

Video Cassette Recorder
Model VR9720AT01

VHS HQ



Operating Instructions

MAGNAVOX

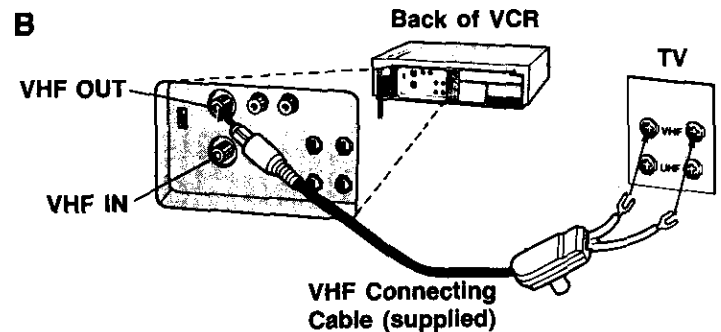
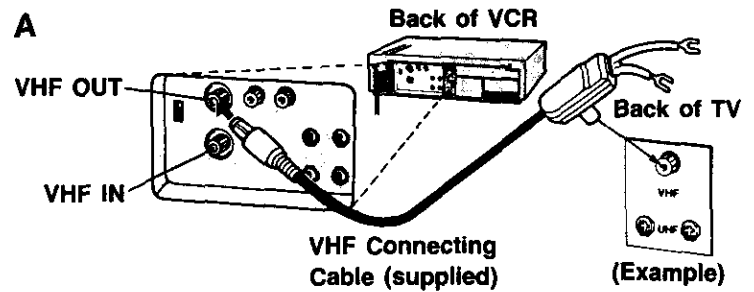
To GET STARTED

Taking the steps shown on this page will prepare your VCR, so you can start a playback to watch a tape. Steps 1 and 2 are one time system setup steps.

VCR TO TV SYSTEM CONNECTION

- 1 Connect the supplied VHF Connecting Cable from the VCR to the TV as shown here.

Follow illustration A or B depending on the type of terminals available on the back of your TV.

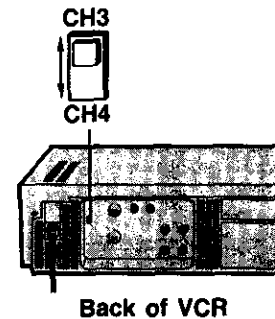


SELECT VCR CHANNEL (CHANNEL 3 OR 4)

- 2 Your VCR must control one TV channel permanently just as a TV broadcast station does. To decide which channel to use, select either channel 3 or 4 with the Channel 3/4 switch on the back of the VCR. To avoid local interference, the channel 3/4 switch position you choose should match the number of the TV channel that is not normally broadcast in your area.

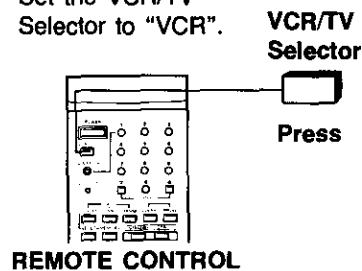
Now, tune your TV to the same channel that you selected for the channel 3 or 4 switch.

(VCR Monitor Channel)
CHANNEL 3/4 Switch

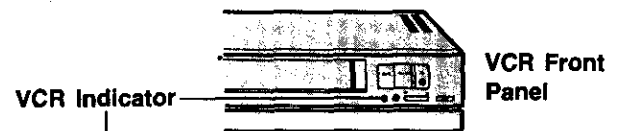


SELECT YOUR VCR OR TV FOR VIEWING

- 3 Set the VCR/TV Selector to "VCR".



once
or
twice



ON: TO WATCH A VIDEO PLAYBACK OR TUNE CHANNELS AT VCR WITH THE CHANNEL UP/DOWN KEYS.
OFF: TO WATCH AND TUNE CHANNELS AT THE TV.

Refer to the separate Basic Guide For VCR Connections and select the section with details on the particular hookup you want to use.

TABLE OF CONTENTS

VR9720AT01

INTRODUCTION

We are pleased to introduce to you one of the most sophisticated viewing and entertainment products available today.

This manual is arranged to get you started easily so you can begin to enjoy the world of video as soon as possible. On the facing page you will find the basic steps described for setting up your VCR to view tapes on your TV and to record. Keep this manual handy to serve as a quick guide to the video features on your new VCR.

FEATURES

- New Compact Design
- HQ (High Quality) System
- Frequency Synthesizer Tuning with Auto Set Feature
- On Screen Display Programming
- Special Effects Playback
 - Fast Search
 - Still Picture
- One Touch Recording
- Unattended (Timer) Recording
- Auto Operation Functions
- Wireless Remote Control

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WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

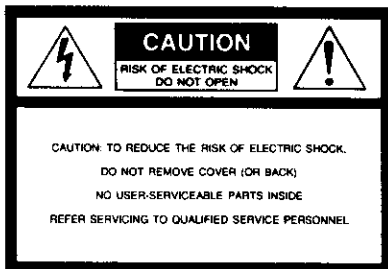
This video recorder equipped with the HQ System is compatible with existing VHS equipment.

N.A.P. CONSUMER ELECTRONICS CORP. recommends that you use only cassette tapes which have been tested and inspected for use in 2, 4, 6 and 8 hour video cassette recorders, and which are labeled with the **VHS** mark.

The use of tapes which have not been tested and inspected for 2, 4, 6 and 8 hour recorders may result in poor picture quality, excess deposits on the VIDEO head, which may not be covered by the Warranty if damage occurs.

CAUTION: To prevent electric shock do not use this (polarized) plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

ATTENTION: Afin de prévenir tout risque des chocs électriques, ne pas utiliser de rallonge avec cette fiche polarisée. De plus, ne pas brancher cette fiche dans quelque prise de courant que ce soit si les lames ne peuvent être insérées à fond sans laisser de partie découverte.



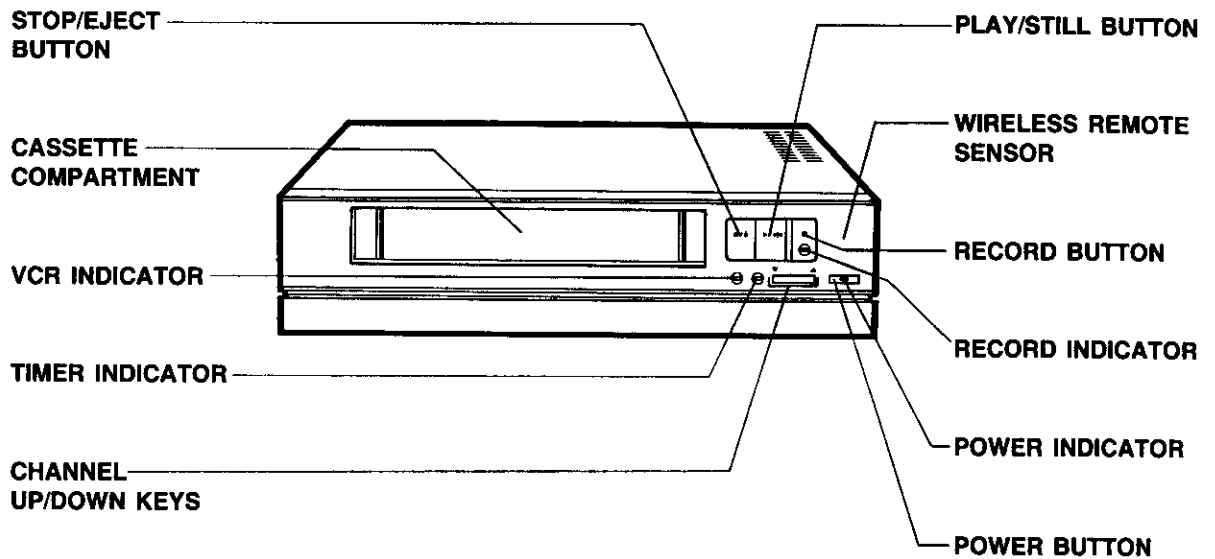
This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.



This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

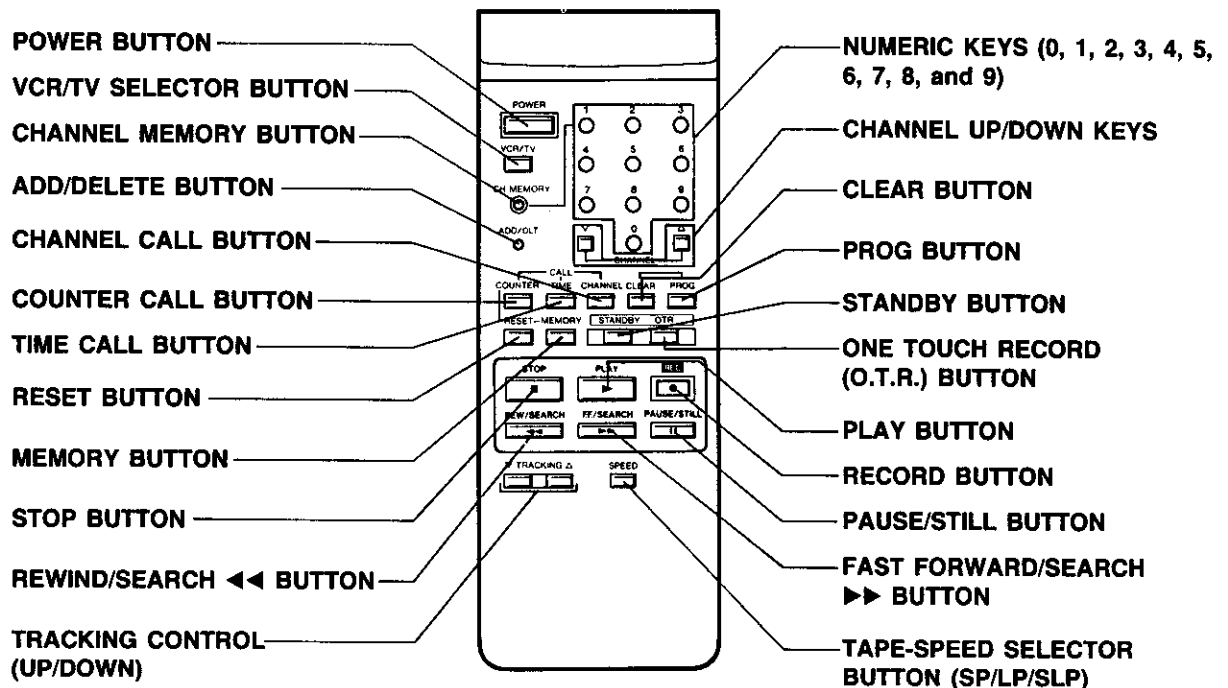
DESCRIPTION OF CONTROLS

FRONT



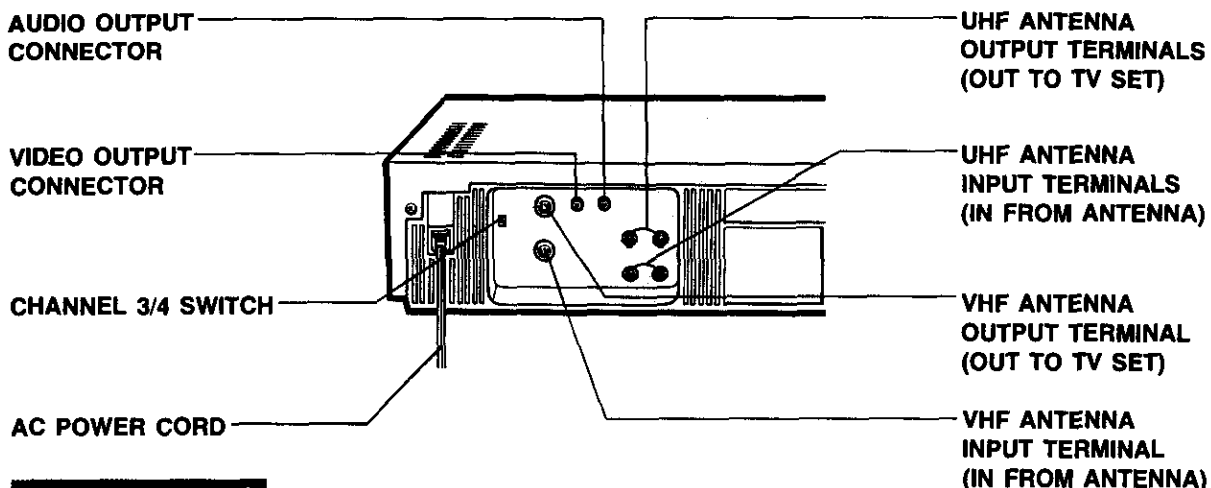
WIRELESS REMOTE CONTROL

Various VCR function controls are conveniently available with your Wireless Remote Control.



See page 5 for Battery Replacement Caution.

