

OWNER'S MANUAL

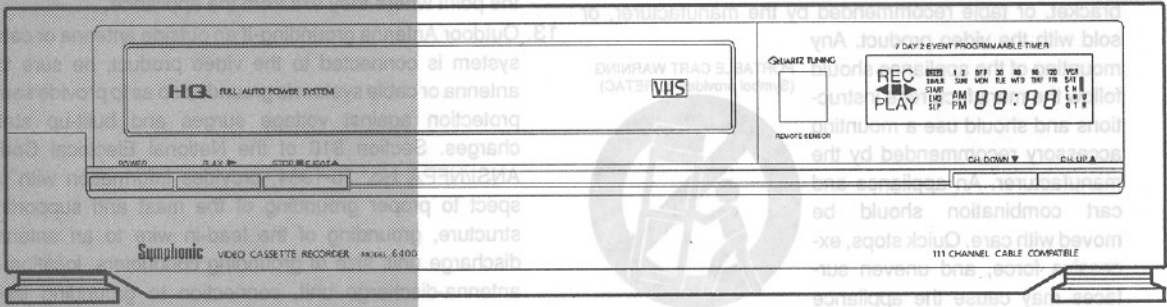
Symphonic

VIDEO CASSETTE RECORDER

VHS

6400

CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
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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 THIS UNIT.

"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 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 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 .
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 video 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 you 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. 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. (Fig. A)

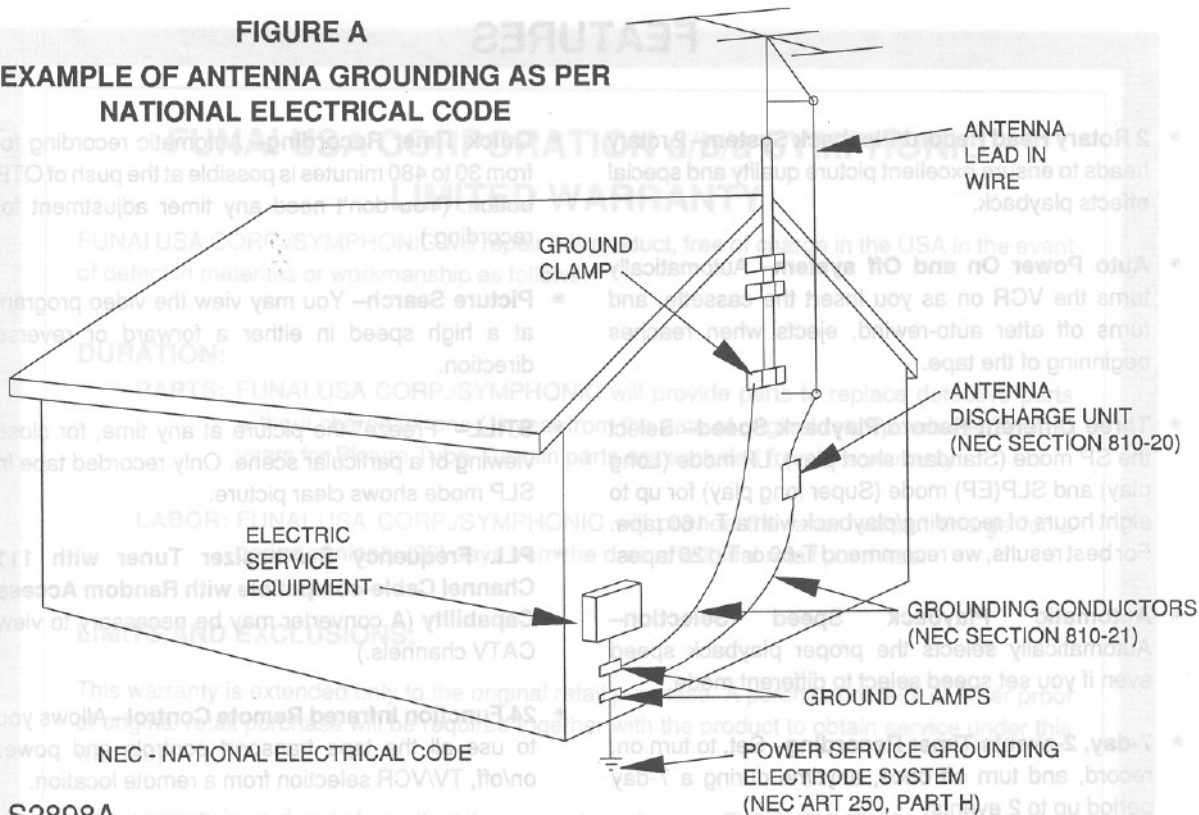
PORTABLE CART WARNING
(Symbol provided by RETAC)



S3125A

FIGURE A

EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE



S2898A

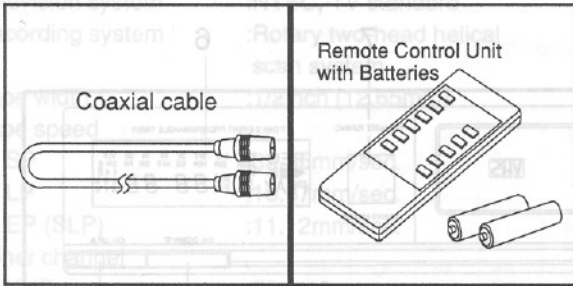
14. **Lightning**-For added protection for this video product receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the video product due to lightning and power-line surges.
15. **Power Lines**-An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
16. **Overloading**-Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
17. **Object and Liquid Entry**-Never push objects of any kind into this video product through opening 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.
18. **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.
19. **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 the cabinet has been damaged.
 - 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 had 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.

FEATURES

- * **2 Rotary Head Record/Playback System**— 2 rotary heads to ensure excellent picture quality and special effects playback.
- * **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.
- * **Three Different Record/Playback Speed**— Select the SP mode (Standard short play), LP mode (Long play) and SLP(EP) mode (Super long play) for up to eight hours of recording/playback with a T-160 tape. For best results, we recommend T-60 or T-120 tapes.
- * **Automatic Playback Speed Selection**— Automatically selects the proper playback speed even if you set speed select to different mode.
- * **7-day, 2-events Timer Recording**— Set, to turn on, record, and turn off once, anytime during a 7-day period up to 2 events.
- * **Quick Timer Recording**— Automatic recording for from 30 to 480 minutes is possible at the push of QTR button. (You don't need any timer adjustment for recording.)
- * **Picture Search**— You may view the video program at a high speed in either a forward or reverse direction.
- * **STILL**— "Freeze" the picture at any time, for close viewing of a particular scene. Only recorded tape in SLP mode shows clear picture.
- * **PLL Frequency Synthesizer Tuner with 111 Channel Cable-compatible with Random Access Capability** (A converter may be necessary to view CATV channels.)
- * **24 Function Infrared Remote Control**— Allows you to use all the tape transport controls and power on/off, TV/VCR selection from a remote location.
- * **DEW Sensor System with Dew Indicator**

PRECAUTIONS

SUPPLIED ACCESSORIES



Note: Depending on your antenna system, you will need a different type of Combiner (Mixer) and Separator (Splitter). You can purchase them at electronics store. For further details, ask your nearest service center.

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 place 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 an authorized video 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.

DEW WARNING/INDICATOR

This video cassette recorder is equipped with a sensor which helps prevent DEW condensation. If excessive moisture is present inside the unit, the DEW indicator goes on. While the indicator is lit, a safety device prevents the unit from operating until moisture is gone. Moisture condensation may occur inside the unit when it is removed from a cold place to a warm place, or after heating a cold room or under conditions of high humidity. Therefore when the DEW light is on, turn the POWER button on and allow at least 2 hours for the unit to dry out.

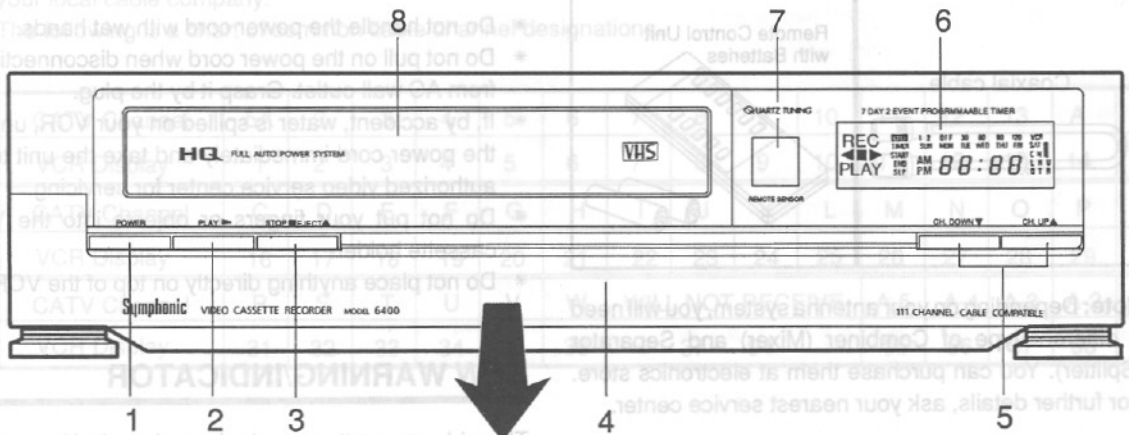
Note: DEW indicator may not go on for first 15 minutes even if moisture condensation may occur inside the unit when room temperature or humidity changes suddenly. In this case, do not insert the cassette for first 30 minutes.

IMPORTANT COPYRIGHT INFORMATION

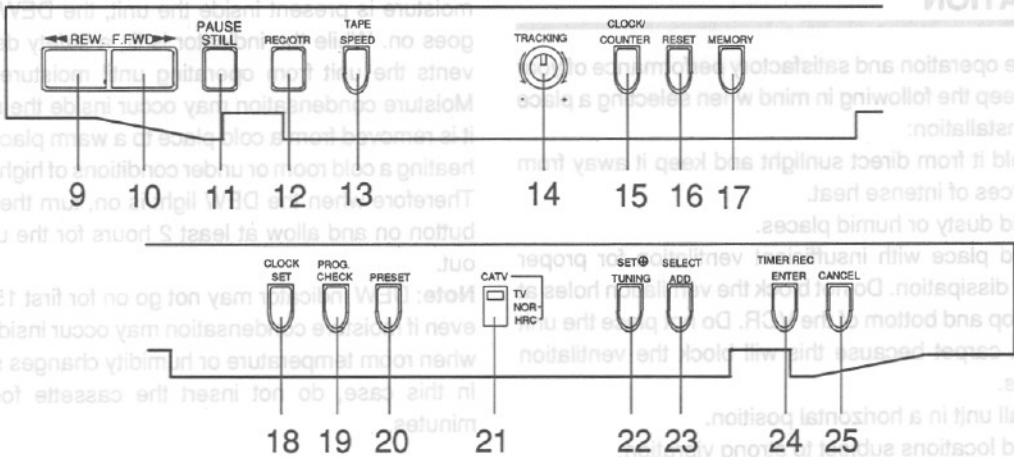
Unauthorized recording or use of broadcast television programming, video tape, film, or other copyrighted material may violate applicable copyright laws. We assume no responsibility for the unauthorized duplication, use or other acts which infringe upon the rights of copyright owners.

