

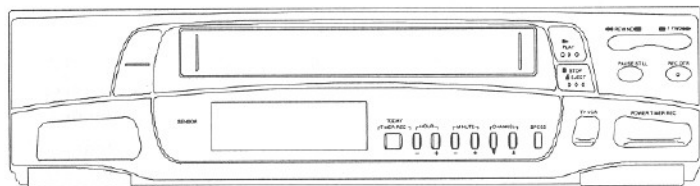
# OWNER'S MANUAL

# VIDEO CASSETTE RECORDER 6470

# Symphonic

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VHS

Please read before using this equipment

**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



**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.



THIS SYMBOL INDICATES THAT DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THIS UNIT.



THIS SYMBOL INDICATES THAT THERE ARE IMPORTANT OPERATING AND MAINTENANCE INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.

The important note 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 this video product 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 video product manufacturer as they may cause hazards.
7. Water and Moisture-Do not use this video product 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 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. 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. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
9. Ventilation-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 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 video product 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 products intended to operate from battery power, or other sources, refer to the operating instructions.
11. Grounding or Polarization-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.
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.
13. Outdoor Antenna Grounding-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. Article 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with regard 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

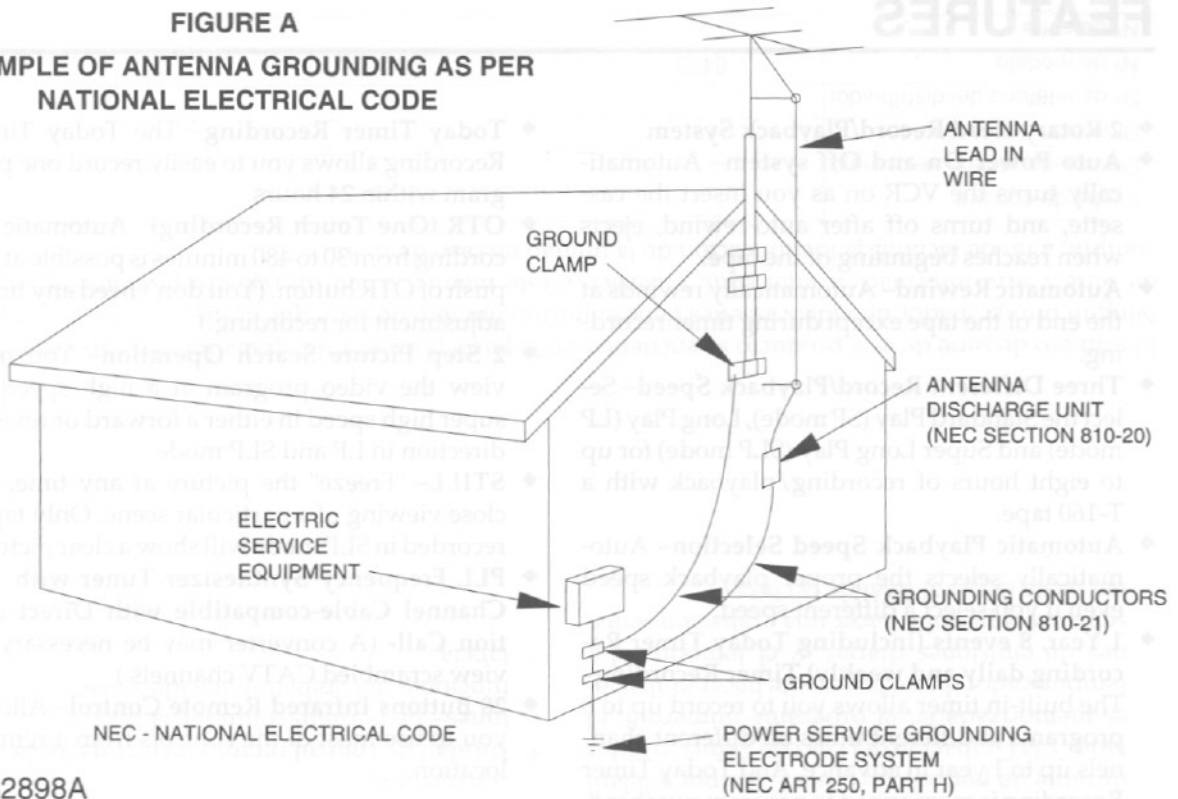
PORTABLE CART WARNING  
(Symbol provided by RETAC)



S3125A

**FIGURE A**

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



**S2898A**

antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. (Fig. A)

4. **Lightning**-For added protection for this video product 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.
5. **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.
6. **Overloading**-Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
7. **Object and Liquid Entry**-Never push objects of any kind into this video product through any 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.
8. **Servicing**-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.
9. **Damage Requiring Service**-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 or plug 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 damaged in any way.
  - f. When the video product 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 or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.
  21. **Safety Check**-Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks to determine that the video product is in proper operating condition.
  22. **Heat**-This video products should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

# FEATURES

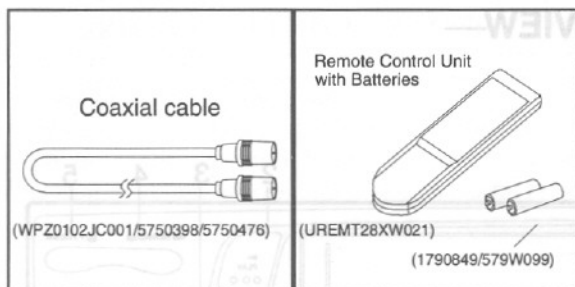
- ◆ **2 Rotary Head Record/Playback System**
- ◆ **Auto Power On and Off system**– Automatically turns the VCR on as you insert the cassette, and turns off after auto-rewind, ejects when reaches beginning of the tape.
- ◆ **Automatic Rewind**– Automatically rewinds at the end of the tape except during timer recording.
- ◆ **Three Different Record/Playback Speed**– Select the Standard Play (SP mode), Long Play (LP mode) and Super Long Play (SLP mode) for up to eight hours of recording/playback with a T-160 tape.
- ◆ **Automatic Playback Speed Selection**– Automatically selects the proper playback speed even if you select a different speed.
- ◆ **1 Year, 8 events (including Today Timer Recording 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. And Today Timer Recording is memorized to program number 8. The daily timer will allow recordings to be made of daily broadcasts and the weekly timer will allow recording to be made once a week up to the end of the tape.
- ◆ **Today Timer Recording**– The Today Timer Recording allows you to easily record one program within 24 hours.
- ◆ **OTR (One Touch Recording)**– Automatic recording from 30 to 480 minutes is possible at the push of OTR button. (You don't need any timer adjustment for recording.)
- ◆ **2 Step Picture Search Operation**– You may view the 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 clear picture.
- ◆ **PLL Frequency Synthesizer Tuner with 155 Channel Cable-compatible with Direct station Call**– (A converter may be necessary to view scrambled CATV channels.)
- ◆ **28 Buttons Infrared Remote Control**– Allows you to use most of the controls from a remote location.

The serial number of this product may be found on the back of the VCR. 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.	6470
Serial No.	

# SUPPLIED ACCESSORIES

UREMT36 SR014



**Note:** Depending on your antenna system, you will need a different type of Combiner (Mixer) and Separator (Splitter). Contact your local electronics store for these items.

## PRECAUTIONS

### LOCATION

For safe operation and satisfactory performance of your 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 VCR. 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 VCR near strong magnetic fields.
- ◆ Do not move the unit from a cold to a hot place or vice versa.

### 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 AC wall outlet. Grasp it by the plug.
- ◆ If, by accident, water is spilled on your VCR, unplug the power cord immediately and take the unit to a Funai authorized service center for servicing.
- ◆ Do not put your fingers or objects into the VCR cassette holder.
- ◆ Do not place anything directly on top of the VCR.

### 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. Do not use the VCR until its inside is dry.

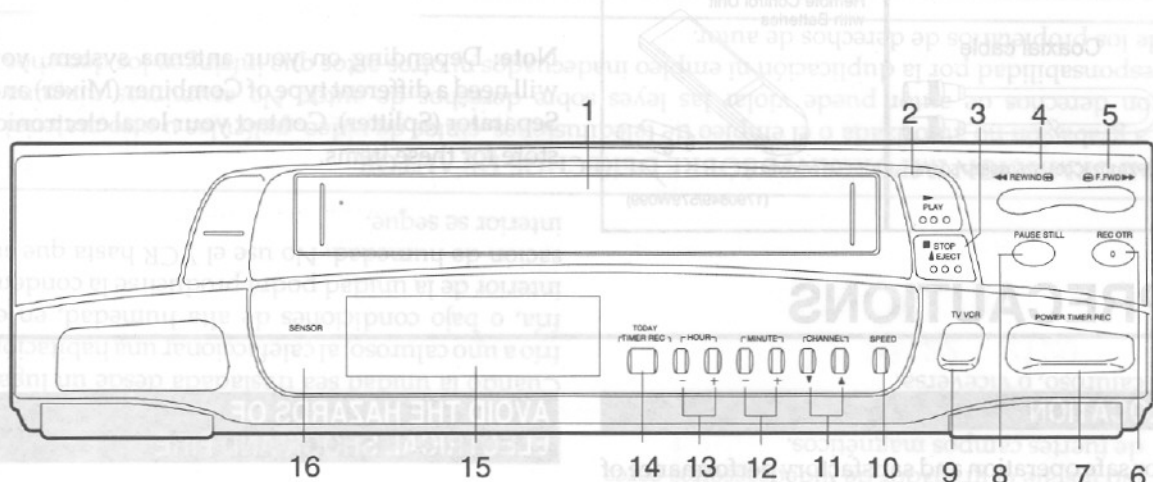
**FCC WARNING-** This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized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

### IMPORTANT COPYRIGHT INFORMATION

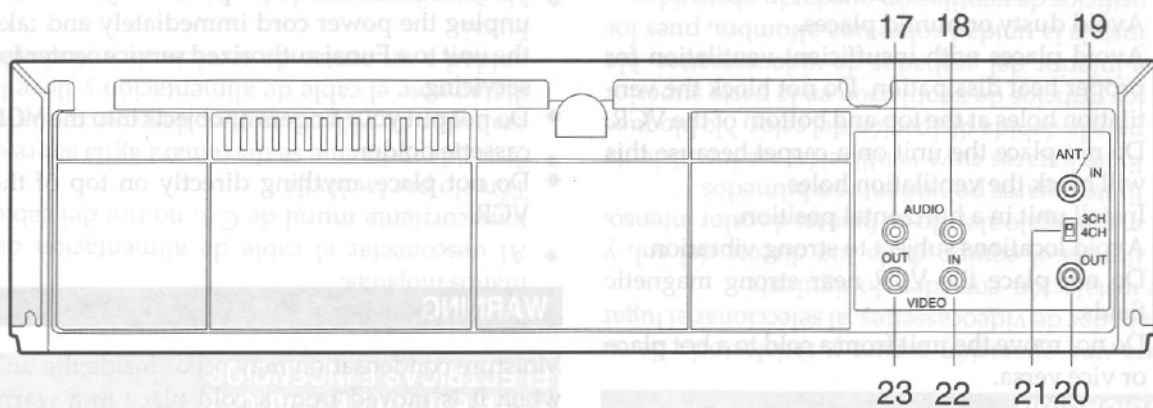
Unauthorized recording or use of broadcast television programming, video tape, film or other copyrighted material may violate applicable copyright laws. We assume no responsibility for the unauthorized duplication, use or other acts which infringe upon the rights of copyright owners.

# OPERATING CONTROLS AND FUNCTIONS

## —FRONT VIEW—



## —REAR VIEW AND TERMINALS—



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 use of this equipment. The user assumes the responsibility for the use of this equipment.

- 1 **CASSETTE COMPARTMENT**
- 2 **PLAY button**— Press to begin playback of a tape.
- 3 **STOP/EJECT button**— Press to stop tape motion. Press to remove tape from VCR.
- 4 **REWIND button**— Press to rewind tape or to view video in reverse during play mode at a faster than normal speed. Press PLAY button to return VCR to normal playback speed.
- 5 **F.FWD button**— Press to advance tape or to view video in forward direction during play mode at a faster than normal speed. Press PLAY button to return VCR to normal playback speed.
- 6 **REC/OTR button**— Press to begin manual recording and activate one touch recording mode.
- 7 **POWER/TIMER REC button**— Press to turn VCR on and off. Press to activate the automatic timer recording.
- 8 **PAUSE/STILL button**— Press to temporarily stop tape during playback or manual recording.
- 9 **TV/VCR button**— Press to select the signal source that your TV will receive.  
VCR position: to view playback, to monitor video recordings or watch TV using the VCR tuner.  
TV position: to watch TV or to view one program while recording another.
- 10 **SPEED button**— Press to set desired tape speed.
- 11 **CHANNEL buttons**— Press to select the channel for viewing or recording.
- 12 **MINUTE buttons**— Press to select desired minute by pressing "+" or "-" button in the Today Timer Rec mode.
- 13 **HOUR buttons**— Press to select desired hour by pressing "+" or "-" button in the Today Timer Rec mode.
- 14 **TODAY TIMER REC button**— Press to set Today Timer Recording.
- 15 **DIGITAL DISPLAY**— Displays the clock, timer recording, counter and channel etc.
- 16 **REMOTE SENSOR window**— Receives the infrared control signals from the handheld remote control unit.
- 17 **AUDIO OUT jack**— For connection to the line in jack of your audio equipment or another VCR.
- 18 **AUDIO IN jack**— For connection to audio output jack of your audio equipment or another VCR.
- 19 **ANT. IN terminal**— For connection to an antenna or CATV.
- 20 **ANT. OUT terminal**— For connection to ANTENNA IN terminal of your TV.
- 21 **3CH/4CH selector switch**— Use to select the video output channel (3 or 4) for playback from the VCR.
- 22 **VIDEO IN jack**— For connection to video output jack of your video camera or another VCR.
- 23 **VIDEO OUT jack**— For connection to the video in jack of video processor or another VCR.