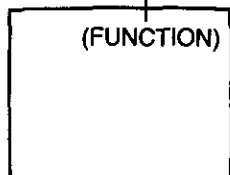
REAR



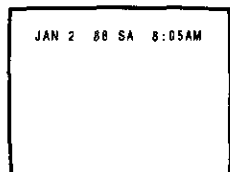
OSD INDICATIONS

The following on-screen overlays will appear automatically for a few seconds when one of the main function buttons is pressed on the remote control or at the VCR. The channel currently tuned-in will be displayed automatically for a few seconds when the power is first turned on, whenever the channel is changed, or when the CHANNEL CALL Button is pressed thereafter.

STOP, EJECT, PLAY, REC, FF, REW, PAUSE, TIME, DATE, CHANNEL INDICATION, TAPE COUNTER/COUNTER MEMORY, TAPE SPEED, STANDBY SET (indicates the Preset O.T.R. mode is set), OTR (whenever Preset OTR starts)

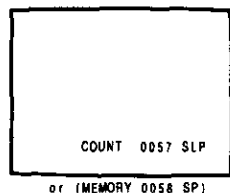


DATE INDICATOR



Press the TIME CALL Button to show or remove the date and time from the TV screen.

TAPE COUNTER/COUNTER MEMORY/ TAPE SPEED INDICATOR



Press the COUNTER CALL Button to show or remove the tape counter/counter memory/tape speed display.

BLANK TAPE INDICATION

If a blank (unrecorded) section of tape is encountered while in the play mode, the TV screen will change to a solid blue field. The screen will remain blue until a recorded signal is again detected.

DESCRIPTION OF CONTROLS (CONTINUED)

FRONT

- **STOP/EJECT BUTTON**
To stop the tape. To remove a cassette in the stop mode.
- **PLAY/STILL BUTTON**
To play back a tape. In SLP playback, press this button once more to view a still picture.
- **POWER INDICATOR**
This indicator flashes when an operation button is pressed on the Remote Control.
- **POWER BUTTON**
 - To set the VCR for unattended recordings after timer settings have been completed.
 - To turn the VCR on and off.

WIRELESS REMOTE CONTROL

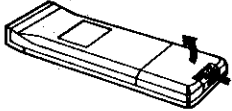
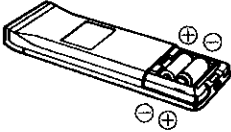
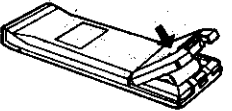
- **VCR/TV SELECTOR**
VCR position: To view playback or to monitor video recordings. VCR Indicator on the VCR appears.
TV position: To watch TV or to view one program while recording a different program. When this is set to TV, there is no indication on the VCR.
- **CHANNEL MEMORY BUTTON**
This button is normally OFF. For CHANNEL MEMORY programming, hold this button down and press NUMERIC Key "1" to use the AUTO SET feature.
- **ADD/DELETE BUTTON**
Used to add or delete a selected CHANNEL.
- **CHANNEL CALL BUTTON**
When pressing this button, the number of the channel tuned will be displayed on the TV screen momentarily.
- **COUNTER CALL BUTTON**
Press this button to display or clear the tape counter/counter memory/tape speed display.

- **TIME CALL BUTTON**
Press the TIME CALL Button to display or clear the date and time from the TV screen.
- **REWIND/SEARCH BUTTON**
To rewind tapes. Also, during playback press this button to view the picture in rapid reverse.
- **CLEAR BUTTON**
Press this button to clear the settings for the displayed program contents. While setting the clock or a program, each press of this button starts the digit to the left flashing for correction.
- **PROG BUTTON**
Press this button to display the MENU screen to select either clock adjustment or the Timer programming mode.
- **STANDBY BUTTON**
Used along with O.T.R. Button, to set a delayed (Preset) O.T.R..
- **ONE TOUCH RECORD (O.T.R.) BUTTON**
Select the channel and press the ONE TOUCH RECORD Button to start recording immediately for 30 minutes to 4 hours of recording, or until tape ends. In any case power shut off is automatic.
- **PAUSE/STILL BUTTON**
To temporarily stop the tape during recording or to view a still picture during playback.
- **FAST FORWARD/SEARCH BUTTON**
To rapidly advance the tape. Also, during playback press this button to do rapid forward visual search.
- **TAPE SPEED SELECTOR (SP/LP/SLP) BUTTON**
Set this selector for the desired recording speed.

REAR

- **CHANNEL 3/4 SWITCH**
Set to channel 3 or 4 (whichever is not used for regular TV broadcasting in your area) to use your TV as a VCR program monitor.
See "TO GET STARTED" on page 1.

LOAD THE BATTERIES AS FOLLOWS:

<p>1 Lift off the lid after pressing in and up on the lid latch with your thumb nail or other narrow object.</p> 	<p>2 Install two batteries as indicated inside the Battery Compartment.</p> 	<p>3 Fit the lid's hinge piece into the indent on the case, and snap lid into place.</p> 
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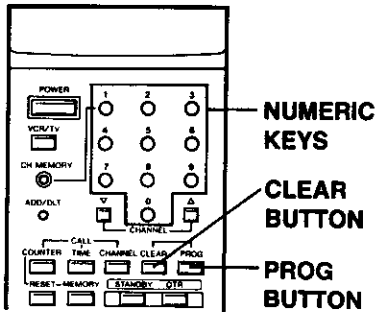
BATTERY REPLACEMENT CAUTION

- Do not mix old and new batteries. (Also never mix alkaline batteries with manganese batteries.)

CLOCK ADJUSTMENT

VR9720AT01

REMOTE CONTROL



Accurate clock time is a must for all types of timer recording. Your VCR will accurately maintain its calendar up to "Dec. 31, 2006, 11:59 PM" once you have set the present day and time.

TO SET THE CLOCK

VCR and TV must be ON. Press the "PROG" Button and the clock set guide will appear on the TV screen.

EXAMPLE: To set the clock for FEB 9, 1988, 10:30 AM, enter the following:

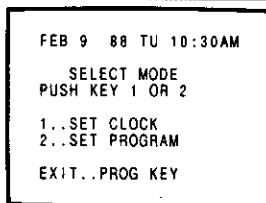
MONTH & DAY	YEAR	HOUR & MINUTE	AM/PM	TO START CLOCK
EXAMPLE FEB 9	1988	10 : 30	AM	—
PRESS (NUMERIC KEYS) ① ② ③ ④ MONTH DAY	⑧ ⑧ YEAR	① ② ③ ④ HOUR MINUTE	① AM	PRESS PROG
TV SCREEN DISPLAY MONTH <div style="border: 1px solid black; padding: 5px; text-align: center;"> * --- -- SET MONTH WITH NUMERIC KEY EXIT..PROG KEY </div> DAY <div style="border: 1px solid black; padding: 5px; text-align: center;"> 0* --- -- SET DAY WITH NUMERIC KEY EXIT..PROG KEY </div>	YEAR <div style="border: 1px solid black; padding: 5px; text-align: center;"> 02 09 * --- -- SET YEAR WITH NUMERIC KEY EXIT..PROG KEY </div>	HOUR <div style="border: 1px solid black; padding: 5px; text-align: center;"> 02 09 88 TU * --- -- SET HOUR WITH NUMERIC KEY EXIT..PROG KEY </div> MINUTE <div style="border: 1px solid black; padding: 5px; text-align: center;"> 02 09 88 TU 10* --- -- SET MINUTE WITH NUMERIC KEY EXIT..PROG KEY </div>	AM/PM <div style="border: 1px solid black; padding: 5px; text-align: center;"> 02 09 88 TU 10:30* --- -- SET AM/PM AM..1 PM..2 EXIT..PROG KEY </div>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> FEB 9 88 TU 10:30AM PUSH PROG KEY AT EXACT TIME </div> Clock starts. The TV screen will return to the channel selected at the VCR.

- Be sure to enter the first digit to set the month within 30 seconds.
- Be sure to enter "0" before single-digit numbers.

TO MAKE CORRECTIONS IN ON-SCREEN ENTRY

To make corrections after entering a number, press the CLEAR Button to move the flashing indication one space left. Enter the correct number. The flashing indicator will then move one space right.

TO RESET THE CLOCK



(MENU screen)

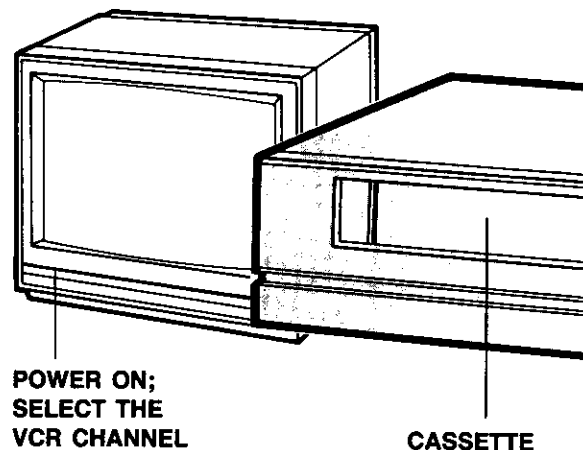
If you want to reset the clock at some later time, press the PROG Button while you are watching TV. The MENU screen shown at the left will appear; press key ① and follow the clock set guide to re-enter the new date and time.

- Irregular key entries will be ignored.

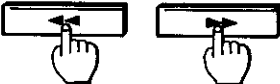

To PLAYBACK

Be sure the PREPARATIONS on page 1 have been completed before proceeding to step 1 below.

AT TV	AT VCR	START PLAYBACK	STOP PLAYBACK
<p>1 Turn TV on and select its VCR channel.</p> <p>The TV's VCR Channel is CH3 or CH4.</p>	<p>2 Insert cassette.</p> <p>The Power will come on automatically.</p> <p>If a cassette is already in the VCR, just press the POWER Button ON.</p> <p>When the record tab is missing, the cassette will be played back automatically.</p>	<p>3 Press the PLAY Button.</p>	<p>4 Press the STOP Button.</p>



SPECIAL EFFECTS IN PLAYBACK MODE (BEST IN SLP SPEED: SOUND IS MUTED)

<p>TO RAPIDLY LOCATE A PARTICULAR SEGMENT</p> <ul style="list-style-type: none"> ■ Press the SEARCH Button. <p>This starts a rapid forward or reverse visual search.</p>  <ul style="list-style-type: none"> ■ Press the SEARCH Button again or the PLAY Button to return to playback. <p>SEARCH SPEED</p> <div style="border: 1px solid black; padding: 2px;">SLP Search is about 21 times normal speed</div>	<p>TO VIEW A STILL PICTURE (DURING PLAYBACK)</p> <ul style="list-style-type: none"> ■ Press the PLAY/STILL Button (or the PAUSE/STILL Button on the Remote Control). <p>A freeze frame picture of the playback image appears.</p>  <ul style="list-style-type: none"> ■ Press button once more. This releases the still and the playback continues.
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These automatic features have been designed to simplify PLAYBACK.

AUTO OPERATION FUNCTION

Cassette with record tab (for recording and playback) Refer to page 19.

AUTO POWER ON WITH CASSETTE INSERTION

Power comes on and VCR goes into stop mode.

AUTO REWIND AT TAPE END

Tape rewinds from end automatically after playback or during fast forward tape advance.

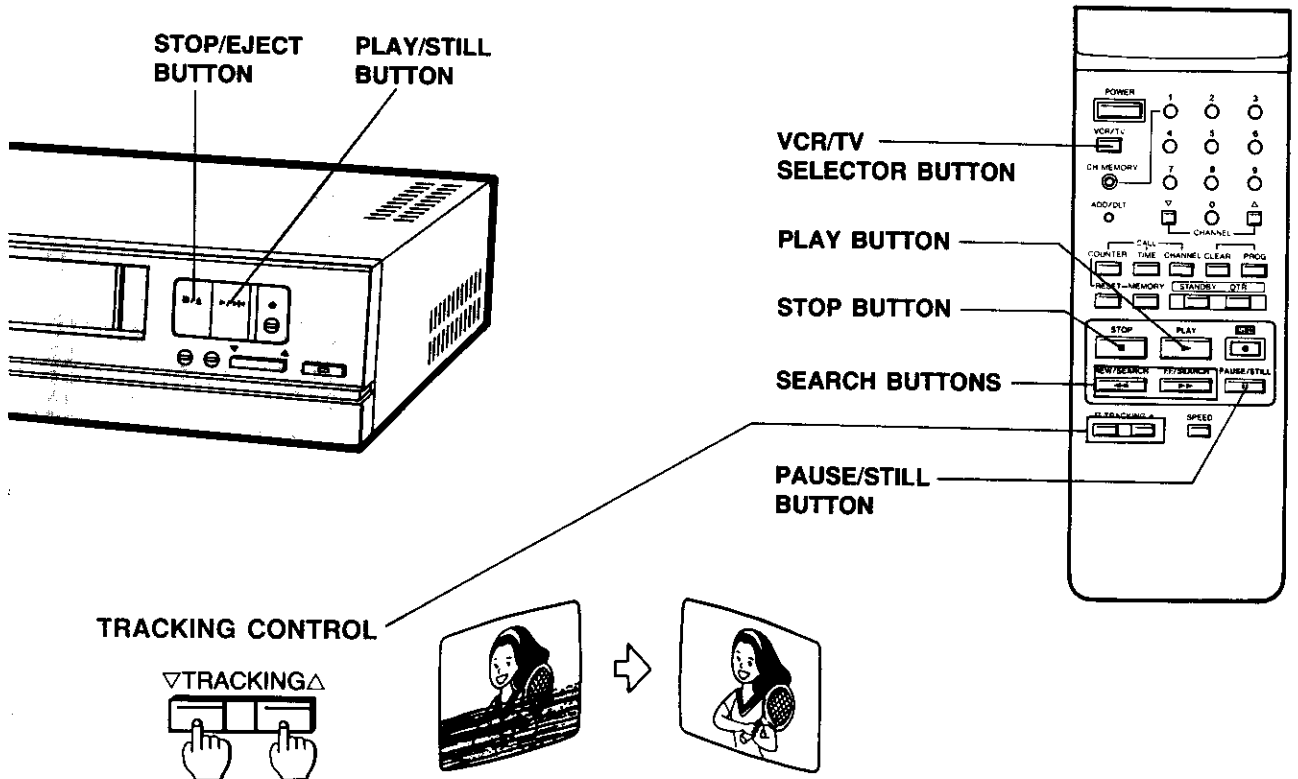
Cassette with record tab removed (for playback only)

AUTO PLAY WITH CASSETTE INSERTION

With power ON or OFF, VCR begins playback.

