

# aiwa

## HV-FX8000<sub>U</sub>

**VHS**

*STEREO VIDEO CASSETTE RECORDER*

*VIDEOGRABADORA ESTEREOFONICA*

*ENREGISTREUR À CASSETTES VIDÉO STÉRÉO*

**OPERATING INSTRUCTIONS  
INSTRUCCIONES DE MANEJO  
MODE D'EMPLOI**



**ENGLISH**

**ESPAÑOL**

**FRANÇAIS**

For Assistance And Information

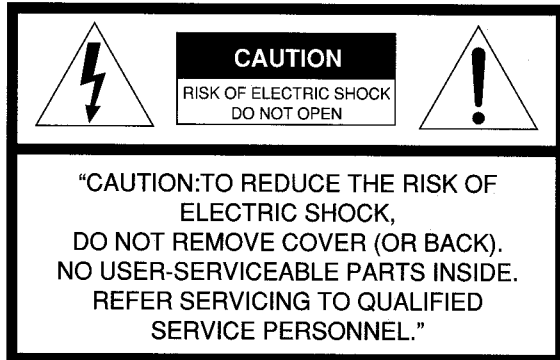
***Call Toll Free 1-800-BUY-AIWA***

(United States and Puerto Rico)

# ENGLISH

## Warning

To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.



### Explanation of Graphical Symbols



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



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

## IMPORTANT SAFETY INSTRUCTIONS

Read the Operating Instructions carefully and completely before operating the unit. Be sure to keep the Operating Instructions for future reference. All warnings and cautions in the Operating Instructions and on the unit should be strictly followed, as well as the safety suggestions below.

### Warning

To prevent electric shock or injury, these safety instructions should be followed in the installation, use and servicing the unit.

### Installation

**Attachments** - Do not use attachments not recommended by the unit manufacturer as they may result in the risk of fire, electric shock or injury to persons.

**Water and Moisture** - Do not use this unit near water - for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.

**Heat** - Do not use this unit near sources of heat, including heating vents, stoves, or other appliances that generate heat. It also should not be placed in temperatures less than 5°C (41°F) or greater than 35°C (95°F).

**Mounting surface** - Place the unit on a flat, even surface.

**Accessories** - Do not place this unit on an unstable cart, stand, tripod, bracket, or table. The unit may fall, causing serious injury to a child or an 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 unit. Any mounting of the appliance should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

**Portable cart** - 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.

### PORTABLE CART WARNING



S3125A

**Ventilation** - The unit should be situated with adequate space around it so that proper heat ventilation is assured. Allow 10 cm clearance from the rear and the top of the unit, and 5 cm from the each side. Slots and openings in the cabinet and the back or bottom are provided for ventilation, and to ensure reliable operation of the unit and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the unit on a bed, sofa, rug or other similar surface. (This unit should never be placed near or over a radiator or heat register.) This unit should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.

**Object and Liquid Entry** - Never push objects of any kind into this unit through the cabinet slots as they may touch dangerous voltage points or short-circuit parts that could result in a fire or electric shock. Never spill liquid of any kind on the unit.

### Electric Power

**Power Sources** - This unit 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. To operate unit on battery power, or other sources, refer to the operating instructions.

**Grounding or Polarization** - This unit is provided with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

**Power-Cord Protection** - This unit is provided with an attachment plug having overload protection. This is a safety feature. See operating instructions for replacement or resetting of protective device. If replacement of the plug is required, be sure the service technician has used a replacement plug specified by the manufacturer that has the same overload protection as the original plug.

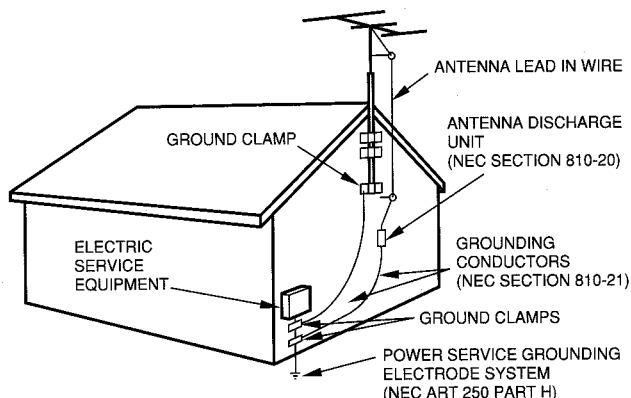
**Overloading** - Do not allow anything to reset on the power cord. Do not overload wall outlets and extension cords as this can result in fire or electric shock. Do not locate this unit where the cord will be abused by persons walking on it.

### **Outdoor Antenna**

**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.

**Outdoor Antenna Grounding** - If an outside antenna or cable system is connected to the unit, 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, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See the figure.

Antenna Grounding According to the National Electrical Code



NEC-NATIONAL ELECTRICAL CODE

### **Lightning**

For added protection for this unit 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 unit due to lightning and powerline surges.

### **Maintenance**

**Cleaning** - Unplug this unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

### **Damage Requiring Service**

Unplug this unit from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- 1) When the power cord or plug is damaged or frayed.
- 2) If the liquid has been spilled into the unit.
- 3) If the unit has been exposed to rain or water.
- 4) If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to normal operation.
- 5) If the unit has been dropped or the cabinet has been damaged.
- 6) When the unit exhibits a distinct change in performance - this indicates a need for service.

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

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

**Safety Check** - Upon the completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.

### **Note to CATV system installer:**

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

### **OWNER'S RECORD**

For your convenience, record the model number and serial number (you will find them on the rear of your set) in the space provided below. Please refer to them when you contact your AIWA dealer in case of difficulty.

Model No.

Serial No.

## Welcome

Thank you for purchasing this AIWA product. To optimize the performance of this unit, please read through this operating instructions carefully.

## Main features of this VCR

### VCR Plus+ system and One-Touch Playback

You can easily set the timer with the VCR Plus+ system.

The recorded TV programs can be played back quickly with One-Touch Playback.

### MTS (Multi-channel TV Sound) broadcast

You can receive, record and play back stereo and bilingual TV programs.

### MBR (Multi Brand Remote control)

The remote control can control the TVs of many manufacturers and CATV/DBS converters.

### Auto Set-Up

You can easily finish the VCR settings of the TV channels at once.



VCR Plus+ and PlusCode are registered trademarks of Gemstar Development Corporation.

The VCR Plus+ system is manufactured under license from Gemstar Development Corporation.

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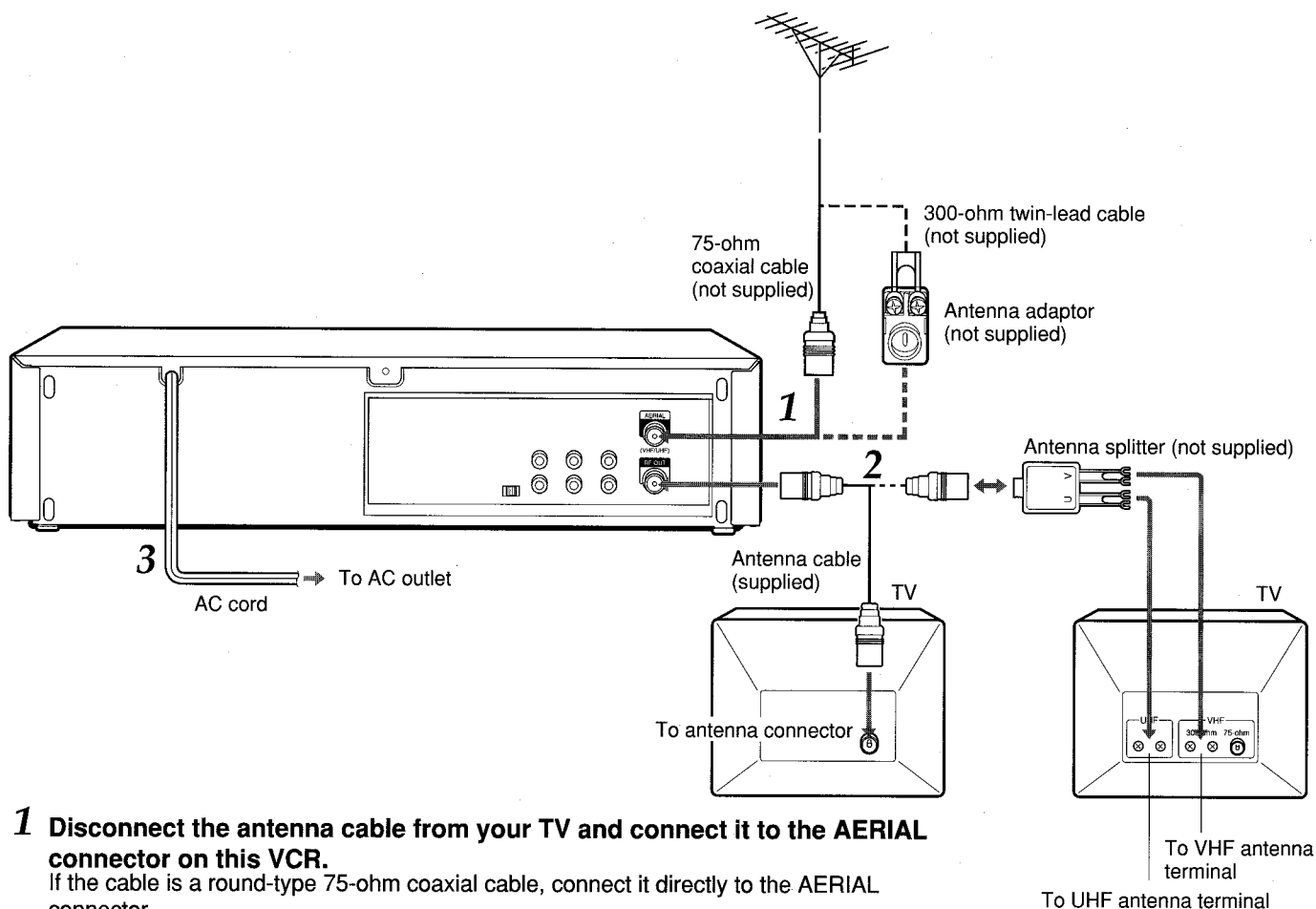
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# Connecting the VCR

## Basic connections



### 1 Disconnect the antenna cable from your TV and connect it to the AERIAL connector on this VCR.

If the cable is a round-type 75-ohm coaxial cable, connect it directly to the AERIAL connector.

If the cable is a flat-type 300-ohm twin-lead cable, connect it to the antenna adaptor (not supplied), and connect the adaptor to the AERIAL connector.

### 2 Connect the supplied antenna cable to the RF OUT connector on this VCR and the antenna connector on your TV.

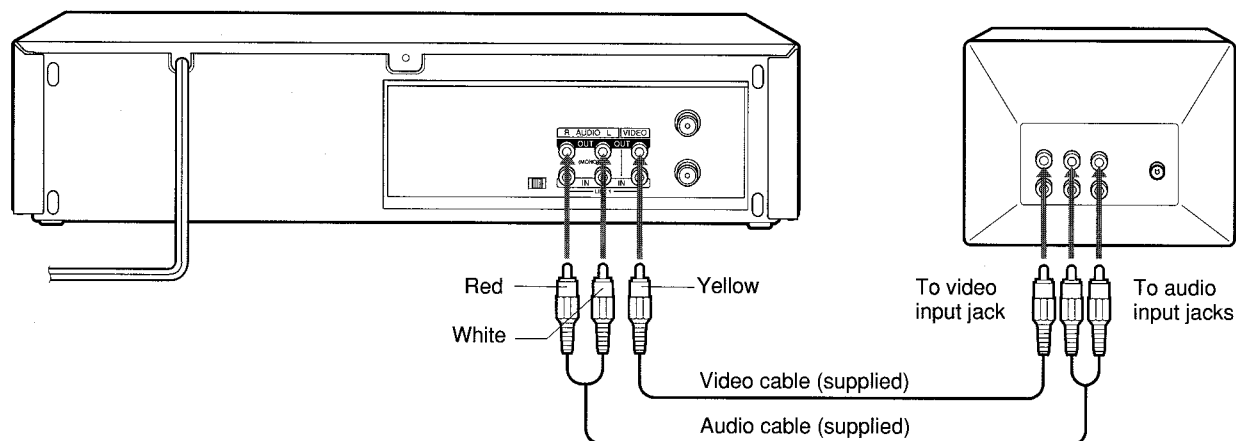
If your TV has a 300-ohm antenna connector, use an antenna splitter (not supplied).

### 3 Connect the AC cord to the AC outlet.

## To connect to the TV with an audio and video cables

If your TV has the audio/video input jacks, you can connect the VCR and TV using the supplied audio and video cables.

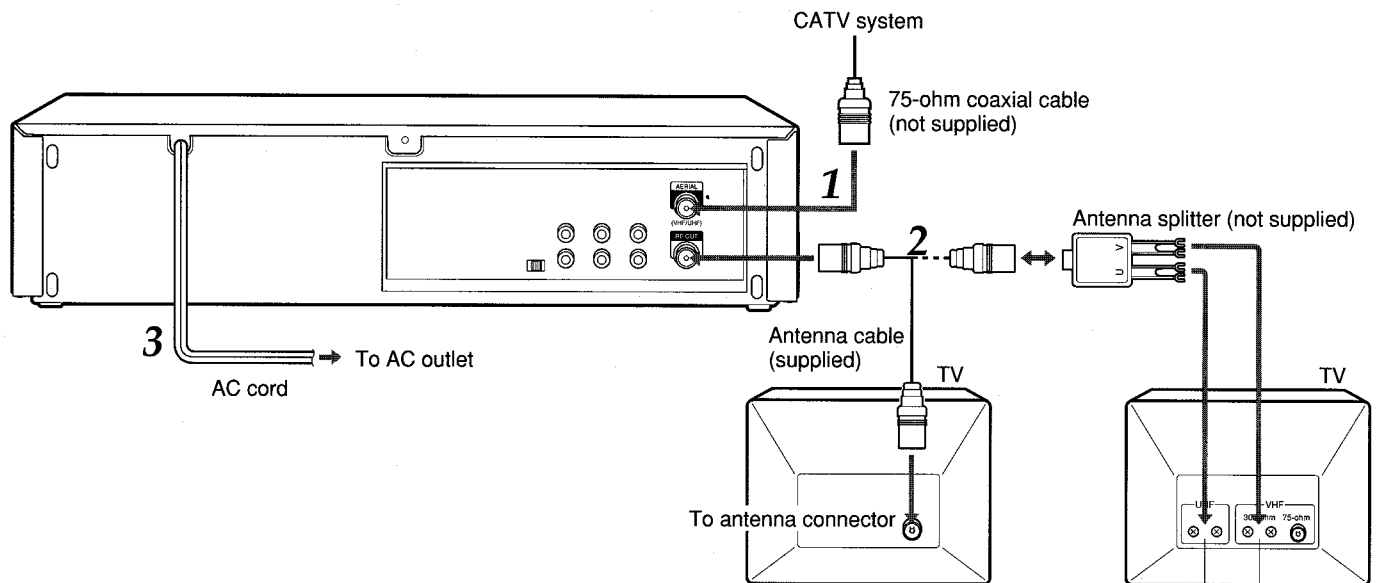
This connection improves the picture and sound quality.



