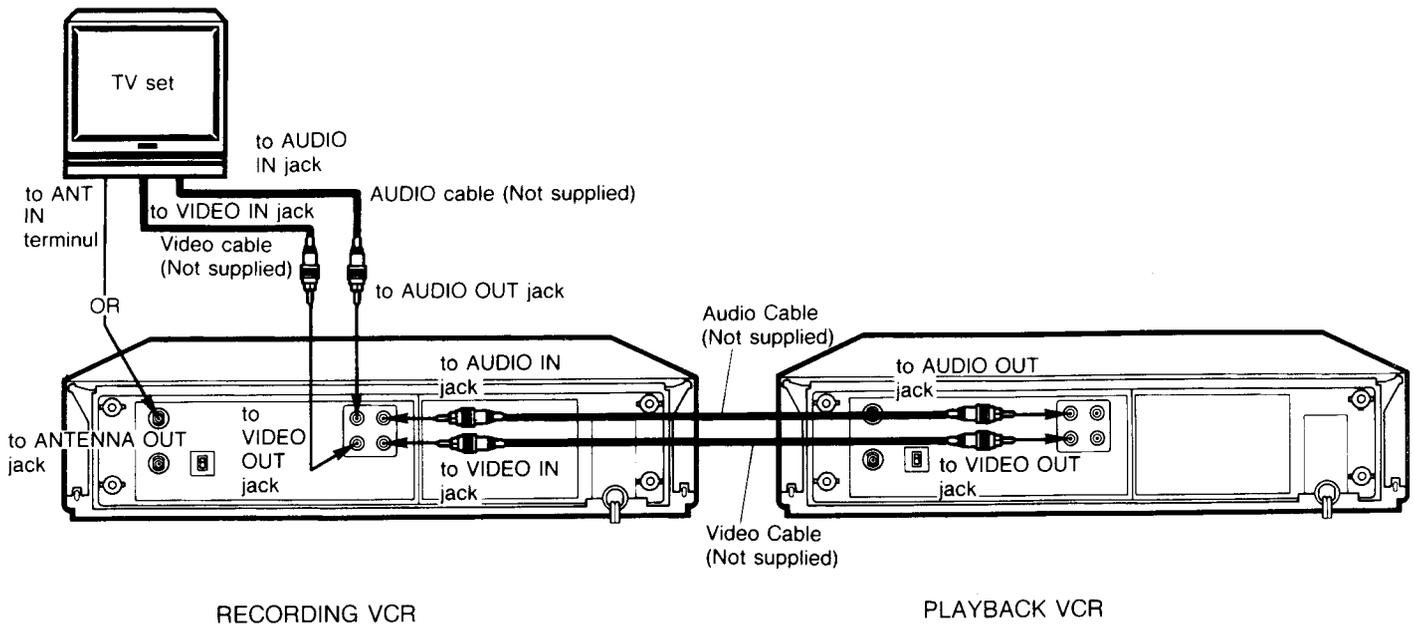
It is permissible to record television programs, film video tapes and other material only in the event that third party copyrights and other rights are not violated.

## Copying VCR Recording

Copies all pictures and sounds of a prerecorded tape onto another tape.

### Preparation

1. See below for how to connect the equipment.
2. Load the desired tape for copying into the **PLAYBACK VCR**.
3. Load a cassette with the safety tab into the **RECORDING VCR**.
4. Select "AU" on the **RECORDING VCR** by pressing the **CHANNEL UP** or **DOWN** button in channel selecting mode.



### Operation

Procedure	RECORDING VCR	PLAYBACK VCR
①	Press the <b>REC</b> button then the <b>PAUSE/STILL</b> button (RECORDING PAUSE mode).	
②		Press the <b>PLAY</b> button.
③	Press the <b>PAUSE/STILL</b> button. Recording starts.	
④	Press the <b>STOP</b> button after copying is completed.	
⑤		Press the <b>STOP</b> button.

### Note

In general, picture quality deteriorates somewhat in the dubbed tape. It is best to use SP mode.

# OTHERS

## Before Calling Service Personnel

Check the following list of problems and remedies before calling service personnel. The problem may be one you can solve yourself.