AUTO REWIND AND EJECT AT TAPE END

Tape automatically rewinds from end and ejects, VCR goes into stop mode.



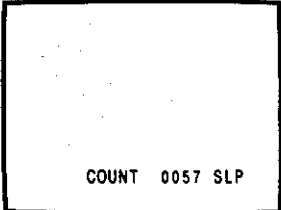
A certain amount of "noise" may appear in the picture when a VHS video tape recorded on one VCR is played back on a different one. You may adjust the TRACKING CONTROL (UP/DOWN) on your Remote Control to minimize this noise in playback. The normal position is automatically set when a cassette tape is inserted.

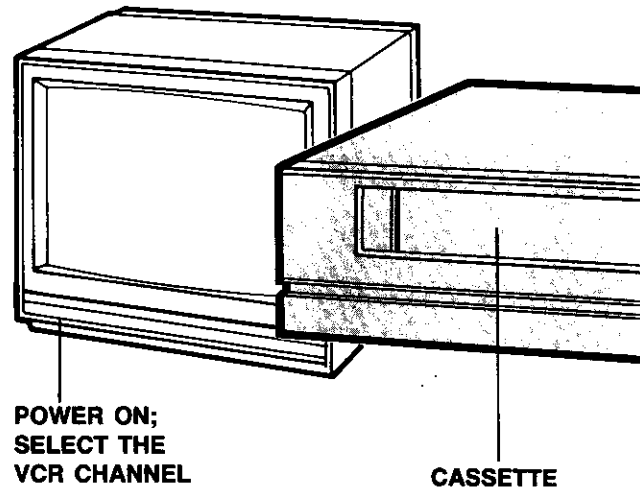
NOTE: • During search playback, horizontal noise bars will appear on the TV screen.

- After the VCR has been in pause, or still for 5 minutes it will stop automatically for tape and video head protection.
- In search or still playback, some amount of noise may appear for tapes recorded in SLP mode. The picture may be completely snowy in search or still mode for tapes recorded in SP or LP speed.

To RECORD

PREPARATIONS on page 1 must be completed and an antenna system must be connected to the VCR. (See Basic Guide For VCR Connections.)

AT TV	AT VCR	SET TAPE SPEED
<p>1 Turn TV on and select its VCR Channel.</p> <p>The TV's VCR Channel is CH3 or CH4.</p>	<p>2 Insert cassette.</p> <p>Use a tape with the record tab in place.</p> <p>The Power will come on automatically.</p> <p>If a cassette is already in the VCR, just press the POWER Button ON.</p> <p>Be sure that the VCR/TV Selector is set to "VCR".</p>	<p>3 (a) Press the COUNTER CALL Button.</p> <p>Tape Speed Display appears.</p> <p>(b) Press the TAPE SPEED SELECTOR Button.</p>  <p>Select SP, LP or SLP. See table at bottom of this page.</p>

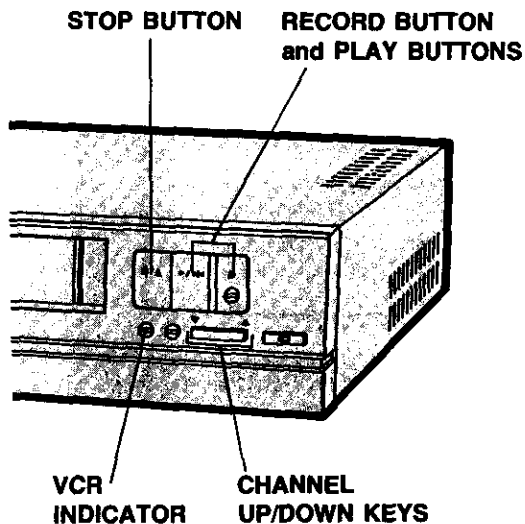


TYPES OF VIDEO CASSETTE

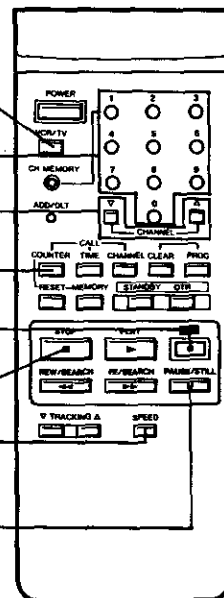
Use types with the **VHS** mark in this unit.

Tape Speed Selector Position	Maximum Record/Playback Time		
	T160	T120	T60
SP (Standard Play)	2 Hours 40 Minutes	2 Hours	1 Hour
LP (Long Play)	5 Hours 20 Minutes	4 Hours	2 Hours
SLP (Super Long Play)	8 Hours	6 Hours	3 Hours

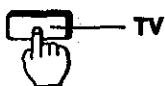
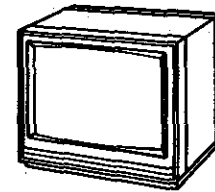
CHOOSE PROGRAM	START RECORDING	PAUSE RECORDING	STOP RECORDING
<p>4 Select channel.</p> <p>Use the CHANNEL UP/DOWN Keys or NUMERIC Keys.</p>	<p>5 Hold the REC Button in and press the PLAY Button.</p> <p>Recording starts.</p> <p>Using the remote control, press the REC Button to start recording.</p>	<p>6 Press the PAUSE/STILL Button on the Remote Control.</p> <p>The recording stops temporarily.</p> <p>Press this button again to release pause.</p>	<p>7 Press the STOP Button.</p> <p>This stops the recording completely.</p>



- VCR/TV SELECTOR BUTTON
- NUMERIC KEYS
- CHANNEL UP/DOWN KEYS
- COUNTER CALL BUTTON
- RECORD BUTTON
- STOP BUTTON
- TAPE SPEED SELECTOR BUTTON
- PAUSE/STILL BUTTON

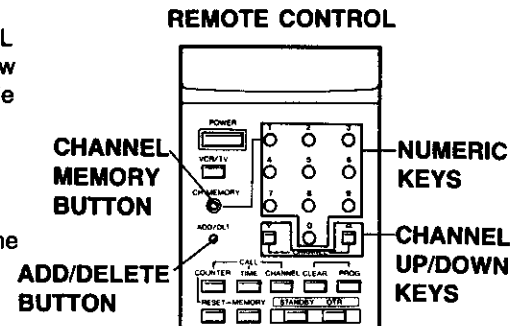


TO WATCH ANOTHER TV PROGRAM WHILE RECORDING

<p>1 Set VCR/TV SELECTOR to TV.</p> <p>• The "VCR" indicator and TV picture will disappear.</p> 	<p>2 Select the CHANNEL to be viewed on the TV.</p> <p>Use the TV channel controls.</p> 
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CHANNEL MEMORY

Channel Memory can be used to assign channels to the CHANNEL UP/DOWN Keys for channel scanning. By following the steps below you can set the 155 channel memory into "CATV" to receive Cable channels or from Cable band back to "TV"; the TV band was initially set at the factory. The AUTO SET feature can be used in either band and the VCR itself will selectively assign channels for scanning to include just those receivable in your area. Any time a channel is selected for viewing you may drop or assign it for scanning with the ADD/DELETE Button. For available channels see the chart at the bottom of the next page.



A AUTOMATIC SETTING (PREPARATIONS on page 1 must be completed.)

SELECT CHANNEL MEMORY	SELECT ANTENNA SYSTEM	START AUTO SET
<p>1 Hold the CHANNEL MEMORY Button in and press key ①.</p> <p>CHANNEL MEMORY GUIDE</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>CH 02(ADD) TV ANTENNA SYSTEM 4..SHIFT TV → CATV 5..NO CHANGE</p> <p>OR</p> <p>PUSH KEY 4 OR 5 EXIT..CH MEMORY & 1</p> <p>→(4..SHIFT CATV → TV)</p> </div>	<p>(A) TO CHANGE THE CURRENT BAND</p> <p>2 Press key ④ to change the band as follows.</p> <p style="text-align: center;">from "TV" → to "CATV"</p> <p style="text-align: center;">or</p> <p style="text-align: center;">from "CATV" → to "TV"</p> <p>Changing bands removes previous channel assignments and assigns all channels in the new band to the CHANNEL UP/DOWN Keys.</p> <p style="text-align: center;">-----OR-----</p> <p>(B) TO KEEP THE CURRENT BAND</p> <p>2 Press key ⑤.</p> <p>This selects "NO CHANGE".</p> <p>Use when the band selected already matches your Antenna System.</p>	<p>3 Press key ④.</p> <p>AUTO SET GUIDE</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>CH 02(ADD) TV AUTO SET PUSH KEY 4 FOR AUTO SET OR EXIT..CH MEMORY & 1</p> </div> <p>This starts Auto Set Channel Scan in the selected band.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: right; font-size: 24px;">02</p> <p style="text-align: center;">AUTO SET PROCEEDING</p> </div> <p>After Auto Set, the lowest numbered channel assigned to the CHANNEL UP/DOWN Keys will appear on screen.</p>

- Hold the CHANNEL MEMORY Button in and press key **①** for release of CHANNEL MEMORY mode while setting the CHANNEL MEMORY.

B USING THE ADD/DELETE BUTTON

SELECT CHANNEL	DELETE OR ADD THE CHANNEL
<p>1 Select the channel to be deleted or added.</p> <p>The channel can be selected with the CHANNEL UP/DOWN Keys or NUMERIC Keys.</p> <div data-bbox="500 478 782 697" style="border: 1px solid black; width: 174px; height: 104px; display: flex; align-items: center; justify-content: center; margin: 20px auto;"> 10 </div>	<p>2 Press the ADD/DELETE Button.</p> <p>This overlay appears for a few seconds to indicate the channel has been deleted or added.</p> <div data-bbox="1117 478 1399 697" style="border: 1px solid black; width: 174px; height: 104px; display: flex; align-items: center; justify-content: center; margin: 20px auto;"> <div style="text-align: center;"> <p>CH 10 (DLT) TV</p> <p>↓ or ↑</p> <p>(ADD) CATV</p> </div> </div> <p>A channel "(ADD)" indicates the channel has been assigned.</p> <p>A "(DLT)" indicates the channel is now unassigned to the CHANNEL UP/DOWN Keys.</p>

CHANNEL UP/DOWN KEYS

Any time the CHANNEL MEMORY Button is OFF, you can select assigned channels sequentially using the CHANNEL UP/DOWN Keys. Unassigned channels will be skipped over in sequence.

CHANNEL CHART

TV BAND		
SELECTED CHANNEL INDICATION	CHANNEL BAND DESIGNATIONS	CHANNEL RECEIVED OFF THE AIR
02 ~ 13	VHF	2 ~ 13
14 ~ 69	UHF	14 ~ 69

CATV BAND		
SELECTED CHANNEL INDICATION	CHANNEL BAND DESIGNATIONS	CHANNEL RECEIVED OFF THE AIR
02 ~ 13	BROADCAST VHF	2 ~ 13
14 ~ 36	CATV MID/SUPER BANDS	A ~ W
37 ~ 64	CATV HYPER BAND	AA ~ EEE
95 ~ 99	CATV LOW BAND	A-5 ~ A-1
01	SPECIAL CATV CHANNEL	5A (between 4 and 5)
65 ~ 94	ULTRA BAND*	65 ~ 94

* If you receive the UHF Band through a CATV system, a UHF/VHF Band Separator may be necessary for proper reception.