OPERACION A CONTROL REMOTO

15 F.FWD button— Press to rapidly advance the tape of view the picture rapidly in forward direction during playback.

14 PLAY button— Press to playback the tape.

13 STOP button— Press to stop the tape.

12 PAUSE/STILL button— Press to temporarily stop the tape during recording or to view a still picture during playback.

11 Botón para fijar la memoria de canal.

10 Botón COUNTER MEMORY— Presione este botón para fijar la memoria de canal.

9 Botón RESET— Presione este botón para seleccionar el modo de programar canales TV o CATV.

8 Botón COUNTER MEMORY— Presione este botón para fijar la memoria de canal.

7 Botón POWER/TIMER REC— Presione este botón para activar el modo de grabación automática o para encender y apagar el VCR.

6 Botón REC/OTR— Presione este botón para comenzar la grabación manual o para activar el modo de grabación de un toque.

5 Botón F.FWD— Presione este botón para avanzar la cinta o para ver el video en dirección hacia adelante durante el modo de reproducción a una velocidad más rápida que la normal. Presione el botón PLAY para volver a la velocidad normal de reproducción.

4 Botón REWIND— Presione este botón para retroceder la cinta o para ver el video en reversa durante el modo de reproducción a una velocidad más rápida que la normal. Presione el botón PLAY para volver a la velocidad normal de reproducción.

3 Botón STOP/EJECT— Presione este botón para detener el movimiento de la cinta. Presione este botón para sacar la cinta del VCR.

2 Botón PLAY— Presione este botón para comenzar la reproducción de una cinta.

1 Compartimiento de cintas

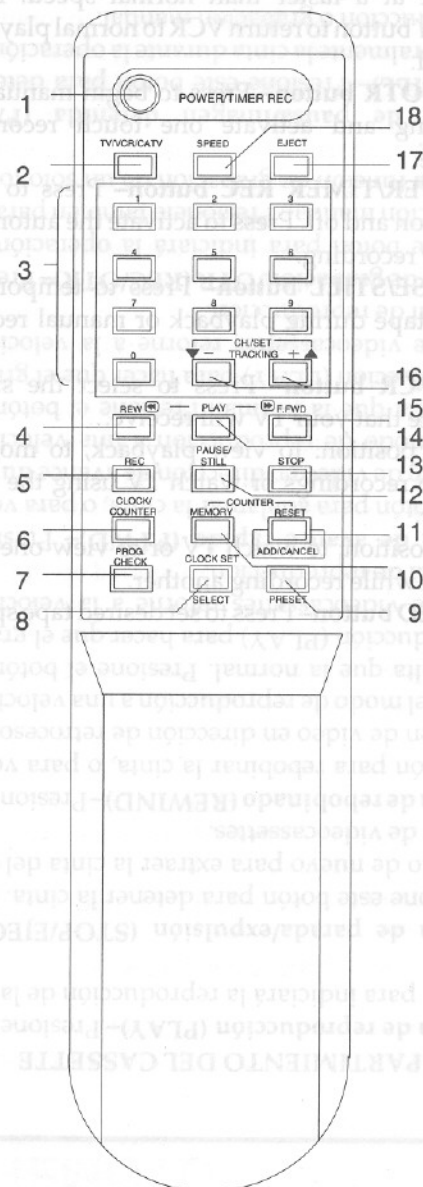
# REMOTE CONTROL OPERATION

You can operate most of your VCR's functions from the Remote Control (included). The buttons on the Remote Control have the same functions as the corresponding buttons on the VCR.

## HOW TO USE THE REMOTE CONTROL

- 1 **POWER/TIMER REC button**— Press to turn VCR on and off. Press to activate the automatic timer recording.
- 2 **TV/VCR/CATV button**— Press to select TV or VCR mode.  
Press to select TV or CATV (Preset mode, See No.9)
- 3 **NUMBER buttons**— Press to select desired channels and to enter a digit for setting program. They cannot be used to set desired channel during Timer Recording. To select channel from 1 to 9, first press "0" button then 1 to 9.
- 4 **REW button**— Press to rewind the tape or to view the picture rapidly in reverse, during the playback mode. (Rewind Search)
- 5 **REC buttons**— Press to begin recording.
- 6 **CLOCK/COUNTER button**— Press to alternate between clock and counter display modes.
- 7 **PROG. CHECK button**— Press to set the program mode on and off.
- 8 **CLOCK SET button**— Press to set the Clock Setting mode on and off.  
**SELECT button**— Press to determine the entered digits during clock and timer setting.
- 9 **PRESET button**— Press to select TV or CATV channel preset mode.
- 10 **COUNTER MEMORY button**— Press to set counter memory on and off.
- 11 **COUNTER RESET button**— Press to reset counter to 0000.  
**ADD/CANCEL button**— Press to add or cancel channel numbers. Press to cancel a timer program.
- 12 **PAUSE/STILL button**— Press to temporarily stop the tape during recording or to view a still picture during playback.
- 13 **STOP button**— Press to stop the tape.
- 14 **PLAY button**— Press to playback the tape.
- 15 **F.FWD button**— Press to rapidly advance the tape, or view the picture rapidly in forward during playback. (Forward Search)

- 16 **CHANNEL buttons**— Press to select desired channel by using either "▲" or "▼" button. They cannot be used during Timer Recording.
- TRACKING buttons**— Press "+" or "-" to minimize video 'noise' (lines or dots on screen) during tape playback.
- SET buttons**— Press to adjust time using "+" or "-" button.
- 17 **EJECT button**— Press to remove tape from VCR.
- 18 **SPEED button**— Press to set desired recording speed. (SP/LP/SLP)



## INSTALLING THE BATTERIES

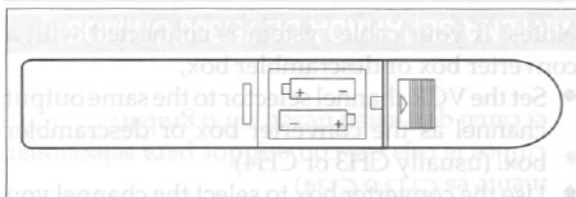
**1**

Open the battery compartment cover by pressing the cover on the remote unit in the direction of the arrow.



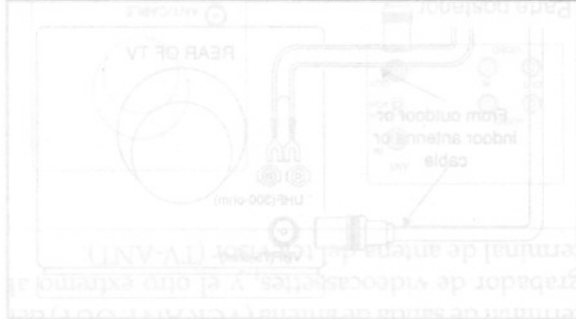
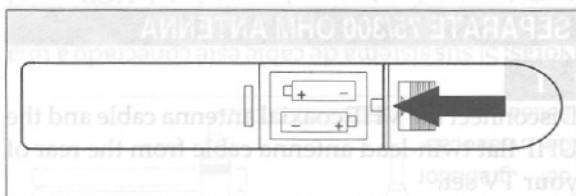
**2**

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



**3**

Replace the cover.



**3**

system installer's attention to Article 820-40 of the NEC and in particular specifies that the cable ground shall be connected as close to the point of cable entry as practical.

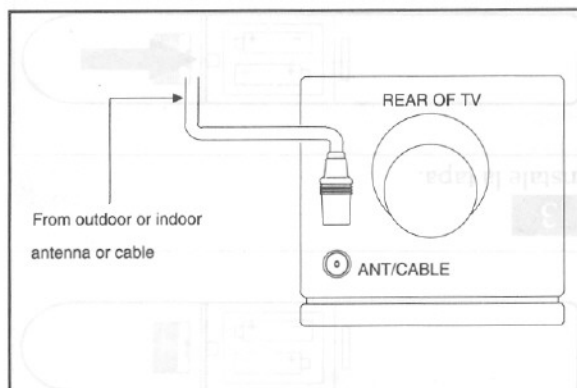
# CABLE CONNECTIONS

For some of the most common types of connections, see the following drawings. For any further complex connections, please contact your local dealer or other qualified persons. (You may need additional accessories which are not supplied).

## COMBINATION VHF/UHF ANTENNA, CATV COAXIAL CABLE

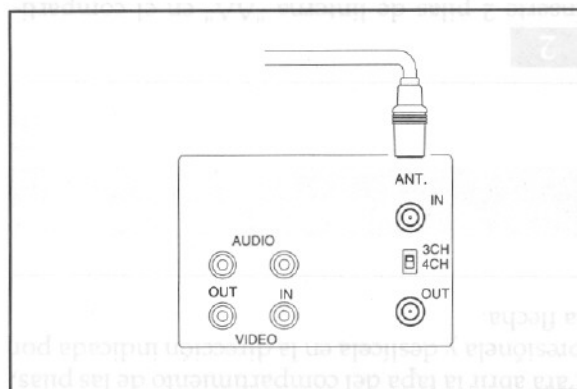
1

Disconnect the round 75-ohm combination VHF/UHF antenna cable or CATV coaxial cable from the rear of your TV set.



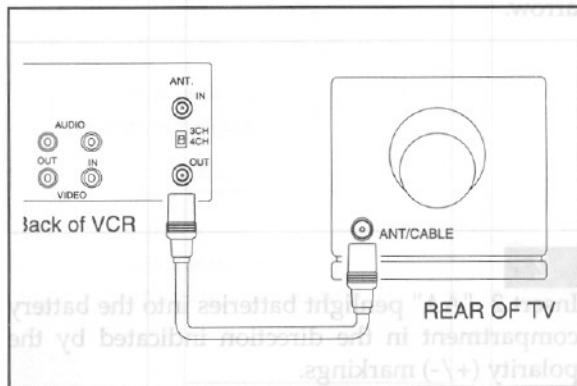
2

Reconnect the 75-ohm cable to ANT-IN terminal of the VCR.



3

Connect one end of the supplied coaxial cable to VCR ANT-OUT and other end to the TV-ANT terminal.



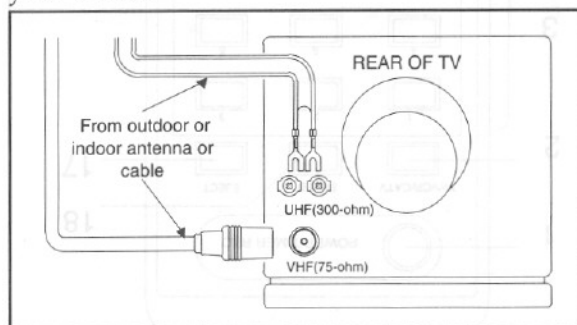
**Notes:** If your cable system is connected with a converter box or descrambler box,

- ◆ Set the VCR channel selector to the same output channel as the converter box or descrambler box. (usually CH3 or CH4)
- ◆ Use the converter box to select the channel you want to watch or record.

## SEPARATE 75/300 OHM ANTENNA

1

Disconnect the VHF coaxial antenna cable and the UHF flat twin-lead antenna cable from the rear of your TV set.

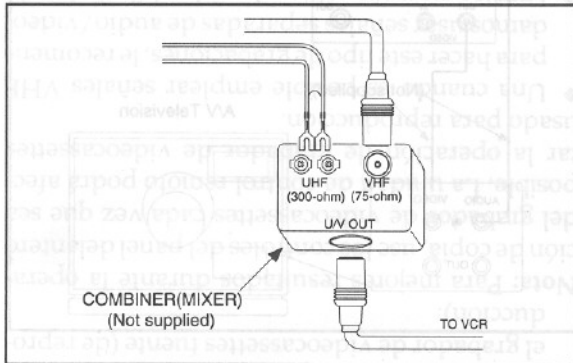


### Note to CATV system installer

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.

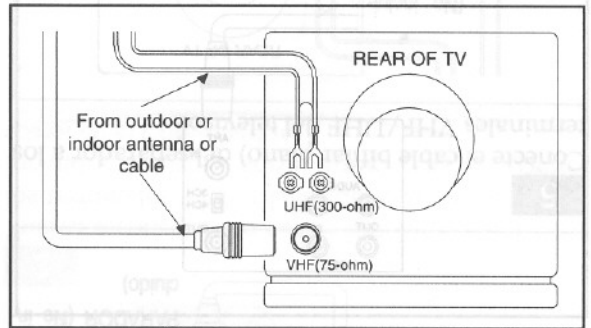
2

Reconnect those cables to the Combiner (not supplied) VHF and UHF terminals, and then connect one end of coaxial cable to the Combiner.



5

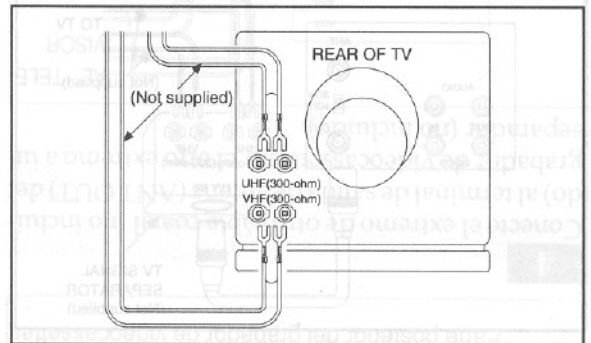
Connect the Separator's coaxial end to the TV's VHF terminal, and flat twin-lead end to the TV's UHF terminal.