CONTINUE

## CATV connections

### To connect a CATV system without using a CATV converter



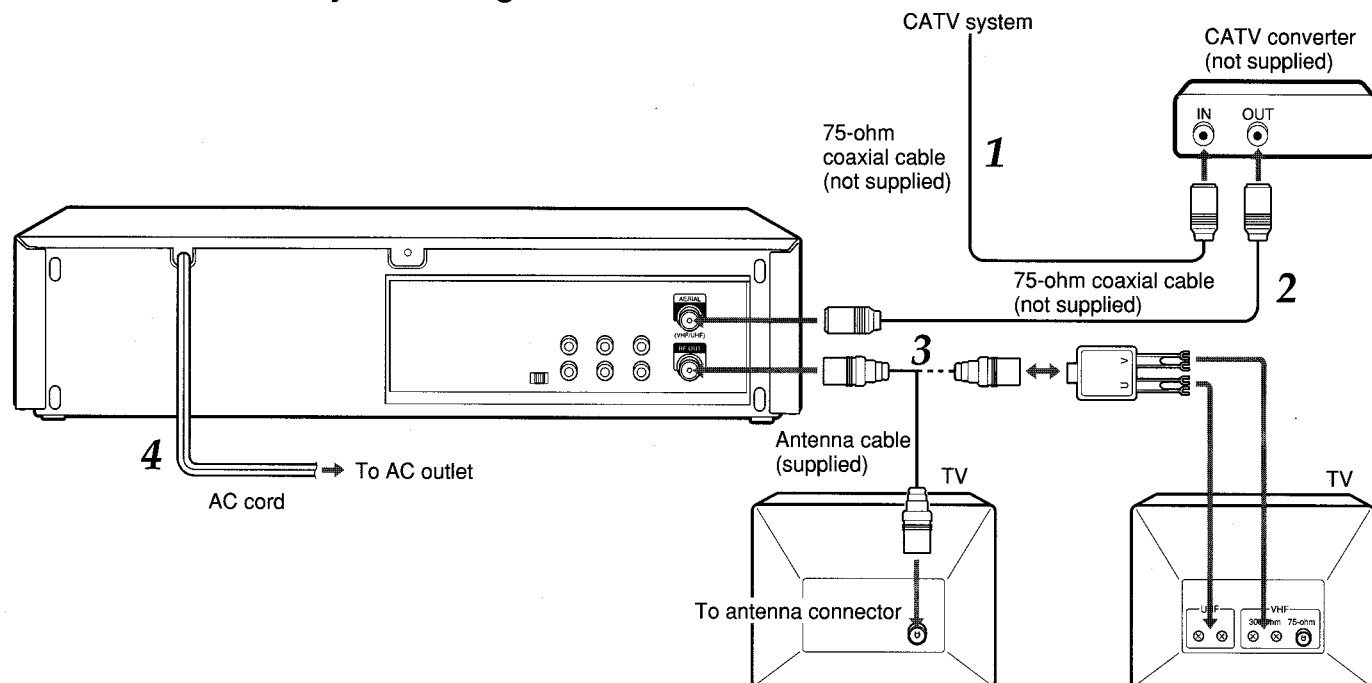
**1** Connect the cable from the CATV system to the **AERIAL** connector on this VCR.

**2** Connect the supplied antenna cable to the **RF OUT** connector on this VCR and the antenna connector on your TV.

If your TV has a 300-ohm antenna connector, use an antenna splitter (not supplied).

**3** Connect the AC cord to the AC outlet.

### To connect a CATV system using a CATV converter



**1** Connect the cable from the CATV system to the input connector on the CATV converter.

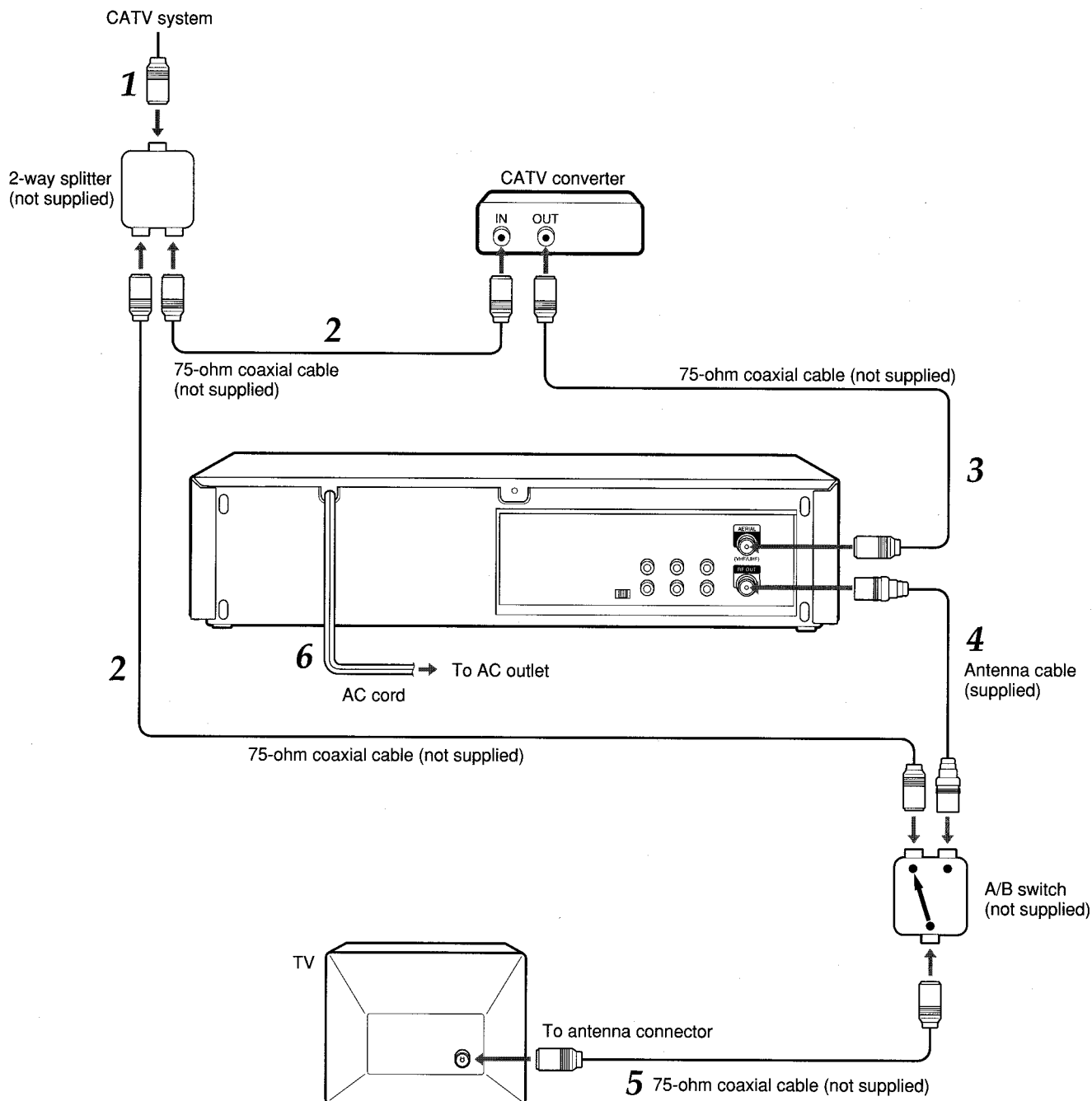
**2** Connect the output connector on the converter to the **AERIAL** connector on this VCR.

**3** Connect the supplied antenna cable to the **RF OUT** connector on this VCR and the antenna connector on your TV.

If your TV has a 300-ohm antenna connector, use an antenna splitter (not supplied).

**4** Connect the AC cord to the AC outlet.

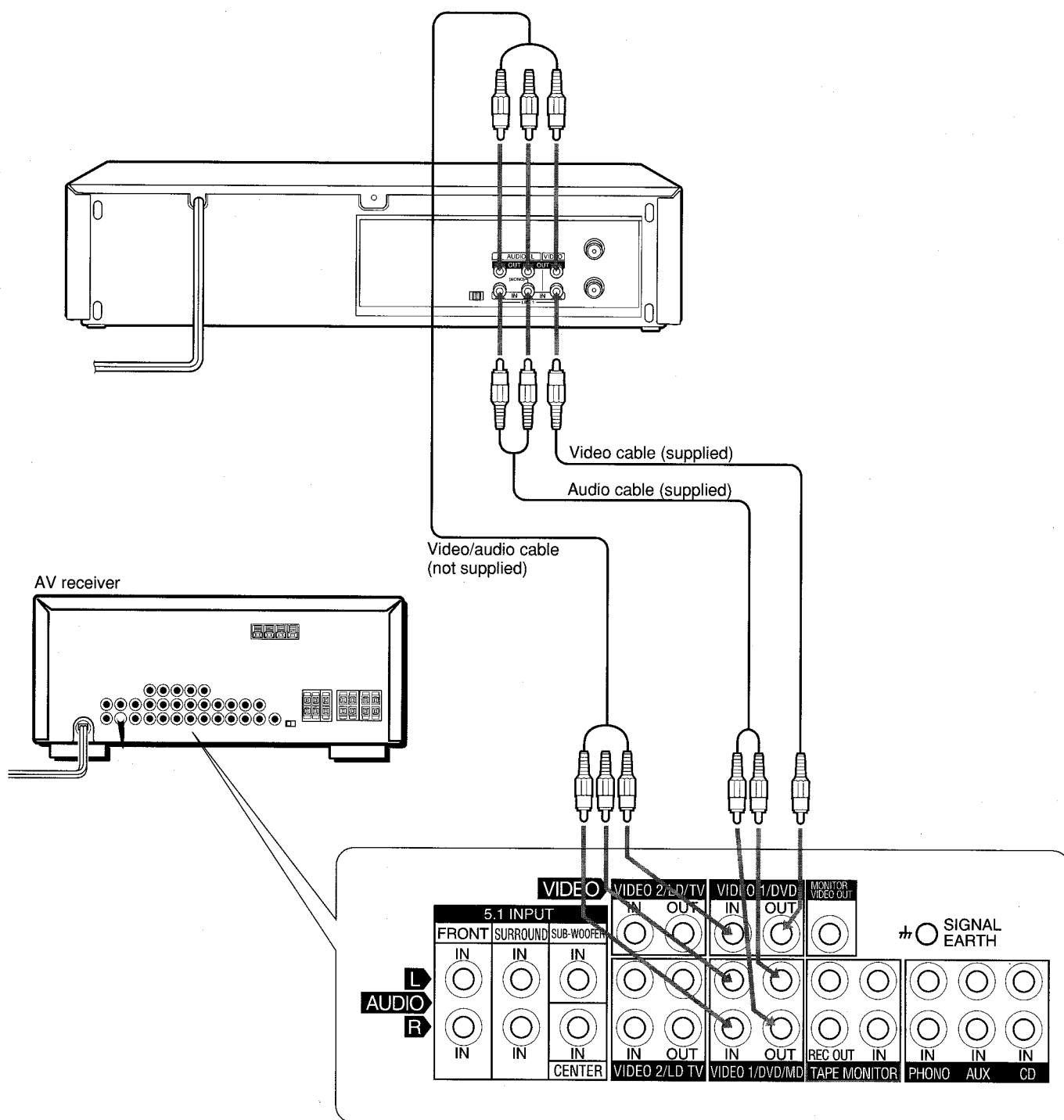
## To connect a CATV system using a CATV converter and 2-way splitter



- 1** Connect the cable from the CATV system to the 2-way splitter.
- 2** Connect one of the output connector of the splitter to the input connector of the CATV converter, and the other to the A/B switch.
- 3** Connect the output connector on the converter to the AERIAL connector on this VCR.
- 4** Connect the RF OUT connector on this VCR to the A/B switch using the supplied antenna cable.
- 5** Connect the A/B switch to the antenna connector on your TV.
- 6** Connect the AC cord to the AC outlet.

## Additional connections

### To connect an AV receiver (AIWA AV-D50)

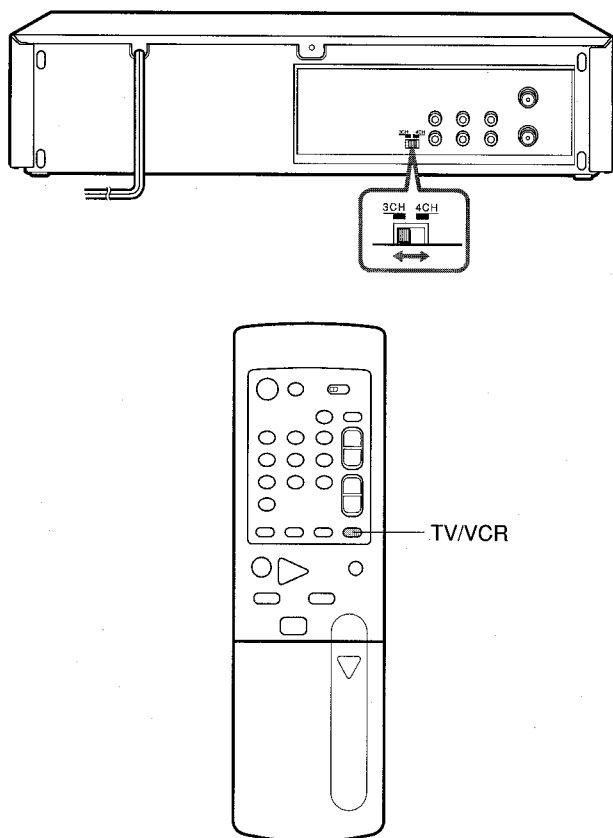


#### Notes

- To receive a radio broadcast on the AV receiver, turn off the VCR.
- Install the AM antenna of the AV receiver in a location that avoids interference, more than 1.5m away from the VCR.