ONE TOUCH RECORDING

A few presses of the OTR Button on the Wireless Remote Control let you instantly start recording the channel you are watching, or extend a recording-in-progress. The first press of this button allows you to check the OTR status with an On-Screen Overlay. Quick succeeding presses start a recording and set the length of the OTR with automatic power shut-off.

MAKE SURE THAT...

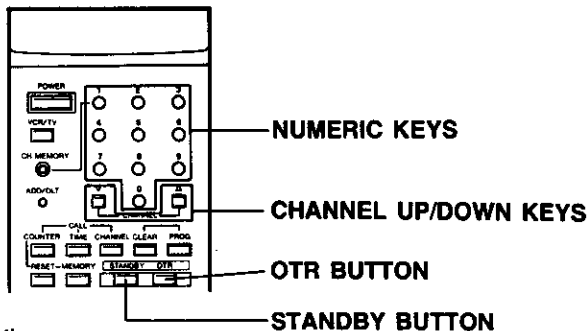
- the clock is set to the correct time.
- the desired tape speed (SP, LP or SLP) is selected.
- the record tab is not missing on the cassette.
- the tape is long enough to record the programs.

If each succeeding press of the OTR Button does not follow within 5 seconds, the current TV broadcast channel will return to the screen.

A INSTANT O.T.R. — To start recording instantly.
(PREPARATIONS on page 1 must be completed.)

CHOOSE PROGRAM	SELECT O.T.R. DISPLAY	SELECT RECORDING LENGTH
<p>1 Select channel.</p> <p>Use the CHANNEL UP/DOWN Keys or NUMERIC Keys.</p>	<p>2 Press the OTR Button once.</p> <p>This O.T.R. overlay appears.</p> <div data-bbox="808 974 1052 1166" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: center;">OTR CH 10 NOW→ 0:00</p> </div> <p style="text-align: center;">O.T.R. LENGTH DISPLAY</p>	<p>3 Continue to press the OTR Button.</p> <p>Recording begins as you are setting the length. Each press adds 30 minutes of recording time up to 4 hours, or until "END" appears to indicate that your recording will continue up to the end of the tape.</p> <div data-bbox="1149 1123 1523 1208" style="margin: 10px auto;"> <p style="text-align: center;">0:00 0:30 1:00 ... 4:00 END</p> </div>
<p>CHANGING O.T.R. TIME</p> <p>TO CHANGE O.T.R. TIME DURING A RECORDING</p> <ol style="list-style-type: none"> 1. Press the OTR Button once. 2. Within 5 seconds, continue pressing the OTR Button until the desired new recording time is displayed on the screen. 	<p>STOPPING O.T.R.</p> <p>TO STOP THE O.T.R. DURING A RECORDING</p> <ol style="list-style-type: none"> 1. Press the OTR Button twice. 2. TV screen displays <div data-bbox="816 1527 1060 1719" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: center;">OTR CH 10 NOW→ 0:00</p> </div> <ol style="list-style-type: none"> 3. About 5 seconds later O.T.R. will stop. 	

REMOTE CONTROL



B PRESET O.T.R. — To delay the start time.

It's often convenient to delay a recording. By pressing the STANDBY Button you can quickly set the VCR to start recording on the hour or half-hour up to 11:30 pm of the following day. Then the length of the recording can be set with the OTR Button. Once you do this, the VCR is on standby, until the recording starts. After the recording is complete, power off is automatic.

CHOOSE PROGRAM	SELECT PRESET O.T.R.	SELECT START TIME	SELECT O.T.R. LENGTH
<p>1 Select channel.</p> <p>Use the CHANNEL UP/DOWN Keys or NUMERIC Keys.</p>	<p>2 Press the STANDBY Button.</p> <p>This O.T.R. overlay appears.</p>	<p>3 Continue to press the STANDBY Button.</p> <p>This sets the time the recording is to begin.</p> <p>Each press advances the time to the next hour or half-hour, from the current time indicated, up to 11:30 PM of the next day.</p>	<p>4 Press the OTR Button.</p> <p>Press this button as many times as necessary to set the recording length of the Preset O.T.R..</p>

TO CANCEL PRESET OTR

To cancel or stop a Preset OTR Program, press the OTR Button twice.

The screen will display

About 5 seconds later the program will be erased.

TIMER RECORDING

Your VCR will begin 2 separate unattended recordings any time within one month of the time you set them. Whenever a program number is vacant you can schedule a recording for some day ahead or even a full series of recordings, with the time and channel you desire. A series recording starts everyday or on the same day of each week, automatically adding recording after recording up to the end of a tape.

MAKE SURE THAT...

- PREPARATIONS on page 1 have been completed.
 - the clock is set to the correct time.
 - the desired tape speed (SP, LP or SLP) is selected.
 - the record tab is not missing on the cassette.
 - the tape is long enough to record the programs.
- If no selections are entered within 30 seconds, the programming screen will return to the menu screen.

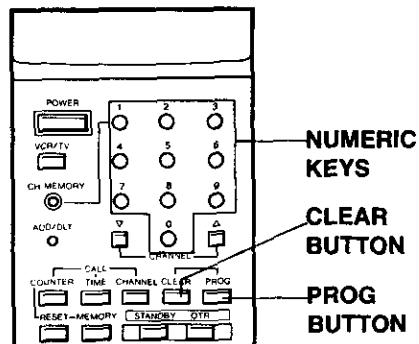
SELECT THE MENU SCREEN AND PROGRAM SET MODE	SELECT THE PROGRAM NUMBER	FOLLOW THE PROGRAM GUIDE ON TV SCREEN
<p>1 Press the PROG Button.</p> <p>2 Press key ②.</p> <div data-bbox="437 734 669 910" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>JAN 2 88 SA 8:05AM</p> <p>SELECT MODE PUSH KEY 1 OR 2</p> <p>1..SET CLOCK 2..SET PROGRAM EXIT..PROG KEY</p> </div> <p>(MENU screen)</p>	<p>3 Press key ①.</p> <div data-bbox="842 734 1073 910" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>1 ---:--:--:--:--:--</p> <p>2 ---:--:--:--:--:--</p> <p>SELECT PROG NO. → 1, 2 ←</p> </div> <p>(PROGRAM screen)</p>	<p>4 Press the NUMERIC Keys.</p> <p>For each prompt enter the information desired with the NUMERIC Keys.</p> <p>See example on the following page.</p>

SET NEXT PROGRAM	SET THE TIMER
<p>5 Press key ② or press the PROG Button to return to the broadcast channel.</p> <div data-bbox="536 1176 768 1353" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>1 3 9:30P 10:00P 10</p> <p>2 ---:--:--:--:--</p> <p>EXIT..PROG KEY</p> </div>	<p>6 Press the POWER Button to OFF.</p> <p>This sets the Timer for Timer programming. The TIMER Indicator on the VCR will light.</p> <p>If no cassette is inserted or the record tab is missing, the TIMER Indicator will flash to alert you, and the cassette inserted will be ejected automatically.</p>

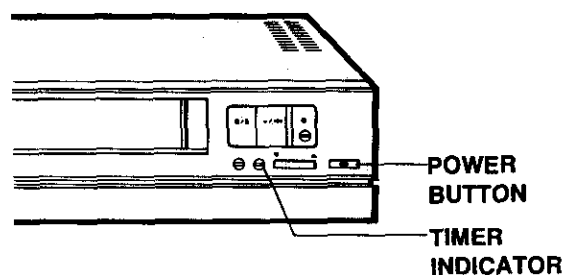
AFTER THE TIMER RECORDING HAS TAKEN PLACE

- Press the POWER Button to ON to return your VCR to normal operation.

REMOTE CONTROL



VCR FRONT PANEL



EXAMPLE: To set program 1 to record on the 3rd day on the current month, from 9:30 PM to 10:00 PM on CH10, enter the following:

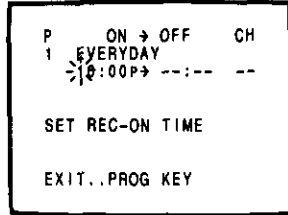
REC-ON DAY	REC-ON TIME	REC-OFF TIME	REC-ON CHANNEL
EXAMPLE JANUARY 3RD	9:30 PM	10:00 PM	CHANNEL 10
PRESS (NUMERIC KEYS) ① ③ DAY OF MONTH	① ⑨ ③ ① ② HOUR MINUTE PM	① ① ① ① ② HOUR MINUTE PM	① ① CHANNEL
TV SCREEN DISPLAY DAY <div style="border: 1px solid black; padding: 5px;"> <pre> P ON → OFF CH 1 JAN 02 SA ----- → ----- SET REC-ON DAY OR SELECT DAILY..4 WEEKLY..5 EXIT..PROG KEY </pre> </div>	TIME ON <div style="border: 1px solid black; padding: 5px;"> <pre> P ON → OFF CH 1 JAN 03 SU 9:05A → ----- SET REC-ON TIME EXIT..PROG KEY </pre> </div> AM/PM <div style="border: 1px solid black; padding: 5px;"> <pre> P ON → OFF CH 1 JAN 03 SU 9:30A → ----- SET AM/PM AM..1 PM..2 EXIT..PROG KEY </pre> </div>	TIME OFF <div style="border: 1px solid black; padding: 5px;"> <pre> P ON → OFF CH 1 JAN 03 SU 09:30P → 09:30P -- SET REC-OFF TIME EXIT..PROG KEY </pre> </div> AM/PM <div style="border: 1px solid black; padding: 5px;"> <pre> P ON → OFF CH 1 JAN 03 SU 09:30P → 10:00P -- SET AM/PM AM..1 PM..2 EXIT..PROG KEY </pre> </div>	CHANNEL <div style="border: 1px solid black; padding: 5px;"> <pre> P ON → OFF CH 1 JAN 03 SU 09:30P → 10:00P -- SET REC-ON CHANNEL EXIT..PROG KEY </pre> </div>

TO MAKE CORRECTIONS IN ON-SCREEN ENTRY

To make corrections after entering a number, press the CLEAR Button to move the flashing indication one space to the left. Enter the correct number. The flashing indicator will then move one space to the right.

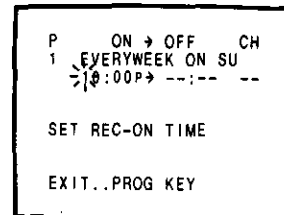
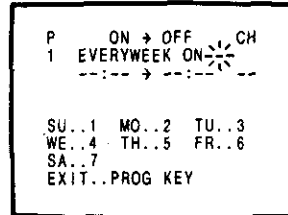
TIMER RECORDING (CONTINUED)

DAILY RECORDING: To record at the same time each day.



1. Use the same steps 1-2 on page 15.
2. After completing step 3 on page 15 the display shown under "DAY" will appear for rec-on day.
3. Enter key **4** to select the Daily Recording mode. The screen shown at the left will appear.
4. Continue with the program guide shown on pages 15 and 16 to complete programming.

WEEKLY RECORDING: To record at the same time on the same day each week.



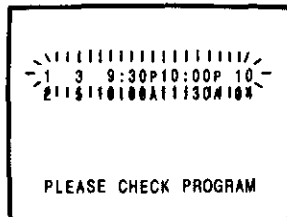
1. Use the same steps 1 - 2 on page 15.
2. After completing step 3 on page 15 the display shown under "DAY" will appear for rec-on day.
3. Enter key **5** to select the Weekly Recording mode. The screen shown at far left will appear.
4. Select the rec-on day for each week by number.
5. Continue with the program guide shown on pages 15 and 16 to complete programming.

TO CHECK PROGRAMS

a) When a Timer Recording has been set but is not yet in-progress.
(VCR power is OFF, TIMER Indicator is lit.)

1. Press the POWER Button to release the Timer Set mode.
 2. Follow steps 1 and 2 on page 15 to check or re-enter the program contents.
- After checking, press the PROG Button twice to return to viewing channels.

b) When a Timer Recording has been set and is now in progress.

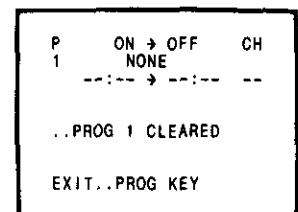


1. Set the VCR/TV Selector to "VCR".
2. Press the PROG Button.

The screen at the left will appear with all programs currently set for recording. The program-in-progress will be flashing.

The program being recorded will disappear after about 30 seconds. Or, immediately return to the program being recorded by pressing the PROG Button again.

TO CLEAR PROGRAMS: After programming is complete and Power is still ON.