### SEPARATE 300 OHM ANTENNA

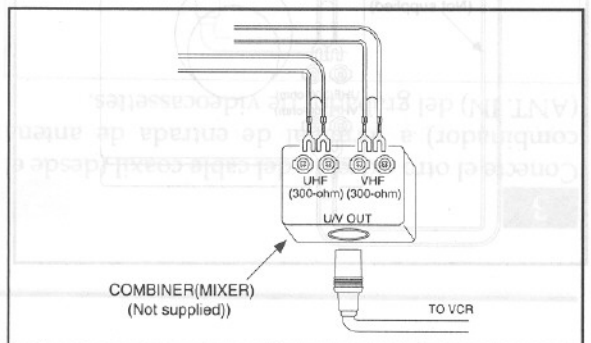
1

Disconnect the 300-ohm (flat twin-lead) antenna cables from the rear of your TV.



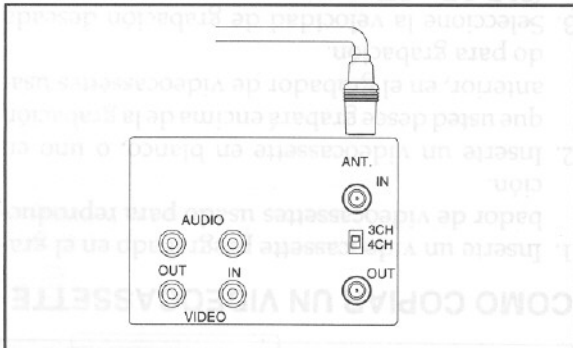
2

Reconnect the flat twin-lead cables to the Combiner (not supplied) VHF and UHF terminals, and then connect one end of the coaxial cable to the Combiner.



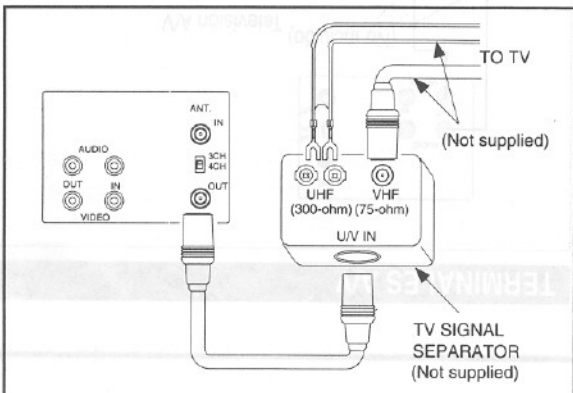
3

Connect the coaxial cable (from the Combiner) to the VCR's ANT IN terminal.



4

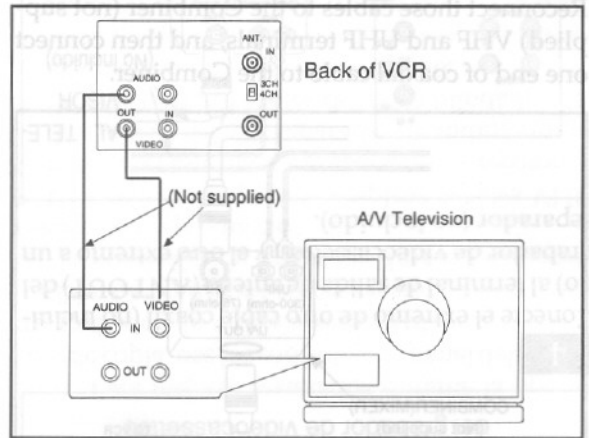
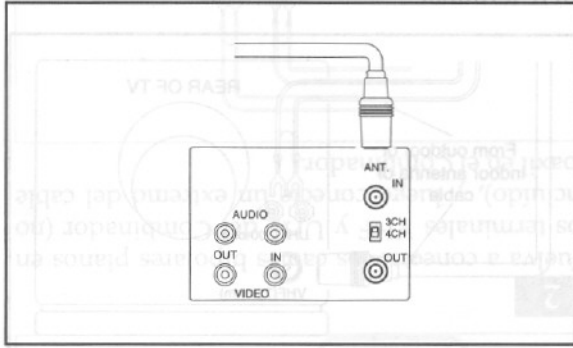
Connect another coaxial cable (not supplied) to the VCR's ANT OUT terminal and connect the other end to a TV Signal Separator (not supplied).



## AV TERMINALS

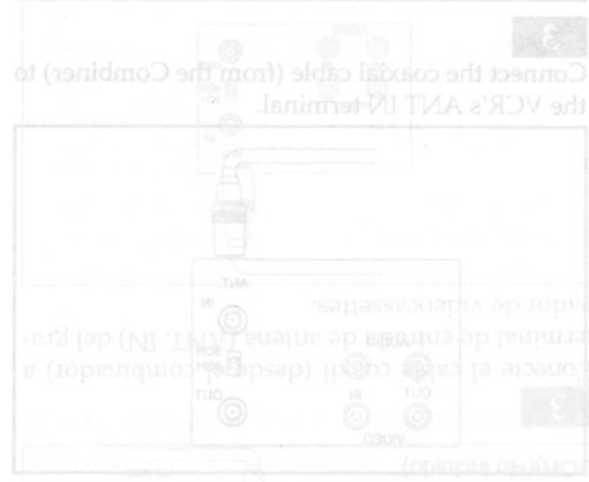
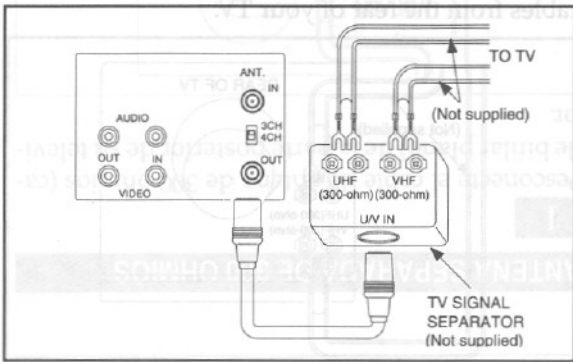
3

Connect the other end of the coaxial cable (from the Combiner) to the VCR ANT IN terminal.



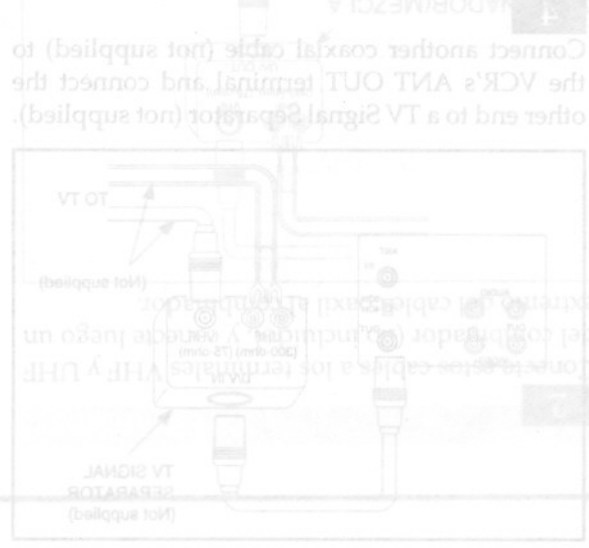
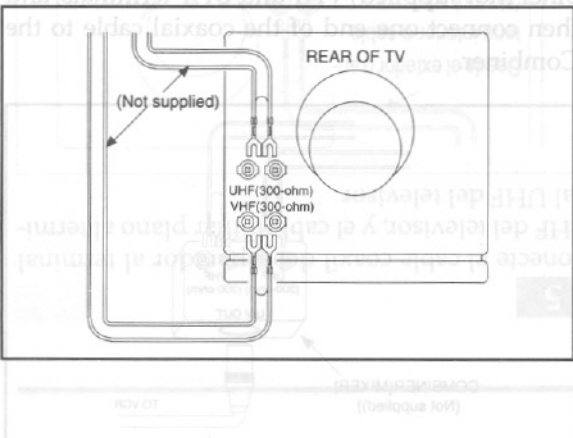
4

Connect another coaxial cable (not supplied) to the VCR's ANT OUT terminal and connect the other end to a TV Signal Separator (not supplied).



5

Connect the Separator's flat twin-lead end to the TV's VHF/UHF terminals.



## TO COPY A VIDEO CASSETTE (Requires two VCR's)

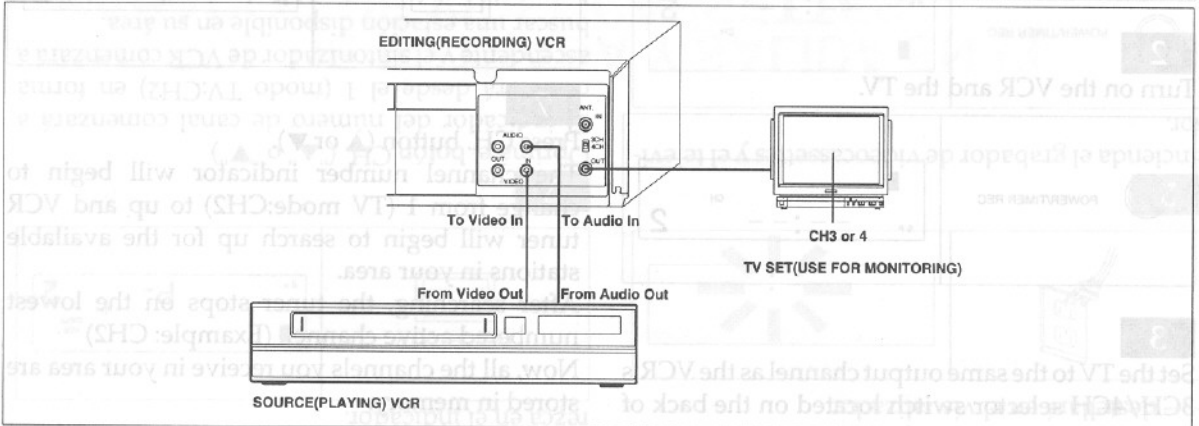
1. Insert a pre-recorded video cassette into the source(playing) VCR.
2. Insert a blank video cassette, or one you want to record over, into the editing(recording) VCR cassette compartment.
3. Press SPEED button to select the desired recording speed (SLP, LP or SP).
4. Press REC button on the editing(recording) VCR.
5. Begin playback of the tape in the source(playing) VCR.

**Note:** For best results during dubbing, use the VCR's front panel controls whenever possible. The remote control might affect the playback VCR's operation.

- ◆ You can use VHF signals to make such recordings, but separate audio/video signals are preferred.
- ◆ Always use video-quality shielded cables with RCA-type connectors. Standard audio cables are not recommended.
- ◆ You can use a video disc player, satellite receiver, or other audio/video component with A/V outputs in place of the playback VCR.

## TO MONITOR THE RECORDING

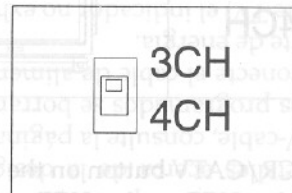
1. Turn on the TV connected to the editing VCR, and set it to the same output channel as the editing VCR 3CH/4CH switch.
2. Press TV/VCR/CATV button on the editing VCR so that VCR appears on the display.



## CONTROLLING VCR INPUT & OUTPUT

### VIDEO OUTPUT CHANNEL SETTING (BACK OF VCR)

When the VCR is in the playback mode, or when the TV/VCR/CATV button is in the VCR position, your TV will receive the signals from the VCR on either channel 3 or 4. Set the 3CH/4CH selector switch to the station that is not used for normal broadcasts in your area; then set your TV to that same channel when viewing from the VCR. The RF converter output of this unit is set to VHF channel 3 prior in factory.



### INPUT SELECT

Note: When the AUDIO IN/VIDEO IN jacks are used, the tuner is automatically disconnected. Therefore, be sure to disconnect the cables from the VCR's AUDIO IN /VIDEO IN jacks when copying is completed.

# PREPARATION FOR USE

## CHANNEL MEMORY PROGRAMMING

You can program the tuner to scan only the channels you receive in your area. See page 34 for channel designations.

- ◆ Programmed channels are erased when you disconnect the power cord or if a power failure occurs.
- ◆ In TV mode, the indicator will not display TV.

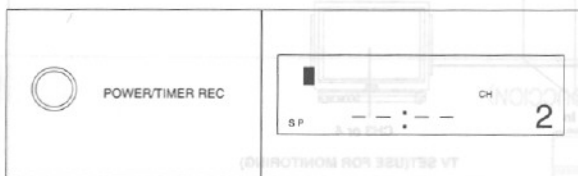
**1**

Plug the VCR power cord into a standard AC outlet. The display flashes --:--.



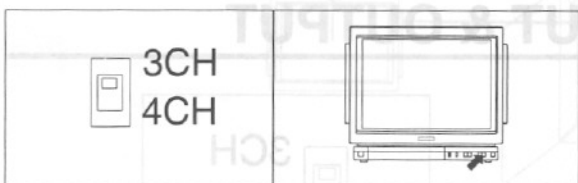
**2**

Turn on the VCR and the TV.



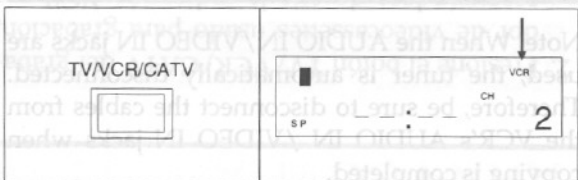
**3**

Set the TV to the same output channel as the VCR's 3CH/4CH selector switch located on the back of the VCR.



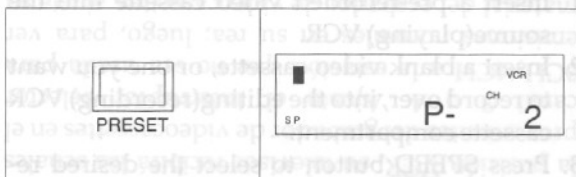
**4**

Press TV/VCR/CATV button on the remote control unit to select VCR, so that VCR appears on the display.