## VCR reception setting



### When a TV is connected with an antenna cable only

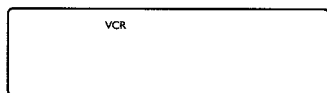
When the TV is connected to the RF OUT connector using a supplied antenna cable only, set the channel selector at the rear to 3CH or 4CH, not employed for broadcasts, and select the same channel on the TV.

#### To select a desired TV channel on the TV

Turn the TV on and turn off this VCR.

#### To see a TV program or video program selected on the VCR

Turn the TV and VCR on, and press TV/VCR to display "VCR" in the display window.



### When a TV is connected with an audio and video cables

When the TV is connected using the supplied audio and video cables, turn the TV and VCR on, and select the video input mode on the TV.

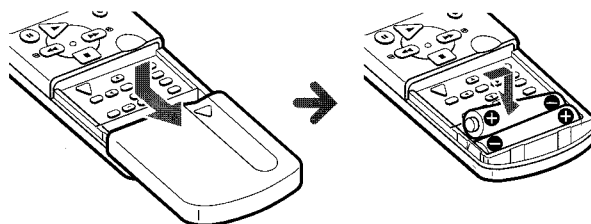
## Preparing the remote control

### Inserting the batteries

#### Caution

To prevent damage from leakage or explosion, follow the descriptions below.

- Insert the two supplied R6 (size AA) batteries with the  $\oplus$  and  $\ominus$  marks correctly as illustrated.
- Do not mix old batteries with new ones or different types of batteries.
- Do not throw the batteries into a fire, apply heat to them or take them apart.
- Do not carry the batteries with keys or other metallic objects.

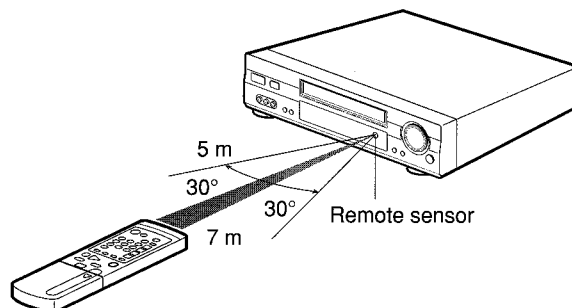


#### Note

Remove the batteries when they have no more power, or when you do not use the remote control for a long period of time.

### Using the remote control

Point the remote control toward the remote sensor.

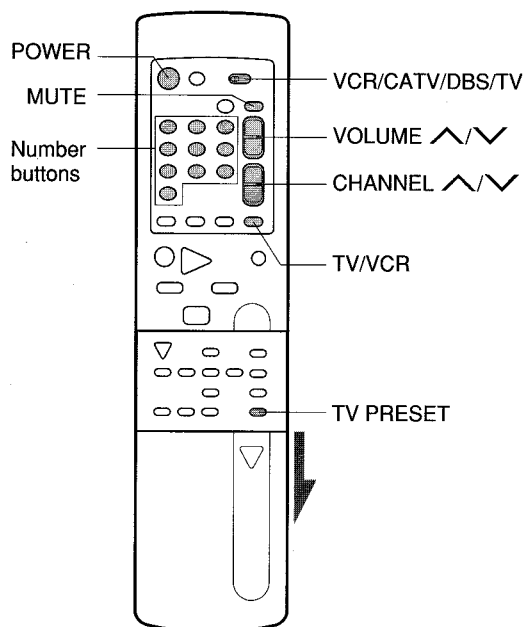


#### Notes

- The remote control may not operate when there is any obstruction between the remote control and the remote sensor.
- Strong ambient light sources such as a fluorescent lamp or direct sunlight may cause unreliable operation.
- Using a TV with the same type of infrared remote control facing the same direction may cause incorrect operation.
- The maximum distance for effective control between the remote control and the remote sensor is 7 meters. When the maximum operable distance becomes shorter, replace both batteries with new ones.
- Although you can use the remote control within an angle of up to 30 degrees in any direction from directly in front of the remote sensor, we recommend a narrower angle for stable operation.

## Controlling the TVs and CATVs

The remote control can control the TVs of many manufacturers and CATV/DBS converters for the CATV. To control such TVs and CATV/DBS converters, set the manufacturer's code number shown in the table on the right.



- 1** Set the VCR/CATV/DBS/TV selector to TV or CATV/DBS.
- 2** While holding TV PRESET, press the number buttons to set the code number referring to the table on the right.  
Some manufacturers have more than one code number. If the remote control does not operate with the TV or CATV after setting the code number, try another number.

### To control the TV

POWER, CHANNEL  $\wedge/\vee$ , VOLUME  $\wedge/\vee$ , MUTE, TV/VCR, ENTER and the number buttons on the remote control are activated.

### To control the CATV

POWER, CHANNEL  $\wedge/\vee$ , TV/VCR, ENTER and the number buttons on the remote control are activated.

#### Notes

- Due to the variety of codes used by manufacturers, AIWA cannot guarantee that the MBR remote control will operate with every model of the brands listed.
- The number buttons can be used only for channel selection, but they may not function correctly with some TV models and CATV/DBS converters.

TV manufacturer	Code number
ADMIRAL	16, 33, 37, 44, 45
AIWA	70
AKAI	01
AMARK	09
AOC	01
BELL & HOWELL	33
BROKSONIC	18, 19
CANDLE	51
CCE	07
CENTURION	08
CINERAL	43
CITIZEN	49, 50, 51, 52, 53, 54, 55
CORONADO	09
CROWN	09
CURTIS MATHES	01, 03, 08, 33, 37, 44
DAEWOO	16, 38, 39, 40, 41, 42, 43
DAYTRON	01, 08
EMERSON	01, 09, 16, 17, 18, 19
FISHER	28, 29
FUNAI	46, 47
GENERAL ELECTRIC	03, 10, 11, 13, 35, 37, 44
GRADIENTE	01, 56, 57, 63, 67
HITACHI	09, 14, 15, 43
JC PENNEY	01, 08, 10, 27, 35
JVC	20, 21, 63, 67
KIOTE	43
KMC	09
KTV	01, 08, 09, 31
LG (GOLDSTAR)	01, 07, 08, 09, 35, 39, 40
LODGENET	33
LOGIK	33
LXI	09, 24, 25, 26, 27, 28, 29
MAGNAVOX	01, 02, 04, 05, 06, 07, 08, 09, 20, 34, 35, 43, 51, 61, 62, 65
MAJESTIC	33
MARANTZ	01, 32
MEMOREX	33
MGA/MITSUBISHI	01, 08, 32, 34
MONTGOMERY WARD	01, 06, 08, 09, 23, 24, 32, 33, 34
NEC	01, 08
NOBLEX	07
PACKARD BELL	43
PANASONIC	07, 11, 13, 25, 35, 36
PHILCO	01, 06, 07, 08, 09, 15, 38, 43, 58
PHILIPS	06, 07, 43, 61, 62, 65
PIONEER	30
PORTLAND	09
PROSCAN	03, 37, 44
QUASAR	11, 13
RADIO SHACK	16, 17, 23
RCA	01, 03, 37, 44
REALISTIC	16, 17, 23

TV manufacturer	Code number
SAMPO	08
SAMSUNG	01, 08, 09, 25, 68
SANYO	28, 29
SCOTT	01, 08
SEARS	09, 25, 26, 27, 28, 29
SEMP	64
SHARP	09, 22, 23, 24, 60, 66
SIGNATURE 2000	01, 06, 08, 09, 10, 23, 24, 33, 34
SONY	12, 62
SOUNDESIGN	51
SYLVANIA	01, 04, 05, 06, 07, 08, 35, 51
SYMPHONIC	46, 47
TATUNG	11
TEKNIKA	07, 09, 16, 33, 51
TELERENT	09, 33
THOMSON	69
TORX	08
TOSHIBA	01, 25, 26, 27, 64
WARDS	01, 06, 08, 09, 10, 33, 34
XR1000	48
ZENITH	02, 33, 59

DBS manufacturer	Code number
DIRECTV	66
EASTERN	57
GRADIENTE SKY	56
JERROLD	60, 61, 65
RCA	50
SCIENTIFIC ATLANTA	58, 63, 64
SONY	49
TOCOM	58, 59, 62

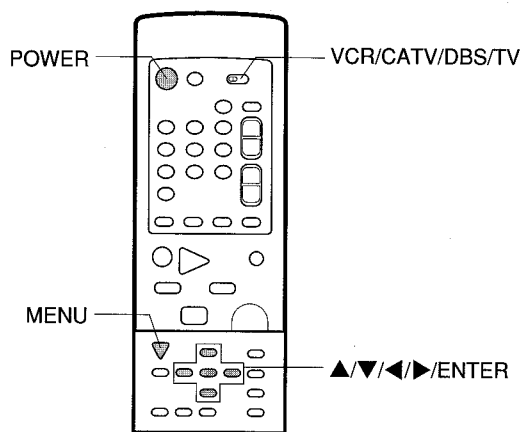
CATV converter manufacturer	Code number
ALLEGRO	46
ARCHER	39
CABLEVIEW	39
CITIZEN	39
CURTIS MATHES	15
EAGLE	24, 25, 28
GEMINI	04, 05, 22, 23
GENERAL ELECTRIC	43
GENERAL INSTRUMENT	04, 05, 07, 09
GOBRAND	39
HAMLIN	33, 34, 35
JERROLD	04, 06, 07, 08, 09, 10, 17, 39
KALE VISION	29
MACOM	03, 40, 41
MAGNAVOX	24, 25, 28, 29, 36, 37
NSC	38
OAK	11, 12, 44
PANASONIC	13, 19, 21
PARAGON	01
PHILIPS	24, 25, 26, 27, 28
PIONEER	13, 14
PULSER	39
RCA	13, 50
REGAL	28
REGENCY	32
SAMSUNG	04, 13, 29
SCIENTIFIC ATLANTA	10, 15, 16, 45, 48
SLMARX	04, 13
SONY	49
SPRUCER	04, 13, 19
STANDARD COMPONENTS	29
STARGATE	04, 05, 13
TELEVIEW	04, 13, 39
TEXSCAN	31
TOCOM	12, 17, 18, 19, 38
UNIDEN	20
UNIKA	39
UNIVERSAL	46, 47
VID TECH	30
VIDEO WAY	01, 42
VIEWSTAR	24, 25, 28
ZENITH	01, 02, 03
ZENITH HT-2000	01

#### Note

Some TV, CATV or DBS converter manufacturers may not be listed above.

## Setting the language

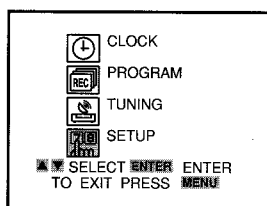
The on-screen menu can display any of three languages, English, Spanish and French.



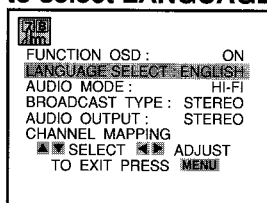
### Before starting

Set the VCR/CATV/DBS/TV selector to VCR.

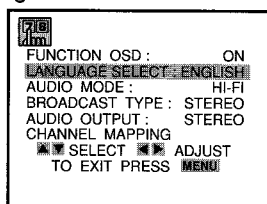
- 1 Press POWER to turn on the VCR.
- 2 Press MENU.
- 3 Press ▲/▼ to select SETUP, then press ENTER.



- 4 Press ▲/▼ to select LANGUAGE SELECT.



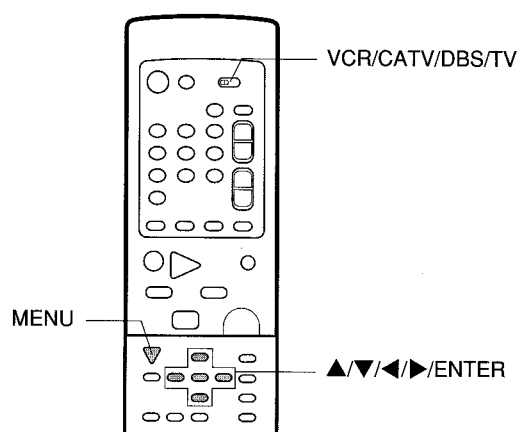
- 5 Press ◀/▶ to display the desired language. Each time the language changes, the on-screen display language changes.



- 6 Press MENU to return to the normal screen.

## Setting the clock

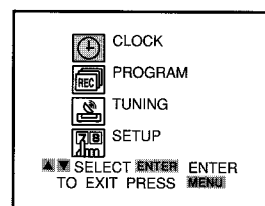
You must set the date and time for timer recordings.



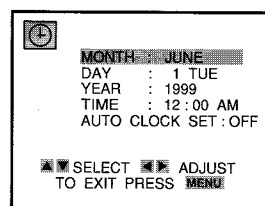
### Before starting

Set the VCR/CATV/DBS/TV selector to VCR.

- 1 Press MENU.
- 2 Press ▲/▼ to select CLOCK, then press ENTER.

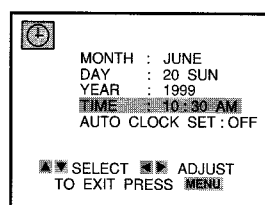


- 3 Press ◀/▶ to set MONTH, then press ▼. The day of the week will automatically appear.

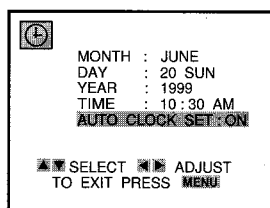


- 4 Set DAY, YEAR and TIME in the same way as in step 3.

Press and hold ◀/▶ to change the setting rapidly.



- 5 Press ◀/▶ to display AUTO CLOCK SET: ON.**  
The VCR automatically corrects the clock setting once you set AUTO CLOCK SET to ON.



- 6 Press MENU to start the clock.**  
The normal screen returns.

### To correct the digits while setting

Before pressing MENU in step 6, press ▲ to select the item you want to correct. Reset the digits using ◀/▶.