OPERATING CONTROLS AND FUNCTIONS

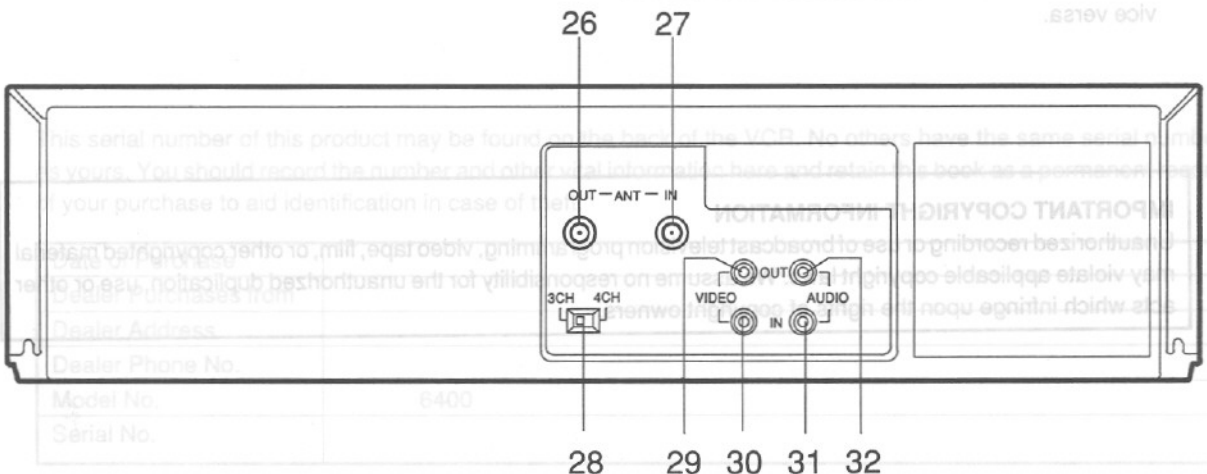
—FRONT VIEW—



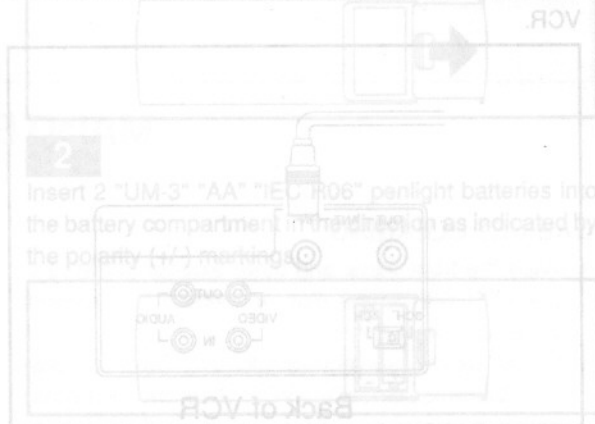
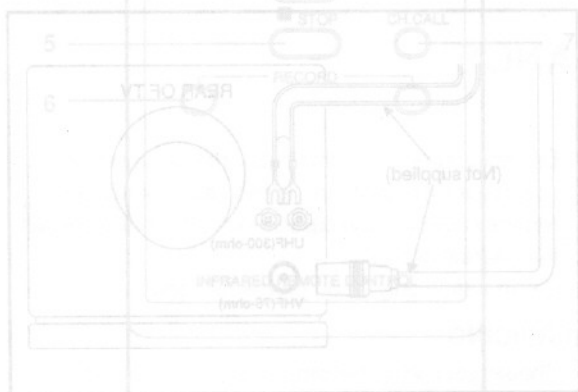
—CONTROL DOOR INSIDE VIEW—



—REAR VIEW AND TERMINALS—



- 1 **POWER button**— To turn VCR on and off.
- 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 **CONTROL DOOR**— Pull out the side of the door.
- 5 **CHANNEL buttons**— Press to select the channel for viewing or recording.
- 6 **DIGITAL DISPLAY**
- 7 **REMOTE CONTROL RECEIVER WINDOW**— Receives the infrared control signals from the handheld remote control unit.
- 8 **CASSETTE COMPARTMENT**
- 9 **REW. 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.
- 10 **F.FWD button**— Press to advance tape faster than normal 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.
- 11 **PAUSE STILL(NOISE CANCEL) button**— Press to temporarily stop tape during playback or manual recording.
- 12 **REC/QTR(Quick Timer Rec) button**— Press to begin manual recording. Press to activate quick timer recording mode.
- 13 **TAPE SPEED button**— Used to set desired recording speed. (SP/LP/SLP)
- 14 **TRACKING control**— Adjust to minimize video "noise" (line or dots on screen) during playback.
- 15 **CLOCK/COUNTER button**— Press to alternate between clock and counter display modes.
- 16 **RESET button**— Press to reset counter to 0000.
- 17 **MEMORY button**— Press to set memory-in.
- 18 **CLOCK SET button**— Press to select clock setting mode.
- 19 **PROG.CHECK button**— Press to select program number.
- 20 **PRESET button**— Use to select channel program mode.
- 21 **CATV selector switch**— Use to select the TV or CATV (NOR/HRC) mode.
- 22 **SET (+) /TUNING button**— Adjust time, channel, program and tuning.
- 23 **SELECT/ADD. button**— Press to select timer setting mode. Press to add programmed channel.
- 24 **TIMER REC/ENTER button**— Press to activate the automatic recording timer, channel memory programming and clock setting.
- 25 **CANCEL button**— Press to cancel memorized channel and Timer Program.
- 26 **ANT OUT terminal**- Connect to ANTENNA IN terminal of your TV.
- 27 **ANT IN terminal**- Connect an antenna.
- 28 **3CH/4CH selector switch**- Use to select the video channel (3 or 4) for playback from the VCR.
- 29 **VIDEO OUT jack**- Connect to the video in jack of video processor or another VCR.
- 30 **VIDEO IN jack**- Connect to video output jack of your video camera or another VCR.
- 31 **AUDIO IN jack**- Connect to audio output jack of your audio equipment or another VCR.
- 32 **AUDIO OUT jack**- Connect to the line in jack of your audio equipment or another VCR.



3

Replace the cover.

Note to CATV system installer: This terminal is provided to call the CATV system installer's attention to Article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

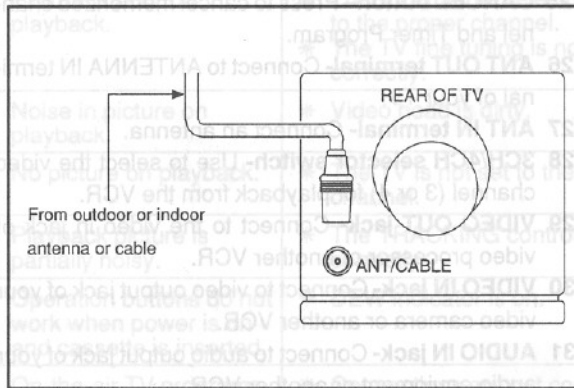
CABLE CONNECTIONS

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

COMBINATION VHF/UHF ANTENNA, CATV COAXIAL CABLE

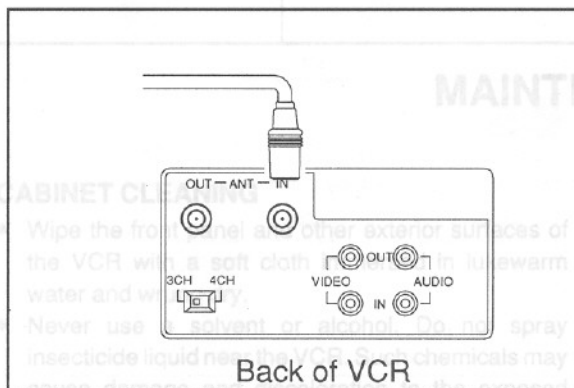
1

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



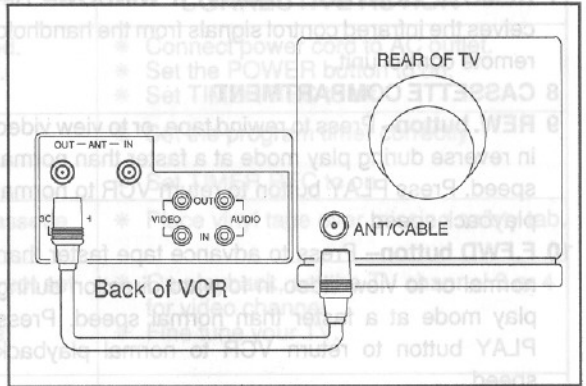
2

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



3

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



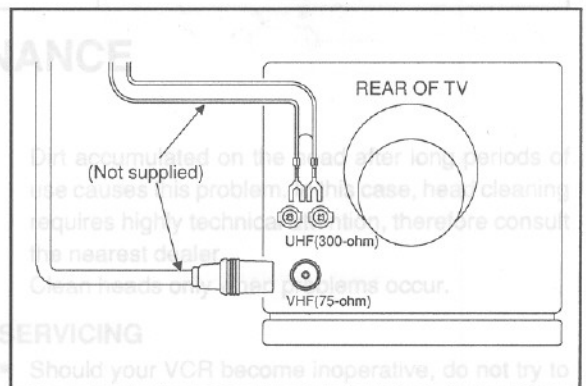
Notes: If your cable system is connected with a converter box or descrambler box,

- * Set the VCR to the same channel as output channel of the converter box or descrambler box. (3ch or 4ch)
- * Use the CATV 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.

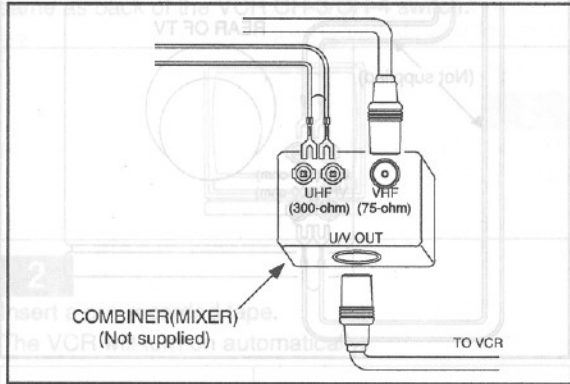


Note to CATV system installer:

This reminder is provided to call the CATV system installer's attention to Article 820-22 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.

