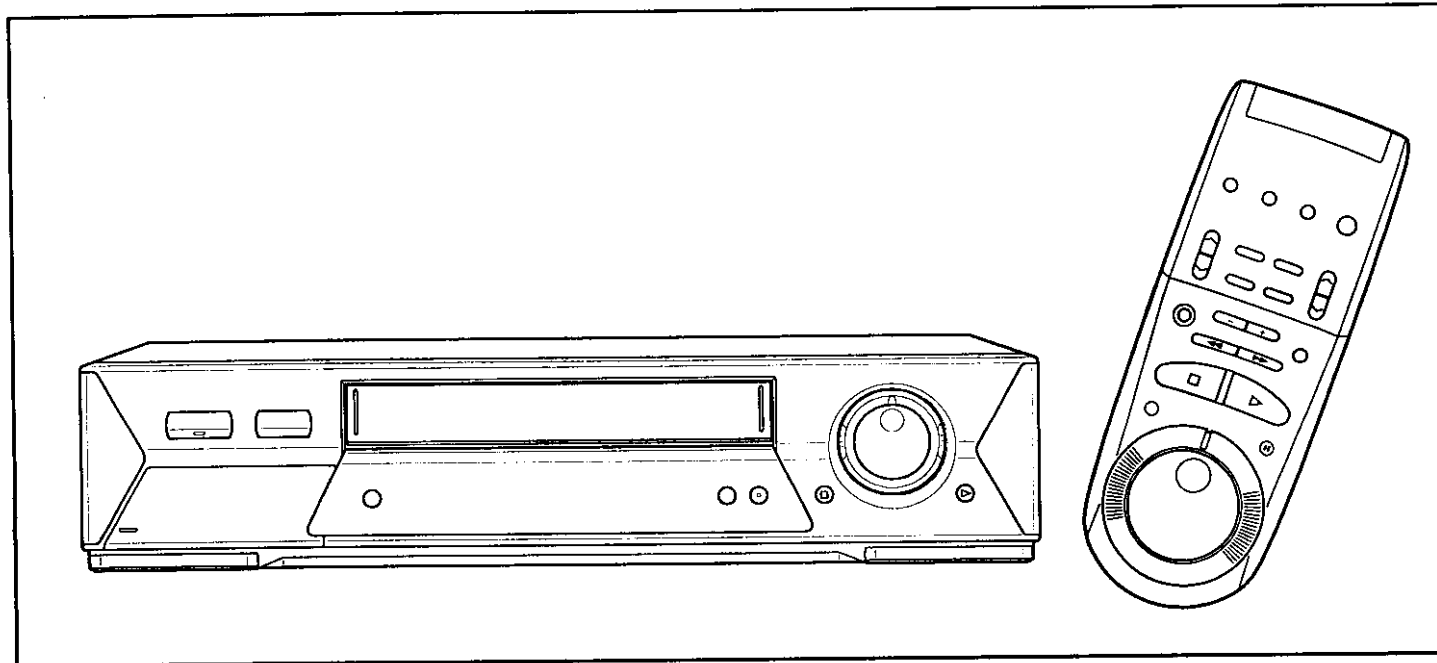


 **MITSUBISHI**
THE BIG SCREEN COMPANY™

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DEC 23 1998

VIDEO CASSETTE RECORDER OWNER'S GUIDE



MODEL HS-U595



As an ENERGY STAR® Partner, Mitsubishi Consumer Electronics America, Inc. has determined that this product or product model meets the ENERGY STAR® guidelines for energy efficiency.