#### Tip

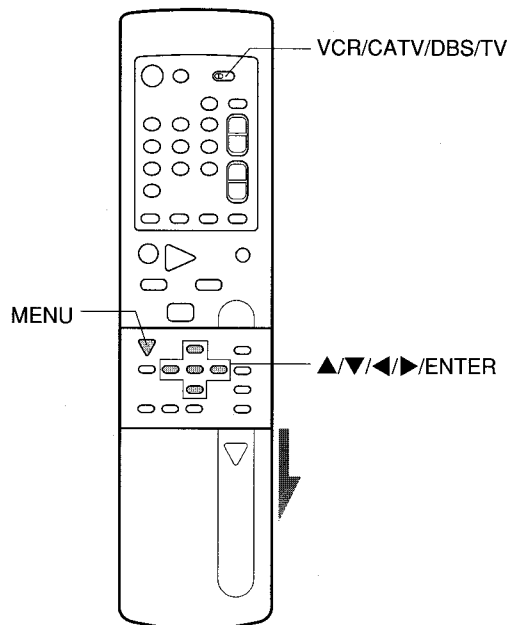
When the power supply is interrupted for more than 10 minutes, the clock setting is cleared. In this case, you have to set the clock again.

#### Notes

- The date can be set from A.D.1999 to A.D.2098.
- AUTO CLOCK functions when
  - the VCR's power is turned off.
  - the channel of a broadcaster that offers AUTO CLOCK service is preset.

## Setting the VCR channels

Before Auto Search, this unit can receive all channels in your area by pressing CHANNEL ▲/▼ repeatedly. After Auto Channel Set, you can skip the channels which are not preset with CHANNEL ▲/▼.

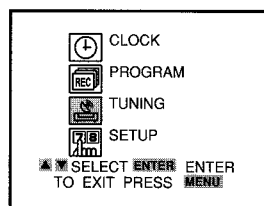


### Before starting

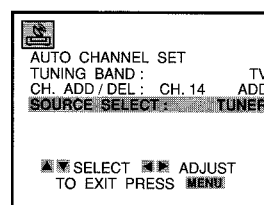
- If the VCR is connected to a CATV converter, make sure to turn it on.
- Set the VCR/CATV/DBS/TV selector to VCR.

- 1 Press MENU.**

- 2 Press ▲/▼ to select TUNING, then press ENTER.**



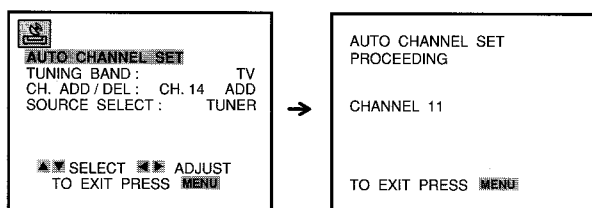
- 3 Press ▲/▼ to select SOURCE SELECT, then press ◀/▶ to display TUNER.**



- 4 Press **▲/▼** to select **AUTO CHANNEL SET**, then press **◀/▶**.

All available channels in your area are scanned and stored in the memory of the VCR.

After scanning, the previous screen returns.



- 5 Press **MENU** to return to the normal screen.

## If "C" flashes in the display window after Auto Channel Set

Check the antenna connections and repeat the above procedure from step 1.

If you still cannot receive the channels, set the VCR channels manually. See "Adding or erasing VCR channels manually" on the right.

(Presetting the VCR channels is necessary for recording TV programs.)

## CATV channels

CATV systems use letters and numerals to designate channels. The table below shows the channel numbers of the CATV system and the corresponding channel number displayed on this VCR. For more information on available channels in your area, consult your local CATV company.

Channels displayed on this VCR	CATV channels
01	4A
02 to 13	2 to 13
14 to 36	A to W
37 to 94	W+1 to W+58
95 to 99	A-5 to A-1
100 to 124	W+59 to W+83
125	W+84



When you perform the Auto Channel Set, the VCR automatically selects the band (TV or CATV) in which there are more channels to be preset. To check the band, press **▼** to select **TUNING BAND**.

### Note

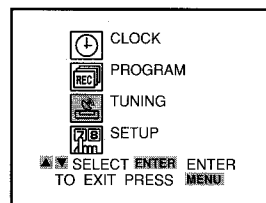
Once you conduct Auto Channel Set, the previous settings will be canceled.

## Adding or erasing VCR channels manually

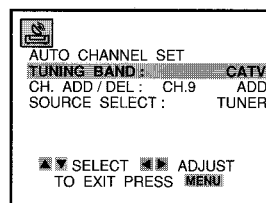
If Auto Channel Set does not set the VCR channel, add them manually for recording TV programs. You can also erase the unnecessary VCR channels.

- 1 Press **MENU**.

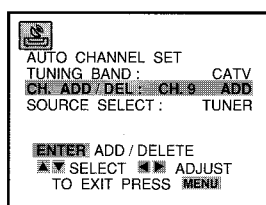
- 2 Press **▲/▼** to select **TUNING**, then press **ENTER**.



- 3 Press **▲/▼** to select **TUNING BAND**, then press **◀/▶** to display **TV** or **CATV**.

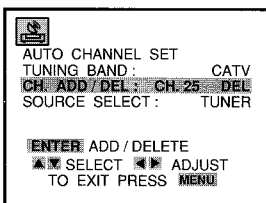


- 4 Press **▲/▼** to select **CH. ADD/DEL**.



- 5 Press **◀/▶** to select the channel to be erased or added.

When the selected channel is already set, **ADD** appears. When it is not set, **DEL** appears.



- 6 Press **ENTER** to add or erase the channel.

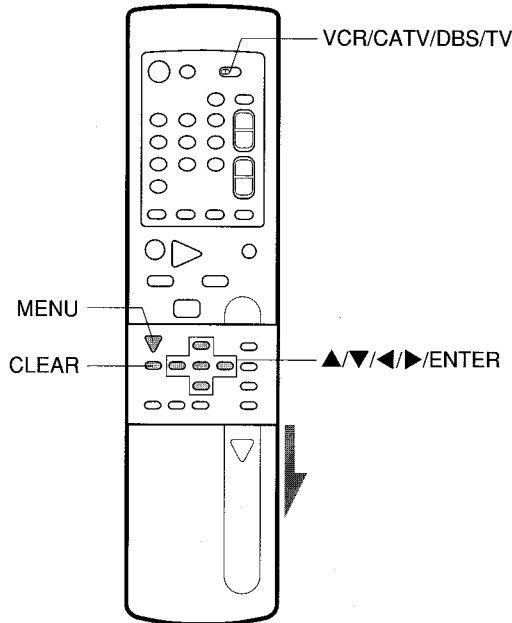
If you add the channel, "c" or "ch" lights for a few seconds in the display window. If you erase the channel, "c" or "ch" flashes for a few seconds in the display window.

- 7 If you want to add or erase other channels, repeat steps 5 and 6.

- 8 Press **MENU** to return to the normal screen.

# Checking the channel set-up to use VCR Plus+ system

To set the timer using VCR Plus+ system, you have to check whether the VCR channel numbers match the guide channels which are assigned to the TV stations. If they do not match, the VCR Plus+ system does not function correctly. In this case, coordinate the number.



## For example

For each channel your VCR receives, use the channel line up chart to check that the channel numbers match. For example, SHOWTIME is listed in the channel line up chart (under the VCR Plus+ Code) as channel 38, your VCR receives SHOWTIME on channel 14, you need to coordinate these numbers by locating guide channel 38 (under GUIDE CH). Next enter your SHOWTIME channel 14 (under CHANNEL).

## Sample Channel Line Up Chart

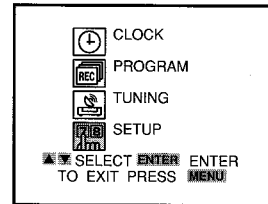
TV Station	VCR Plus+ Code	Local Cable Company Channel Number
WCBS New York CBS	02	02
WNBC New York NBC	04	04
WNYW New York NYW	05	05
WABC New York ABC	07	07
A&E Arts & Entertainment	39	44
BET Black Entertainment	57	23
CNBC Consumer News & Business	23	16
CSPAN Government Business	28	54
DSC Discovery Channel	37	63
DIS Disney Channel	53	27
MAX Cinemax	45	15
<b>SHO Showtime</b>	<b>38</b>	<b>14</b>
USA USA Network	44	40

• Channel Guide listings are available in your local TV Guide and Newspaper.

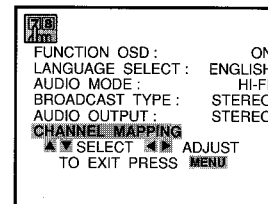
**Before starting**  
Set the VCR/CATV/DBS/TV selector to VCR.

**1 Press MENU.**

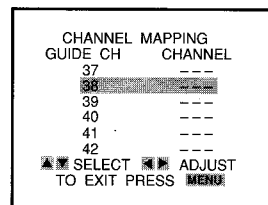
**2 Press ▲/▼ to select SETUP, then press ENTER.**



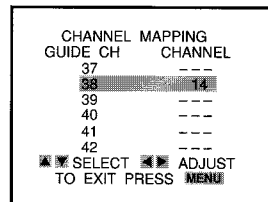
**3 Press ▲/▼ to select CHANNEL MAPPING, then press ◀/▶.**



**4 Press ▲/▼ to select GUIDE CH "38."**



**5 Press ◀/▶ to display CHANNEL "14."**



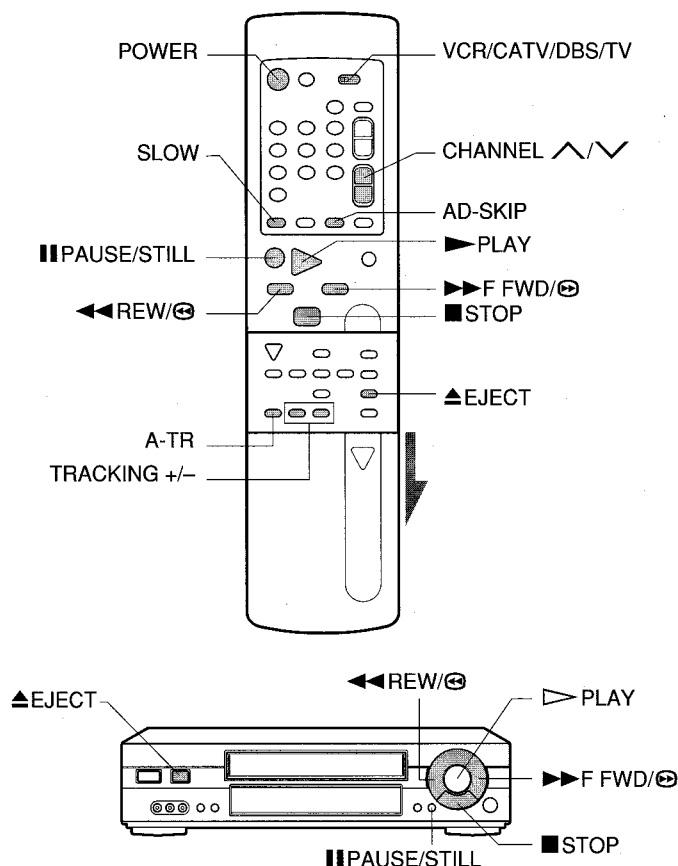
**6 Repeat steps 4 and 5 until all necessary channel numbers are set.**

**7 Press MENU to return to the normal screen.**



To cancel the CHANNEL setting, press CLEAR in step 5.

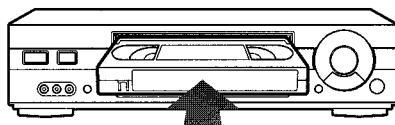
## Playing back a tape



### Before starting

Set the VCR/CATV/DBS/TV selector to VCR.

### 1 Insert a cassette.



The power turns on automatically.  
Playback starts immediately if the erasure prevention tab has been removed from the cassette.

### 2 Press ► PLAY to start playback.

### To stop playback

Press ■ STOP.

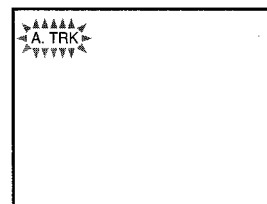
#### Notes

- When the tape reaches the end during playback, fast-forward, forward search or index search, the VCR automatically rewinds the tape to the beginning, ejects the cassette, and turns the power off. (Auto rewind function)
- The VCR selects the tape speed, SP, EP or LP, automatically.
- When a cassette is inserted, the clock display in the display window changes to tape counter display.

## If you cannot get a clear playback picture

Although the VCR adjusts the tracking automatically, you may need to adjust the tracking manually if the tape quality is too poor.

While the VCR is adjusting the tracking automatically, "A. TRK" (Automatic Tracking) flashes on the TV screen. It turns off after the adjustment is complete.



If the picture and the sound have noise, try manual tracking.

### To adjust the tracking manually

During playback, press TRACKING +/- or CHANNEL ▲/▼ repeatedly until you get the best possible picture. (Automatic Tracking is canceled.)

### To return to automatic tracking

Press A-TR.

## Additional functions

To	Press	To return to the original mode
Make a picture still	■ PAUSE/STILL during playback	Press ► PLAY.
Fast-forward the tape	►► F FWD during stop	—
Rewind the tape	◄◄ REW during stop	—
Eject the cassette	▲ EJECT	—
Search forward at high speed	►► F FWD during playback	Press ► PLAY.
Search reverse at high speed	◄◄ REW during playback	Press ► PLAY.
Play back at slow speed	SLOW during playback	Press ► PLAY.
Play frame-by-frame	■ PAUSE/STILL repeatedly during still	Press ► PLAY.

### To watch a picture of the tape during fast-forward or rewind — Skip search

Hold down ►► F FWD or ◄◄ REW during fast-forward or rewind. The VCR switches forward or reverse search. Release the button to return to the fast-forward or rewind mode.



## To skip an advertisement

Press AD-SKIP during playback. The VCR searches forward approximately 30 seconds of the recorded time. Each press changes the recorded time of forward search in 30 seconds increments to a maximum of 3 minutes. After forward search, VCR returns to the normal playback.

During Ad-skip, the counter does not register blank portions with no recorded signal.

## To turn off the VCR automatically after rewinding

Press ◀◀ REW during stop, then press POWER. "REW" flashes in the display window and the VCR turns the power off after rewinding the tape to the beginning.