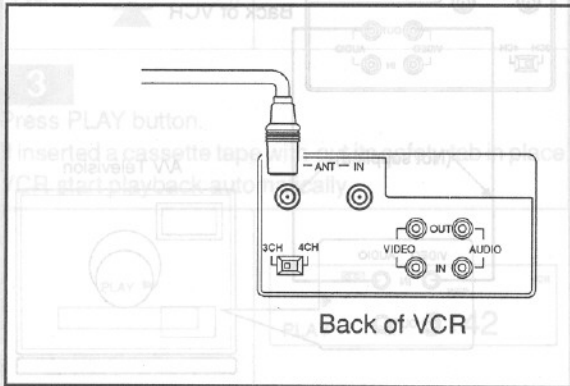
2 BACK

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



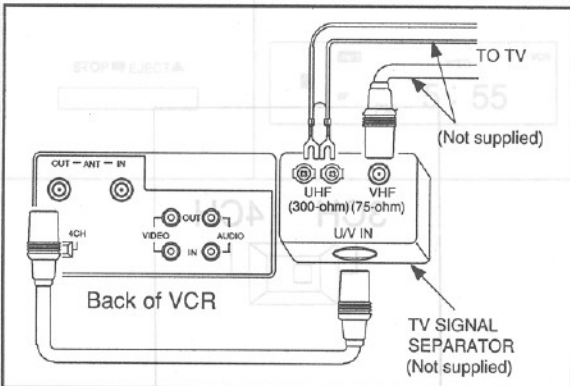
3

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



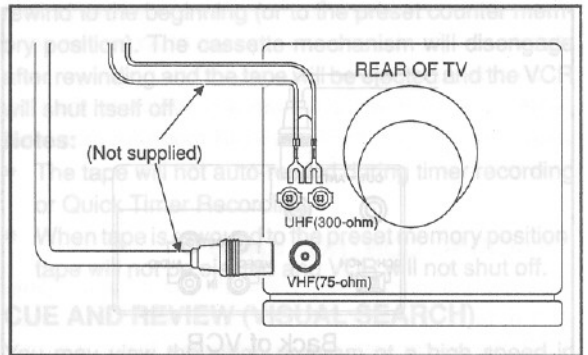
4

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



5 REWIND-EJECT

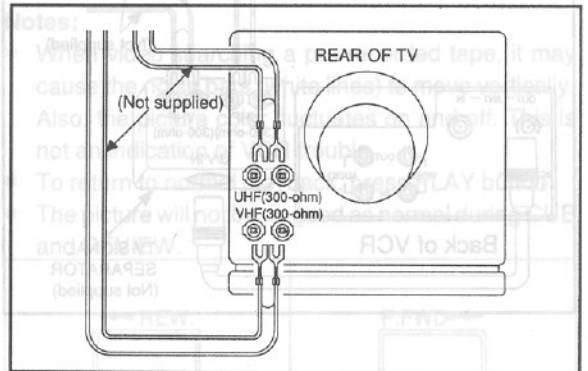
Connect the Separator's coaxial end to the TV's VHF terminal, and flat twin-lead end to the TV's UHF terminal.



SEPARATE 300 OHM ANTENNA

1

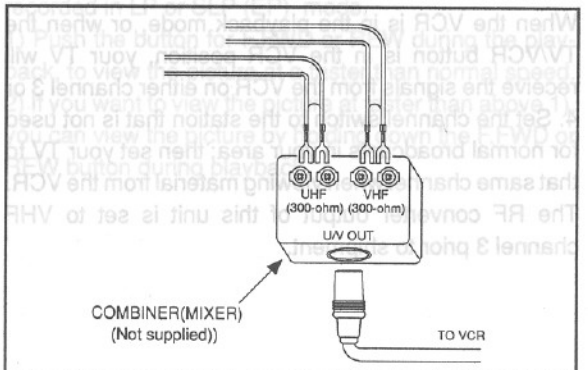
Disconnect the 300-ohm (flat twin-lead) antenna cables from the rear of your TV.



2

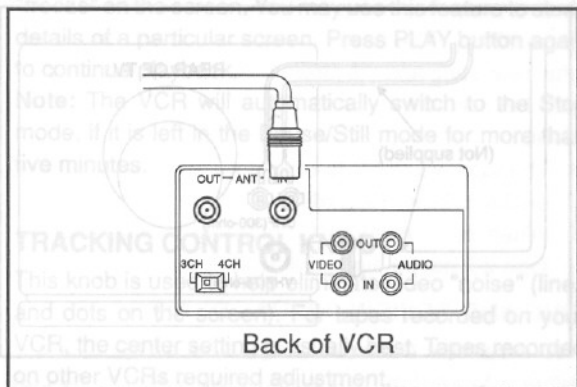
Reconnect those ANT wire to Combiner (not supplied) VHF and UHF terminal, and then connect the coaxial to the combiner.

Then connect the supplied coaxial cable to the Combiner.

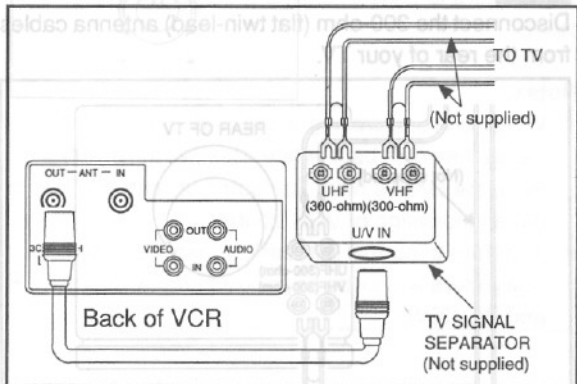


3**FRAME DURING PLAYBACK**

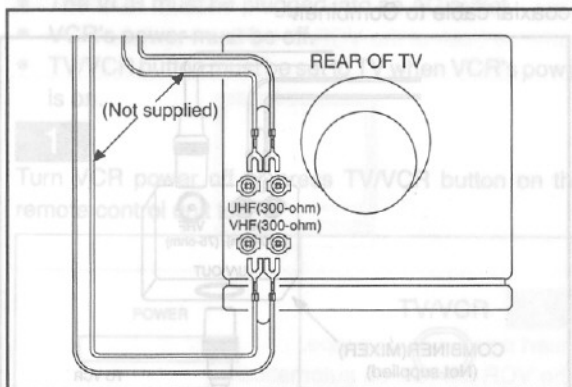
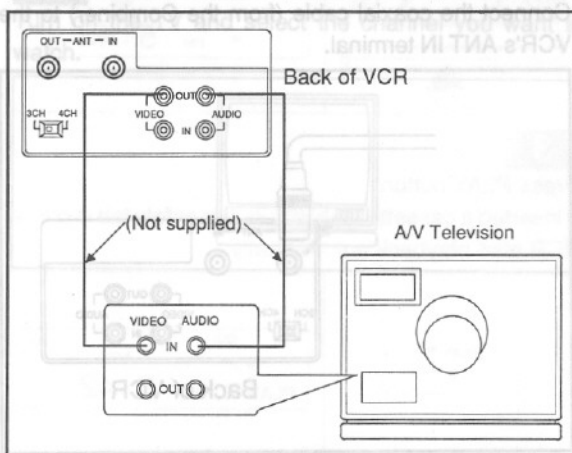
Connect the other end of coaxial cable (from the Combiner) to VCR ANT IN terminal.

**4**

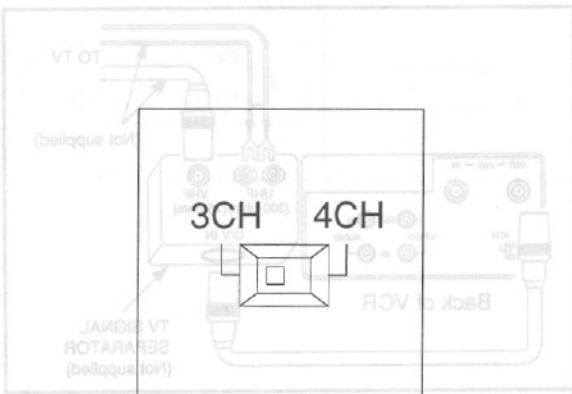
Connect another coaxial cable (not supplied) to the VCR's ANT OUT terminal and connect the other end to a Separator (not supplied).

**5****CONNECTING ONLY TV**

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

**A/V TERMINALS****CONTROLLING VCR INPUT & OUTPUT****VIDEO CHANNEL SETTING (BACK OF VCR)**

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



PREPARATION FOR USE

CHANNEL MEMORY PROGRAMMING

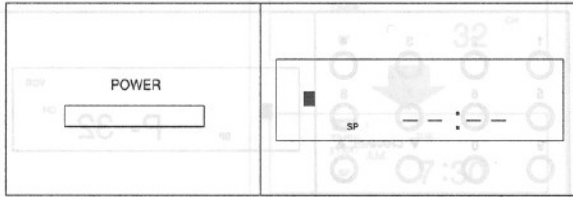
You can program the tuner to scan only the channels you receive in your area. See page 28 for channel designations.

* **Programmed channels are erased when you disconnect the power cord or the power failure occur.**

* In TV mode, the indicator will not display TV.

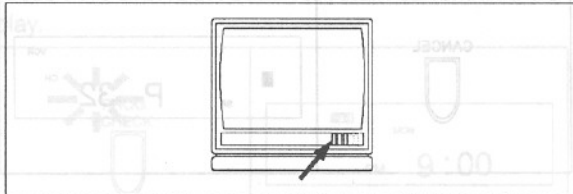
1

Connect the power cord to a standard AC outlet and press POWER button to on.



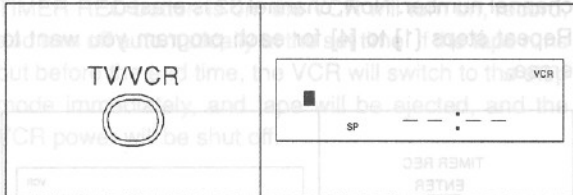
2

Turn on the TV and set the TV channel to CH-3/CH-4 same as back of the VCR CH-3/CH-4 switch.



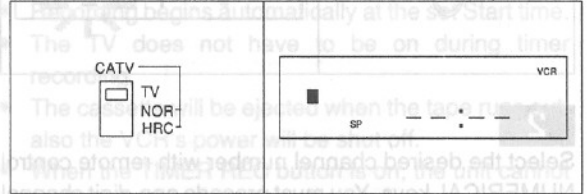
3

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



4

Set the CATV selector switch to the same position as your receiving sources so that TV/CATV appears on the display. If you cannot determine your cable system, please contact your local cable company.

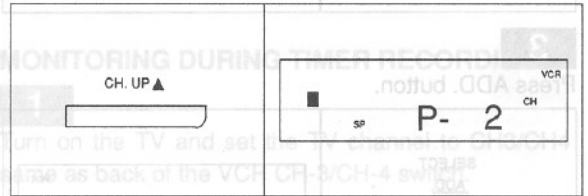


5

Press CH. UP button.

The channel number indicator will begin to change from 2 and up and VCR tuner will begin to search up for the available stations in your area.

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



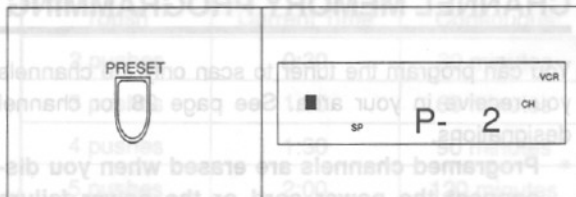
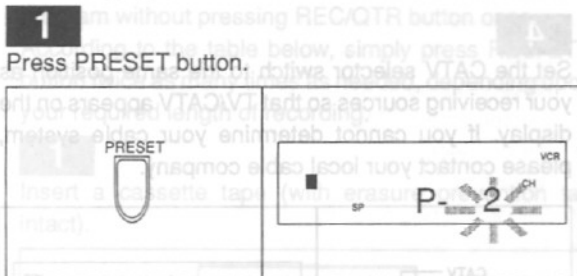
The VCR will continue recording until the preset end time is reached or the tape runs out.

* If you want the memory selected channels to be re-called, you can select the desired channel directly by remote control unit.

To ERASE PRESET CHANNELS

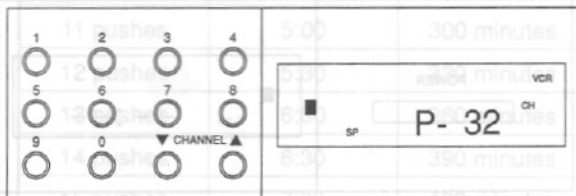
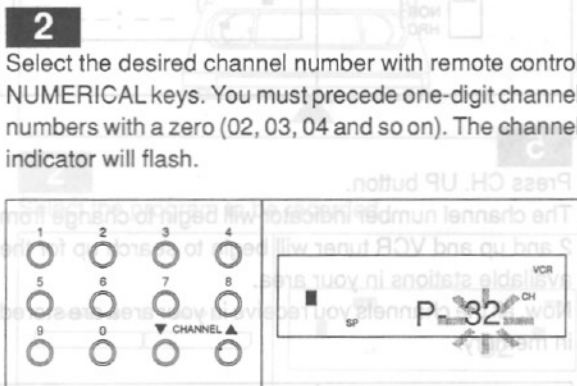
1

Press PRESET button.