	PROBLEM	REMEDY
Power supply	• Power will not go on.	• The power cord may not be plugged in. Plug it firmly into the outlet.
	• Although the power is on, the VCR will not work.	• Wait for about two hours until the DEW indicator goes off if moisture has condensed. (See page 2.) • There is no cassette in the VCR. Load a cassette.
Clock/Timer	• The clock will not work.	• There has been a power failure. Reset the clock. (See page 18.)
	• The timer will not work.	• The clock time is incorrect. Adjust the clock to the correct time. (See page 18.)
TV Reception	• Picture does not appear on the TV screen.	• The TV channel must be set to the VCR output channel 3 or 4, or set the <b>TV/VCR</b> select switch on the TV to VCR. • Adjust antenna direction or use an optional antenna booster. • The power cord must be plugged into the outlet firmly. • Check connections between the TV and the VCR and connect them correctly.
Recording and playback	• Picture does not appear on the TV screen during recording and playback.	• Make sure that "VCR" is selected in the multidisplay and that the TV channel is set to 3 or 4.
	• The VCR will not record.	• The cassette's safety tab may be broken off. Use a cassette with a tab or cover the hole with adhesive tape. • The tape may have run out. Replace with another one with sufficient length.
	• The picture for the VCR tape is poor.	• Fine-tune the TV channel. • Adjust the <b>TRACKING</b> control on the VCR. • Clean the video heads of the VCR with a commercially available cleaning cassette tape. • The cassette tape may be old and/or defective. Replace with a new one.
	• The timer recording function will not work correctly.	• There is an error in programming. Reprogram the preset information. • There must be a cassette in the VCR. • If the cassette does not have its safety tab, you must use another cassette or cover the hole with adhesive tape. • There has been a power failure. Reset the clock to the correct time if the time indication shows "SU AM 12:00". Reprogram the timer. (See page 25.) • More than one program has been preset within the same period. Reprogram the information. • The active channel is not tuned with the built-in tuner of the VCR. Select the channel on which the TV/CATV program is aired.
Remote Control	• The remote control will not work properly.	• Put new batteries into the unit if the old ones are exhausted. • Make sure batteries are inserted with the correct polarity. • Make sure that the remote control is within a 15° angle of the receptor on the VCR. • Use the remote control unit within 23 feet (7 m) from the VCR. • Remove any obstacle between the VCR and the remote control unit.
Miscellaneous	• The cassette is ejected immediately after it is loaded.	• Remove the cassette and reload it carefully.
	• The cassette will not go into the cassette compartment.	• The cassette was loaded immediately after pressing the <b>EJECT</b> button. Reload the cassette, waiting a moment after ejecting a cassette. • There is already a cassette in the VCR.
	• Correct indication does not appear in the multidisplay.	• Clear the data stored in the unit's memory with the <b>CLEAR</b> button and input data again.

## Specifications

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Power supply:	120 V AC, 60 Hz
Power consumption:	21 W
External dimensions:	400 × 93 × 340 mm (W.H.D) (15-3/4 × 3-21/32 × 13-3/8 inches (W.H.D.))
Weight:	5.5 kg (12 lbs)
Channels received:	VHF: Channels 2-13, UHF: Channels 14-69, CATV: Channels A7 – A1, A – CCC and 66 – 126
Antenna input/output terminals:	UHF/VHF: 75 ohm F type connector
Signal system:	Standard NTSC
Recording/Playback	<b>VHS</b> VHS format (SP, LP, EP)
Cassette:	Video cassette with VHS mark
Tape speed:	EP: 1.11 cm/second, SP: 3.34 cm/second, LP: 1.67 cm/second.
Video record/playback time:	EP: 480 minutes, LP: 320 minutes, SP: 160 minutes (When T-160 video cassette is used)
Fast forward/rewind time:	Within 6 minutes (When T-120 video cassette is used)
Video input:	1 Vp-p, 75 ohm, unbalanced, negative sync, pin jack
Video output:	1 Vp-p, 75 ohm, unbalanced, negative sync, pin jack
Audio input:	Line input: –8dBs more than 50 K ohm, pin jack
Audio output:	Line output: –6dBs less than 1 K ohm, pin jack
Audio frequency range:	80 Hz – 10 kHz
Utilization conditions:	Temperature: 40° F to 106° F (5 to 40° C) Operating Humidity: 35% to 80% RH
VHF output:	Channel 3 or 4
Time display:	12 hours digital display
Time precision:	Synchronized with the AC power frequency
Timer setting:	6 programs

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Design and specifications are subject to change without notice.