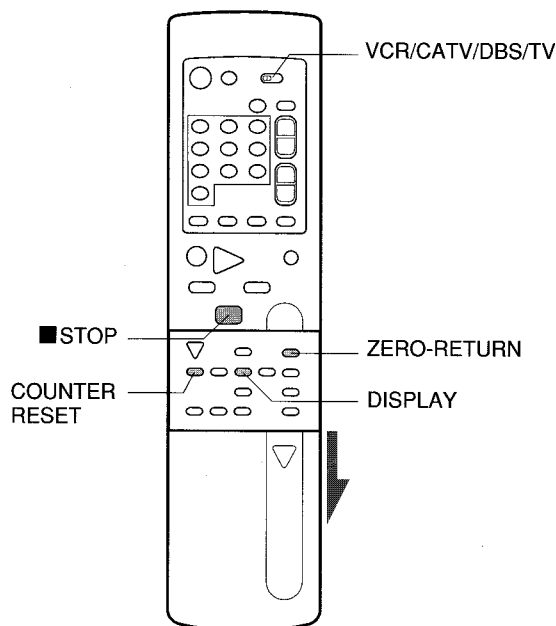
### Tips

- If you press ▲ EJECT while the power is off, the VCR automatically turns the power on, ejects the cassette, and turns the power off.
- You can adjust unstable pictures during still by pressing TRACKING +/- repeatedly.
- Depending on the tape, noise lines may appear or color may fade during still, forward and reverse searches, and slow motion playback. You can move the noise lines during forward and reverse searches and slow motion playback by pressing TRACKING +/- or CHANNEL ▲/▼ repeatedly.

### Notes

- If a still picture lasts for more than 5 minutes, the VCR will automatically enter stop mode to protect the tape.
- If a slow motion playback lasts for more than 3 minutes, the VCR will automatically enter playback mode to protect the tape.
- If forward and reverse searches last for 3 minutes, the VCR will automatically enter playback mode to protect the tape.
- The sound will be muted during still, forward and reverse searches, and slow motion playback.

## Various search functions

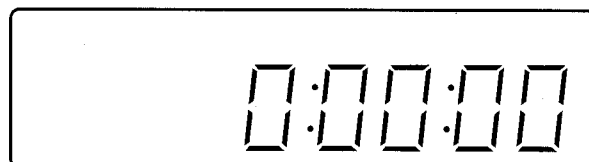


### Before starting

Set the VCR/CATV/DBS/TV selector to VCR.

## Rewinding or fast-forwarding to a specific point — Zero Return

- 1 Press COUNTER RESET at the point you want to locate later.**  
The tape counter in the display window resets to "0:00:00."



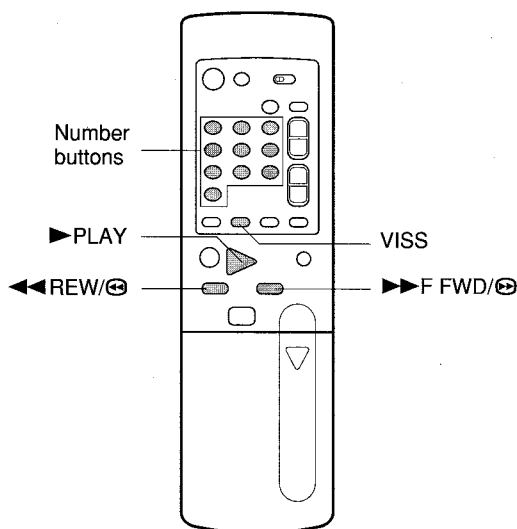
- 2 After playback or recording, press ■ STOP, then ZERO-RETURN.**  
The tape automatically stops when the tape counter returns to about "0:00:00."

### Tip

You can also see the tape counter on the TV screen. Press DISPLAY repeatedly until the tape counter appears. See page 26.

### Note

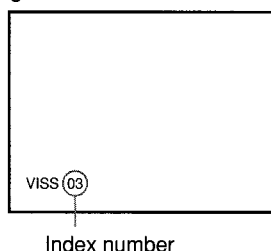
When you insert a cassette, the tape counter is reset to "0:00:00."



## Searching with the index function — Index Search

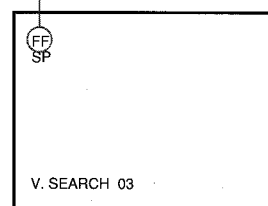
The VCR automatically marks an index signal on the tape each time recording starts. You can use these signals to find the beginning of any recording.

- 1 Press VISS during playback or stop.**
- 2 Press the number buttons (up to 99) to select the index number.**  
When selecting the numbers less than 10, press 0 to enter tens digit and then press the buttons 1 through 9 to enter ones digit.



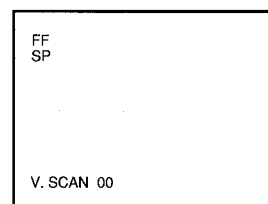
- 3 Press ▶▶ F FWD (for succeeding programs) or ◀◀ REW (for preceding programs.)**  
The VCR starts searching.  
Playback starts automatically from the beginning of the specified recording.

FF or REW appears.



## To search the next index signal

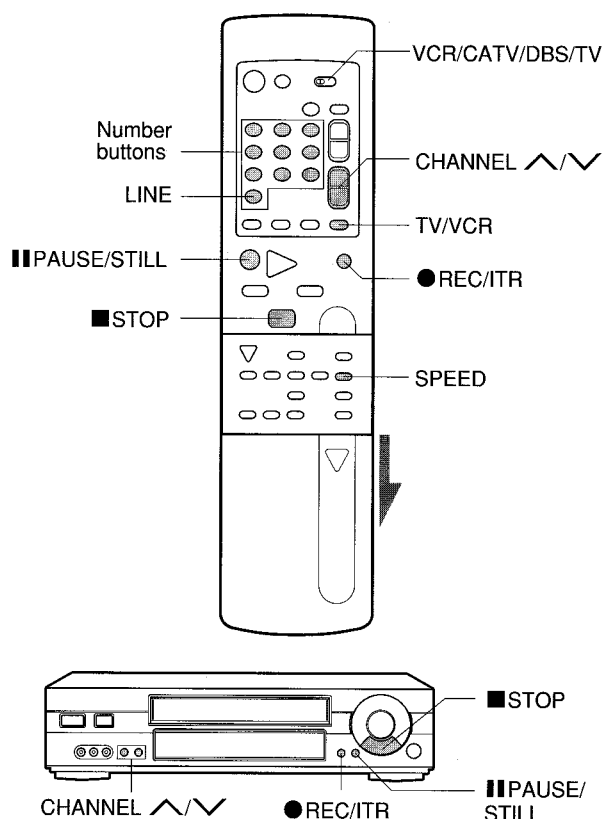
Press VISS during playback or stop, then press ▶▶ F FWD or ◀◀ REW. When the next index signal is found, playback starts automatically. After 5 seconds, the VCR goes to fast-forward or rewind.  
Press ▶ PLAY at the desired scene.



### Notes

- Index signals should be at least 1 minute apart in SP mode, 2 minutes apart in LP mode, and 3 minutes apart in EP mode. Otherwise, the VCR cannot detect them properly.
- Index signals may not be detected on damaged or worn out tapes.
- Index signal at the beginning of a recorded tape may not be detected.
- Index signal may not be detected if it is extremely close to the point where the search began.

# Recording a TV program



## Before starting

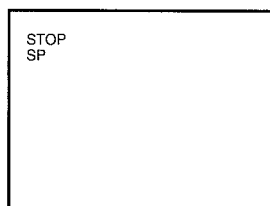
Set the VCR/CATV/DBS/TV selector to VCR.

### 1 Insert a cassette with its erasure prevention tab in place.

The power turns on automatically.



### 2 Press SPEED to select the tape speed, SP or EP.



EP provides three times as much recording time as SP, although SP produces better picture and audio sounds.

### 3 Press CHANNEL repeatedly or the number buttons to select the channel number to record.

When you use the number buttons, the channel will be changed a few seconds after you press the buttons.

### 4 Press ● REC/ITR to start recording.

"V.MARK" flashes for a few seconds on the TV screen. See "Searching with the index function – Index Search" on page 17.

## To stop recording

Press ■ STOP.

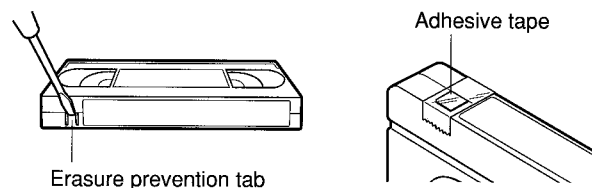
## To pause recording

Press ▢ PAUSE/STILL. "RECP" appears on the TV screen and the REC indicator flashes in the display window. To resume recording, press ▢ PAUSE/STILL again.

## To prevent an accidental recording

Break off the erasure prevention tab on the back edge of the cassette.

To record over the tape again, cover the gap with adhesive tape.



## To watch another TV program while recording

If the TV is connected only with an antenna cable, press TV/VCR after starting the recording so that "VCR" in the display window disappears. Then select another channel on the TV.

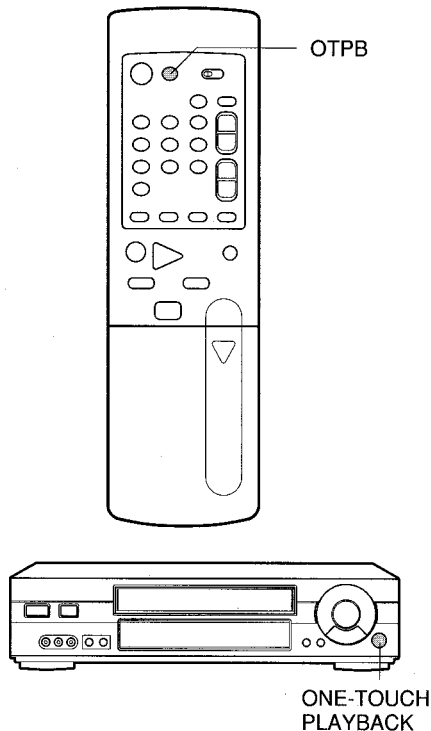
To monitor the recording, set the channel on the TV to that of the Channel selector, and press TV/VCR again.

## Tips

- If you want to record the program through the line input, press CHANNEL  $\wedge/\vee$  to display "LINE 1" (from AUDIO/VIDEO IN jacks on the rear) or "LINE 2" (from the AUDIO/VIDEO IN jacks on the front) on the TV screen in step 3. You can also select line input by pressing LINE twice or 4 times.
- To start recording during playback, press ▢ PAUSE/STILL, and press ● REC/ITR then ▢ PAUSE/STILL.

## Notes

- If you try to record on a cassette without its erasure prevention tab, the VCR will eject the cassette.
- If recording pause lasts for more than 5 minutes, the VCR will automatically enter stop mode to protect the tape.



## Playing back the portion you just recorded — One-Touch Playback

Using One-Touch playback after VCR Plus+ system (page 20) or timer (page 22) is convenient. You can make timer recordings and play back only the portion you just recorded with the timer by pressing a single button later.

- 1 Stop recording (when recording without timer).**  
ONE-TOUCH PLAY BACK on the VCR lights.  
If another operation button is pressed after you stop recording, One-Touch Playback will be canceled.
- 2 Press ONE-TOUCH PLAY BACK on the VCR or OTPB on the remote control.**  
The tape rewinds to the start of the recorded portion and playback begins.

## When you set the timer for more than two timer programs

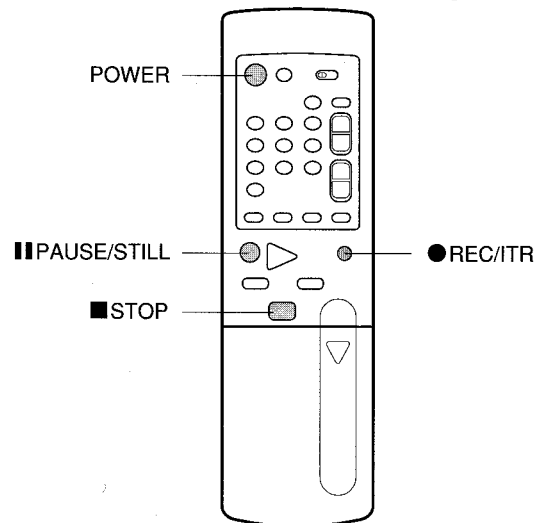
The VCR starts playing back from the earliest one when you use One-Touch Playback.  
To find the beginning of the second (or later) program, use Index Search (page 17).

### Note

One-Touch Playback does not work for recordings of less than 30 seconds.

## Recording with Instant Timer Recording

You can immediately start recording the current channel for a specified time with Instant Timer Recording.

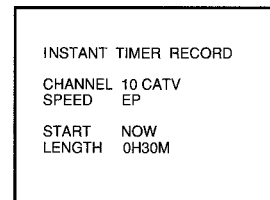


### Before starting

- Insert a cassette with its erasure prevention tab in place. Make sure the tape is longer than the recording time.
- Select the channel to record and tape speed.

### 1 Press ● REC/ITR twice.

- The VCR starts recording, and Instant Timer Recording information appears on the TV screen.
- "TIMER" appears in the display window.

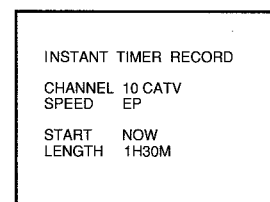


### 2 Within five seconds, press ● REC/ITR repeatedly to set the recording duration.

Each press changes the recording duration on the TV screen in the following way:

0H30M → 1H00M → 1H30M → ..... → 8H30M  
 ↑ 0H00M (Normal recording) ← 9H00M ↓

When the recording time indicator in the display window counts down to "0:00," recording stops and the VCR turns off.



## To stop, pause, or turn off the power while recording

Press ■ STOP, || PAUSE/STILL, or POWER.