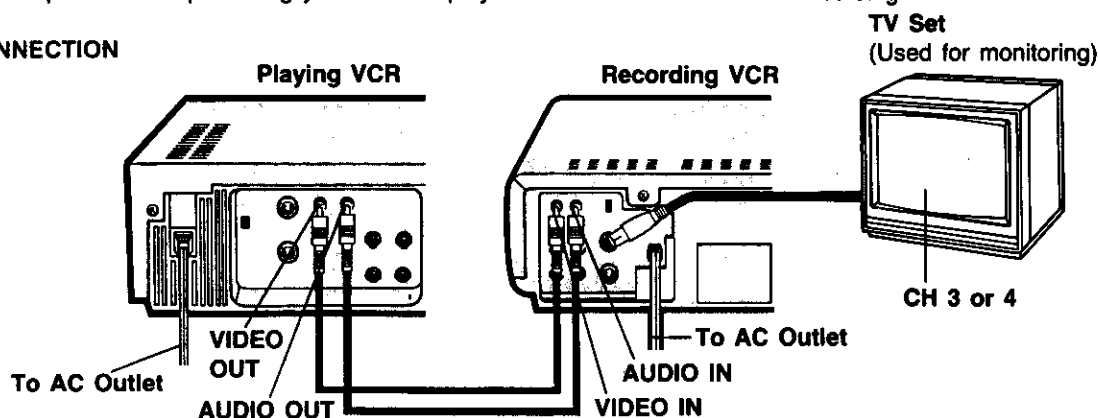
1. Follow steps 1 and 2 on page 15 to display the program.
2. Enter the program number you want to clear.
3. Press the CLEAR Button.

- The screen at the left will appear for a few seconds. Then to enter a new program follow the program guide when the DAY screen appears.

A RE-RECORDING (TAPE DUPLICATION)

It is simple to dub tapes using your VCR to play back and another VCR for recording.

CONNECTION



OPERATION

1. Set up your VCR for playback.
2. Set up the other VCR for recording.
3. Press the **PLAY** Button on the playing VCR.
4. Press the **RECORD** Button and the **PLAY** Button together on the recording VCR.

NOTE:

- Be sure steps 3 and 4 are done simultaneously to avoid missing any of the recording.
- You can connect your VCR at the **VHF IN** terminal for recording a signal from the **VHF OUT** terminal on the other playing VCR. The quality of the dubbed tape will not be as high as when using the above Audio/Video Out connection.

TO MONITOR THE RE-RECORDING PROCESS ON YOUR TV

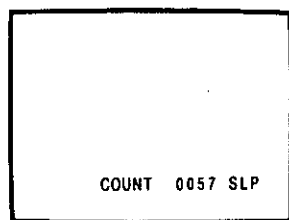
- Turn **TV ON** and select its VCR channel (either **CH3** or **CH4**).
- Set the **VCR/TV Selector** on the recording VCR to **"VCR"**.

CAUTION:

UNAUTHORIZED RECORDING OF COPYRIGHTED TELEVISION PROGRAMS, FILMS, VIDEO TAPES AND OTHER MATERIALS MAY INFRINGE ON THE RIGHTS OF COPYRIGHT OWNERS AND BE CONTRARY TO COPYRIGHT LAWS.

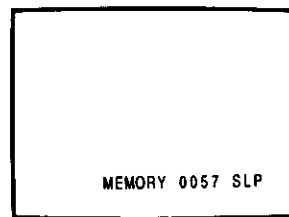
B TAPE COUNTER CONTROLS

Tape Counter Operation



1. Press the **COUNTER CALL** Button so that the Counter Display appears.
2. Press the **REWIND** or **FAST FORWARD** Button to wind the tape to the starting point you select.
3. Press the **RESET** Button to set the counter to **"0000"**.

Counter Memory Operation



1. Reset the counter to **"0000"** at whatever point you choose on the tape.
2. Press the **MEMORY** Button. **"MEMORY"** appears on the TV screen. During fast forward or rewind the tape will stop automatically wherever **"0000"** was set.

HELPFUL HINTS (CONTINUED)

C ERASE PROTECTION



Record Tab

- Accidental erasure of recorded material can be prevented by breaking off the record tab on the rear of the cassette with a screwdriver or similar tool. This will cause the erasure prevention mechanism to function.

- If for any reason, you later want to record on a cassette which has been protected as described above, recordings can be made after covering the hole, where the tab was removed, with cellophane tape.

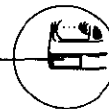
- To Prevent Accidental Erasure

Break off the tab
with a screwdriver



- To Record Again

Cover the hole with
cellophane tape



D NOTES ON OPERATIONS

TO GET STARTED

- With cable connections, numbers selected to receive specific channels may differ from those for antenna connections. Refer to the separate Basic Guide for VCR Connections (or your cable service information).
- If the reception on all VHF channels is unsatisfactory you may need to re-tune your TV set.

CLOCK ADJUSTMENT

- Enter the first digit to set the month within 30 seconds of the appearance of the clock set guide. Otherwise, the program you were watching will return to the screen. If this happens, press the PROG Button and start again.
- The letters for day of the week will automatically appear when you have entered both digits for the year.
- If the day digit entered does not match the calendar, it will advance to the first day of the next month (for example, "FEB 29 89" will advance to "MAR 01 89").
- If you press the PROG Button while the clock set guide "-- -- --:--" appears, the TV screen will return to the program you were watching.

TO RECORD

- With manual recordings, if the tape end is reached during recording, the VCR automatically rewinds and ejects the tape and then shuts itself OFF.
- It is possible to change the Tape Speed Selection while you are actually recording but there will be a momentary distortion when the tape is played back over the points where the tape speed change occurred.
- After the VCR has been in pause for 5 minutes it will stop automatically for tape and video head protection.

ONE TOUCH RECORDING

- During a One Touch Recording, press the OTR Button once to see the remaining recording time overlay.
- If the record tab is missing on the cassette, it will be ejected when you press the OTR Button or STANDBY Button.
- If the preset time for a Timer Recording comes up during a One Touch Recording, the One Touch Recording will take priority.

TIMER RECORDING

- If there is a power interruption before or during a Timer Recording, the Timer may lose the preset time in memory and the Timer Recording may not be performed.
- If the start times of 2 preset programs overlap, the preset time of the lower numbered program will have priority.

RE-RECORDING

- For technical reasons, the quality of the dubbed tape will not be as good as the original.

BEFORE REQUESTING SERVICE

VR9720AT01

Check the following points once again.

IMPORTANT NOTE: Periodic maintenance is required in order to maintain the unit's continued excellent performance. After a period of time the Video heads will require replacement. If cleaning or replacement of the Video heads is required, this service should be performed by an authorized Video System Service Center.

	Trouble	Correction
POWER	No power ...	<ul style="list-style-type: none"> • Check that the Power Plug is completely connected to an AC Outlet. • Check that the POWER Button is set to "ON".
	TV programs can't be recorded ... Timer Recording can't be performed ... There is no playback picture, or the playback picture is noisy or contains streaks ... During special effects playback, the picture may contain some vertical jitter when using a TV which has Automatic Vertical Hold Control Switch ... If the top of your playback picture waves back and forth excessively ...	<ul style="list-style-type: none"> • Check the connections between VCR, external antenna and your TV. • Check that the band selected is set to meet your antenna or cable TV system. (p.11) • Make sure that the record tab on the back of the cassette is still intact. (p.19) • Set the recording start/stop time correctly. (p.15-17) • Make sure that the POWER Button is set to "OFF". (p.15) • If there is a power interruption before or during a Timer Recording, the Timer may lose its preset time memory and the Timer Recording will not be performed. • Select the same channel on your TV as that of the CH 3/4 Switch on the VCR. (p.1) • Set the VCR/TV Selector to "VCR". (p.1) • Check that channel 3 or 4 of TV is properly adjusted. • Adjust the TRACKING CONTROL slowly in either direction. (p.8) • In that case, set the TV's Vertical Hold Control Switch to MANUAL position and then adjust vertical hold control. • Because the VCR playback signal is not as stable as an off-the-air TV signal, you might experience the following symptom on your TV screen: "Top of TV screen is bent or unstable when VCR is played back." To solve this problem, turn the horizontal hold control on your TV slowly to correct the wavy picture. If your TV does not have the horizontal hold control or adjusting the control does not help, please contact your local TV service center.
RECORDING AND PLAYBACK		
REMOTE CONTROL	RECORDER cannot be remote controlled ...	<ul style="list-style-type: none"> • Aim the Wireless Remote Control directly at the remote sensor on the VCR. • Avoid all obstacles which may interfere with the signal path. • Replace or inspect the batteries. (p.5)
OTHERS	You can't view programs normally on TV ... Video cassette can't be inserted ... Video cassette can't be removed ... Video cassette ejects when the OTR, STANDBY, REC and PLAY Buttons are pressed or the POWER Button is pressed OFF to set the Timer ...	<ul style="list-style-type: none"> • Set the VCR/TV Selector to "TV". (p.1) • Insert the cassette with the window side up and the record tab facing you. • Check that the Power Plug is completely connected to an AC Outlet. • Check the cassette to be sure that the record tab on the back of the cassette is still intact. (p.19)

SPECIFICATIONS

Video Recording System	Rotary two-head helical scan system
Video Signal	EIA standards: NTSC color
Antenna	VHF-75 ohm external antenna terminal UHF-300 ohm external antenna terminal
VHF Output Signal	Channel 3 or 4 (switchable) 75 ohms unbalanced
Power Requirement	120V AC/60 Hz
Power Consumption	19 W
Operating Temperature	5°C (41°F) to 40°C (104°F)
Relative Humidity	10% to 75%
Weight	8.2 lbs. (3.7 kg)
Dimensions	3-1/4" (82 mm) x 12-5/8" (320 mm) x 11-5/8" (295 mm) (H/W/D)

Designs and specifications are subject to change without notice.

LIMITED WARRANTY MAGNAVOX Video Cassette Recorder/Player

- * 90-Day Carry-In Service Labor Warranty
- * One (1) Year Exchange Warranty on Parts

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

What N.A.P. Will Do

Parts and Labor During First 90 Days:

For Ninety (90) Days from the date of purchase, a Magnavox Authorized Service Center will repair any product defect and replace any defective part without charge to you for parts or labor.

Replacement Parts After 90 Days:

If within one (1) year after the date of purchase, a part is found defective and needs to be replaced, an Authorized Service Center will supply to you a new or, at our option, rebuilt part without charge to you for the replacement part. After 90 days from the date of purchase, you must pay for all labor, transportation and service charges. Replacement Parts installed during the warranty period are warranted only for the balance of the original VCR warranty period.

Who is Protected?...Where?

This warranty is extended to the original retail purchaser for products purchased and used in the U.S.A., Puerto Rico and the Virgin Islands. If you move within these areas, a Magnavox Authorized Service Center in your area will honor this warranty for the remainder of the original warranty period.

What the Purchaser Must Do

Before you call for service, check your operating instruction booklet. A slight adjustment of the customer controls discussed in your instruction booklet may save you a service call.

If you require service during the warranty period you must take your Magnavox Video Cassette Recorder/Player to an Authorized Service Center and pick it up after completion of service. The Service Center must be allowed to keep defective parts. After the first 90 days of the warranty period, the cost of service labor is your responsibility.

For names and locations of Magnavox Authorized Service Center, ask any authorized Magnavox dealer or consult the Yellow Pages of your telephone directory.

YOU MUST PRESENT PROOF OF THE DATE ON WHICH THE VCR WAS FIRST PURCHASED (SALES RECEIPT OR OTHER EVIDENCE) WHEN REQUESTING SERVICE OR REPLACEMENT PART WARRANTY PERFORMANCE.

Warranty Exclusions

Your Warranty Does Not Cover:

Labor charges for installation or set-up, adjustment of customer or preference controls, and installation or repair of antenna systems outside the unit.

Product repair and/or part replacement because of misuse, accident, unauthorized repair or other cause not within the control of N.A.P. Consumer Electronics Corp.

Reception problems caused by signal conditions or cable or antenna systems outside the unit.

A VCR purchased used or serviced outside the U.S.A., Puerto Rico and the Virgin Islands or used for commercial or institutional purposes (including but not limited to products used for rental purposes).

Incidental or consequential damages resulting from the product or use of the product. Some states do not allow the exclusion of incidental or consequential damages so the above exclusion may not apply to you. This includes, but is not limited to, prerecorded material (copyright or non-copyright).

ALL IMPLIED WARRANTIES INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE DURATION OF THIS EXPRESS WARRANTY. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Cassette Tapes

Magnavox recommends that you use only cassette tapes which have been tested and inspected for use in 2, 4, 6 or 8 hour VHS recorders, and which are so labeled. The use of tapes which have not been tested or of a VHS format may result in poor picture quality. Damage caused by the use of tapes other than those recommended may void the product warranty.

Important Reminder Please fill out and mail your Warranty Registration Card promptly. It will be easier for us to notify you if it should ever be required. The return of the Warranty Registration Card is not a condition to Warranty Coverage.

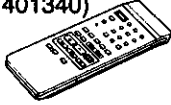



Product Service Operation
N.A.P. Consumer Electronics Corp.
P O Box 555
Jefferson City, TN 37760
(615) 475-0317

ACCESSORIES

Check to be sure the following items are packed with your VCR.

ACCESSORIES SUPPLIED

These accessories are provided to help you use or set up your VCR.