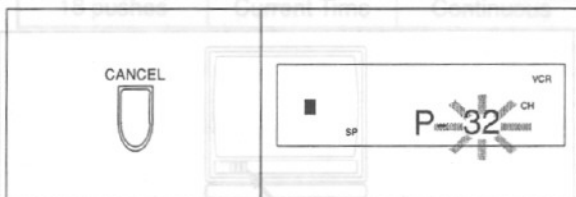
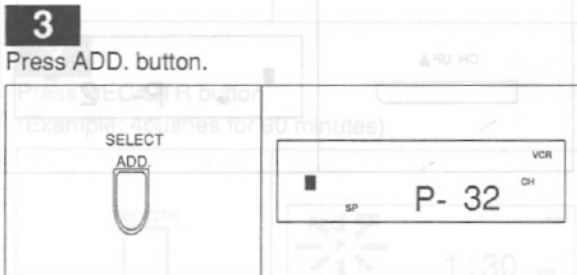
2

Select the desired channel number with remote control NUMERICAL keys. You must precede one-digit channel numbers with a zero (02, 03, 04 and so on). The channel indicator will flash.
(Example: Channel 32)



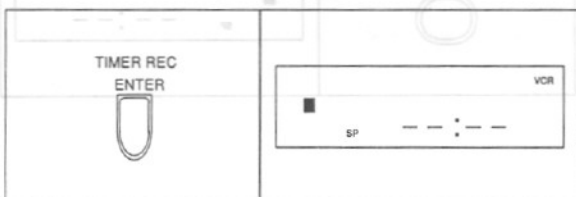
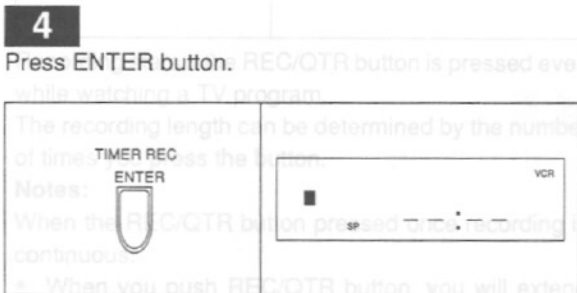
3

Press CANCEL button. Channel indicator will flash.



4

Press ENTER button. The channel indicator will stop flash. Press channel UP or DOWN button to erase the channel number. Now, channel 32 is erased.
Repeat steps [1] to [4] for each program you want to erase.



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.

The table below shows the recording/playback time using T-60, T-120 or T-160 tape in the SP, LP or EP (SLP) mode.

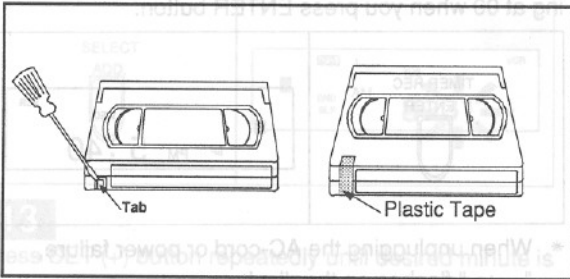
Mode	Cassette		
	T-60	T-120	T-160
SP Mode	1 hour	2 hours	2-2/3 hours
LP Mode	2 hours	4 hours	5-1/3 hours
EP(SLP) Mode	3 hours	6 hours	8 hours

When handling video tapes, take the following precautions

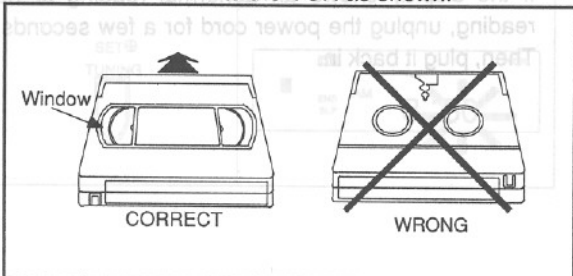
- * Avoid moisture, which can condense on the tape if it is moved from a cold place to a warm one. Playing a tape that has moisture in it will damage the tape and your VCR. Before using a tape with these conditions, wait until the tape has warmed to room temperature and the moisture has evaporated.
- * 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

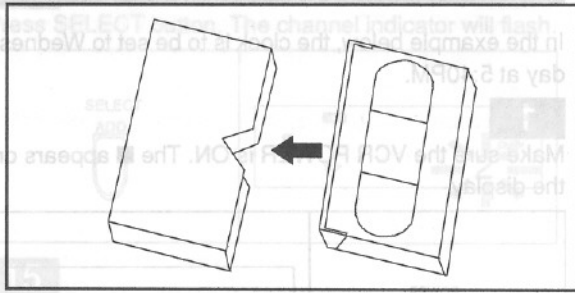
You may prevent accidental erasing of a tape by breaking off the tab on the back edge of the cassette. If you decide to record on the tape again, cover the hole with plastic tape.



Insert the cassette into the VCR as shown.



Store the cassette in its case as shown.

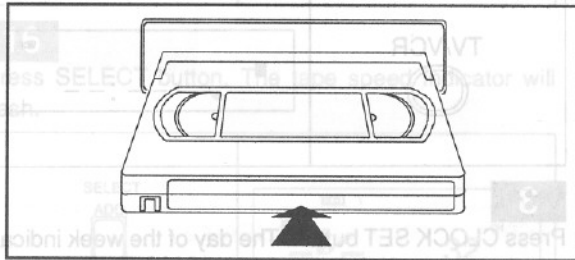


INSERTING A CASSETTE

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

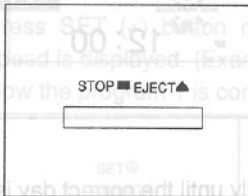
VCR is automatically turned on, and cassette-in indicator will light when the cassette is properly inserted.

REMOVING A CASSETTE



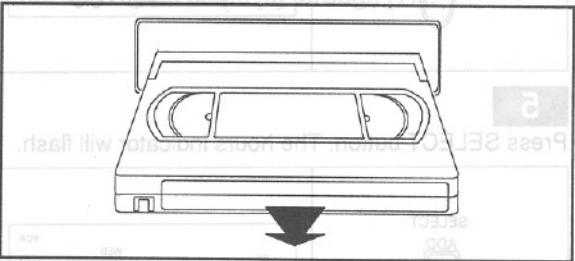
1

Press STOP/EJECT button.



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.

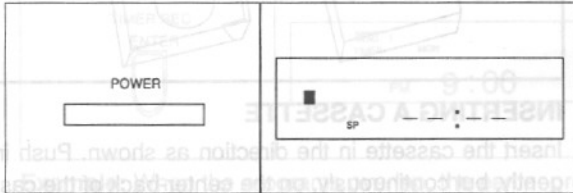


SETTING THE CURRENT TIME

In the example below, the clock is to be set to Wednesday at 5:40PM.

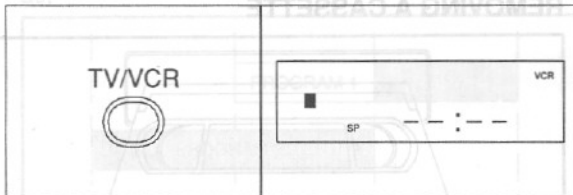
1

Make sure the VCR POWER is ON. The  appears on the display.



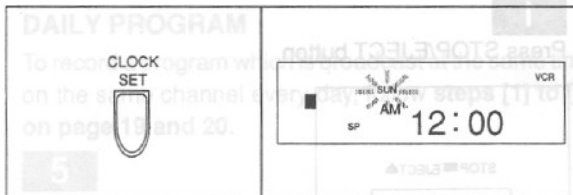
2

Press TV/VCR button on the remote control unit to VCR. VCR appears on the display.



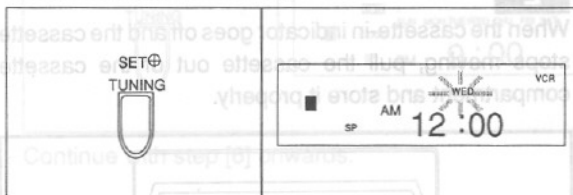
3

Press CLOCK SET button. The day of the week indicator will flash.



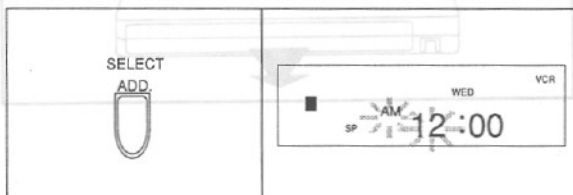
4

Press SET (+) button repeatedly until the correct day is indicated. (Example: WED)



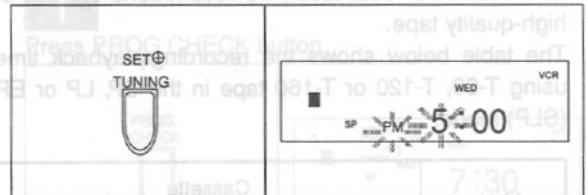
5

Press SELECT button. The hours indicator will flash.



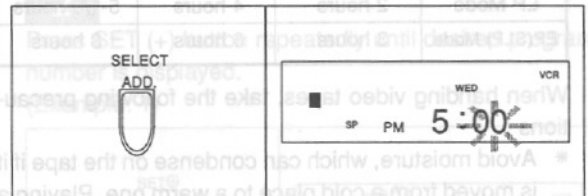
6

Press SET (+) button repeatedly until the correct hour is indicated. (Example: PM5)



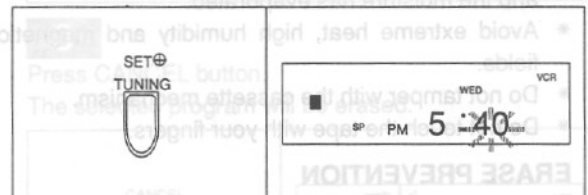
7

Press SELECT button. The minutes indicator will flash.



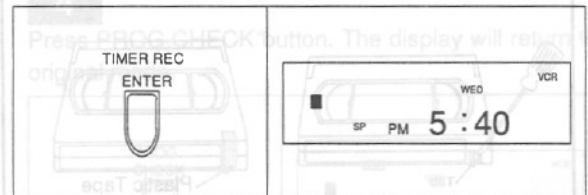
8

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



9

Press ENTER button. Now, the clock time will start. Although seconds are not displayed, they begin counting at 00 when you press ENTER button.



- * When unplugging the AC-cord or 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.

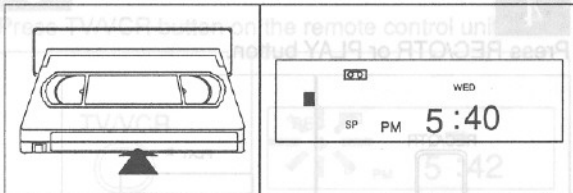


OPERATION

VIEWING AND RECORDING THE SAME PROGRAM

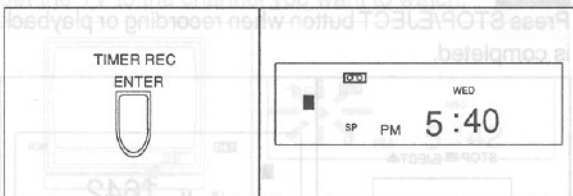
1

Insert a cassette with erasure prevention tab intact. The VCR will turn on automatically.