## To extend the recording duration while recording

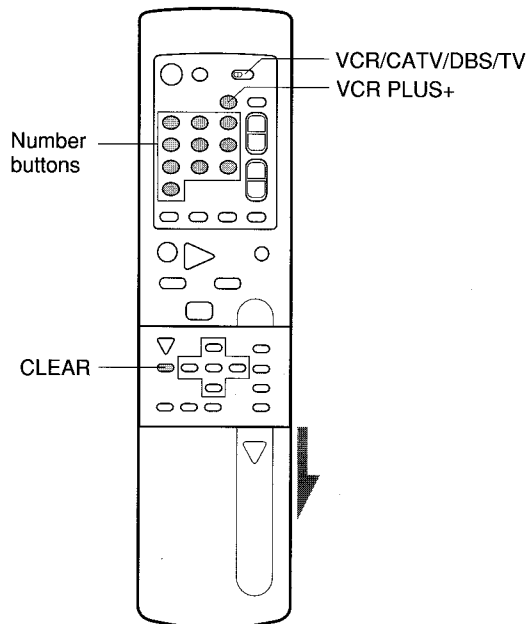
Press ● REC/ITR until the new duration you want appears.

### Notes

During Instant Timer Recording, when the tape reaches the end, "TIMER" flashes in the display window and the VCR turns the power off.

## Setting the timer with VCR Plus+ system

You can greatly simplify timer recordings with VCR Plus+ system. Just enter the VCR Plus+ programming number, a number assigned to each TV program, and the VCR will set the timer recording automatically. You can find VCR Plus+ programming number in most TV guide magazines. You can set up to 8 programs.



### Before starting

- Check that the VCR clock is set correctly.
- Check that the VCR channel numbers match the guide channels which assigned to the TV stations. See page 14.
- Insert a cassette with its erasure prevention tab in place.
- Set the VCR/CATV/DBS/TV selector to VCR.
- To set the timer for a CATV (or satellite) channel, check that the CATV (or satellite) receiver is turned on and the channel you want to record is selected.

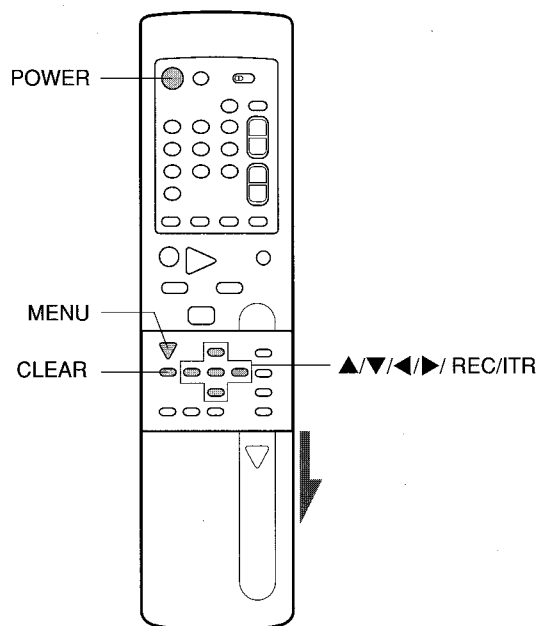
### 1 Press VCR PLUS+.

### 2 Enter the VCR Plus+ programming number of the TV program you want to record using the number buttons.

If you make a mistake, press CLEAR to cancel.

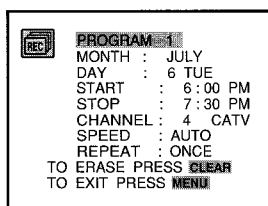
VCR PLUS+ PROGRAM
ENTER VCR PLUSCODE
236543 ■
TO CLEAR PRESS CLEAR
TO ENTER PRESS ENTER
TO EXIT PRESS PLUS+

## Setting the timer with VCR Plus + system (continued)



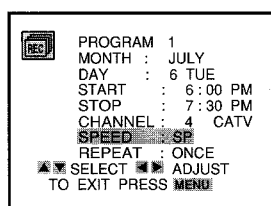
### 3 Press ENTER.

- The timer information appears on the TV screen.
- If you want to extend the recording time, see "To extend the recording time" below.



### 4 Press ▲/▼ to select SPEED, then press ◀/▶ to select SP, EP or AUTO.

If you select AUTO, the VCR determines remaining tape length and switches the speed from SP to EP, if necessary, to complete recording the program.

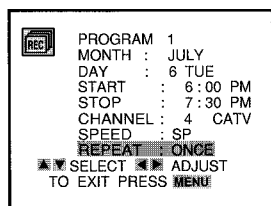


### 5 Press ▲/▼ to select REPEAT, then press ◀/▶ to select ONCE, WEEKLY or DAILY.

ONCE: for a single program

WEEKLY: for a weekly program such as every Tuesday

DAILY: for a daily program from Monday to Friday



### 6 If you want to set another program, repeat from step 1.

### 7 Press MENU to return to the normal screen.

### 8 Press POWER to turn off the VCR.

- "TIMER" appears in the display window, and the VCR stands by for timer recording.
- If the cassette indicator flashes, a cassette is not inserted. If the cassette indicator flashes and the cassette is ejected, the cassette's erasure prevention tab is removed.

### To extend the recording time

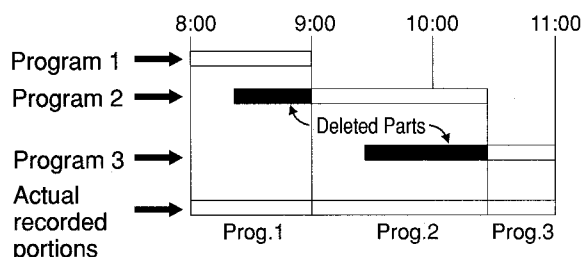
After step 3, press ▲/▼ to select STOP, then press ◀/▶ to change the end time.

### To cancel the program

Select PROGRAM in the menu. And press ◀/▶ to display the program you want to cancel, then press CLEAR to cancel.

### If the program overlaps another

The overlapped portions will be deleted. The program which has less program number has priority over the succeeding as illustrated.



### Tips

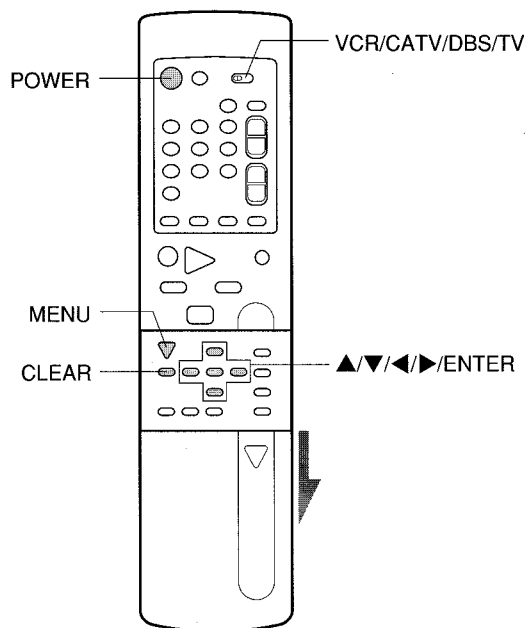
- If "FULLY PROGRAMMED" flashes and the setting of PROGRAM 1 appears, 8 programs are already set. Cancel an unnecessary program.
- To confirm the settings, select PROGRAM in the menu. Then press ◀/▶ to display the settings of each program. Press MENU to return to the normal screen.

### Notes

- When the power supply is interrupted for more than 10 minutes, the preset program is cleared. In this case, you have to set the clock and the timer again.
- During timer recording, when the tape reaches the end, "TIMER" flashes in the display window.
- The VCR may not work correctly when you use a T-210 tape or a VHS-C tape, even if you select AUTO in step 4.
- If you make an irregular setting, "ERROR CODE" flashes on the TV screen.

# Setting the timer manually

If you cannot use VCR Plus+ system, you can set the timer manually.  
You can set up to 8 programs within one year of the current date.

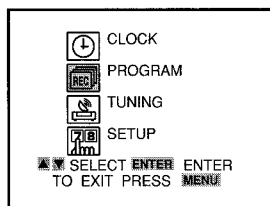


## Before starting

- Check that the VCR clock is set correctly.
- Insert a cassette with its erasure prevention tab in place.
- Set the VCR/CATV/DBS/TV selector to VCR.
- To set the timer for a CATV (or satellite) channel, check that the CATV (or satellite) receiver is turned on and the channel you want to record is selected.

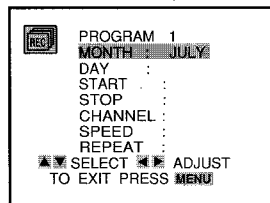
## 1 Press MENU.

## 2 Press ▲/▼ to select PROGRAM, then press ENTER.

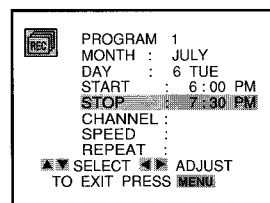


## 3 Press ▲/▼ to select MONTH, then press ◀/▶ to set the month.

Press and hold ◀/▶ to change the setting rapidly.

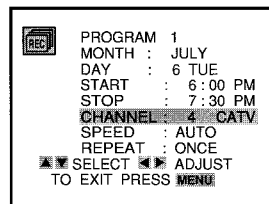


## 4 Set DAY, START time and STOP time in the same way as in step 3.



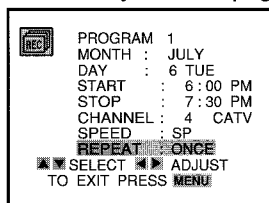
## 5 Press ▲/▼ to select CHANNEL, press ◀/▶ to set the VCR channel number.

If you have connected the CATV using the CATV converter, set the CHANNEL to match the cable box output channel (usually CH3 or 4). Change the channel on the CATV converter instead of the VCR.



## 6 Set SPEED and REPEAT in the same way as in step 3.

For details of SPEED and REPEAT, see "Setting the timer with VCR Plus+ system" on page 21.



## 7 If you want to set another program, press ▼ to select PROGRAM, then press ◀/▶ to display another program number. And repeat steps 3 through 6.

## 8 Press MENU to return to the normal screen.

## 9 Press POWER to turn off the VCR.

- "TIMER" appears in the display window, and the VCR stands by for timer recording.
- If the cassette indicator flashes, a cassette is not inserted. If the cassette indicator flashes and the cassette is ejected, the cassette's erasure prevention tab is removed.

## To correct the data while setting

Press ▲/▼ until the item you want to correct highlights, then press ◀/▶ to set the correct data.

## To cancel the program

Select PROGRAM in the menu. And press ◀/▶ to display the program you want to cancel, then press CLEAR to cancel.

## Tips

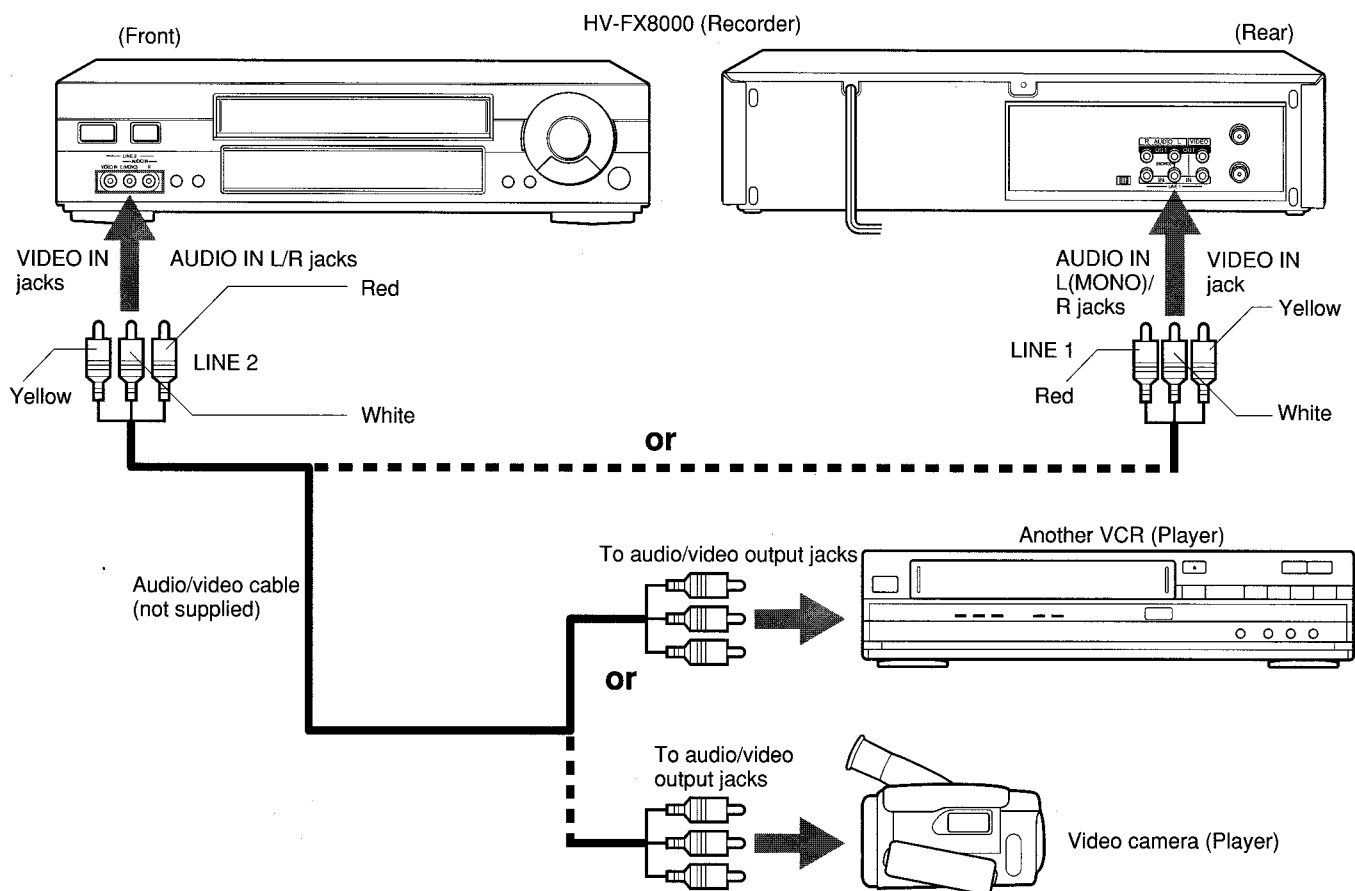
- If "FULLY PROGRAMMED" flashes and the setting of PROGRAM 1 appears, 8 programs are already set. Cancel an unnecessary program.
- To confirm the settings, select PROGRAM in the menu. Then press ◀/▶ to display the settings of each program. Press MENU to return to the normal screen.
- If you want to record the program through the line input, press ◀/▶ to display "LINE1" (from the AUDIO/VIDEO IN jacks on the rear) or "LINE2" (from the AUDIO/VIDEO IN jacks on the front) in step 5 instead of the VCR channel number.