<p>1 pc. Wireless Remote Control and 2 "AA" batteries (7091401340)</p> 	<p>1 pc. VHF Connecting Cable 75 OHM (4613990215)</p> 	<p>1 pc. Twin-Lead Cable 300 OHM (4699020001)</p> 	<p>1 pc. 300 ohm - 75 ohm Transformer (7044270055)</p> 
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OPTIONAL ACCESSORIES

This additional accessory is available to you from Magnavox or your local Magnavox dealer.

- 1/2" Video Cassette Tape

PRODUCT ACCESSORIES SHOWN IN THIS BOOKLET CAN BE PURCHASED OR ORDERED FROM YOUR LOCAL DEALER OR N.A.P. CONSUMER ELECTRONICS CORP.

CALL TOLL FREE 1-800-255-5122, IN TENNESSEE 1-800-824-2567

OR WRITE:

N.A.P. CONSUMER ELECTRONICS CORP.
ACCESSORIES MARKETING DEPARTMENT
P.O. BOX 1597
GREENEVILLE, TN 37744-9983

FOR SAFETY'S SAKE: You have a legal description of your VCR when you record it's serial number in the space provided here. The serial number is on the tag located on the back of your VCR. Be sure to retain this manual as your convenient VCR information source.

Date of Purchase

Dealer Purchased From

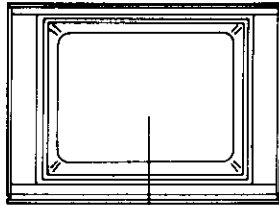
Dealer Address

Dealer Phone No.

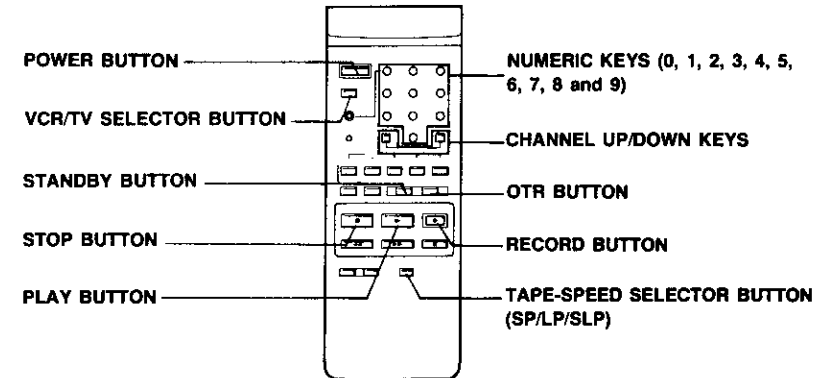
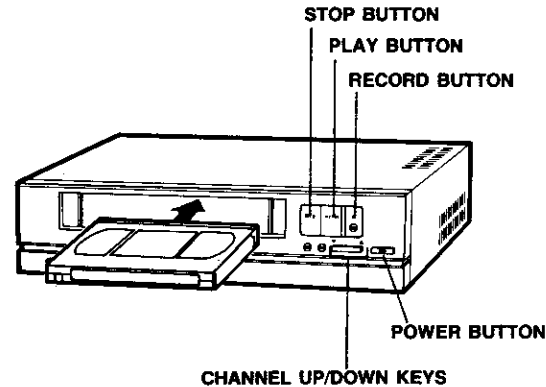
Model No. VR9720AT01

Serial No.

Quick Use Guide



Turn the TV ON, select Channel 3 or 4 on the TV to correspond to the VCR Channel 3/4 Switch.



This Quick Use Guide is to assist you after you have made the initial connections of the Antenna or Cable system, VCR and TV as described in the instruction manual. For more complete instructions please refer to the manual.

1 Playback

- 1 Insert a cassette tape, window side up and arrow pointing away from you. Power comes ON. Power switch may need to be pressed if a cassette is already loaded.
- 2 Press PLAY Button.
- 3 Press STOP Button to stop playback.

3 Recording One Program While Viewing Another

- 1 Follow steps 1 thru 4 in Recording & Viewing, area 2.
- 2 After the recording starts press the VCR/TV Selector to switch the unit to TV. The "VCR" indicator will disappear.
- 3 Set the TV channel selector to the desired TV channel.

2 Recording & Viewing Programs

- 1 Insert a cassette tape, window side up and arrow pointing away from you. Power comes ON. Power switch may need to be pressed if a cassette is already loaded. Be sure that the VCR/TV Indicator is set to VCR.
- 2 Press COUNTER CALL Button. Tape Speed Display appears. Press TAPE SPEED SELECTOR Button to indicate SP, LP or SLP.
- 3 Select the desired channel to be recorded using the Channel Up or Down Keys.
- 4 Hold REC Button in and press PLAY Button. Recording starts. Using the remote control, press REC Button to start recording.
* If the cassette Erasure Prevention Tab is missing, the cassette will be ejected automatically.
- 5 Press STOP Button to stop the recording.

4 Normal Viewing

- 1 Switch the VCR OFF by pressing the Power Button.
- 2 Turn the TV ON by pressing the Power Switch and select the desired channel.

BASIC GUIDE For VCR CONNECTIONS

IMPORTANT SAFEGUARDS AND PRECAUTIONS

CONNECTIONS TO MAKE BEFORE RECORDING

BASIC SIGNAL CONNECTIONS	[1]
CABLE CONNECTIONS	[2]~[5]
TV AUDIO/VIDEO CONNECTIONS	[6]

IMPORTANT SAFEGUARDS AND PRECAUTIONS

INTRODUCTION

Careful attention has been given to this Video product to assure a quality standard devoted to your safety and enjoyment. This quality standard together with your personal responsibility for the safety of yourself and others will contribute to your enjoyment. This Video product uses electrical energy and requires proper handling at all times.

CAUTION:

READ AND RETAIN THE SAFETY AND OPERATING INSTRUCTIONS

To make full use of the safeguards incorporated in this unit, read and follow this basic guide adopted in part from Underwriter's Laboratories Standard 1409, Second Edition, before operating this Video product.

FOLLOW THE INSTRUCTIONS AND BE SURE TO HEED ALL WARNINGS on unit and in manual, for easy maintenance, confident operation and trouble free service of this Video product.

INSTALLATION

1. OPERATE FROM A POWER SOURCE INDICATED on this Video product, or in this Manual. Your Electric Utility Service Company or Video Products Dealer will be happy to verify the power source in your home.
2. THE GROUNDED OR POLARIZED PLUG IS A SAFETY FEATURE
This Video product may be equipped with either a polarized 2-wire AC line plug or a 3-wire grounding type plug. The two wire polarized plug (having one blade wider than the other) will fit into the power outlet only one way. If it is a three wire grounding type plug (having a third pin), it will fit into a grounding type outlet. DO NOT DEFEAT THE SAFETY PURPOSE OF THE GROUNDED OR POLARIZED PLUG by tampering with it. If the plug does not fit fully into the socket, try reversing it. If you should still be unable to fully insert the plug into the socket, you may find that a proper outlet is needed to meet today's Electrical Standards. An electrician will replace your outlet safely.
3. POWER SUPPLY CORDS SHOULD BE PROTECTED and routed so that they are not likely to have anything rest on them, roll over them, or be subject to walking traffic or abuse: particularly at plug-ins, convenience receptacles, or cord exit points from the unit. Where an extension is needed, use a grounded or polarized cord. HAZARDOUS FRAYED CORDS OR DAMAGED PLUGS SHOULD BE REPLACED BY A QUALIFIED SERVICE TECHNICIAN.
OVERLOADED WALL OUTLETS AND EXTENSION CORDS PRESENT DANGEROUS RISKS OF FIRE OR ELECTRICAL SHOCK.
4. AVOID BLOCKING VENTILATION HOLES
Your video unit has ventilation openings in its cabinet to release heat generated during operation. Blocking these openings can cause heat build-up inside the unit, causing failures that may result in a fire hazard or heat damage to cassettes. For protection:
 - a. Never cover the bottom ventilation slots or the unit with soft material, or operate the unit placed on a bed, sofa, rug, or soft accessory.
 - b. Avoid built-in installations, such as a bookcase or rack, unless proper ventilation is provided.
5. AVOID EXTREMELY HOT LOCATIONS OR SUDDEN CHANGES IN TEMPERATURE such as placing the unit near or over a radiator, in direct sunlight, closed vehicles, or transporting it suddenly between areas of extreme temperature variation.
If the unit is suddenly moved from a cold place to a warm place, moisture may form on the tape and inside the unit.
6. TO AVOID INJURY TO A CHILD, ADULT; OR COSTLY DAMAGE:
 - a. Do not place unsecured equipment on a sloping surface or any heavy object on unit.
(Use the unit in a horizontal position and do not place anything heavy on it.)
 - b. Support for VCR should be adequately firm, level, and strong. Replace any unstable cart, table or support. 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.
 - c. Carefully follow all operating instructions and use the manufacturer's recommended accessories when operating this unit or connecting it to any other equipment.



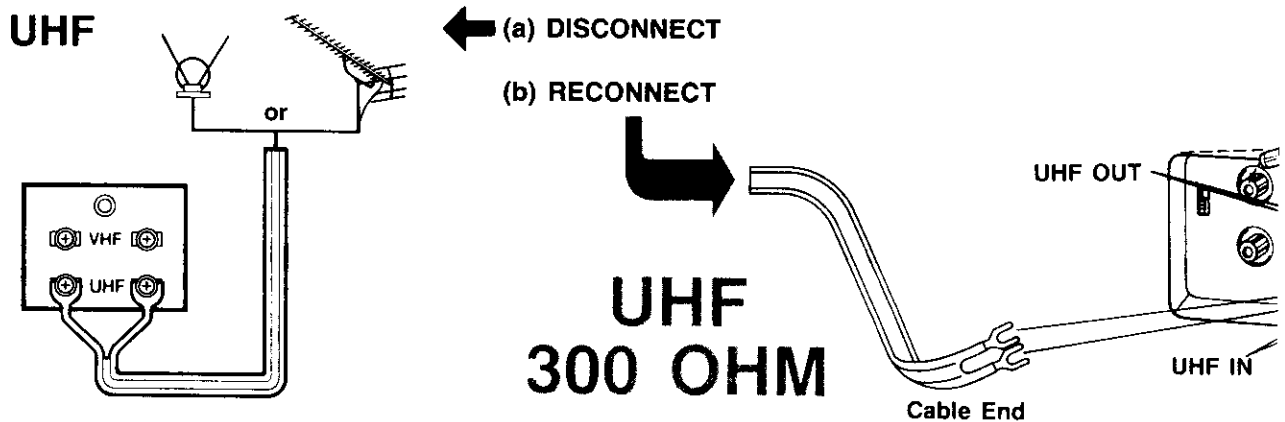
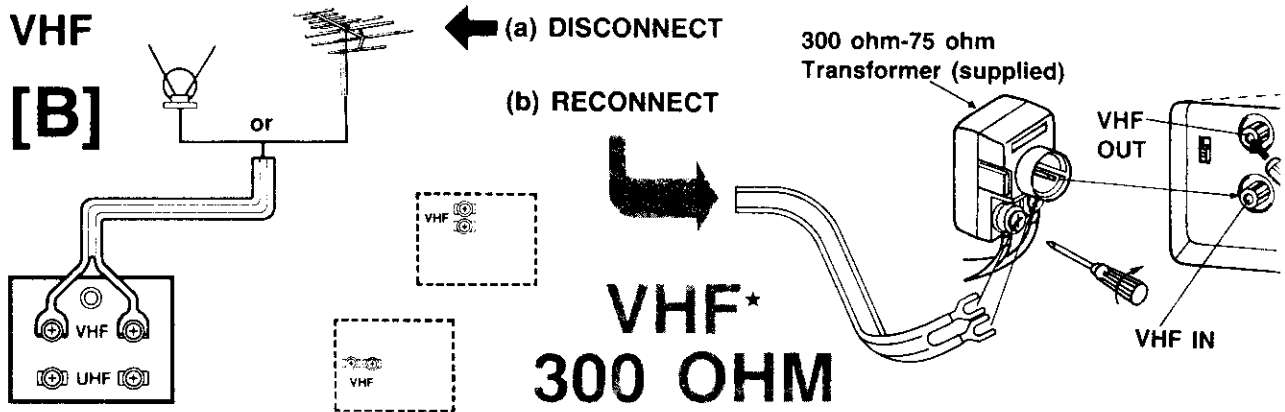
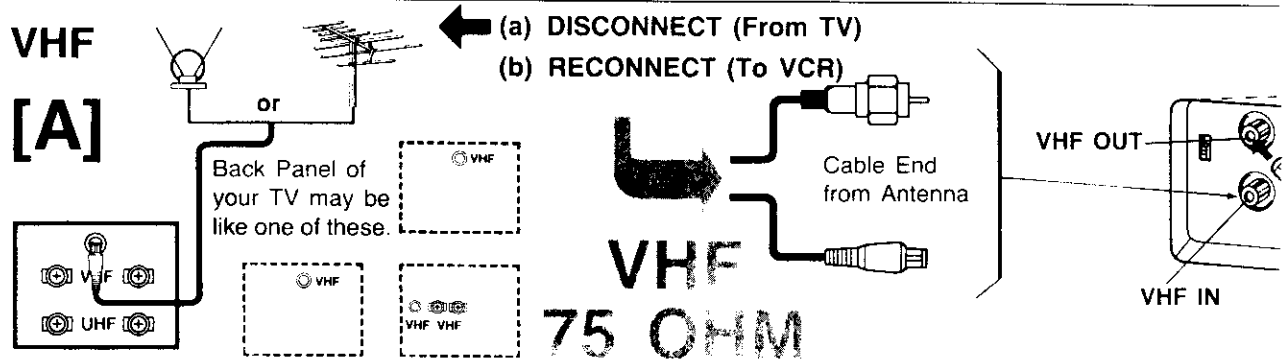
CONNECTIONS TO MAKE BEFORE RECORDING Each

[1] BASIC SIGNAL CONNECTIONS

The type of VCR and TV terminals you have may be found among those shown on this page.