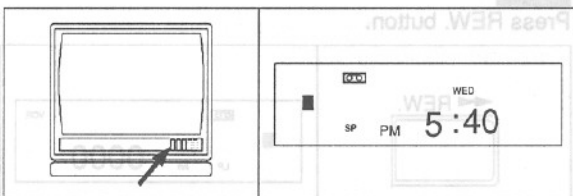
2

Ensure TIMER REC button is off. When TIMER REC is set to on, "TIMER" is displayed.



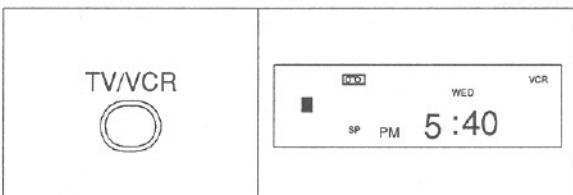
3

Turn on the TV and set the TV channel to CH3/CH4 same as back of the VCR CH-3/CH-4 switch.



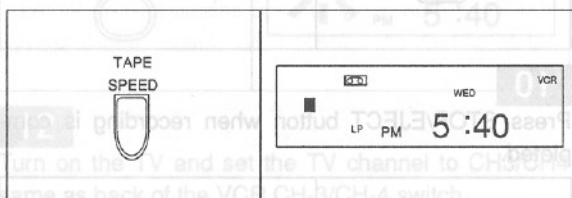
4

Press TV/VCR button on the remote control unit to VCR. VCR appears on the display.



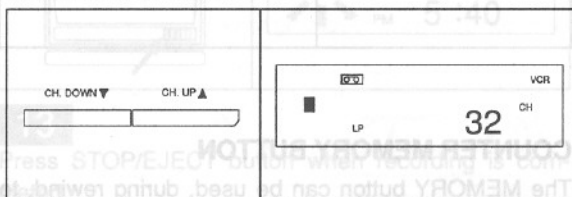
5

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



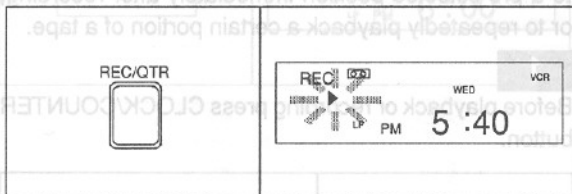
6

Press CH. DOWN or CH. UP button to select the program to be recorded.



7

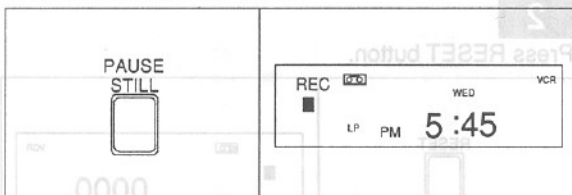
Press REC/QTR button.



If you want to skip some materials while you are recording,

8

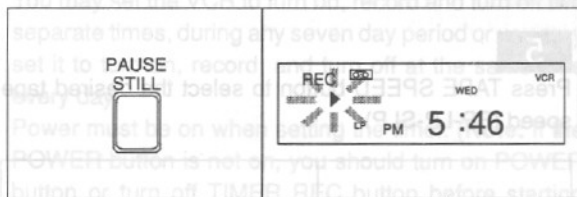
Press PAUSE STILL button.



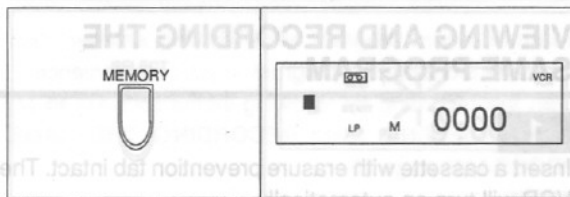
Note: To prevent tape damage, avoid leaving the VCR in the pause mode for more than five minutes. After five minutes, the VCR will automatically switch to the recording mode.

9

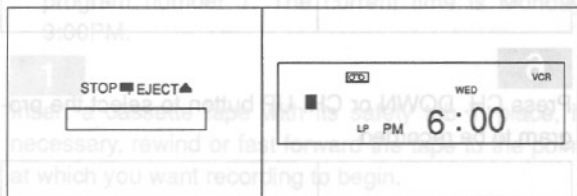
Press PAUSE STILL button again to resume recording.

**3**

Press MEMORY button. MEMO appears on the display.

**10**

Press STOP/EJECT button when recording is completed.



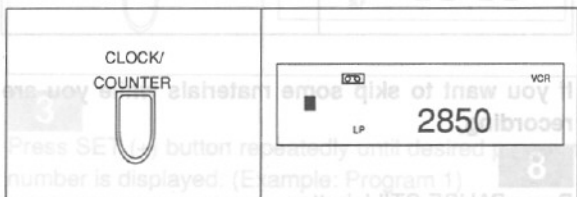
COUNTER MEMORY BUTTON

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

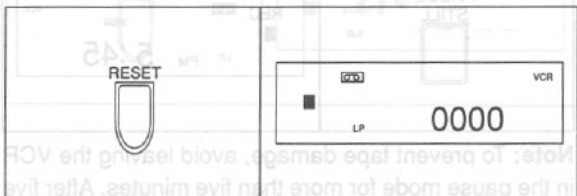
For example, this feature can be used to return the tape to a pre-selected position immediately after recording, or to repeatedly playback a certain portion of a tape.

1

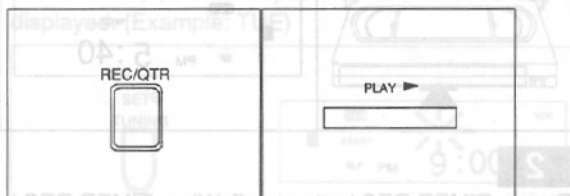
Before playback or recording press CLOCK/COUNTER button.

**2**

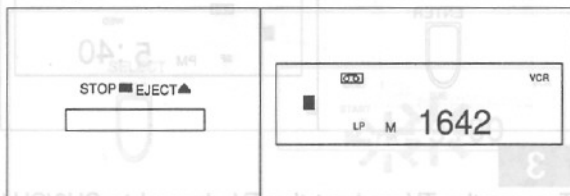
Press RESET button.

**4**

Press REC/QTR or PLAY button.

**5**

Press STOP/EJECT button when recording or playback is completed.

**6**

Press REW. button.



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

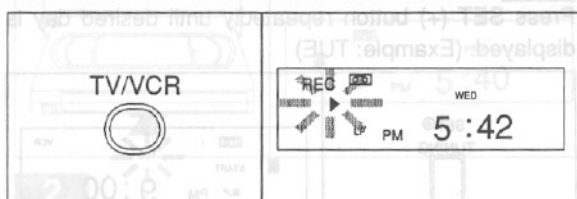


RECORDING ONE PROGRAM WHEN VIEWING ANOTHER

You can record program while viewing another, then playback the recorded program at your convenience. Start the recording by following instructions [1] to [7] under "VIEWING AND RECORDING THE SAME PROGRAM" page 15.

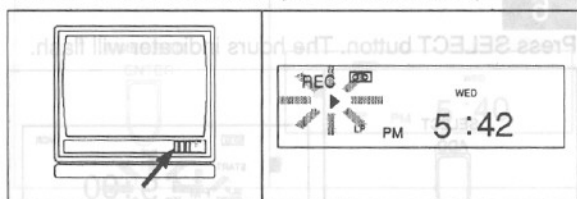
8

Press TV/VCR button on the remote control unit to TV.



9

Set the TV to the channel you want to watch.



4

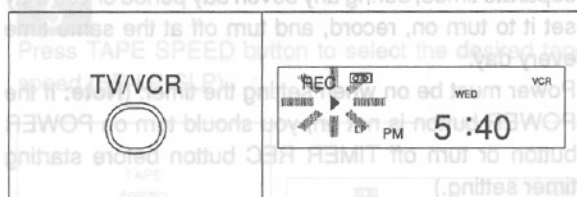
Press TV/VCR button on the remote control unit to VCR.



TO MONITOR RECORDING

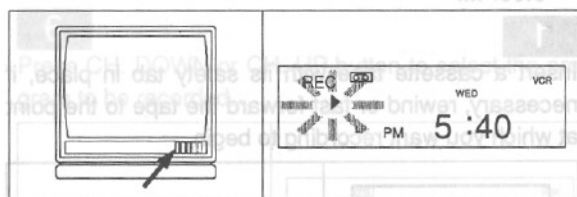
11

Press TV/VCR button on the remote control unit to VCR.



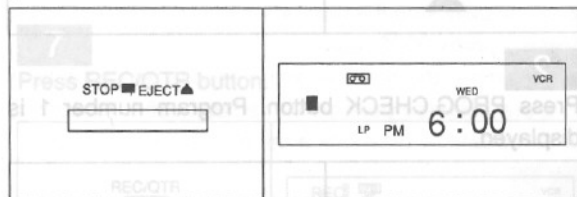
12

Turn on the TV and set the TV channel to CH3/CH4 same as back of the VCR CH-3/CH-4 switch.



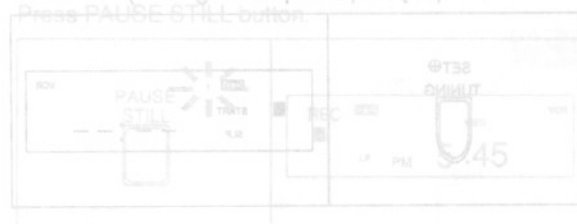
13

Press STOP/EJECT button when recording is completed.



3

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



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.

AUTOMATIC TIMER RECORDING

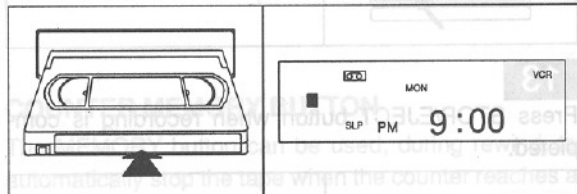
You may set the VCR to turn on, record and turn off two separate times, during any seven day period or you may set it to turn on, record, and turn off at the same time every day.

Power must be on when setting the timer. (**Note:** If the POWER button is not on, you should turn on POWER button or turn off TIMER REC button before starting timer setting.)

* In the example below, the timer is being set to record channel 32 from 7:30AM to 8:50AM on Tuesday in program number 1. The current time is Monday 9:00PM.

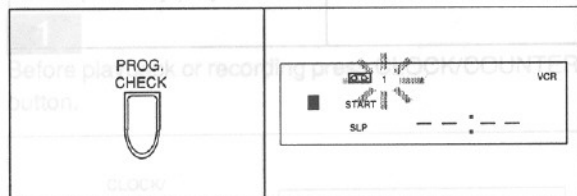
1

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 recording to begin.



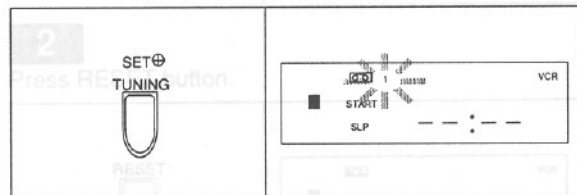
2

Press PROG.CHECK button. Program number 1 is displayed.