## Notes

- When the power supply is interrupted for more than 10 minutes, the preset program is cleared. In this case, you have to set the clock and the timer again.
- During timer recording, when the tape reaches the end, "TIMER" flashes in the display window.
- The VCR may not work correctly when you use a VHS-C tape, even if you select AUTO in step 6.

# Dubbing

## Connecting with another VCR



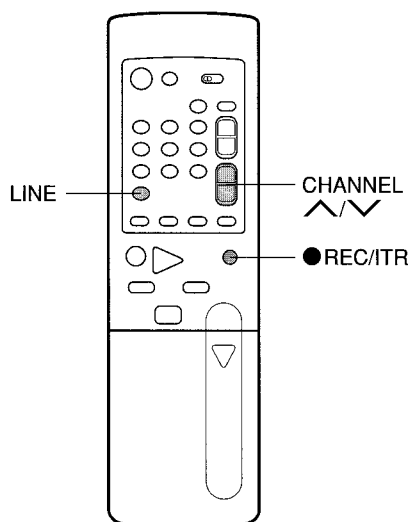
### Tips

- If the other VCR is monaural type, connect one of the audio plugs only to AUDIO IN L (MONO) on the rear.
- If you use this VCR for playback, connect the AUDIO/VIDEO OUT jacks on this VCR and the audio/video input jacks on the recording VCR.

### Note


If both units are; turned on, made by AIWA, and located near each other, do not use the remote control. Use the buttons on the VCR instead.

## Operation



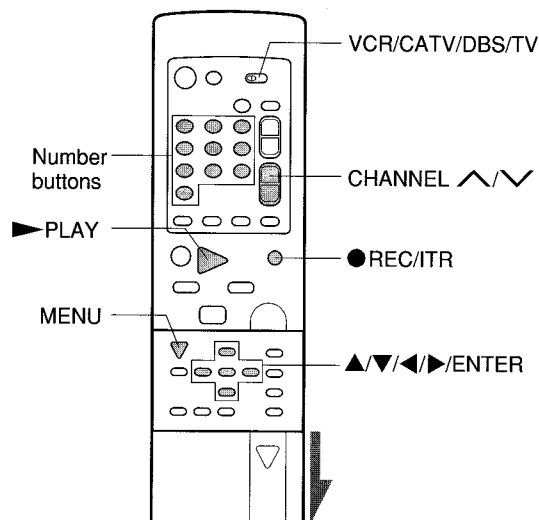
### Before starting

Select the tape speed.

- 1 Insert a pre-recorded source cassette into another (playback) VCR.
- 2 Insert a blank cassette with its erasure prevention tab in place into your HV-FX8000 (recording.)
- 3 Press CHANNEL  to display "LINE1" (rear) or "LINE2" (front) on the TV screen.  
You can also select "LINE1" or "LINE2" by pressing LINE twice or 4 times.
- 4 Set the other VCR to playback.
- 5 Press ● REC/ITR on the recording VCR.



## Multichannel TV Sound (MTS) and Hi-Fi audio sound system



### Multichannel TV Sound (MTS)

This VCR is equipped with the MTS (Multi-channel TV Sound) system which decodes stereo and SAP (Second Audio Program) broadcasting signals. It also decodes the stereo TV sound of the local CATV system if it satisfies the assigned cable frequencies and EIA-recommended MTS stereo/bilingual TV sound system. It can record and play back the audio signal in the VHS Hi-Fi audio sound system.

### Second Audio Program (SAP)

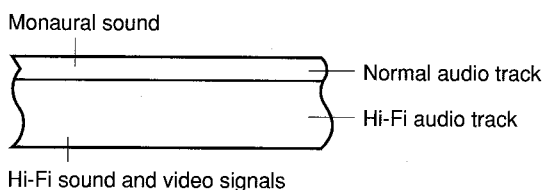
This VCR can record and play back a Second Audio Program (SAP) for the second language or additional information. Usually primary language is recorded on the primary sound channel, and the second language or additional information on the SAP channel.

### Audio track system

This VCR records a regular monaural audio signal on the normal audio track, and stereo Hi-Fi audio signal on the Hi-Fi audio track.

If you use the VCR equipped with the VHS Hi-Fi audio sound system to play back the tape recorded on this VCR, you can enjoy stereo Hi-Fi sound or bilingual program. If you use the VCR not equipped with the VHS Hi-Fi audio sound system, only a regular audio sound recorded on a normal audio track is played back.

#### <Tape structure>



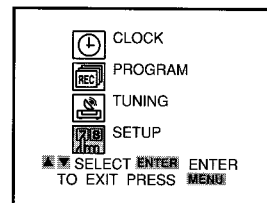
## Recording the sound of the MTS Broadcast

### Before starting

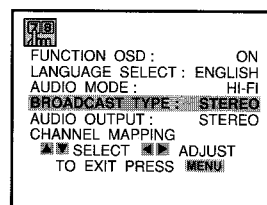
- Insert a cassette and select the tape speed.
- Set the VCR/CATV/DBS/TV selector to VCR.

### 1 Press MENU.

### 2 Press $\blacktriangle/\blacktriangledown$ to select SETUP, then press ENTER.



### 3 Press $\blacktriangle/\blacktriangledown$ to select BROADCAST TYPE.



### 4 Press $\blacktriangleleft/\blacktriangleright$ to select the desired system.

**STEREO:** for recording the stereo sound  
**SAP:** for recording the SAP program  
**MONO:** for recording the monaural sound

### 5 Press MENU to return to the normal screen.

### 6 Press CHANNEL $\wedge/\vee$ or number buttons to select the channel to record.

STEREO, SAP or MONO appears on the TV screen depending upon the receiving program.

### 7 Press $\bullet$ REC/ITR.

Recording begins.

### Recording the Hi-Fi audio

The regular audio signal and Hi-Fi audio signal are automatically recorded if the TV program is broadcasted in stereo. No special setting is required for Hi-Fi audio recording.

## Multichannel TV sound (MTS) and Hi-Fi audio sound system (continued)

### Recorded and output signals of the MTS broadcast

TV screen	Broadcast	BROADCAST TYPE	Recorded signal		Signal output from AUDIO OUT	
			Hi-Fi track	Normal track	L	R
MONO	Mono	STEREO	Mono	Mono	Mono	Mono
		SAP	Mono	Mono	Mono	Mono
		MONO	Mono	Mono	Mono	Mono
STEREO	Stereo	STEREO	Left/ Right channel	Mono	Left channel	Right channel
		SAP	Left/ Right channel	Mono	Left channel	Right channel
		MONO	Mono	Mono	Mono	Mono
SAP	Mono+SAP	STEREO	Mono	Mono	Mono	Mono
		SAP	SAP	SAP	SAP	SAP
		MONO	Mono	Mono	Mono	Mono
STEREO/ SAP	Stereo+SAP	STEREO	Left/ Right channel	Mono	Left channel	Right channel
		SAP	SAP	SAP	SAP	SAP
		MONO	Mono	Mono	Mono	Mono

#### Note

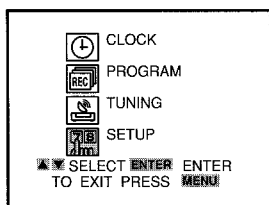
You can also use the display window to check the broadcast type. When the VCR receives the stereo broadcast, "ST" appears. When the VCR receives the SAP broadcast, "SAP" appears.

### Playing back a MTS-program recorded tape

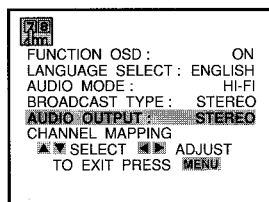
#### Before starting

Set the VCR/CATV/DBS/TV selector to VCR.

- 1 Press **MENU**.
- 2 Press **▲/▼** to select **SETUP**, then press **ENTER**.



- 3 Press **▲/▼** to select **AUDIO OUTPUT**.



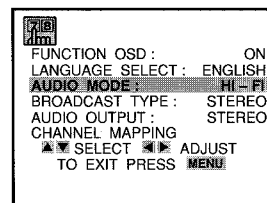
- 4 Press **◀/▶** to select the audio output mode.

**STEREO:** The stereo sound is heard.

**LEFT:** The left channel sound is heard from both channels.

**RIGHT:** The right channel sound is heard from both channels.

- 5 Press **▲/▼** to select **AUDIO MODE**.



- 6 Press **◀/▶** to select **HI-FI**.

**HI-FI:** The sound on the Hi-Fi audio track is played back.

**NORMAL:** The sound on the normal audio track is played back.

- 7 Press **MENU** to return to the normal screen.

- 8 Insert a cassette.

- 9 Press **▶** **PLAY**. Playback begins.

### Output signals

The signals output from the AUDIO OUT and RF OUT jacks on the rear panel are as shown below.

AUDIO OUTPUT	AUDIO MODE	AUDIO OUT		RF OUT
		L	R	
STEREO	HI-FI	Left channel	Right channel	Mono
LEFT	HI-FI	Left channel	Left channel	Left channel
RIGHT	HI-FI	Right channel	Right channel	Right channel
—	NORMAL	Mono	Mono	Mono

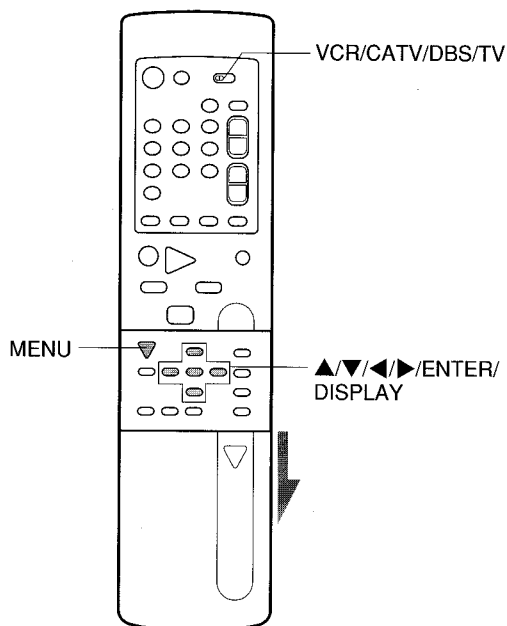
#### Tips

- If AUDIO OUTPUT is set to STEREO while playing a prerecorded SAP BILINGUAL audio program, the primary language LEFT and the secondary language RIGHT will be heard simultaneously. For SAP BILINGUAL playback, do not use STEREO setting. Select RIGHT setting.
- If the TV is connected only with an antenna cable, the audio portion of a stereo or SAP BILINGUAL prerecorded tape will be heard in monaural. Set AUDIO OUTPUT to select the desired portion when playing back a SAP BILINGUAL tape. For stereo or SAP BILINGUAL playback, connect the VCR and TV using the supplied audio and video cables.

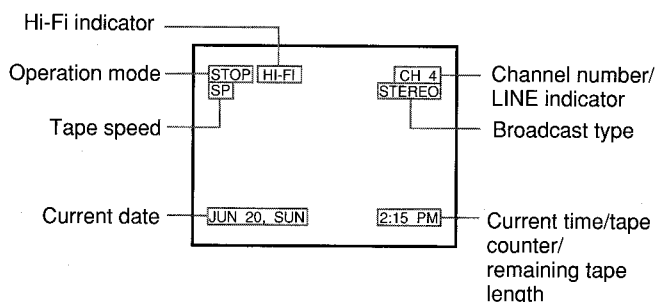
#### Notes

- When you play a tape recorded in mono, the sound is always played back in mono regardless of the AUDIO MODE setting.
- The AUDIO MODE setting automatically returns to HI-FI when a cassette is ejected.

# On-screen display

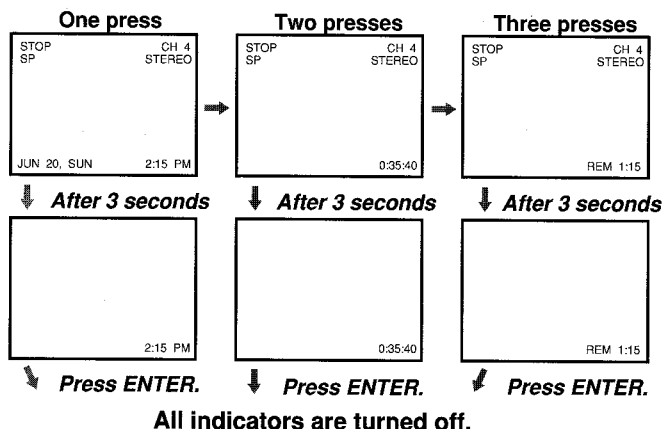


## Identifying the on-screen display items



## Changing the on-screen function display

Press ENTER/DISPLAY. Each press changes the on-screen function display as follows:



## Notes

- The tape counter and the remaining tape length indicator appear only when a cassette is inserted. Also, the remaining tape length indicator appears after any tape operation.
- The remaining tape length indicator may not be displayed correctly depending on the condition of the tape or when you use a VHS-C tape. There may be errors within plus or minus 2 minutes in SP mode and 6 minutes in EP mode.

## Turning the on-screen display off

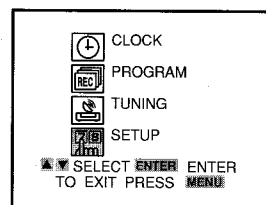
### Caution

When you record a video signal output from this VCR onto another VCR, **turn off the on-screen display**. Otherwise, the indicators displayed on the TV screen will be recorded on the tape.

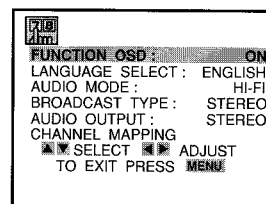
### Before starting

Set the VCR/CATV/DBS/TV selector to VCR.

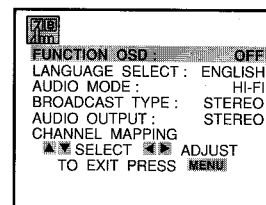
- Press MENU.
- Press ▲/▼ to select SETUP, then press ENTER/DISPLAY.



- Press ▲/▼ to select FUNCTION OSD.



- Press ◀/▶ to display OFF.



- Press MENU to return to the normal screen.

### Tip

Even if you set FUNCTION OSD to OFF, you can check the clock, tape counter and the remaining tape length in the display window by pressing ENTER/DISPLAY repeatedly.