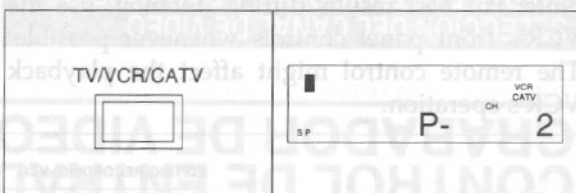
**5**

Press PRESET button.



**6**

If you use CATV, press TV/VCR/CATV button on the remote control unit to select CATV, so that CATV appears on the display.



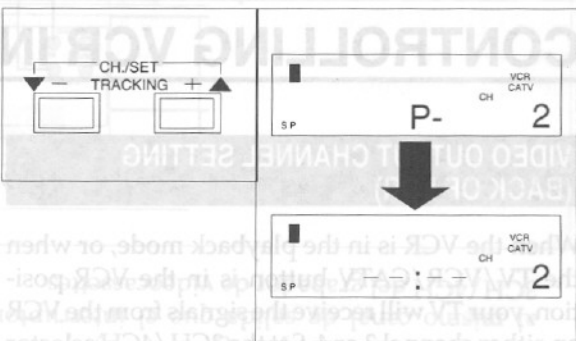
**7**

Press CH. button (▲ or ▼).

The channel number indicator will begin to change from 1 (TV mode:CH2) to up and VCR tuner will begin to search up for the available stations in your area.

After searching, the tuner stops on the lowest numbered active channel. (Example: CH2)

Now, all the channels you receive in your area are stored in memory.



- ◆ If you want to recall the selected channels, you can select the desired channel directly by CH. button (▲ or ▼) on the remote control unit.

## DELETING PRESET CHANNELS

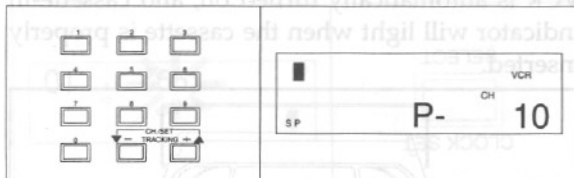
**1**

Press PRESET button.



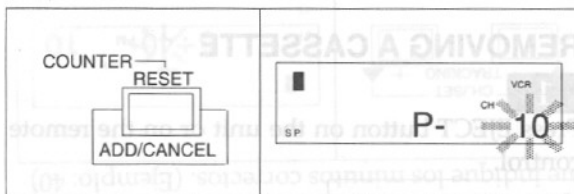
**2**

Enter the desired channel by using the remote control number buttons. You must precede single-digit channel numbers with a zero (02, 03, 04 and so on).



**3**

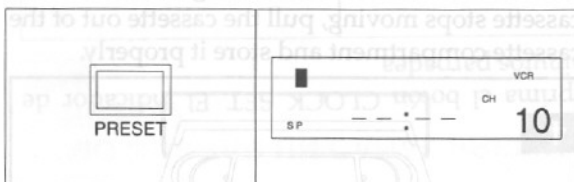
Press CANCEL button. Channel indicator flashes. Repeat steps [2] and [3] for each program you want to erase.



**4**

Press PRESET button. The channel indicator stops flashing.

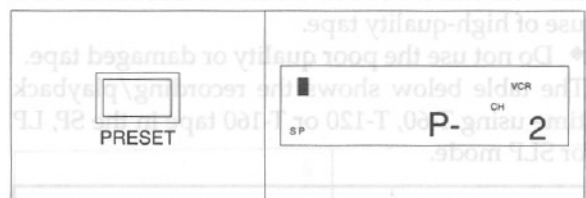
Press CHANNEL ▲ or ▼ button on either the remote control or the VCR to erase the channel number. Now, channel 10 is erased.



## ADDING PRESET CHANNELS

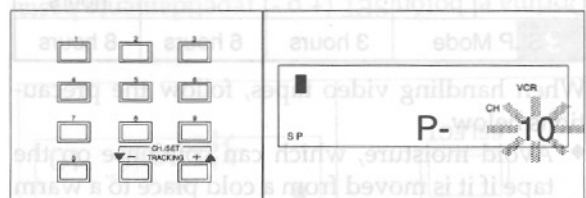
**1**

Press PRESET button.



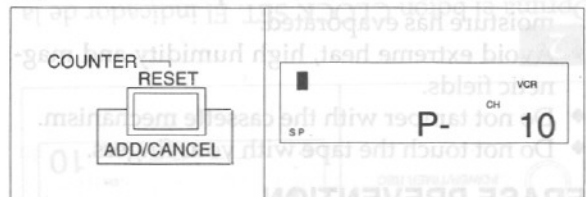
**2**

Enter the desired channel by using the remote control number buttons. You must precede single-digit channel numbers with a zero (02, 03, 04 and so on).



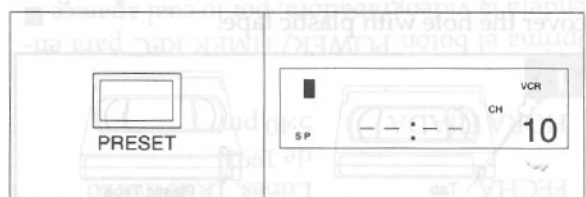
**3**

Press ADD button. Channel indicator stops flashing.



**4**

Press PRESET button.



## VIDEO CASSETTE

This VCR will operate with any cassette that has the VHS mark. For best result we recommend the use of high-quality tape.

◆ Do not use the poor quality or damaged tape. The table below shows the recording/playback time using T-60, T-120 or T-160 tape in the SP, LP or SLP mode.

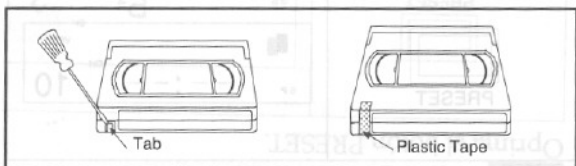
MODE	CASSETTE		
	T-60	T-120	T-160
SP Mode	1 hour	2 hours	2-2/3 hours
LP Mode	2 hours	4 hours	5-1/3 hours
SLP Mode	3 hours	6 hours	8 hours

When handling video tapes, follow the precautions below.

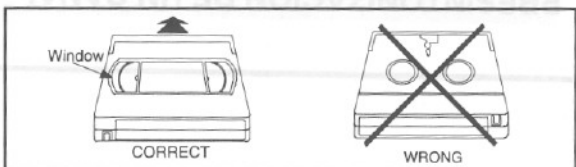
- ◆ Avoid moisture, which can condense on the tape if it is moved from a cold place to a warm place. Playing a tape that has moisture in it will damage the tape and your VCR. Before using a tape with these conditions, wait until the tape has warmed to room temperature and the moisture has evaporated.
- ◆ Avoid extreme heat, high humidity and magnetic fields.
- ◆ Do not tamper with the cassette mechanism.
- ◆ Do not touch the tape with your fingers.

## ERASE PREVENTION

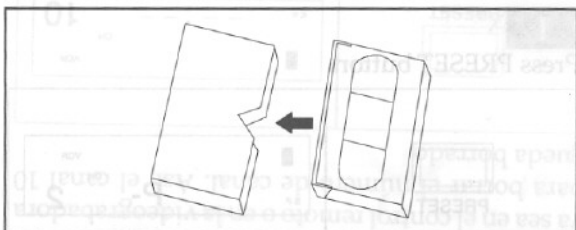
You may prevent accidental erasing of a tape by breaking off the tab on the back edge of the cassette. If you decide to record on the tape again, cover the hole with plastic tape.



Insert the cassette into the VCR as shown.

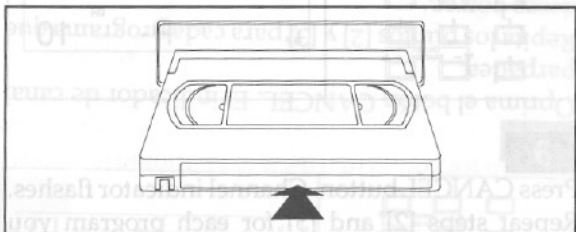


Store the cassette in its case as shown.



## INSERTING A CASSETTE

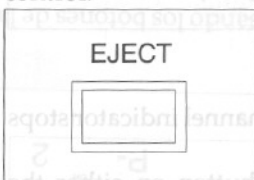
Insert the cassette in the direction as shown. Push in gently, but continuously, on the center-back of the cassette until it is drawn into the VCR. VCR is automatically turned on, and cassette-in indicator will light when the cassette is properly inserted.



## REMOVING A CASSETTE

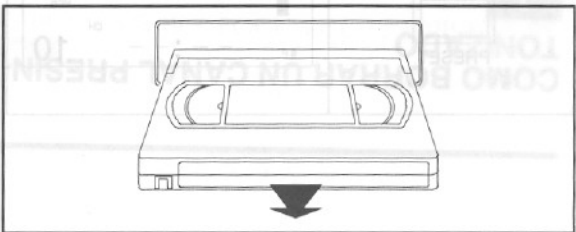
1

Press EJECT button on the unit or on the remote control.



2

When the cassette-in indicator goes off and the cassette stops moving, pull the cassette out of the cassette compartment and store it properly.

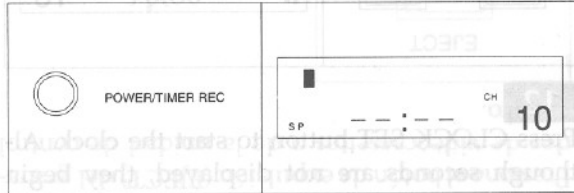


## SETTING THE CLOCK

In the example below, the clock is to be set to:  
 DATE Monday 1st March, 1993  
 SETTING TIME 5:40PM.

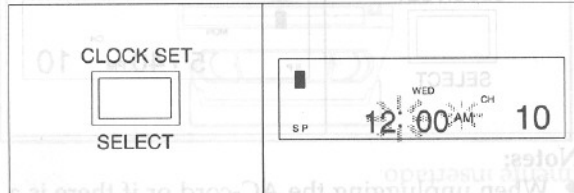
**1**

Press POWER /TIMER REC button to turn on the VCR so that the ■ appears on the display.



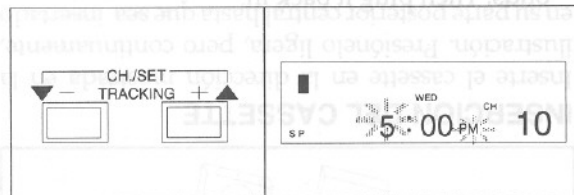
**2**

Press CLOCK SET button. The hours indicator flashes.



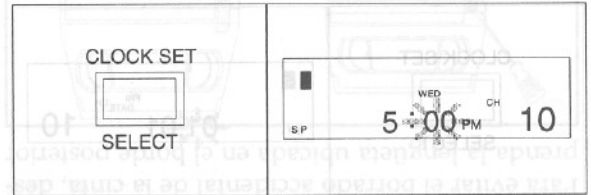
**3**

Press SET button ("+" or "-") repeatedly until the correct hour is indicated. (Example: 5,PM)



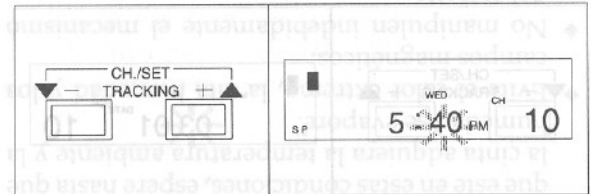
**4**

Press CLOCK SET button. The minutes indicator flashes.



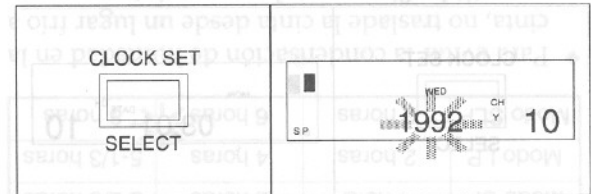
**5**

Press SET button ("+" or "-") repeatedly until the correct minute is indicated. (Example: 40)



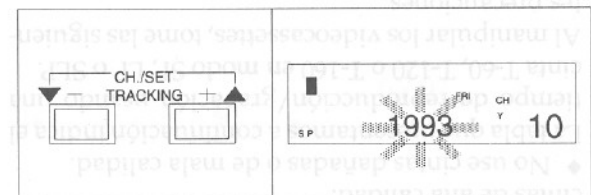
**6**

Press CLOCK SET button. The year indicator flashes.



**7**

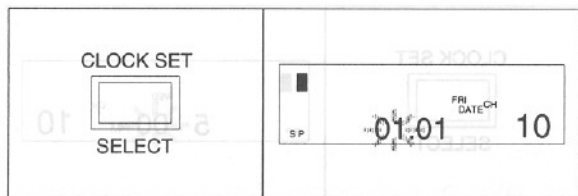
Press SET button ("+" or "-") repeatedly until the correct year is indicated. (Example: 1993)



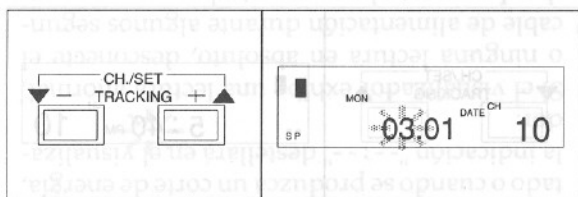
LOS VIDEOCASSETTES

**8**

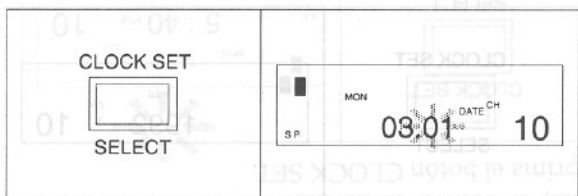
Press **CLOCK SET** button. The month indicator flashes.