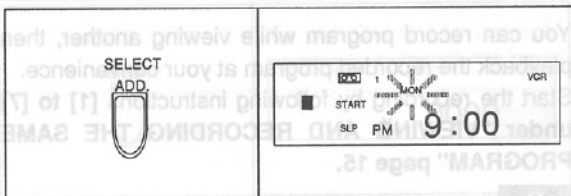
3

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



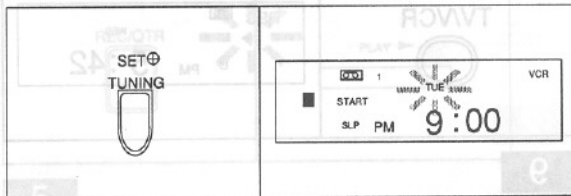
4

Press SELECT button. The day indicator will flash.



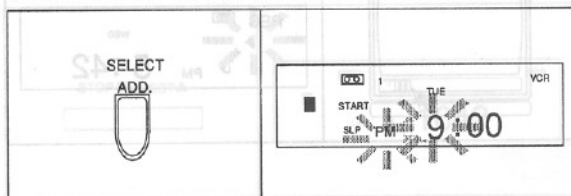
5

Press SET (+) button repeatedly until desired day is displayed. (Example: TUE)



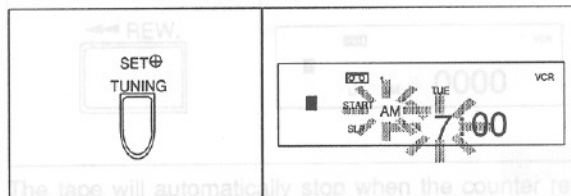
6

Press SELECT button. The hours indicator will flash.



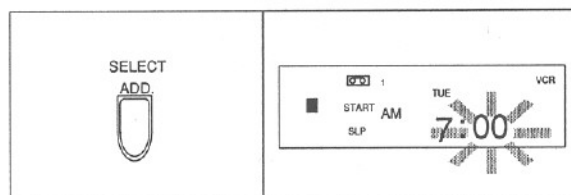
7

Press SET (+) button repeatedly until desired hour is displayed. (Example: AM7)



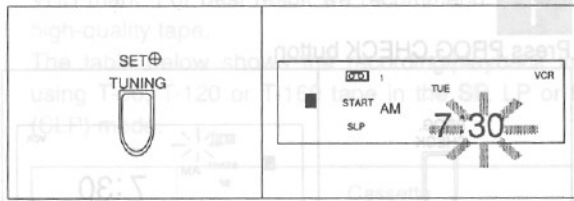
8

Press SELECT button. The minutes indicator will flash.

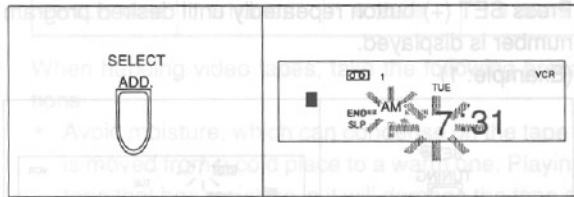


9

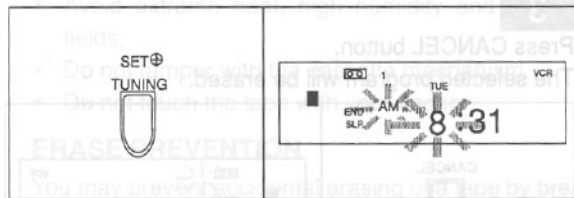
Press SET (+) button repeatedly until desired minute is displayed. (Example: 30)

**10**

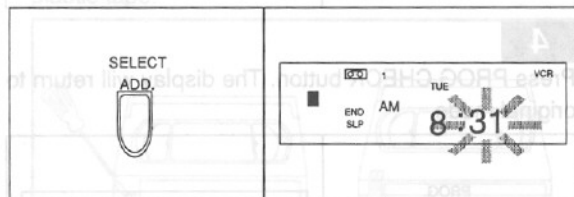
Press SELECT button. The END indicator will illuminate and hours indicator will flash.

**11**

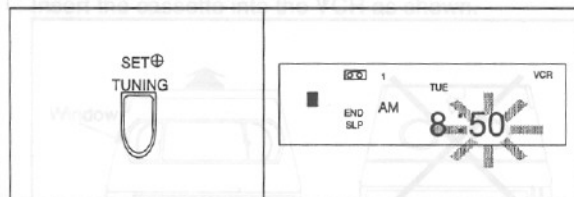
Press SET (+) button repeatedly until desired hour is displayed. (Example: AM 8)

**12**

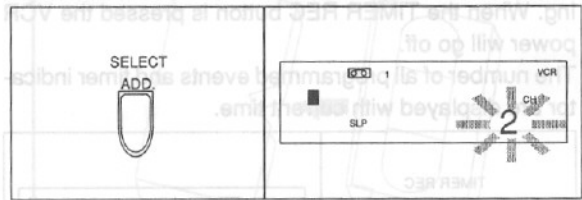
Press SELECT button. The minutes indicator will flash.

**13**

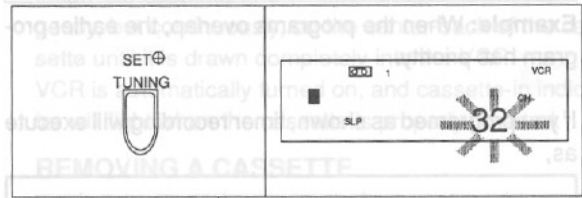
Press SET (+) button repeatedly until desired minute is displayed. (Example: 50)

**14**

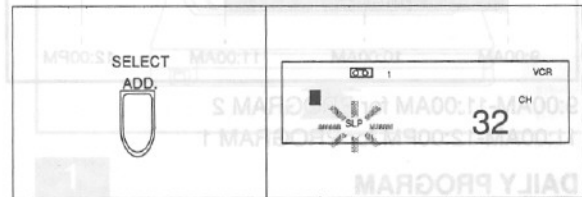
Press SELECT button. The channel indicator will flash.

**15**

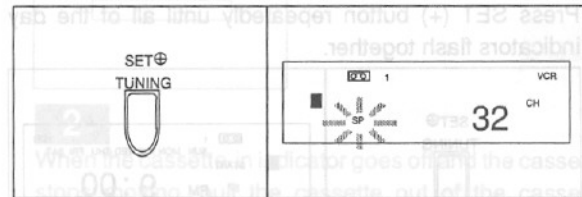
Press SET (+) button repeatedly until desired channel is displayed. (Example: Channel 32)

**16**

Press SELECT button. The tape speed indicator will flash.

**17**

Press SET (+) button repeatedly until desired tape speed is displayed. (Example: SP)
Now the program 1 is completed.

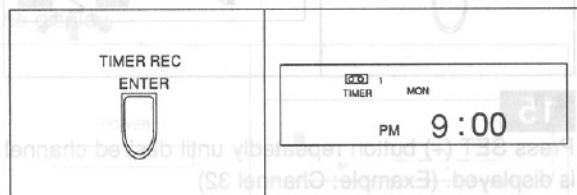


If you want to set another program press SELECT button and repeat steps [3] through [17].

18

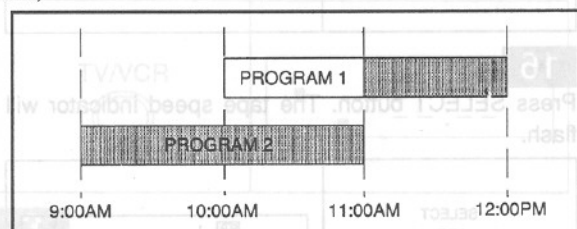
Press **TIMER REC** button to set automatic timer recording. When the **TIMER REC** button is pressed the VCR power will go off.

The number of all programmed events and timer indicator are displayed with current time.



Example: When the programs overlap, the earlier program has priority.

If you programmed as shown, timer recording will execute as,



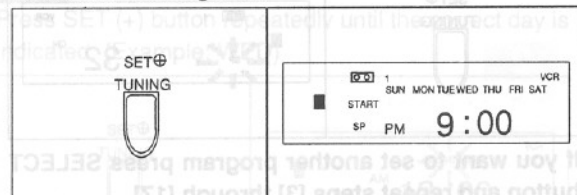
9:00AM-11:00AM for PROGRAM 2
11:00AM-12:00PM for PROGRAM 1

DAILY PROGRAM

To record a program which is broadcast at the same time on the same channel every day, follow **steps [1] to [4]** on page 19 and 20.

5

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



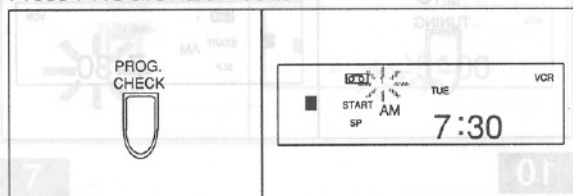
Continue with step [6] onwards.

TO CANCEL A PRE-PROGRAM

- * Power must be ON.
- * **TIMER REC** button must be in OFF position.

1

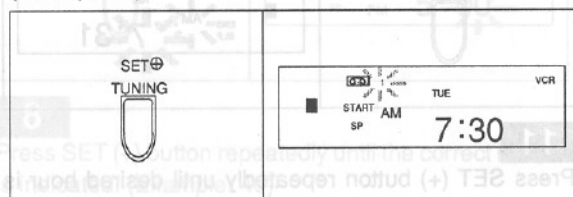
Press **PROG.CHECK** button.



2

Press **SET (+)** button repeatedly until desired program number is displayed.

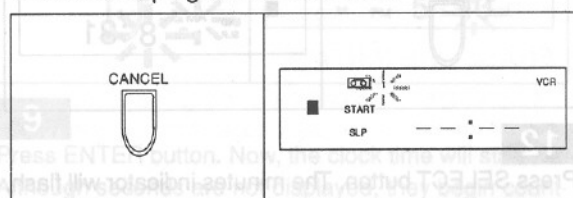
(Example: 1)



3

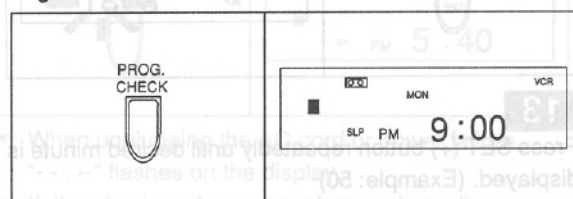
Press **CANCEL** button.

The selected program will be erased.



4

Press **PROG.CHECK** button. The display will return to original mode.



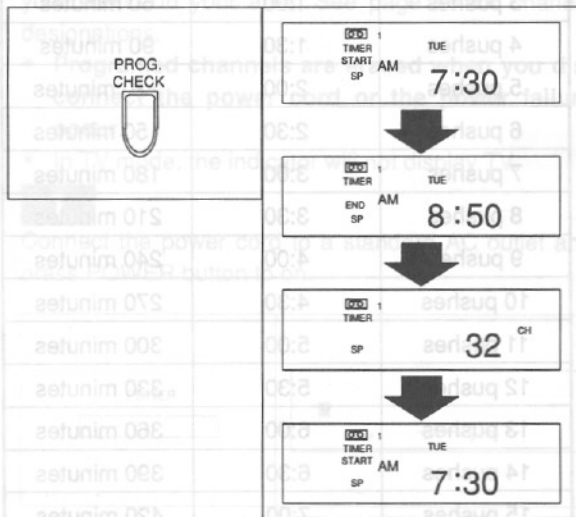
CHECKING THE START/END TIME

TIMER REC button must be ON position.