**LIMITED WARRANTY**  
**TOSHIBA VIDEO CASSETTE RECORDER**

Toshiba America Consumer Products, Inc. ("TACP") and Toshiba Hawaii Inc. ("THI") make the following limited warranties. These limited warranties extend to the original consumer purchaser or any person receiving this set as a gift from the original consumer purchaser and to no other purchaser or transferee.

**Limited Ninety (90) Day Warranty**

TACP and THI warrant this product against defects in materials or workmanship or a period of ninety (90) days after the date of original retail purchase. During this period TACP and THI will repair a defective product or part, without charge to you. You must deliver the entire product to a TACP/THI Service Center. You pay for all transportation and insurance charges for the set to and from the Service Center.

**Limited One (1) Year Warranty**

TACP and THI further warrant the parts in this product against defects in materials or workmanship for a period of one year after the date of original retail purchase. During this period, TACP and THI will replace a defective part without charge to you, except that if a defective part is replaced after ninety (90) days from the date of the original retail purchase you pay labor charges involved in the replacement. You must also deliver the entire product to one of the TACP/THI Service Centers. You pay for all transportation and insurance charges for the set to and from the Service Center.

**Owner's Manual and Registration Card**

You should read the owner's manual thoroughly before operating this product. You should also insure that your name and address are on file as owners of a TACP/THI product by completing and mailing the enclosed registration card within ten days after you, or the person who has given you this product as a gift, purchased this product. This is one way to enable TACP/THI to establish the date of purchase of the product, as well as to provide you with better customer service and improved products. Failure to return the card will not affect your rights under this warranty so long as you retain other proof of purchase such as a bill of sale.

Step-By-Step Procedures - How To Obtain Warranty Service

**IN THE CONTINENTAL  
UNITED STATES...**

Should your unit require  
service or parts, CALL



**HAWAII**

Toshiba Hawaii Inc.  
Service Department  
327 Kamakee Street  
Honolulu, HI 96814  
Phone Number:  
(808) 521-5377

**IN THE EVENT A PROBLEM SHOULD DEVELOP WITH YOUR PRODUCT, PLEASE PROCEED AS FOLLOWS:**

- (1) Refer to the troubleshooting guide in your owner's manual. This check list may solve your problem.
- (2) Contact one of the TACP/THI Service Centers listed below for warranty service or call the TACP toll free number 1-800-631-3811 within thirty (30) days after you find a defective product or part.
- (3) Arrange for the delivery of the product to the Authorized TACP/THI Service Center. Products shipped to the Service Center must be insured

- and safely and securely packed, preferably in the original shipping carton, and a letter explaining the defect and also a copy of the bill of sale or other proof of purchase must be enclosed. All transportation and insurance charges must be prepaid by you. (See Packing and Shipping instructions on TOSHIBA SERVICE PROCEDURE.)
- (4) If you have any question about service, please contact one of the following TACP/THI Service Centers:

**EAST**

82 Totowa Road  
Wayne, NJ 07470  
Phone Number:  
(201) 628-8000

**SOUTHEAST**

490 Armour Circle,  
N. E.  
Atlanta, GA 30324  
Phone Number:  
(404) 872-6955

**MIDWEST**

1010 Johnson Drive  
Buffalo Grove, IL  
60089  
Phone Number:  
(708) 541-9400

**SOUTHWEST**

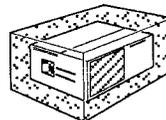
1421 Champion Drive  
Suite 304  
Carrollton, TX 75006  
Phone Number:  
(214) 243-1367

**WEST**

5490E, Francis Street,  
Ontario, CA 91761  
Phone Number:  
(714) 988-5303

**IMPORTANT: PACKING AND SHIPPING INSTRUCTIONS**

When you send the product to a service center, you must use the original carton box and packing material, then insert the original carton box containing the unit into another carton, using more packing material.



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