**9**

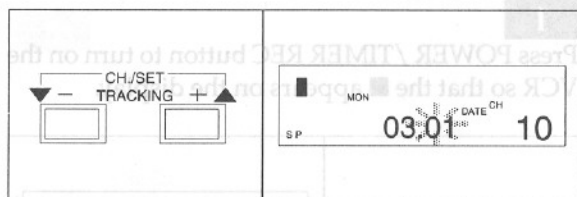
Press **SET** button ("+" or "-") repeatedly until the correct month is indicated. (Example: 03)

**10**

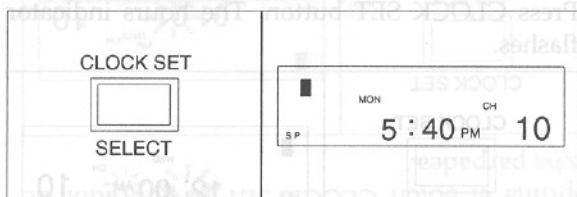
Press **CLOCK SET** button. The day indicator flashes.

**11**

Press **SET** button ("+" or "-") repeatedly until the correct day is indicated. (Example: 01)  
The day of the week will change automatically.

**12**

Press **CLOCK SET** button to start the clock. Although seconds are not displayed, they begin counting at 00 when you press **CLOCK SET** button.

**Notes:**

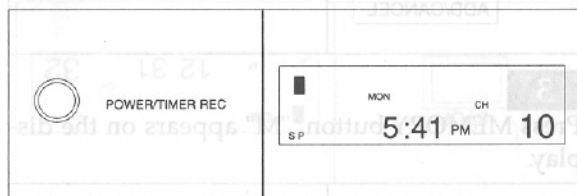
- ◆ When unplugging the AC-cord or if there is a power failure, "--:--" flashes on the display.
- ◆ If the display shows an abnormal reading or no reading, unplug the power cord for a few seconds. Then plug it back in.

# OPERATION

## VIEWING AND RECORDING THE SAME PROGRAM

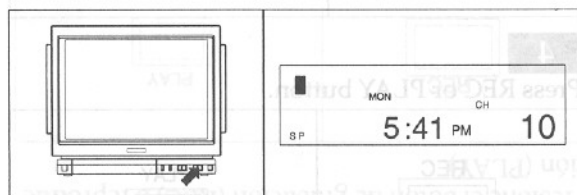
1

When the "☑" indicator is displayed, press POWER /TIMER REC button on the VCR or on the remote control so that the "☑" indicator disappears.



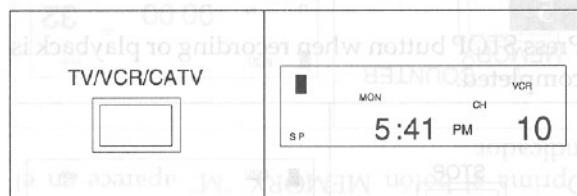
2

Turn on the TV and set the TV channel to the same output channel as the selector switch located on the back of the VCR. (CH 3 or 4)



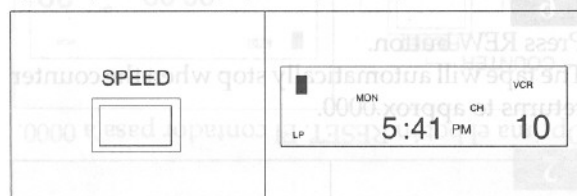
3

Press TV/VCR/CATV button on the remote control unit so that VCR appears on the display.



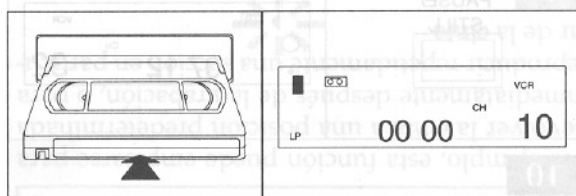
4

Press SPEED button to select the desired tape speed (SP-LP-SLP). (Example: LP)



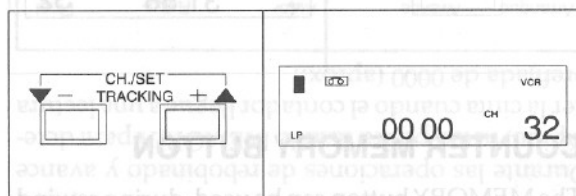
5

Insert a cassette with erasure prevention tab intact. When the tape is inserted, timer display will be changed to counter mode.



6

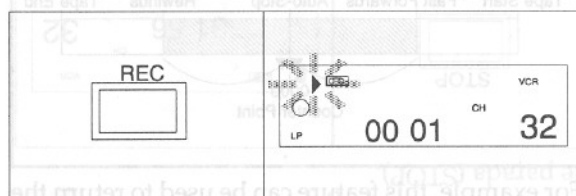
Select the program to be recorded by pressing the channel number buttons or the CH. "▲" or "▼" buttons on the remote control.



7

Press REC button.

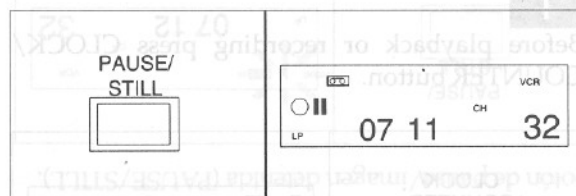
The red "O" indicator lights on the display.



To delete some materials from your recording,

8

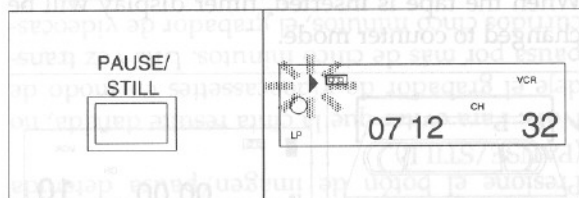
Press PAUSE button.



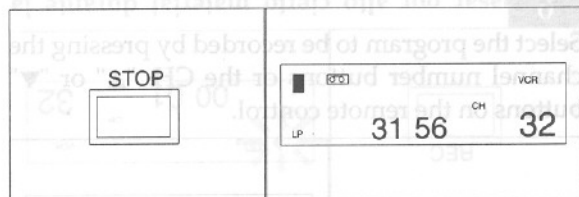
**Note:** To prevent tape damage, avoid leaving the VCR in the pause mode for more than five minutes. After five minutes, the VCR will automatically switch to the recording mode.

**9**

Press PAUSE button again to resume recording.

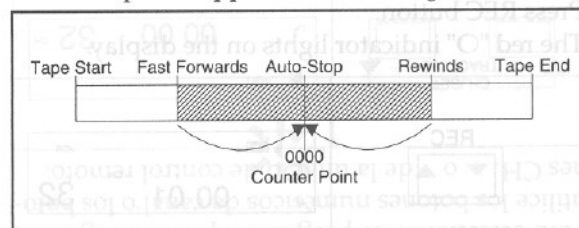
**10**

Press STOP button when recording is completed.



## COUNTER MEMORY BUTTON

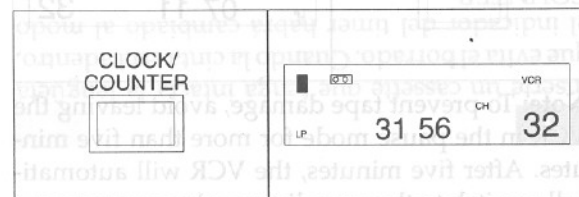
The MEMORY button can be used, during rewind, to automatically stop the tape when the counter reaches a preset approx.0000 reading.



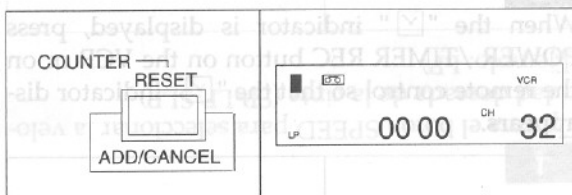
For example, this feature can be used to return the tape to a pre-selected position immediately after recording, or to repeatedly playback a certain portion of a tape.

**1**

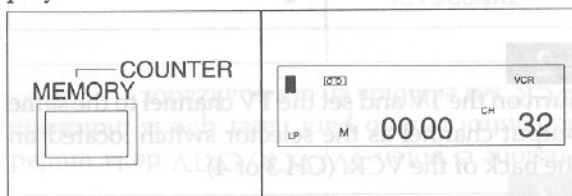
Before playback or recording press CLOCK/COUNTER button.

**2**

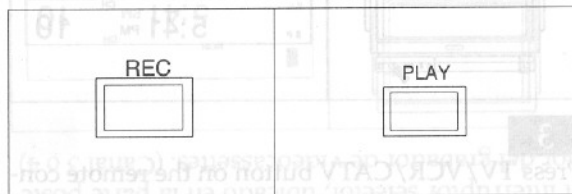
Press RESET button. The counter reset to 0000.

**3**

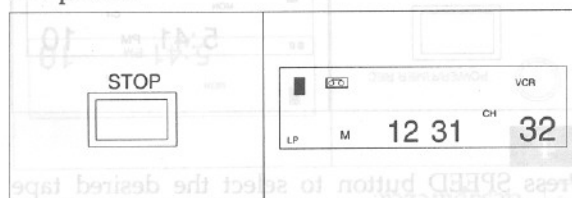
Press MEMORY button. "M" appears on the display.

**4**

Press REC or PLAY button.

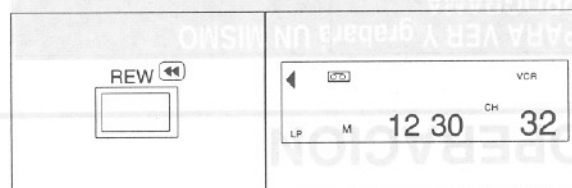
**5**

Press STOP button when recording or playback is completed.

**6**

Press REW button.

The tape will automatically stop when the counter returns to approx.0000.

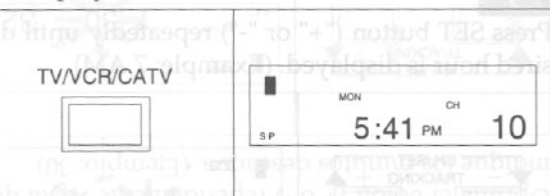


## RECORDING ONE PROGRAM WHEN VIEWING ANOTHER

You can record one program while viewing another. To start recording, follow steps [1] to [7] under "VIEWING AND RECORDING THE SAME PROGRAM" page 19.

**8**

Press TV/VCR/CATV button on the remote control unit to select TV so that "VCR" disappears on the display.



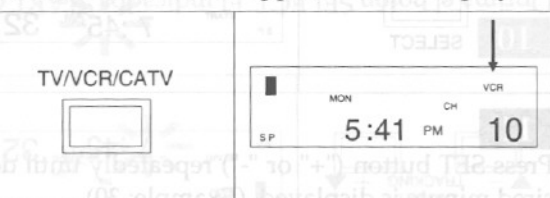
**9**

Set the TV to the channel you want to watch.

Monitor the progress of your recording.

**10**

Press TV/VCR/CATV button on the remote control unit so that "VCR" appears on the display.



**11**

Turn on the TV and set the TV channel to the same output channel as the switch located on the back of the VCR. (CH3 or 4)

**12**

Press STOP button when recording is completed.



## AUTOMATIC TIMER RECORDING

You may set the VCR to start and end a recording while you are away. You can set seven events to record on a specific day, daily or weekly within a 1 year period.

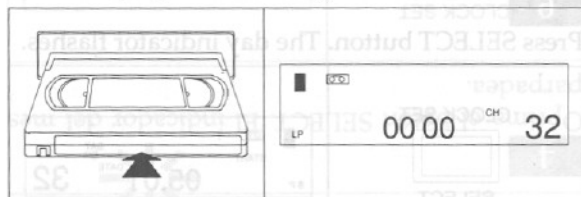
- ◆ Power must be turned on when setting the timer.
- ◆ Clock must be set to the correct time and date before setting the timer.

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

DATE Thursday 6th May, 1993  
 SETTING TIME from 7:30AM to 8:50AM  
 CHANNEL CH.16  
 TAPE SPEED LP

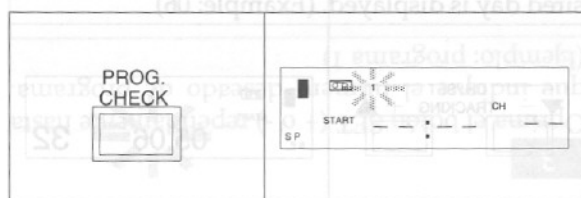
**1**

Insert a cassette tape with its safety tab in place, if necessary, rewind or fast forward the tape to the point at which you want to begin recording. Timer display will be changed to counter mode.



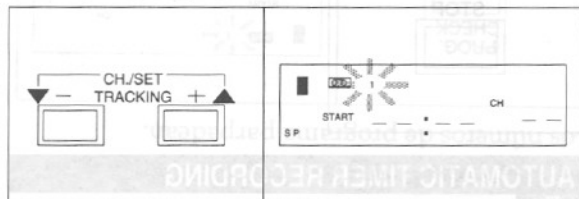
**2**

Press PROG. CHECK button. Program number flashes.