After setting the timer recording, to confirm the program number, Start/End time and channel number.

1

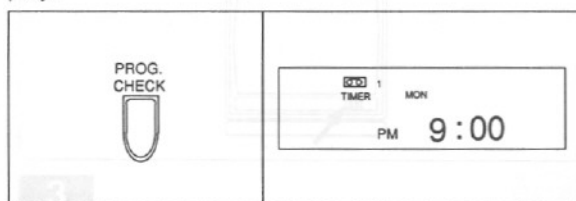
Press PROG.CHECK button.



Press SET button to check the next program number.

2

Press PROG.CHECK button to return current time display.



Note: TV/VCR button on the remote control unit to VCR. Once you have set the timer Start/End time and the TIMER REC button is on, the VCR will turn on, record, and turn off automatically at the set time. If the tape runs out before the end time, the VCR will switch to the stop mode immediately, and tape will be ejected, and the VCR power will be shut off.

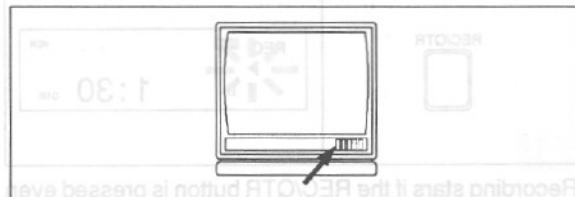
TIMER RECORDING HINTS

- * Make sure the channel you want to record is properly tuned in advance.
- * The erase prevention tab on the cassette must be in place (or you must put tape over the hole).
Note: A cassette without erase prevention tab will be ejected when TIMER REC button is on.
- * It is not necessary to press RECORD button for timer recording.
- * Recording begins automatically at the set Start time.
- * The TV does not have to be on during timer recording.
- * The cassette will be ejected when the tape runs out, also the VCR's power will be shut off.
- * When the TIMER REC button is on, the unit cannot be operated manually.
- * If the DEW indicator comes on during timer recording, the unit will stop and will not resume recording, even when the moisture has evaporated.
- * To stop timer recording, turn the TIMER REC button off.
- * When the TIMER REC button is on, the auto-rewind feature will not work.

MONITORING DURING TIMER RECORDING

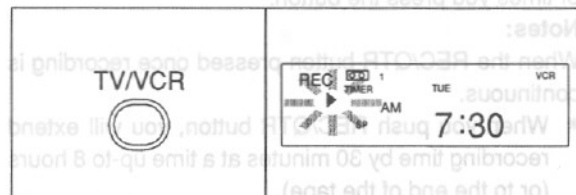
1

Turn on the TV and set the TV channel to CH3/CH4 same as back of the VCR CH-3/CH-4 switch.



2

Press TV/VCR button on remote control unit to VCR.



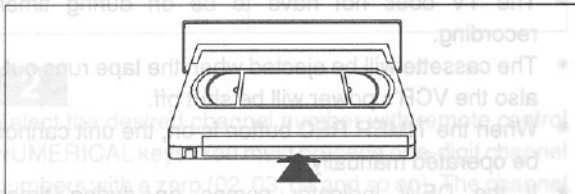
The VCR will continue recording until the preset end time is reached or the tape runs out.

QUICK TIMER RECORDING

The quick record function enables you to record a program without pressing REC/QTR button once. According to the table below, simply press REC/QTR button twice as many times as needed, depending upon your required length of recording.

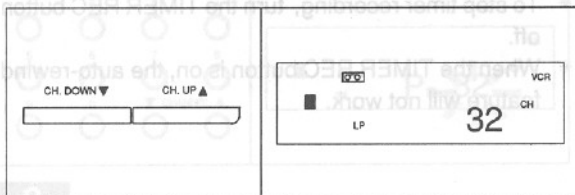
1

Insert a cassette tape (with erasure prevention tab intact).



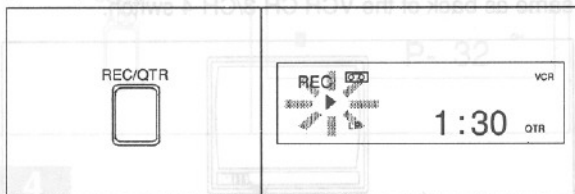
2

Select the program to be recorded.



3

Press REC/QTR button
(Example: 4pushes for 90 minutes)



Recording starts if the REC/QTR button is pressed even while watching a TV program.

The recording length can be determined by the number of times you press the button.

Notes:

When the REC/QTR button pressed once recording is continuous.

- * When you push REC/QTR button, you will extend recording time by 30 minutes at a time up-to 8 hours (or to the end of the tape).
- * Please note that at SLP (tape speed) mode maximum recording is 8 hours using T-160 (or 6 hours using T-120).

Push(es)	DISPLAY	LENGTH
1push	Current Time	Continuous
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	Current Time	Continuous



4

Press ENTER button. The channel indicator will...



PLAYBACK

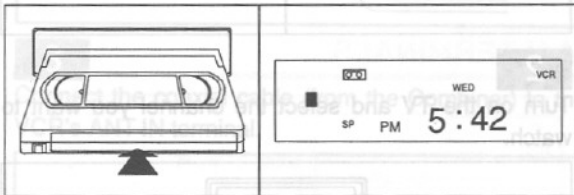
1

Turn on the TV and set the TV channel to CH3/CH4 same as back of the VCR CH-3/CH-4 switch.



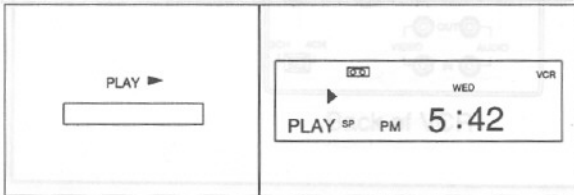
2

Insert a pre-recorded tape.
The VCR will turn on automatically.



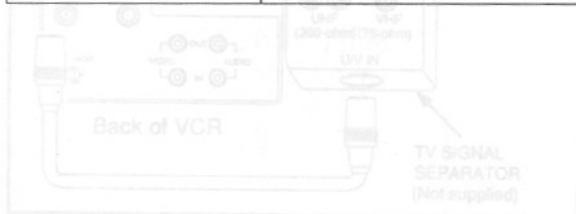
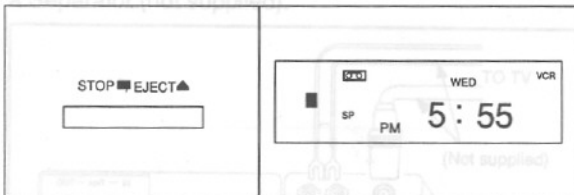
3

Press PLAY button.
If inserted a cassette tape with-out its safety tab in place, VCR start playback automatically.



4

Press STOP/EJECT button when playback is completed.



AUTO REWIND-EJECT

When the end of a tape is reached during recording, playback, or fast-forward, the tape will automatically rewind to the beginning (or to the preset counter memory position). The cassette mechanism will disengage after rewinding and the tape will be ejected and the VCR will shut itself off.

Notes:

- * The tape will not auto-rewind during timer recording or Quick Timer Recording.
- * When tape is rewound to the preset memory position, tape will not be ejected and VCR will not shut off.

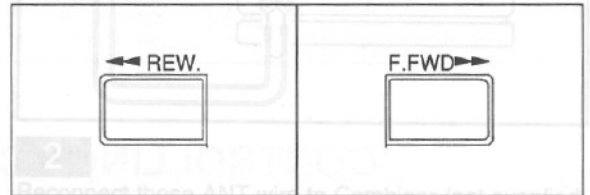
CUE AND REVIEW (VISUAL SEARCH)

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 used in finding a particular section of a tape.

Notes:

- * When video searching a pre-recorded tape, it may cause the noise bars (white lines) to move vertically. Also, the picture color fluctuates on and off. This is not an indication of VCR trouble.
- * To return to normal playback, press PLAY button.
- * The picture will not be as good as normal during CUE and REVIEW.



VHF and UHF terminal, and then connect the coaxial to

2 STEP SEARCH

This VCR has 2 speeds of visual search with tapes recorded in LP or SLP (EP) mode.

- 1) Push the button for F.FWD or REW during the playback, to view the picture at a faster than normal speed.
- 2) If you want to view the picture at faster than above 1), you can view the picture by holding down the F.FWD or REW button during playback.



STILL FRAME DURING PLAYBACK

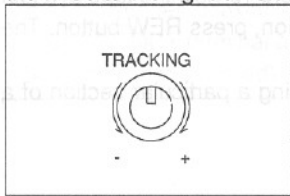
If you press PAUSE STILL button during playback with tapes recorded in EP (SLP) mode, the picture will "freeze" on the screen. You may use this feature to study details of a particular screen. Press PLAY button again to continue playback.

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

TRACKING CONTROL KNOB

This knob is used to help eliminate video "noise" (lines and dots on the screen). For tapes recorded on your VCR, the center setting is usually best. Tapes recorded on other VCRs required adjustment.

If you encounter video "noise" during playback adjust the knob to the right or left to achieve the best picture.

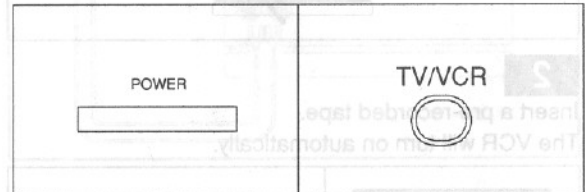


VIEWING ONLY TV (WITHOUT RECORDING)

- * The VCR must be plugged into an AC outlet.
- * VCR's power must be off.
- * TV/VCR button must be set to TV when VCR's power is on.

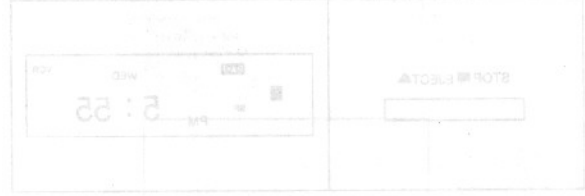
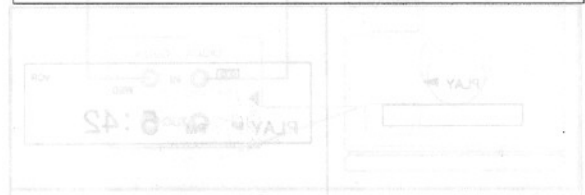
1

Turn VCR power off or press TV/VCR button on the remote control unit to TV.