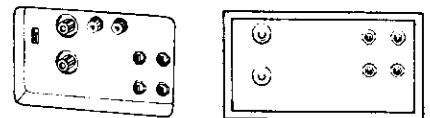
ANTENNA-FROM-TV

ANTENNA-TO-VCR



VCR Variation (s)

All Video Cassette Recorders (VCR) have VHF and UHF "In From Ant" and "Out To TV" terminals. The terminal placement may vary depending on which model VCR you own. See illustrations at right.

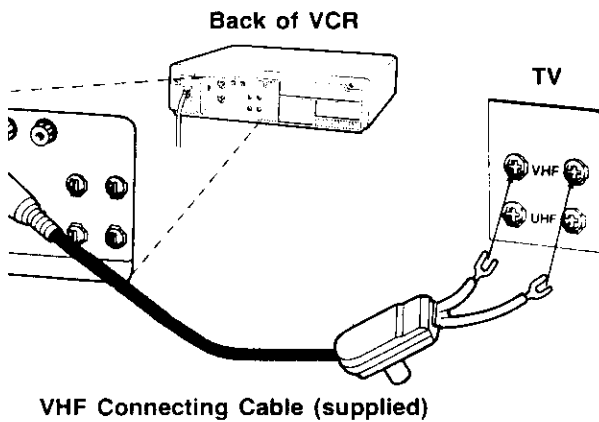
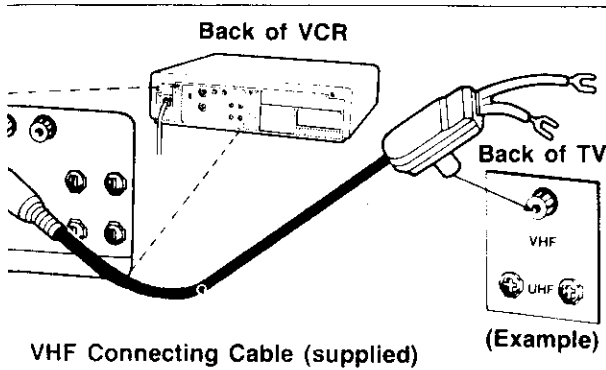


SOME ALTERNATE VCR TERMINAL PLACEMENTS

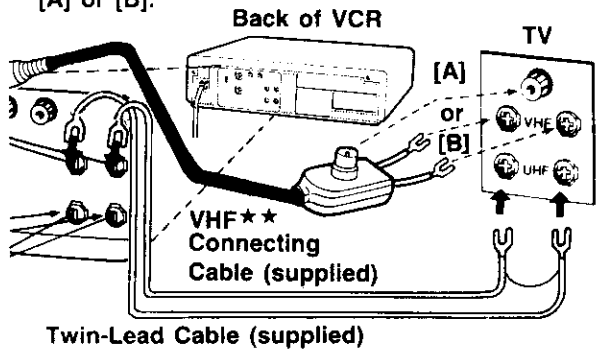
* If your TV has both types of VHF connection, the 75 ohm connection is the preferred choice to minimize signal loss.

page of this Connection Guide uses different type of TV connection.

VCR-TO-TV



* VHF connections must be made from the VCR to TV even if you only receive UHF, follow VHF step [A] or [B].

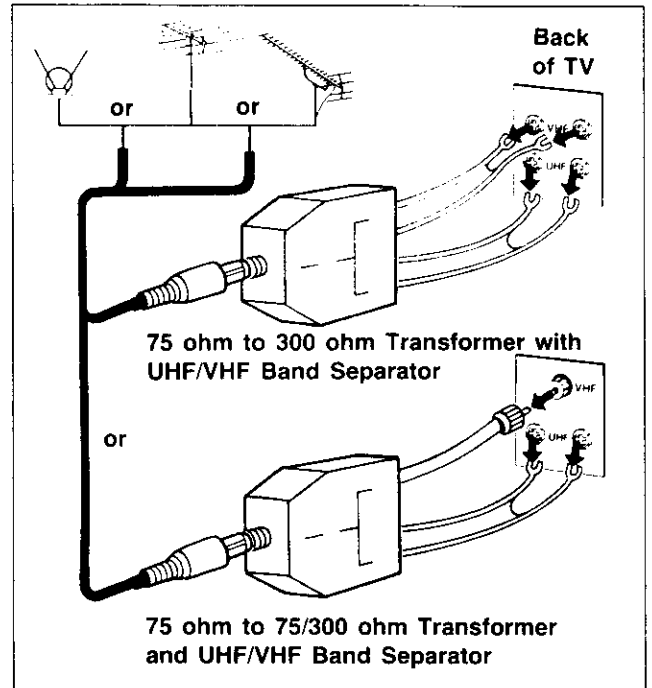


BE SURE TO READ THE INSTRUCTIONS IN THE "RECORDING PREPARATIONS" SECTIONS OF YOUR OPERATING MANUAL BEFORE ATTEMPTING RECORDING.

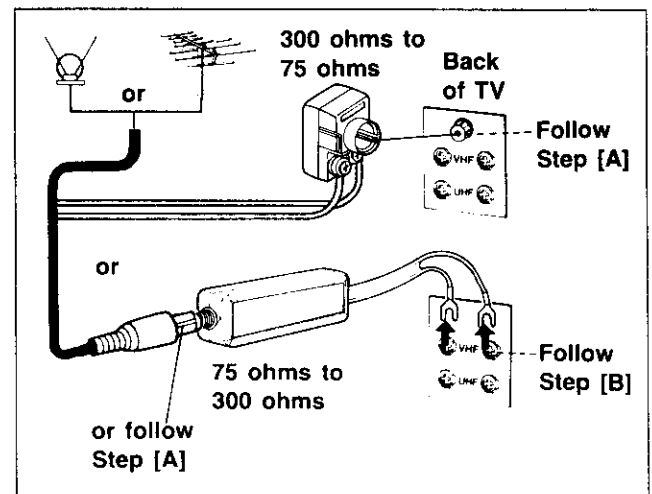
The following adaptor arrangements shown below are the ones most commonly used to separate the UHF and VHF signals from a single antenna source:

FIRST: Disconnect Separator or Transformer from antenna panel on back of TV.
THEN: Reconnect as shown in VHF [A] (b) or [B] (b).

FOR SEPARATORS



FOR VHF ANTENNA TRANSFORMERS



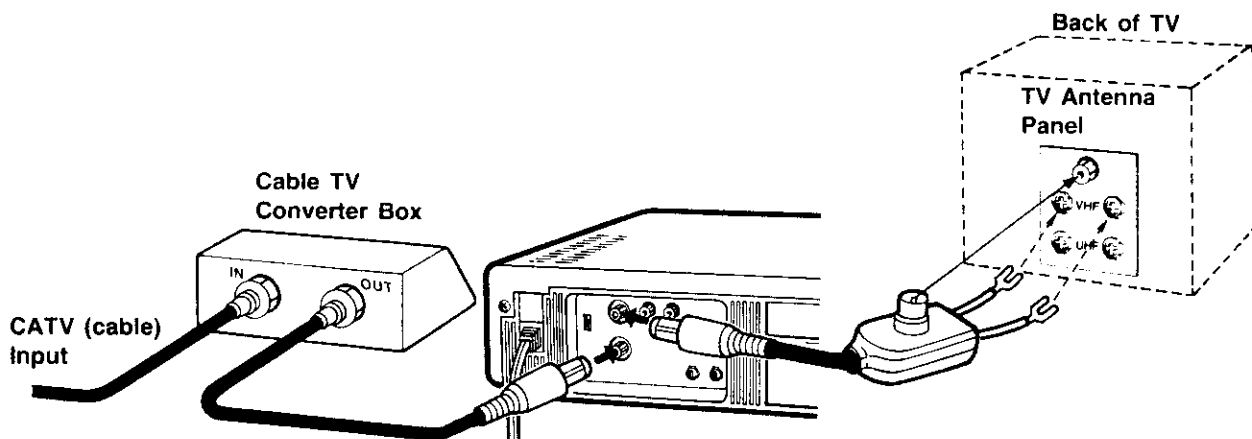
CONNECTIONS TO MAKE BEFORE RECORDING (C)

CABLE CONNECTIONS [2]

BASIC CABLE CONNECTION

WITH A (CABLE TO VCR) CONVERTER/DESCRAMBLER BOX

If your cable service supplies you with a converter box, you can use the basic connection shown here. If your cable system is different, refer to "ALTERNATE CABLE CONNECTIONS" on the following pages.



With this connection, you can record and view any channel including scrambled channels. However, channel selection must be made at the cable company converter box. Therefore, the VCR's remote channel control feature cannot be used, unattended recording is limited to one channel at a time, and you cannot view another channel other than the one you are recording.

TO RECORD AND VIEW A SCRAMBLED/UNSCRAMBLED CHANNEL

1. Set the VCR/TV selector located on the front of VCR to "VCR".
2. Set TV channel selector to the output channel of the VCR.
3. Set VCR channel selector to the output channel of the Cable Converter Box. (e.g. CH 3).
4. Select channel to be recorded at the Cable Converter Box.

TO WATCH TV (WITH THE VCR OFF)

1. Set TV channel selector to the output channel of the Cable Converter Box.
2. Select the desired channel on cable converter channel selector.

Note to CATV system installer:

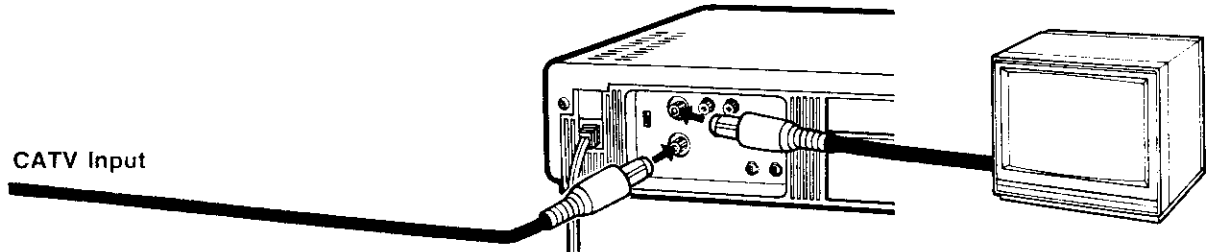
This reminder is provided to call the CATV system installer's attention to Article 820-22 of the NEC in USA (and to the Canadian Electrical code in Canada) that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

[3]

ALTERNATE CABLE **A** CONNECTION

WITHOUT A CONVERTER/DESCRAMBLER BOX

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



The following features will operate with this connection.

- All VCR remote channel functions.
- Full programmability of unscrambled channels for unattended recording.
- Viewing a different channel than the one being recorded.

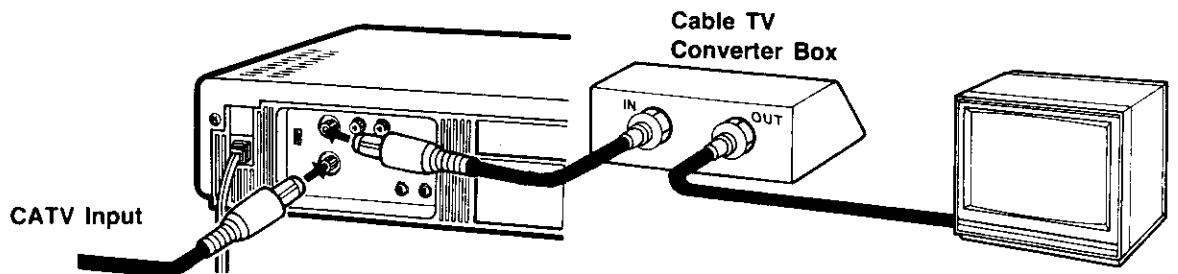
NOTE: • Use the VCR CHANNEL UP/DOWN Keys to select the desired channel.
• You cannot record or view scrambled channels with this connection.

[4]

ALTERNATE CABLE **B** CONNECTION

WITH A (VCR TO TV) CONVERTER/DESCRAMBLER BOX

If your cable system uses a converter box, you may use this connection instead of the basic cable connection shown on the previous page. Consult your local cable company if necessary.