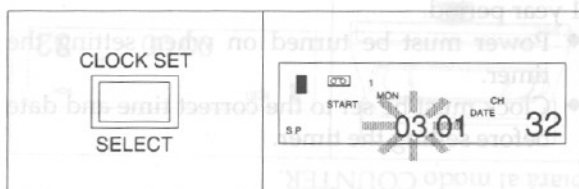


**3**

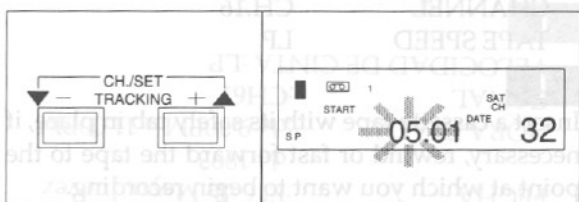
Press SET button ("+" or "-") repeatedly until desired program number is displayed.  
(Example: program 1)

**4**

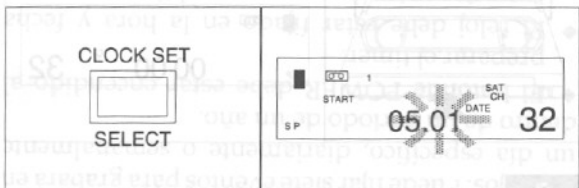
Press SELECT button. The month indicator flashes.

**5**

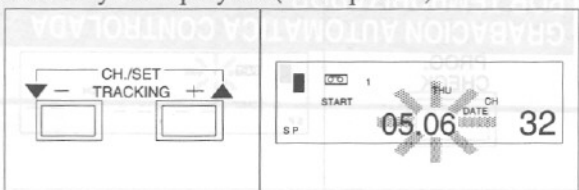
Press SET button ("+" or "-") repeatedly until desired month is displayed. (Example: 05)

**6**

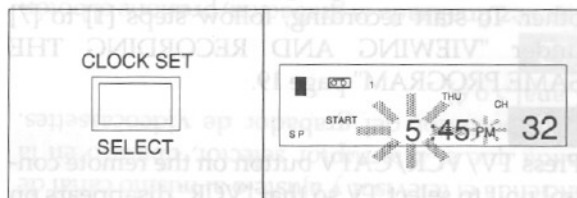
Press SELECT button. The day indicator flashes.

**7**

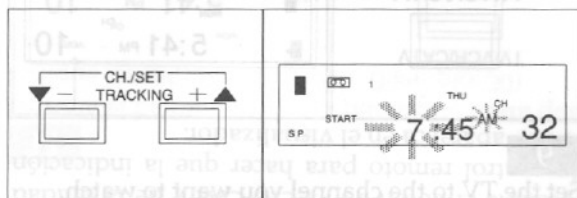
Press SET button ("+" or "-") repeatedly until desired day is displayed. (Example: 06)

**8**

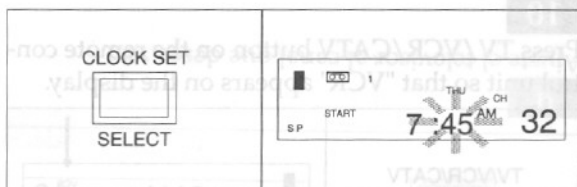
Press SELECT button. The START hours indicator flashes.

**9**

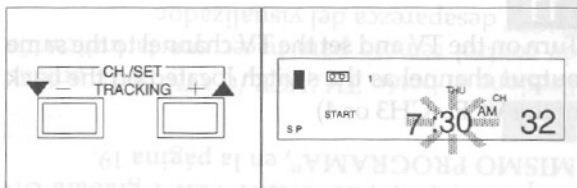
Press SET button ("+" or "-") repeatedly until desired hour is displayed. (Example: 7, AM)

**10**

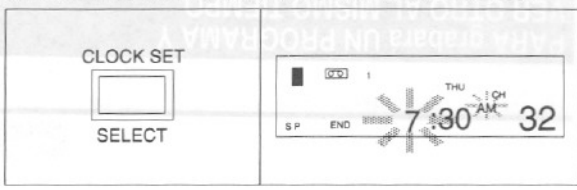
Press SELECT button. The START minutes indicator flashes.

**11**

Press SET button ("+" or "-") repeatedly until desired minute is displayed. (Example: 30)

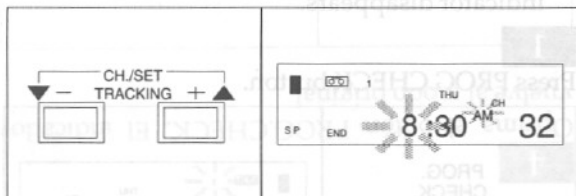
**12**

Press SELECT button. The END indicator illuminates and END hours indicator flashes.



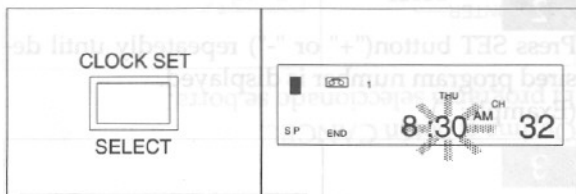
13

Press SET button ("+" or "-") repeatedly until desired hour is displayed. (Example: 8:AM)



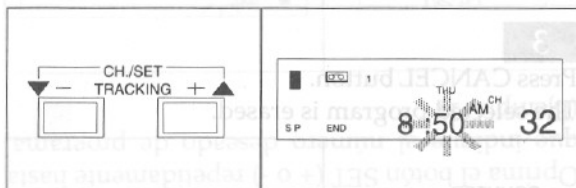
14

Press SELECT button. The END minutes indicator flashes.



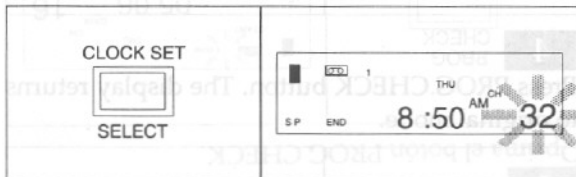
15

Press SET button ("+" or "-") repeatedly until desired minute is displayed. (Example: 50)



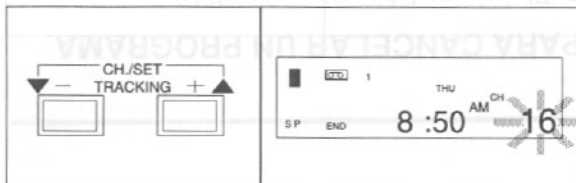
16

Press SELECT button. The channel indicator flashes.



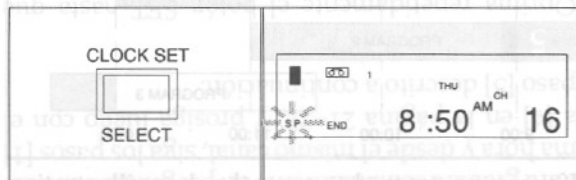
17

Press SET button ("+" or "-") repeatedly until desired channel is displayed. (Example: Channel 16)



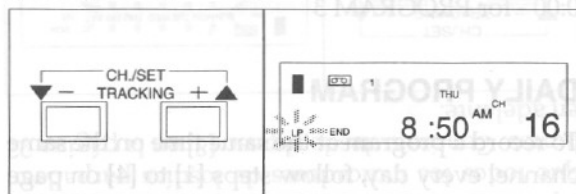
18

Press SELECT button. The tape speed indicator flashes.



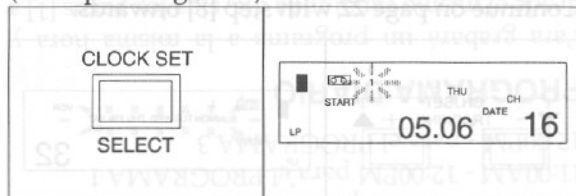
19

Press SET button ("+" or "-") repeatedly until desired tape speed is displayed. (Example: LP)



20

Press SELECT button. The program number flashes. (Example: Program 1)

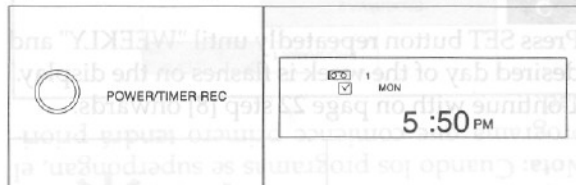


Now the program 1 is completed.

To set another program, repeat steps [3] to [20].

21

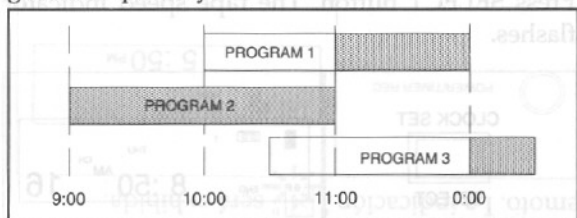
Press POWER /TIMER REC button to set automatic timer recording. The "☑" indicator lights up on the display. The number of all programmed



events are displayed with current time.

To stop recording, press STOP button on the VCR.

**Note:** When the programs overlap, the earlier program has priority.



If you programmed as per as the above illustration the timer recording would be carried out as follows:

9:00 - 11:00 for PROGRAM 2

11:00 - 0:00 for PROGRAM 1

0:00 - for PROGRAM 3

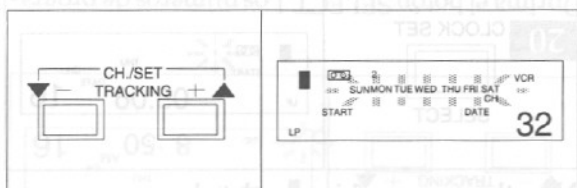
## DAILY PROGRAM

To record a program at the same time on the same channel every day, follow steps [1] to [4] on page 21~22, then step [5] below.

**5**

Press SET button ("+" or "-") repeatedly until all of the day indicators flash together.

Continue on page 22 with step [8] onwards.

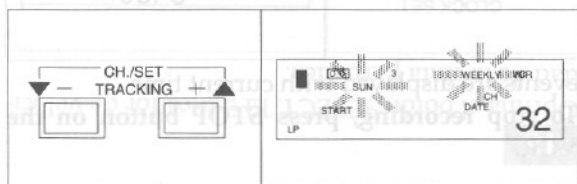


## WEEKLY PROGRAM

To record a program at the same time on the same channel every week, follow steps [1] to [4] on page 21~22, then step [5] below.

**5**

Press SET button repeatedly until "WEEKLY" and desired day of the week is flashes on the display. Continue with on page 22 step [8] onwards.

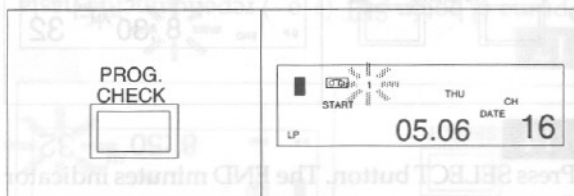


## TO CANCEL A PROGRAM

- ◆ Power must be turned ON.
- ◆ Press POWER / TIMER REC so that the "X" indicator disappears.

**1**

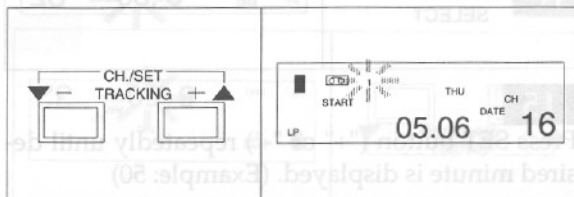
Press PROG.CHECK button.



**2**

Press SET button ("+" or "-") repeatedly until desired program number is displayed.

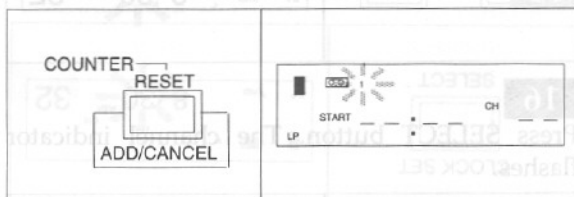
(Example: 1)



**3**

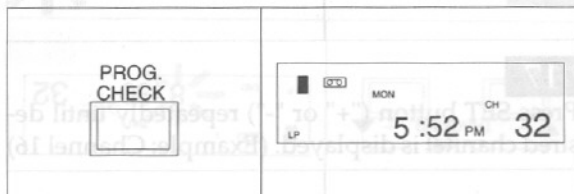
Press CANCEL button.

The selected program is erased.



**4**

Press PROG.CHECK button. The display returns to original mode.

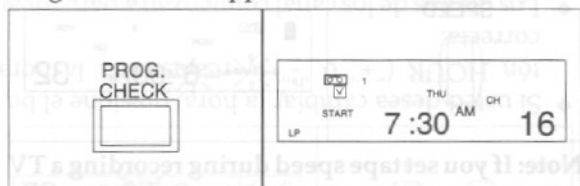


## CHECKING THE START/END TIME

After setting the timer, you can check the program number, Start/End time and channel number.

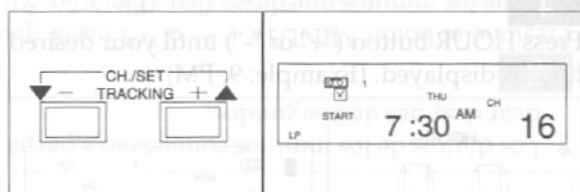
1

Press PROG. CHECK button.  
Program number appear.



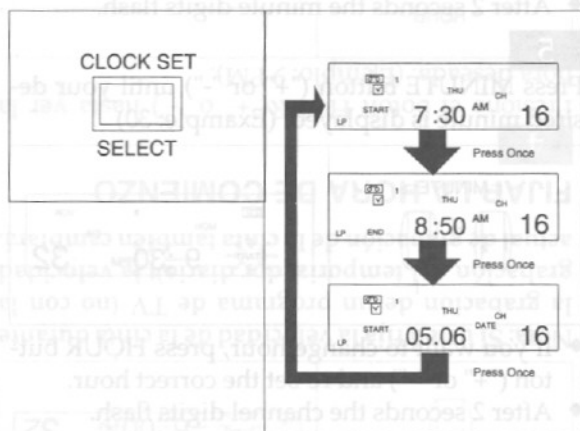
2

Press SET button ("+" or "-") repeatedly until desired program number is displayed.