# Troubleshooting

If the unit does not seem to operate properly, read the instructions again, then check the following guide.

**The POWER button does not operate.**

Make sure the AC cord is connected securely.

**The playback picture is noisy.**

- Make sure the TV is set to the video channel or video input.
- Adjust the tracking manually when the tape quality is poor.
- Although the unit cleans the video heads automatically, dirt may be accumulated after a long period of use. Clean the video heads with a commercially available video heads cleaning tape.
- Make sure all the connections with the VCR are made correctly and securely.

**There is no playback picture.**

Set the TV to the video channel or video input.

**TV reception is noisy or there is no TV reception.**

- Connect the VCR to the antenna and TV correctly and securely.
- Move the VCR away from the TV set.

**Tape operation buttons do not work while the power is on and the cassette is inserted.**

Moisture condensation may have occurred. Wait for about two hours until moisture evaporates completely before you operate the VCR.

**Abnormal operation has occurred.**

External interference may have affected the internal microprocessor.

Disconnect the AC cord from the AC outlet. Wait a few seconds, then connect it again.

**The VCR does not work.**

Make sure the VCR/CATV/DBS/TV selector is set to VCR.

**The remote control does not operate.**

Replace both batteries with new ones.



**There is no sound.**

Connect the VCR correctly and securely.

**The timer does not operate.**

- Set the VCR clock correctly.
- Check that the VCR channel numbers match the guide channels which assigned to the TV stations.

**There is no sound and picture from an input source.**

You may have selected the wrong input. Press CHANNEL   until you select the correct input source. (e.g. You must select "LINE2" when you connect an input source to the AUDIO/VIDEO IN jacks on the front.)

## Note on moisture condensation

Moisture may condense inside the unit and cause damage to the unit and tape when the unit is moved from a cold to a warm place, after heating a cold room, or under conditions of high humidity. If any of the above conditions apply, place the unit in a well-ventilated area and wait for about two hours until the unit is warmed to room temperature and the moisture evaporates completely before operating the unit.

# Specifications

Video recording system	Rotary 2 head helical scanning system
Video head	Double azimuth 4 head
Tuner system	Frequency synthesized tuner
TV system	M
Video signal system	NTSC color signal, 525 lines, 60 fields
Usable cassettes	VHS video cassette
Recording/Playback time	SP: 3 hours with T-180 tape LP: 6 hours with T-180 tape (playback only) EP: 9 hours with T-180 tape
Tape speed	SP: 33.35 mm/sec LP: 16.67 mm/sec EP: 11.12 mm/sec
Fast-forward/Rewind time	less than 180 seconds with T-120 tape
Channel coverage	VHF: 2 to 13 UHF: 14 to 69 CATV: 4A, 2 to 13, A to W, W+1 to W+58, A-5 to A-1, W+59 to W+84
RF output	VHF channel 3 or 4 (switchable), 66 dBμ
Video input	1.0 Vp-p, 75 ohm, unbalanced
Video output	1.0 Vp-p, 75 ohm, unbalanced
Horizontal resolution	230 lines
Video S/N	43 dB (at SP)
Audio track	3 tracks (Hi-Fi sound 2 tracks, Normal sound 1 track)
Audio input	-6 dBs, 47 K ohm
Audio output	-6 dBs, less than 4.7 K ohm
Audio frequency response	normal: 100 Hz – 10 K Hz (at SP) Hi-Fi: 20 Hz – 20 K Hz
Audio S/N	normal: more than 43 dB (at SP) Hi-Fi: more than 70 dB (at SP)
Operating temperature	5°C to 35°C

Power requirements	120 V AC, 60 Hz
Power consumption	17 W
Dimensions	430 (W) × 102 (H) × 283 (D) mm (17 × 4 <sup>1</sup> / <sub>8</sub> × 11 <sup>1</sup> / <sub>4</sub> in.)
Weight	3.9 Kg (8.58 lbs.)
Supplied accessories	Antenna cable (1) Batteries (2) Remote control (1) Audio cable (1) Video cable (1)

Design and specifications are subject to change without notice for the purpose of performance improvement.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

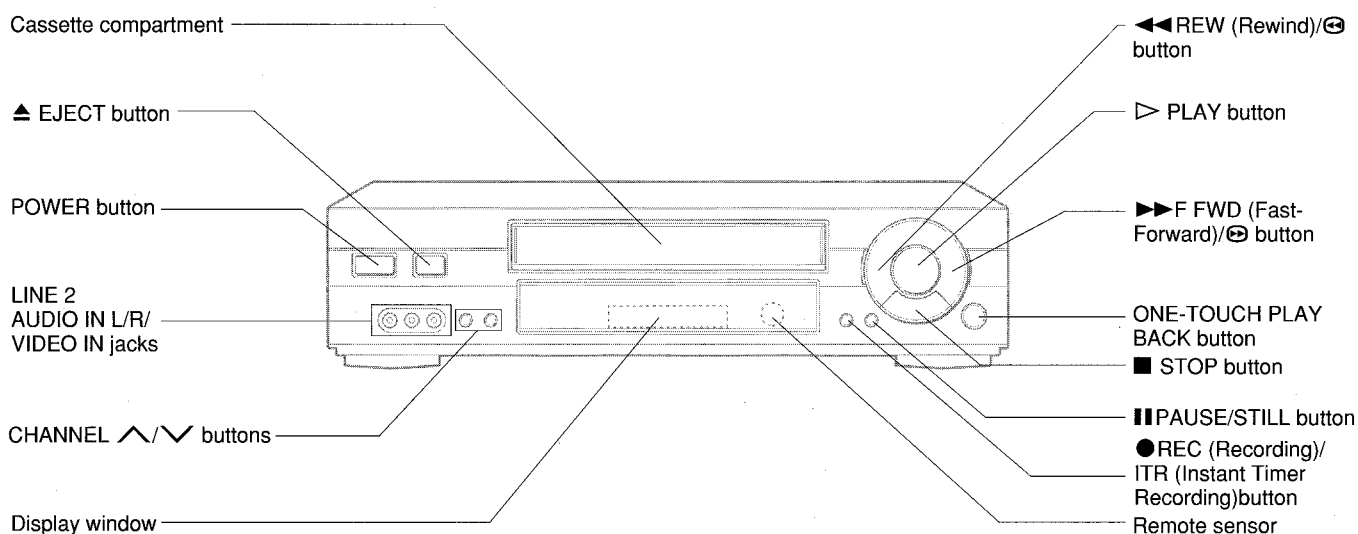
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technical for help.

## Caution

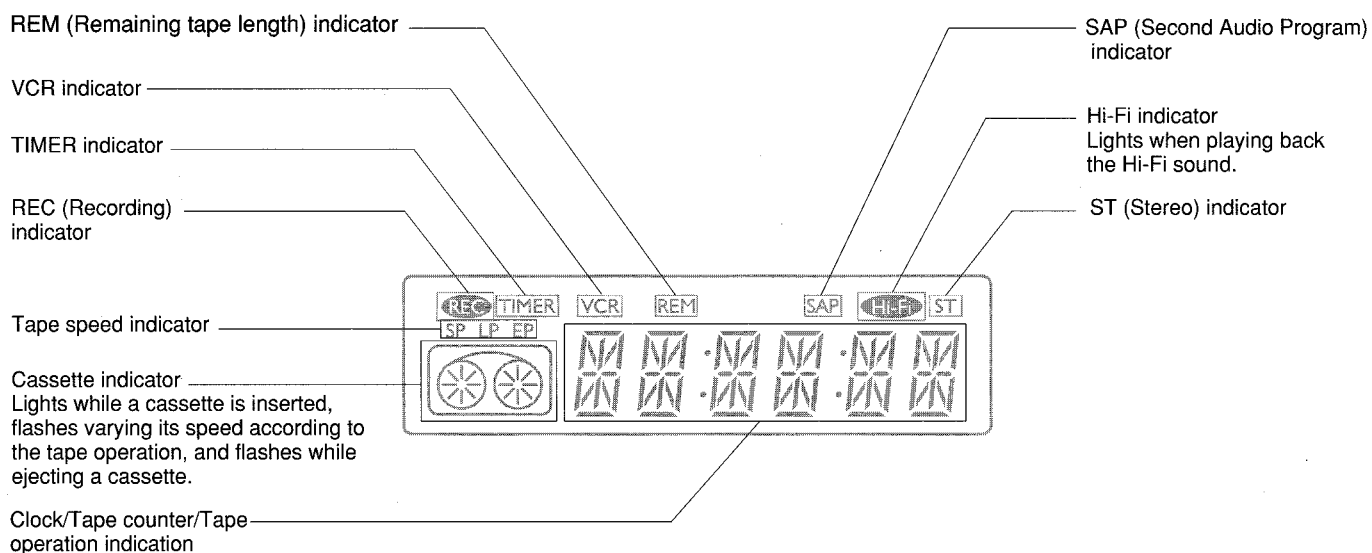
Modifications or adjustment to this product, which are not expressly approved by the manufacturer, may void the user's right authority to operate this product.

# Parts and controls

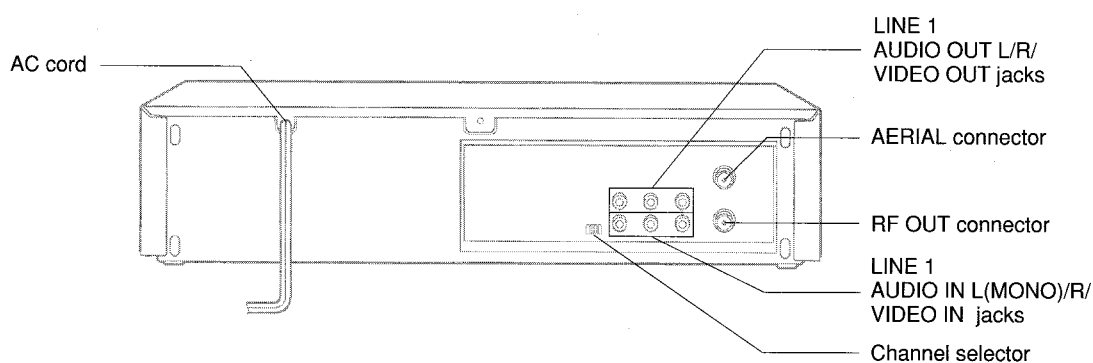
## Front panel



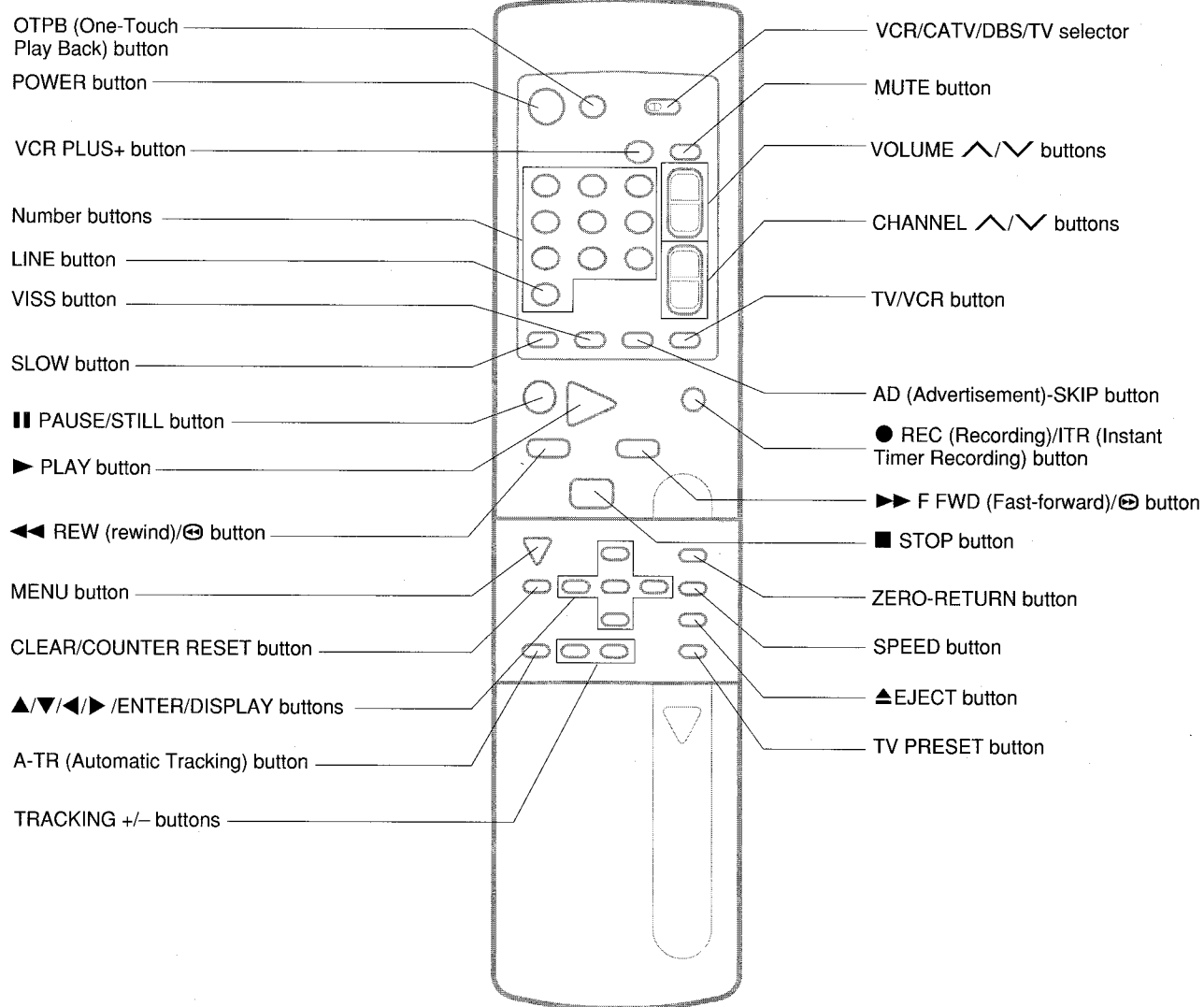
## Display window



## Rear panel



## Remote control with the front cover opened



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## AIWA CO., LTD.

For Assistance and Information, ***Call Toll Free 1-800-BUY-AIWA*** (United States and Puerto Rico)

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