With this connection, you regain:

- Full programmability of unscrambled channels for unattended recording.
- Viewing a different channel than the one being recorded.

NOTE: • Use the VCR CHANNEL UP/DOWN Keys to select the desired channel.
• You cannot record scrambled channels with this connection.

Settings for Recording of One Channel and TV Viewing of Another Channel

- Select channel to be recorded with the VCR CHANNEL UP/DOWN Keys.
- On the VCR set the VCR/TV selector to TV.
- Set the channel selector on the TV to the output channel for Converter Box.
- Select channel to be viewed on Converter Box.

Settings for Tape Playback

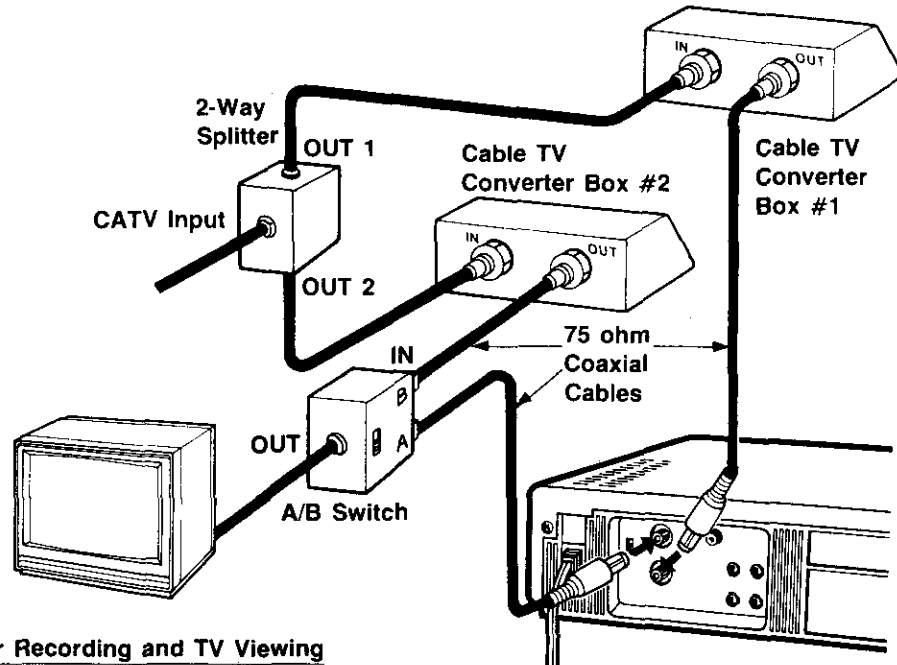
1. Set VCR/TV selector to VCR.
2. Set TV channel selector to the output channel of Converter Box.
3. Set Converter Box channel selector to VCR output channel (channel 3 or 4).

[5]

ALTERNATE CABLE CONNECTION

WITH TWO CONVERTER/DESCRAMBLER BOXES

If you want to record and view combinations of scrambled/unscrambled channels, you will need additional equipment. A typical connection using two converter boxes, an A/B Switch, and a 2-Way Splitter is shown here.



Settings for Recording and TV Viewing

1. Set VCR channel selector to the output channel of Converter #1.
2. Select channel to be recorded on Converter #1.

To view the channel being recorded:

- Set VCR/TV selector to VCR.
- Set A/B Switch to position A.
- Set TV channel selector to VCR output channel (channel 3 or 4).

NOTE:

- These settings are also used to view playback of a tape.
- Converter Boxes, Splitters and Cables shown are not supplied.

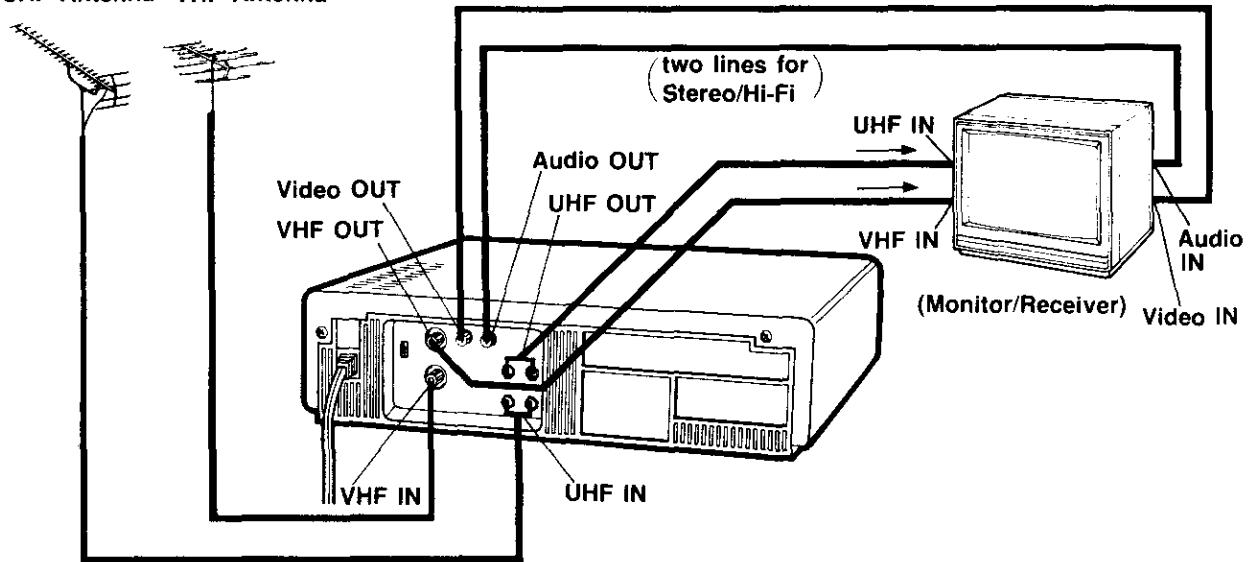
To view a different channel:

- Set A/B Switch to position B.
- Set TV channel selector to output channel of Converter #2.
- Select channel to be viewed on converter #2.

[6] TV AUDIO/VIDEO CONNECTIONS

If your TV has AUDIO IN and VIDEO IN terminals, you can also connect the AUDIO OUT and VIDEO OUT connectors of your VCR to these terminals on your TV to receive a higher quality picture and sound.

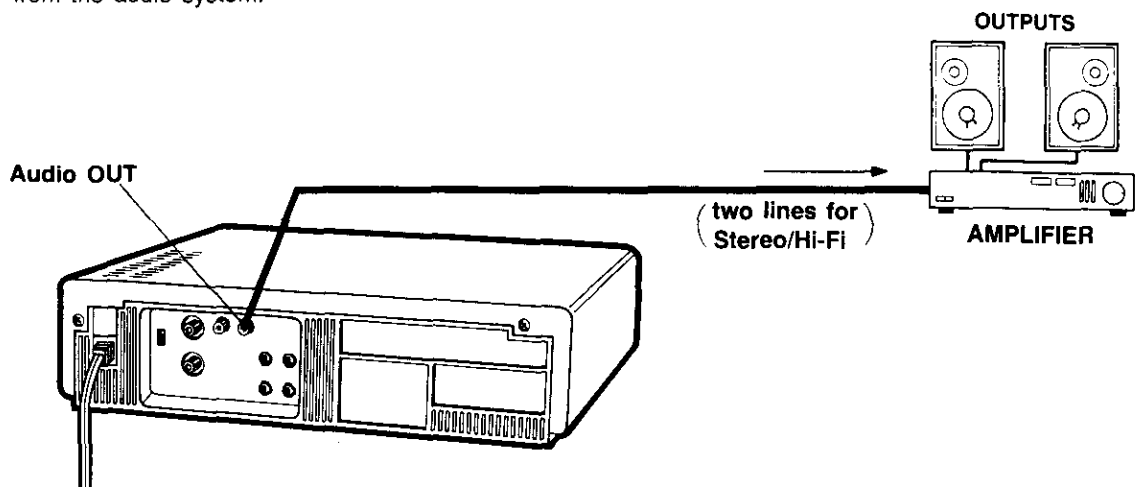
UHF Antenna VHF Antenna



NOTE:

- For viewing the program from the VCR, set the VIDEO/TV selector on the TV (Monitor/Receiver) to the "VIDEO" mode.

If you connect the VCR to a component stereo audio system, you can view the VCR picture on TV with sound from the audio system.



OUTSIDE ANTENNA, EQUIPMENT, AND POWERLINE EXPOSURE

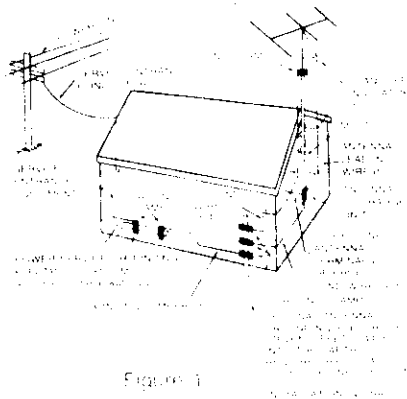


Figure 1

1. INSURE SAFE ANTENNA AND CABLE CONNECTIONS

If an outside antenna or cable system is connected to the equipment, be sure the antenna or cable system is grounded so as to provide some protection against built up static charges and voltage surges. Part 1 of the Canadian Electrical Code, in USA 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. See figure 1 for items a-d below.

- Use No. 10 AWG (5.3 mm) copper, No. 8 AWG (8.4 mm) aluminum, No. 17 AWG (1.0 mm) copper-clad steel or bronze wire, or larger, as ground wire.
- Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4 feet (1.22 m) to 6 feet (1.83 m) apart.
- Mount antenna discharge unit as close as possible to where lead-in enters house.
- Use jumper wire not smaller than No. 6 AWG (13.3 mm) copper, or the equivalent, when a separate antenna-grounding electrode is used. See NEC Section 810-21(j) for installation in USA.

2. ELIMINATE ANTENNA PROXIMITY TO HIGH VOLTAGE POWER SOURCES, OR CHANCE OF ACCIDENTAL CONTACT BY INSTALLER

An outside antenna system should be located where it will never be reached by power lines, electric light or power circuits and where it will never contact these power sources if it falls. Installer should use extreme care to avoid possible fatal contact by touching power lines, circuits or other power sources when installing outside antenna.

USE

AFTER STORING OR WHEN MOVING THE UNIT, REFER TO THE INSTALLATION SECTION OF THE SAFEGUARDS

- DO NOT USE THIS VIDEO UNIT NEAR WATER** around bathtubs, sinks, laundry, wet basement, swimming pool or any water sources.
- USE ACCESSORIES RECOMMENDED ONLY BY THE MANUFACTURER** to avoid risk of fire, shock or other hazards.
- UNPLUG ALL EQUIPMENT EXPOSED TO RAIN, MOISTURE, OR STRONG IMPACT AND GET A QUALIFIED INSPECTION**
If your unit has been exposed to rain, water, excessive moisture, or subjected to strong impact, unplug it and have it inspected by a service technician before use.
- UNPLUG UNUSED UNIT, AND ALL EQUIPMENT DURING A STORM**
During a lightning storm, when indoors or outdoors, or before leaving unit unused for extended periods of time, disconnect all equipment from power source, antenna and cable system.
- UNPLUG ALL EQUIPMENT BEFORE CLEANING**, after unit has been unplugged use a dry, clean, chemically untreated, cloth. Use no cleaning fluids, aerosols, or forced air that could over-spray, or soak into the unit, and cause electrical shock. Any substance such as wax, adhesive tape, etc. may affect the cabinet surface. Exposure to greasy, humid, or dusty areas may affect internal parts.
- WHEN PLUGGED-IN: KEEP WATER AWAY; NO FINGERS INSIDE NOR ANY OBJECTS INSIDE; AND NO MAGNETS OR ELECTRICAL INTERFERENCE NEARBY.**
 - Never operate the unit if liquid has been spilled into it. Immediately unplug the unit, have it inspected by a service technician. Fire and shock hazards can result from electrical shorts caused by liquid contact inside.
 - Caution the children about dropping or pushing objects into the unit. Some parts inside carry hazardous voltages and contact can cause electric shock. Objects dropped in electrical equipment can cause fire hazards.
 - Separate the unit from any interference causing appliances. Placing the unit directly above or below your TV set may cause electrical interference. Keep all magnets away from electronic equipment.

SERVICE

- DO NOT ATTEMPT TO SERVICE THIS PRODUCT YOURSELF**
If this Video product does not operate as described, when the detailed Operating Instructions are followed do not attempt to open or remove covers, or make any adjustments not described in the manual. Attempting to service this unit yourself may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- CHECK ON REPLACEMENT PARTS REQUIRED**, be sure the service technician has used replacement parts specified by the manufacturer or having the same characteristics as the original part. Unauthorized substitutes may result in fire, electric shock or other hazards.
- HAVE TECHNICIAN PERFORM SAFETY CHECK** described in the manufacturer's service literature, after any service or repairs, to determine the Video unit's safe operating order.