3

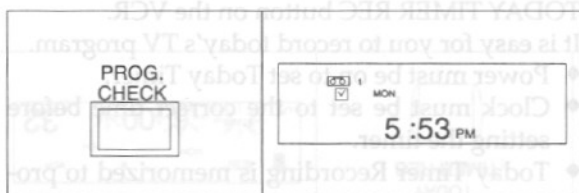
Press SELECT button.



Repeat step [2] and [3] for next program number.

4

Press PROG. CHECK button to return to current time display.



## AUTOMATIC TIMER RECORDING HINTS

- ◆ If there is a power failure or the VCR is unplugged for more than a few seconds, the clock setting and all timer settings are lost.
- ◆ If you are recording using the Programmed Automatic Timer, you may not operate the unit manually, but, you may still stop the recording by pressing STOP button on the VCR.  
**Note:** STOP button on the remote control unit will not function in this mode.
- ◆ If the tape runs out before the end time, the VCR will switch to the stop mode immediately eject the tape and the VCR power will be turned off.
- ◆ If a tape is not inserted or the erase-protection tab is removed, the "☑" indicator flashes and automatic timer recording cannot occur. Press POWER/TIMER REC button to stop the flashing. Then, insert a tape that allows recording.
- ◆ The TV that is connected to your VCR may be turned on or off during automatic timer recording.

## TODAY TIMER RECORDING

You may set the VCR to start and end recording one program within 24 hours by simply pressing TODAY TIMER REC button on the VCR.

It is easy for you to record today's TV program.

- ◆ Power must be on to set Today Timer.
- ◆ Clock must be set to the correct time before setting the timer.
- ◆ Today Timer Recording is memorized to program number 8.

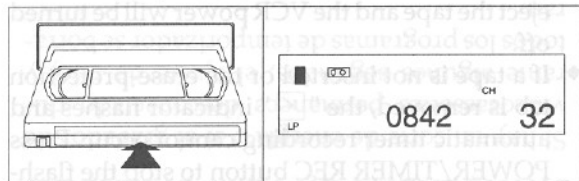
In the example below, the Today Timer is being set to record:

SETTING TIME from 9:30PM to 11:00PM  
 CHANNEL CH61  
 TAPE SPEED LP  
 Current time is 6:00PM.

**Note: This function cannot be done by the remote control.**

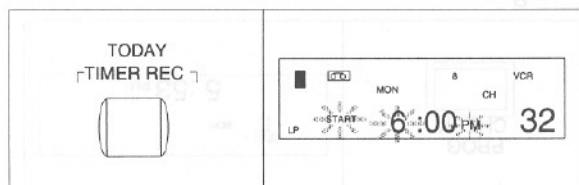
### 1

Insert a cassette tape with its safety tab in place, if necessary, rewind or fast forward the tape to the point at which you want to begin recording. Timer display will be changed to Counter mode.



### 2

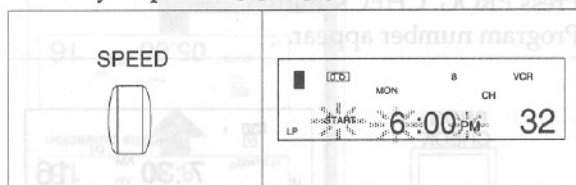
Press TODAY TIMER REC button on the VCR. Program number 8 appears on the display.



### 3

Press SPEED button until your desired tape speed is displayed. (Example: LP)

- ◆ The tape speed can be memorized or changed at any step from [2] to [8].

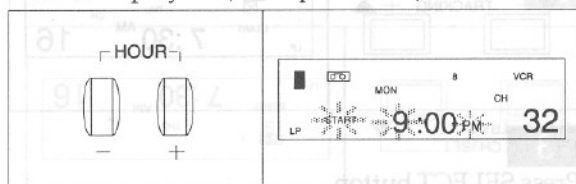


**Note: If you set tape speed during recording a TV program(not Today Timer Recording), the current recording tape speed changes, too.**

## SETTING THE START TIME

### 4

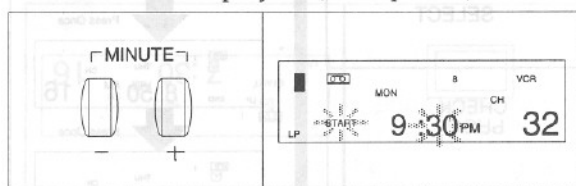
Press HOUR button ("+" or "-") until your desired hour is displayed. (Example: 9, PM)



- ◆ After 2 seconds the minute digits flash.

### 5

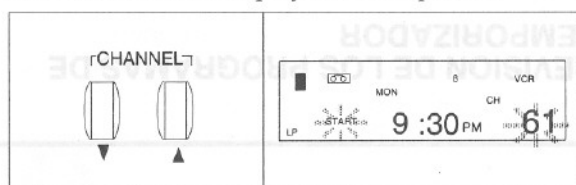
Press MINUTE button ("+" or "-") until your desired minute is displayed. (Example: 30)



- ◆ If you want to change hour, press HOUR button ("+" or "-") and re-set the correct hour.
- ◆ After 2 seconds the channel digits flash.

### 6

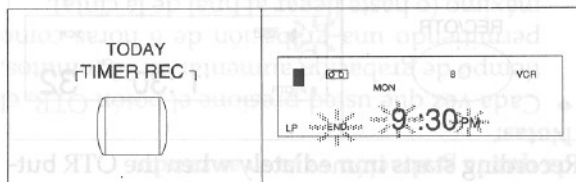
Press CHANNEL button (▲ or ▼) until your desired channel number is displayed. (Example: 61)



## SETTING THE END TIME

7

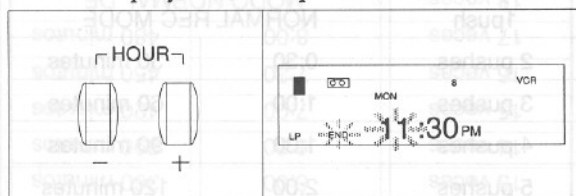
Press TODAY TIMER REC button.



**Note:** If you press TODAY TIMER REC button again, the program will be canceled.

8

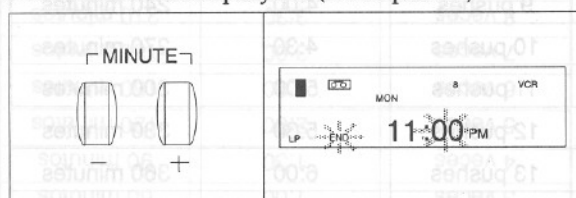
Press HOUR button ("+" or "-") until your desired hour is displayed. (Example: 11, PM)



◆ After 2 seconds the minute digits flash.

9

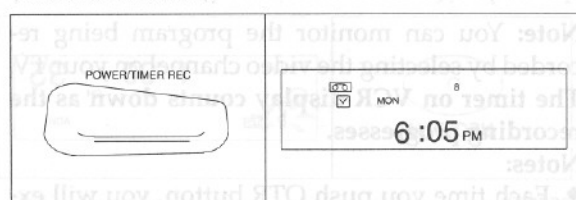
Press MINUTE button ("+" or "-") until your desired minute is displayed. (Example: 00)



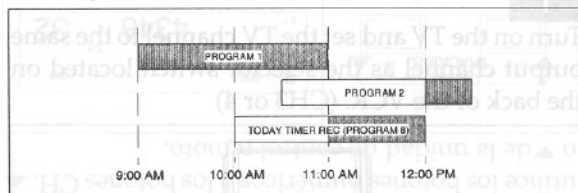
◆ If you want to change hour, press HOUR button (+ or -) and re-set the correct hour.

10

Press POWER/TIMER REC button to set Today Timer Recording. The "☒" indicator lights up on the display. The program number 8 is displayed with current time.



When the programs overlap, Today Timer Recording program has priority.



If you program as per the illustration the timer recording would be carried out as follows.

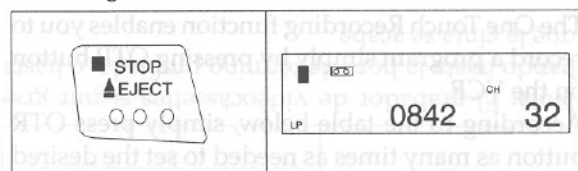
9:00AM - 11:00AM for PROGRAM 1

11:00AM - 12:00PM for TODAY TIMER REC (PROGRAM 8)

12:00PM - for PROGRAM 2

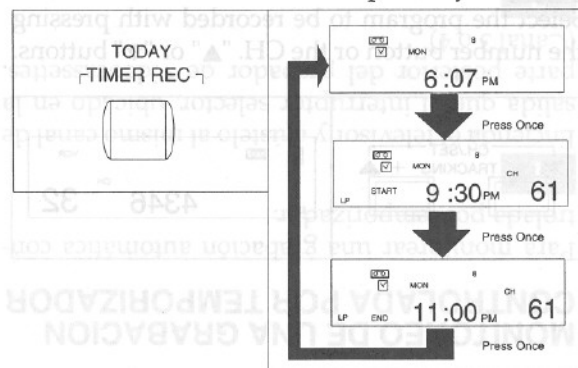
## TO CANCEL A TODAY TIMER PROGRAM

- ◆ While setting a program; press STOP/EJECT button on the VCR.
- ◆ After setting a program; (power must be on) First, press TODAY TIMER REC button. Then, press STOP/EJECT button.
- ◆ While recording in progress; press STOP/EJECT button so that the display returns to original mode.



## CHECKING THE START/END TIME

To check the start/end time and channel number, first press POWER/TIMER REC button so that "☒" indicator disappears, then press TODAY TIMER REC button repeatedly.



## MONITORING TIMER RECORDING

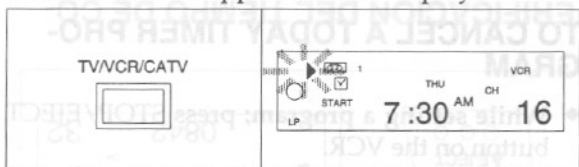
1

Turn on the TV and set the TV channel to the same output channel as the selector switch located on the back of the VCR. (CH3 or 4)



2

Press TV/VCR/CATV button on remote control unit so that VCR appears on the display.



**Note:** The VCR will continue recording until the preset end time is reached or the tape runs out.

## OTR (ONE TOUCH RECORDING)

The One Touch Recording function enables you to record a program simply by pressing OTR button on the VCR.

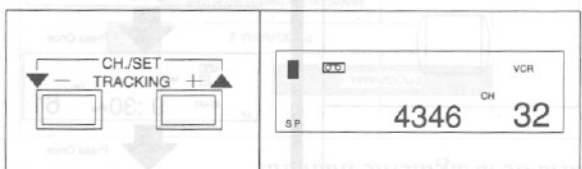
According to the table below, simply press OTR button as many times as needed to set the desired recording length. The channel number to be recorded and recording length will be shown in the display.

◆ Power must be on to set One Touch Recording.

**Note:** This function cannot be operated by the remote control.

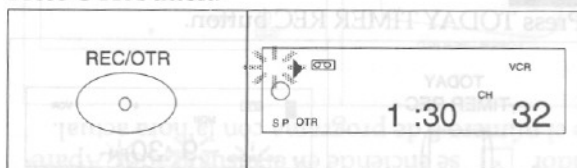
1

Select the program to be recorded with pressing the number button or the CH. "▲" or "▼" buttons.



2

Press OTR button.



Recording starts immediately when the OTR button is pressed, even if you are watching the same or different channel. The recording length can be determined by the number of times you press the OTR button.

Push(es)	DISPLAY	LENGTH
1push	NORMAL REC MODE	
2 pushes	0:30	30 minutes
3 pushes	1:00	60 minutes
4 pushes	1:30	90 minutes
5 pushes	2:00	120 minutes
6 pushes	2:30	150 minutes
7 pushes	3:00	180 minutes
8 pushes	3:30	210 minutes
9 pushes	4:00	240 minutes
10 pushes	4:30	270 minutes
11 pushes	5:00	300 minutes
12 pushes	5:30	330 minutes
13 pushes	6:00	360 minutes
14 pushes	6:30	390 minutes
15 pushes	7:00	420 minutes
16 pushes	7:30	450 minutes
17 pushes	8:00	480 minutes
18 pushes	NORMAL REC MODE	

**Note:** You can monitor the program being recorded by selecting the video channel on your TV. The timer on VCR display counts down as the recording progresses.

**Notes:**

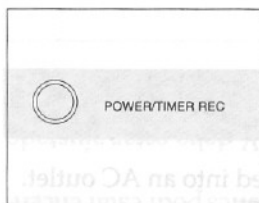
◆ Each time you push OTR button, you will extend recording time by 30 minutes at a time up to 8-hours (or to the end of the tape).

- ◆ To stop the OTR operation, press STOP button on the VCR or on the remote control unit.
- ◆ When OTR button is pushed 18 times, the VCR will record continuously until the end of the tape.
- ◆ The recording length time counts down as the recording is started.
- ◆ Recording stops when 0:00 is reached.
- ◆ Please note that in the SLP mode maximum recording time, assuming the tape is started of the beginning, is 8 hours using T-160 (or 6 hours using T-120).

## PLAYBACK

1

Press POWER button to turn on the VCR.

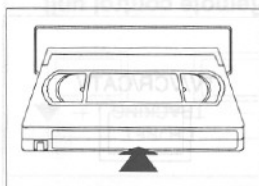


2

Turn on the TV and set the TV channel to the same output channel as the selector switch located on the back of the VCR. (CH 3 or 4)

3

Insert a pre-recorded tape.



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

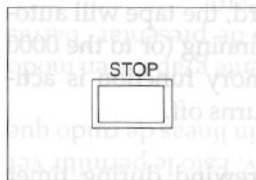
4

Press PLAY button.



5

Press STOP button when playback is completed.