2

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



REMOTE CONTROL OPERATION

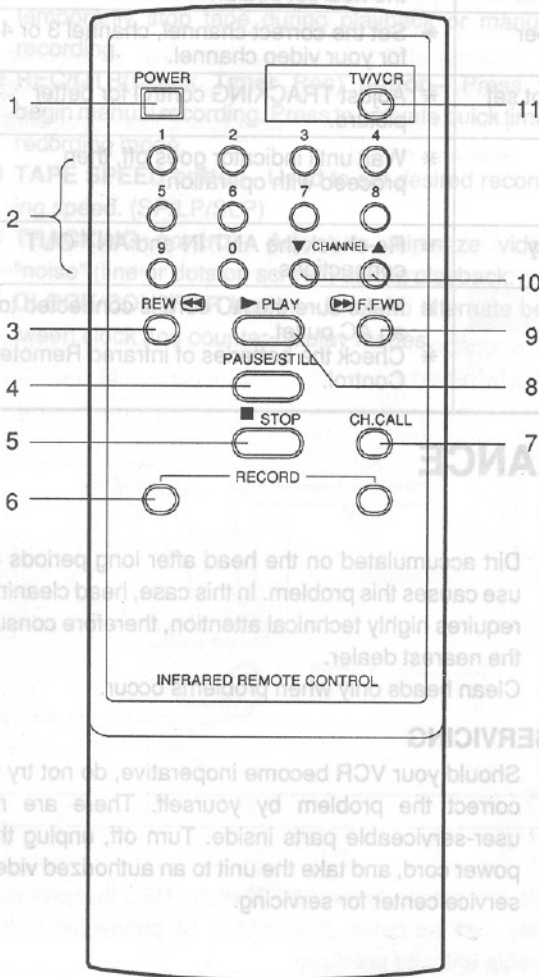
You can operate all of your VCR's tape transport functions from the Remote Control (included). The buttons on the Remote Control have the same functions as the corresponding buttons on the VCR.

* This remote control unit is designed to work with this VCR.

HOW TO USE THE REMOTE CONTROL

- 1 **POWER button**— To turn power on and off.
- 2 **NUMERICAL keys**— To select desired channels. They cannot be used to set desired channel during Timer Recording. If you want to select channel among 1 to 9, first 0 Key and then push desired Key among 1 to 9.

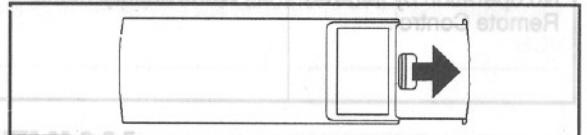
- 3 **REW button**— Press to rewind tape, or to view video in reverse during play mode at a faster than normal speed. Press PLAY button to return VCR to normal playback speed.
- 4 **PAUSE / STILL button**— To stop the tape temporarily during playback or recording. To view a still picture during playback.
- 5 **STOP button**— To stop the tape.
- 6 **RECORD buttons**— To begin recording, push both 2 buttons (1 is a safety button) together.
- 7 **CH. CALL button**— Press to call channel display.
- 8 **PLAY button**— To playback the tape.
- 9 **F.FWD button**— Press to advance tape faster than normal 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.
- 10 **CHANNEL buttons**— To select desired channel by pressing either "▲" or "▼" button. They cannot be used during Timer Recording.
- 11 **TV/VCR button**— To select the TV or VCR.



INSTALLING THE BATTERIES

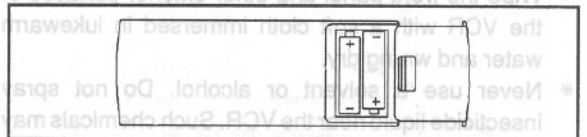
1

Slide the battery compartment cover on the remote unit in the direction of the arrow.



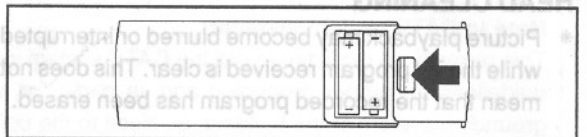
2

Insert 2 "UM-3" "AA" "IEC R06" penlight batteries into the battery compartment in the direction as indicated by the polarity (+/-) markings.



3

Replace the cover.



TROUBLESHOOTING GUIDE

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 locate and remedy the problem.

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
No power.	<ul style="list-style-type: none"> * Power cord is not connected. * POWER button is set to off. * TIMER REC is on. 	<ul style="list-style-type: none"> * Connect power cord to AC outlet. * Set the POWER button to on. * Set TIMER REC to off.
Timer recording is not possible.	<ul style="list-style-type: none"> * The program timer is set incorrectly. * The TIMER REC set to off. 	<ul style="list-style-type: none"> * Set the program timer correctly. * Set TIMER REC to on.
Rec mode cannot be engaged.	<ul style="list-style-type: none"> * The record safety tab on cassette is missing. 	<ul style="list-style-type: none"> * Place vinyl tape over missing safety tab.
Picture is poor on playback.	<ul style="list-style-type: none"> * The TV channel selector is not set to the proper channel. * The TV fine tuning is not set correctly. 	<ul style="list-style-type: none"> * On playback, set the TV channel 3 or 4 for video channel. * Fine tune your TV.
Noise in picture on playback.	<ul style="list-style-type: none"> * Video head is dirty. 	<ul style="list-style-type: none"> * Head cleaning is necessary, consult the nearest dealer.
No picture on playback.	<ul style="list-style-type: none"> * The TV is not set to the proper channel. 	<ul style="list-style-type: none"> * Set the correct channel, channel 3 or 4 for your video channel.
Playback picture is partially noisy.	<ul style="list-style-type: none"> * The TRACKING control is not set correctly. 	<ul style="list-style-type: none"> * Adjust TRACKING control for better picture.
Operation buttons do not work when power is on and cassette is inserted.	<ul style="list-style-type: none"> * DEW indicator is on. 	<ul style="list-style-type: none"> * Wait until indicator goes off, then proceed with operation.
On-the-air TV programs cannot be seen.	<ul style="list-style-type: none"> * Connections are not correctly made. 	<ul style="list-style-type: none"> * Re-check the ANT IN and ANT OUT connections.
No operation by infrared Remote Control.	<ul style="list-style-type: none"> * Weak battery. 	<ul style="list-style-type: none"> * Make sure the AC cord is connected to an AC outlet. * Check the batteries of infrared Remote Control.

MAINTENANCE

CABINET CLEANING

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

HEAD CLEANING

- * Picture playback may become blurred or interrupted while the TV program received is clear. This does not mean that the recorded program has been erased.

Dirt accumulated on the head after long periods of use causes this problem. In this case, head cleaning requires highly technical attention, therefore consult the nearest dealer.

Clean heads only when problems occur.

SERVICING

- * Should your VCR become inoperative, do not try to correct the problem by yourself. There are no user-serviceable parts inside. Turn off, unplug the power cord, and take the unit to an authorized video service center for servicing.

CABLE SPECIFICATIONS

GENERAL SPECIFICATIONS

Television system	:NTSC, TV standard
Recording system	:Rotary two-head helical scan system
Tape width	:1/2inch (12.65mm)
Tape speed	
SP	:33.35mm/sec.
LP	:16.67mm/sec.
EP (SLP)	:11.12mm/sec.
Tuner channel	
VHF	:#2~#13
UHF	:#14~#83
Cable channel	:5A, A-5 ~ A-1, A ~ W
RF converter	:Built-in VHF converter
Converter output	:VHF Channel 3 or 4.
Timer indication	:AM/PM 12-hour system
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
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	:28 Watts
Dimensions	:360 (W) x 92 (H) x 329 (D) mm

Weight	:5.3Kg. (Approx.)
Accessories, included	:Remote control unit :Owners Manual :Coaxial cable

*** Designs and specifications are subject to change without notice.**

- Shield it from direct sunlight and keep it away from sources of intense heat.
- Avoid dusty or humid places.
- Avoid place 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.

Note. DEW indicator may not go on for first 15 minutes even if moisture condensation may occur inside the unit when room temperature or humidity changes suddenly. In this case, do not insert the cassette for first 30 minutes.

IMPORTANT COPYRIGHT INFORMATION

To your purchase to aid identification in case of theft.

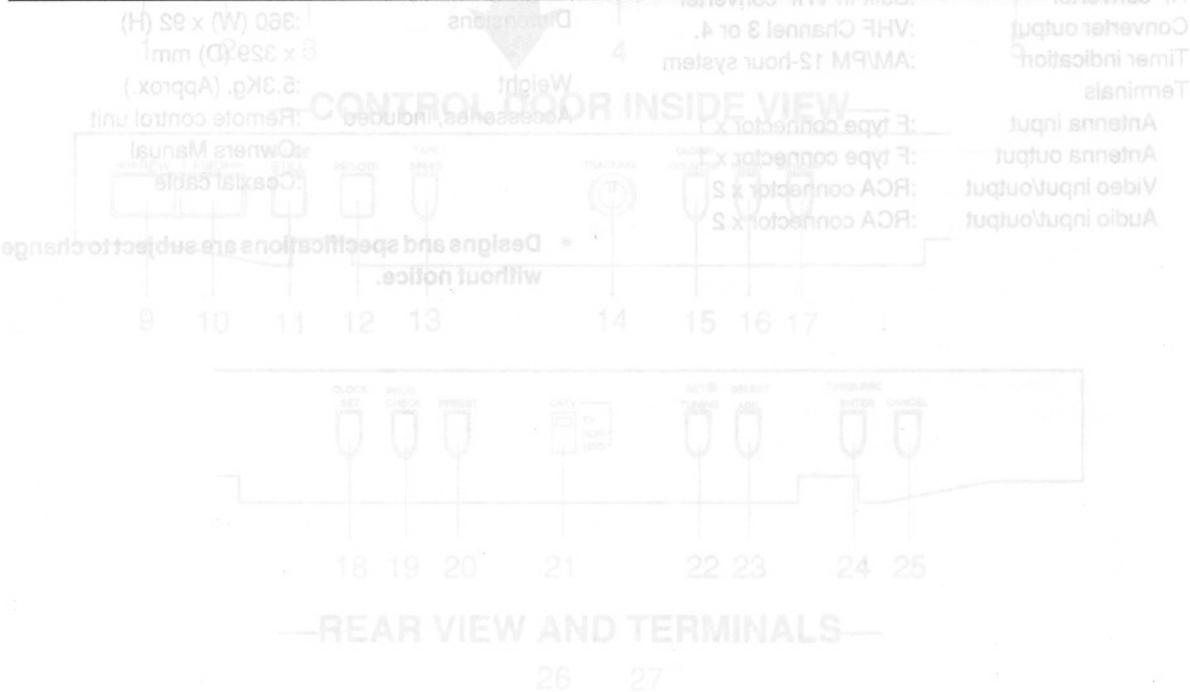
Serial No.	
Model No.	6400
Dealer Phone No.	
Dealer Address	
Dealer Purchased from	
Date of Purchase	

OPERATING INSTRUCTIONS CABLE CHANNEL DESIGNATIONS

This model is capable of receiving 41 cable channels. The channels are displayed as 1~36, AND 95~99. 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	WILL NOT RECEIVE				A-5	A-4	A-3	A-2	A-1
VCR Display	31	32	33	34	35	36	37 ~ 94				95	96	97	98	99



This 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 Purchases from	
Dealer Address	
Dealer Phone No.	
Model No.	6400
Serial No.	

FUNAI USA CORPORATION d/b/a SYMPHONIC LIMITED WARRANTY

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

DURATION:

PARTS: FUNAI USA CORP./SYMPHONIC 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 USA CORP./SYMPHONIC 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 purchase. 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 is void and of no effect if any serial numbers on FUNAI/SYMPHONIC product are altered, replaced, defaced or missing. This FUNAI/SYMPHONIC warranty does not apply to any FUNAI/SYMPHONIC product not purchased and used in the United States.

This warranty only covers failures due to defects in material or workmanship which occurs 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 USA CORP./SYMPHONIC, 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, ANY COSMETIC PARTS, COMPLETE ASSEMBLY PARTS.

FUNAI USA CORP./SYMPHONIC 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/SYMPHONIC, ALL OTHER WARRANTIES INCLUDING THE WARRANTY OF MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED BY FUNAI/SYMPHONIC AND ITS REPRESENTATIVES IN THE UNITED STATES.