## PICTURE SEARCH(SP/LP/SLP MODE)

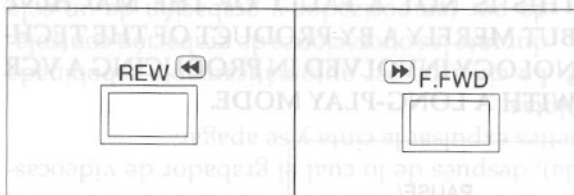
You may view the video program at a high speed in either a forward or reverse direction. When in the play mode, press F.FWD button to view the tape at a fast speed in the forward direction. To view the tape at a fast speed in the reverse direction, press REW button. The sound will be muted. This feature is useful in finding or skipping over a particular section of a tape. When you wish to view the tape in normal speed, simply press PLAY button.

**Note:** During Visual Search, the picture will not be as clear as in normal playback.

## SUPER HIGH SPEED SEARCH (LP/SLP MODE)

To Visual Search in super high speed press either F.FWD or REW button while the unit is in the play mode. Release button, then press it again. The unit will now search in super high speed. For normal playback simply press PLAY button.

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



## AUTO REWIND

When the end of a tape is reached during recording, playback, or fast-forward, the tape will automatically rewind to the beginning (or to the 0000 counter reading if the memory function is activated), eject, and the VCR turns off.

### Notes:

- ◆ The tape will not auto-rewind during timer recording or One Touch Recording.
- ◆ When the tape is rewound to the preset memory position, the tape will not eject and VCR will not turn off.

## STILL FRAME DURING PLAYBACK

If you press PAUSE button during playback, the picture will "freeze" on the screen. You may use this feature to study details of a particular screen. Press PLAY button to continue playback.

**Note:** The VCR will automatically switch to the Stop mode, if it is left in the Pause mode for more than five minutes.

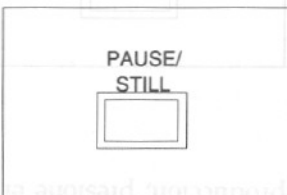
## NOISE CANCELLING

If you use the PAUSE button to freeze the picture during playback with tapes recorded in SLP mode, usually there will be video "noise" lines on the screen. This is normal, however, this VCR has a special feature that allows you to reposition or reduce the lines. Each time you press PAUSE button the lines will change position on the screen.

This enables you to see the picture in its entirety without distracting noise lines.

If the tape was originally recorded in SP or LP mode, the still picture will, in addition to the "noise" lines, be black and white.

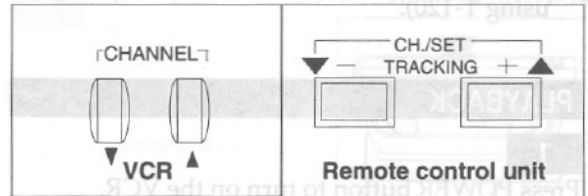
**THIS IS NOT A FAULT OF THE MACHINE BUT MERELY A BY-PRODUCT OF THE TECHNOLOGY INVOLVED IN PRODUCING A VCR WITH A LONG-PLAY MODE.**



## TRACKING ADJUSTMENT

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, adjust the TRACKING control by pressing TRACKING control button ("+" or "-") until the streaks disappear.

To set center position, press both "+" and "-" button at the same time. (This function is operative only by buttons on VCR.)

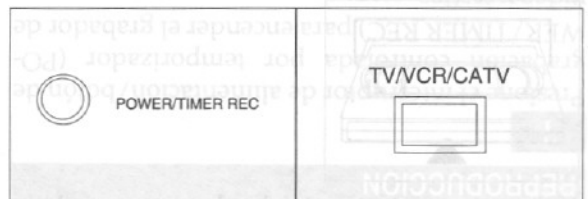


## VIEWING ONLY TV (WITHOUT RECORDING)

- ◆ The VCR must be plugged into an AC outlet.
- ◆ VCR's power must be OFF.
- ◆ TV/VCR/CATV button must be set to TV when VCR's power is ON.

**1**

Turn VCR power off or press TV/VCR/CATV button on the remote control unit to select TV, so that VCR disappears on the display.



**2**

Turn on the TV and select the channel you want to watch.



If you have followed the instructions contained in this manual and have difficulty in operating your 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"> <li>◆ Power cord is not connected.</li> <li>◆ POWER button is set to off position.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Connect power cord to AC outlet.</li> <li>◆ Set the POWER button to on position.</li> </ul>
Timer recording is not possible.	<ul style="list-style-type: none"> <li>◆ The timer recording is set incorrectly.</li> <li>◆ The timer recording is not set to on position.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Set the timer recording correctly.</li> <li>◆ Set TIMER REC to on position.</li> </ul>
Rec mode cannot be engaged.	<ul style="list-style-type: none"> <li>◆ The record safety tab on cassette is missing.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Place vinyl tape over missing safety tab.</li> </ul>
No picture or poor picture on playback.	<ul style="list-style-type: none"> <li>◆ The TV channel selector is not set to the proper channel.</li> <li>◆ The TV fine tuning is not set correctly.</li> </ul>	<ul style="list-style-type: none"> <li>◆ On playback, set the TV to channel 3 or 4 for video output channel.</li> <li>◆ Fine tune your TV.</li> </ul>
Noise in picture on playback.	<ul style="list-style-type: none"> <li>◆ Video head is dirty.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Head cleaning is necessary, consult the nearest Funai Authorized Service Center.</li> </ul>
No picture on TV.	<ul style="list-style-type: none"> <li>◆ TV/VCR/CATV button in TV mode.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Press TV/VCR/CATV button again.</li> </ul>
Playback picture is partially noisy.	<ul style="list-style-type: none"> <li>◆ The TRACKING control is not set correctly.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Adjust TRACKING control for better picture.</li> </ul>
On-the-air TV programs cannot be seen.	<ul style="list-style-type: none"> <li>◆ Connections are not correctly made.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Re-check the ANT. IN and ANT. OUT connections.</li> </ul>
No operation by infrared Remote Control.	<ul style="list-style-type: none"> <li>◆ Weak battery.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Check the batteries in Infrared Remote Control.</li> </ul>

## SERVICIO

## LIMPIEZA DE LAS CABEZAS

## LIMPIEZA DEL GABINETE



# SPECIFICATIONS

## GENERAL SPECIFICATIONS

Television system	: NTSC, TV standard
Video heads	: Rotary two-head Double Azimuth Video System
Tape width	: 1/2inch (12.65mm)
Tape speed	
SP	: 33.35mm/sec.
LP	: 16.67mm/sec.
SLP	: 11.12mm/sec.
Tuner channel	
VHF	: #2~#13
UHF	: #14~#69
Cable channel	: 5A, A-5 ~ A-1, A ~ W+58
RF converter	: Built-in VHF converter
Converter output	: VHF Channel 3 or 4.
Timer indication	: AM/PM 12-hour system
Operating temperature	: 5°C~40°C (41°F~104°F)
Terminals	
Antenna input	: F type connector x 1
Antenna output	: F type connector x 1
Video input/output	: RCA connector x 2
Audio input/output	: RCA connector x 2

## ELECTRICAL SPECIFICATIONS

Video output level	: 1Vp-p
Video output impedance	: 75Ω
Audio output level	: -6dBv (1KHz)
Video input level	: 0.5~2.0Vp-p
Audio input level	: -10dBv
Video S/N ratio	
SP	: More than 42dB
Audio S/N ratio	
SP	: More than 38dB

## OTHER SPECIFICATIONS

Power requirement	: 120V, 60Hz
Power consumption	: 15 Watts
Dimensions	
W	: 14-1/4" (360mm)
H	: 3-5/8" (92mm)
D	: 10" (252mm)
Weight	: 7.0lbs. (3.2 Kg.) (Approx.)
Accessories, included	
	: Remote control unit
	: 2 "AA" Batteries
	: Owners Manual
	: Coaxial cable

◆ Designs and specifications are subject to change without notice.

DESIGNACION DE CANALES DE TV-CABLE

# CABLE CHANNEL DESIGNATIONS

This model is capable of receiving 99 cable channels. The channels are displayed as 1-99. Cable companies often designate the other 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
VCR 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
VCR 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
VCR 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
VCR 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
VCR 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
VCR 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						
VCR Display	91	92	93	94	95	96	97	98	99						

## OTRAS ESPECIFICACIONES

Relación S/R de audio: SP  
Más de 38dB

Relación S/R de video: SP  
Más de 42dB

Nivel de entrada de audio: -10dBV

Nivel de entrada de video: 0.5-2.0Vp-p

Nivel de salida de audio: 60V (1KHz)

Impedancia de salida de video: 75Ω

Nivel de salida de video: 1Vp-p

## ESPECIFICACIONES ELÉCTRICAS

## ESPECIFICACIONES GENERALES

Norma NTSC

Sistema de grabación: Sistema de exploración

relativa con dos cabezas helicoidales

Archo de la cinta: 1/2 pulgada (12.65 mm)

Velocidad de la cinta: SP  
33.35mm/seg.  
LP  
16.67mm/seg.  
SLP  
11.12mm/seg.

Canales de sintonizador: VHF  
#2-#13  
UHF  
#14-#69

Canales de TV-cable: 5A, A-5 - A-1, A - W+58

Convertidor RF: Convertidor VHF

Salida de convertidor: Canal 3 o 4 de VHF

Indicación horaria: Sistema AM/PN de

## ESPECIFICACIONES

# FUNAI CORPORATION

## LIMITED WARRANTY

FUNAI CORP. will repair this product, free of charge in the USA in the event of defect in materials or workmanship as follows:

### DURATION:

**PARTS:** FUNAI CORP. will provide parts to replace defective parts without charge for one (1) year from the date of original retail purchase. Two (2) years for Picture Tube. Certain parts are excluded from this warranty.

**LABOR:** FUNAI CORP. will provide the labor without charge for a period of ninety (90) days from the date of original retail purchase.

### LIMITS AND EXCLUSIONS:

This warranty is extended only to the original retail purchaser. A purchase receipt or other proof of original retail purchase will be required together with the product to obtain service under this warranty.

This warranty shall not be extended to any other person or transferee.

This warranty is void and of no effect if any serial numbers on the product are altered, replaced, defaced or missing. This FUNAI CORPORATION Limited warranty does not apply to any the product not purchased and used in the United States.

This warranty only covers failures due to defects in material or workmanship which occur during normal use. It does not cover damage which occurs in shipment, or failures which are caused by repairs, alterations or product not supplied by FUNAI CORP., or damage which results from accident, misuse, abuse, mishandling, misapplication, alteration, faulty installation, improper maintenance, commercial use such as hotel, rental or office use of this product or damage which results from fire, flood, lightning or other acts of God.

THIS WARRANTY DOES NOT COVER PACKING MATERIALS, ANY ACCESSORIES (EXCEPT REMOTE CONTROL), ANY COSMETIC PARTS, COMPLETE ASSEMBLY PARTS, DEMO OR FLOOR MODELS.

FUNAI CORP. AND ITS REPRESENTATIVES OR AGENTS SHALL IN NO EVENT BE LIABLE FOR ANY GENERAL, INDIRECT OR CONSEQUENTIAL DAMAGES ARISING OUT OF OR OCCASIONED BY THE USE OF OR THE INABILITY TO USE THIS PRODUCT. THIS WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND OF ALL OTHER LIABILITIES ON THE PART OF FUNAI. ALL OTHER WARRANTIES INCLUDING THE WARRANTY OF MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED BY FUNAI AND ITS REPRESENTATIVES IN THE UNITED STATES. ALL WARRANTY INSPECTIONS AND REPAIRS MUST BE PERFORMED BY FUNAI AUTHORIZED SERVICE CENTER. THIS WARRANTY IS VALID WHEN THE UNIT IS CARRIED-IN TO FUNAI AUTHORIZED SERVICE FACILITY.

WHEN YOU ARE RETURNING THE PRODUCT FOR SERVICE TO THE FACTORY SERVICE CENTER, PLEASE CONTACT THE FUNAI SERVICE DEPARTMENT TO RECEIVE M.R.A. (MERCHANDISE RETURN AUTHORIZATION) NUMBER PRIOR TO SHIPPING. ANY POSTAGE, INSURANCE AND SHIPPING COST, INCURRED IN PRESENTING OR SENDING YOUR FUNAI/SYMPHONIC PRODUCT FOR SERVICE ARE SHIPPER'S RESPONSIBILITY.

CAREFULLY PACK WITH PROPER PACKING MATERIALS, PREFERABLY IN THE ORIGINAL CARTON.

ATTACH WRITTEN DOCUMENTATION DETAILING THE COMPLAINT, TO THE OUTSIDE OR INSIDE OF THE CARTON.

THE PRODUCT MUST BE ACCOMPANIED BY A COPY OF THE ORIGINAL RETAIL PURCHASE RECEIPT. IF NO PROOF OF PURCHASE IS ATTACHED, THE WARRANTY WILL NOT BE HONORED AND REPAIRS COSTS WILL BE CHARGED.

### IMPORTANT:

THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, YOU MAY HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE, IF, AT ANY TIME DURING THE WARRANTY PERIOD, YOU ARE UNABLE TO OBTAIN SATISFACTION WITH THE REPAIR OF THIS PRODUCT, PLEASE CONTACT FUNAI CORP.

### ATTENTION:

FUNAI CORP. RESERVES THE RIGHT TO MODIFY ANY DESIGN OF THIS PRODUCT WITHOUT PRIOR NOTICE.

For information of your nearest FUNAI Authorized Service Center or general service procedure, please call or write to the following:

FUNAI CORPORATION  
Factory Service Center  
100 North Street, Teterboro, NJ 07608  
Tel :201-288-2666  
Tel :800-242-7158  
(Eastern Time 9:00 AM - 4:30 PM)