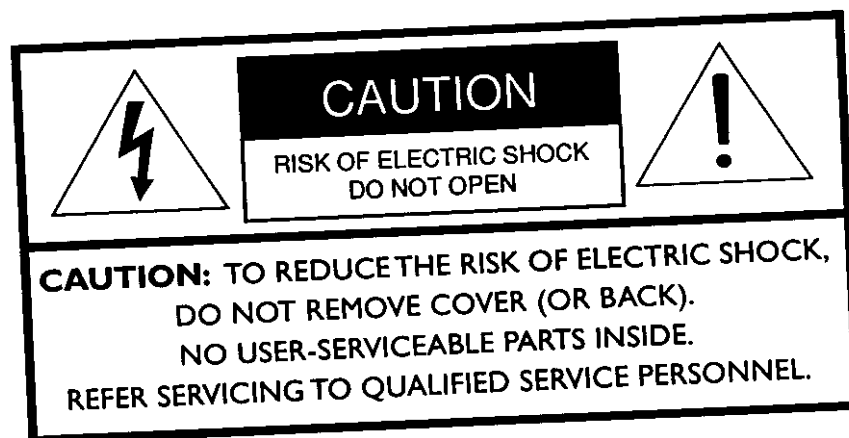
VCR Plus+ GOLD, C³, AllSet and PlusCode are trademarks of Gemstar Development Corporation. The VCR Plus+ GOLD system is manufactured under license from Gemstar Development Corporation.

With the VCR Plus+ GOLD system, this video cassette recorder can automatically select the appropriate channel on your compatible cable box or satellite receiver.

This Video Cassette Recorder is based on the VHS formats. Only video cassette tapes with the **VHS** mark may be used with this model.

Special Features HS-U7XX

- ◆ S-VHS Record/Playback
 - ◆ VCR Plus+® GOLD with cable converter control and ALLSET™
 - ◆ Editing features include a flying erase head, edit jack, pre-roll cueing, record level controls
 - ◆ Multi-brand remote with jog shuttle control
 - ◆ OTR²--Advanced One Touch Recording
 - ◆ VHS Hi-Fi audio record/playback
 - ◆ Digital dynamic comb filter
-



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



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

IMPORTANT:

RECORDING OF COPYRIGHTED TELEVISION PROGRAMS MAY VIOLATE COPYRIGHT LAW.

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

CAUTION:

TO PREVENT ELECTRIC SHOCK HAZARD, 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.

NOTE TO CATV SYSTEM INSTALLER:

THIS REMINDER IS PROVIDED TO CALL THE CATV SYSTEM INSTALLER'S ATTENTION TO SECTION 820-40 OF THE NEC WHICH 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.

SHORTCUTS

To **connect** your VCR, go to page 4.

To **play** a tape, go to page 10.

To **record** a program, go to page 23.

To learn about **Advanced Features**, go to page 39.

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Important Safeguards

Please read all these instructions carefully regarding your VCR before you begin operating it. Follow all warnings and instructions marked on the VCR. Thank you.

1 Read Instructions

All the safety and operating instructions should be read before the product is operated.

2 Retain Instructions

The safety and operating instructions should be retained for future reference.

3 Heed Warnings

All warnings on the product and in the operating instructions should be adhered to.

4 Follow Instructions

All operating and use instructions should be followed.

5 Cleaning

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

6 Attachments

Do not use attachments not recommended by the product manufacturer as they may cause hazards.

7 Water and Moisture

Do not use this product near water—for example, near a bath tub, wash bowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.

8 Accessories

Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

9 A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.



10 Ventilation

Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

11 Power Sources

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

12 Grounding or Polarization

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

13 Power-Cord Protection

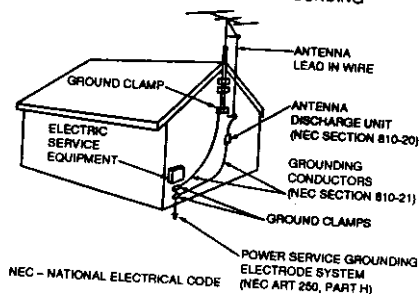
Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

14 Outdoor Antenna Grounding

If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges.

Article 810 of the National Electrical Code, ANSI/NFPA 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.

EXAMPLE OF ANTENNA GROUNDING



15 Lightning

For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

16 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.

17 Overloading

Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in fire risk or electric shock.

18 Object and Liquid Entry

Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

19 Servicing

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

20 Damage Requiring Service

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

- When the power-supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the product.
- If the product has been exposed

to rain or water.

- If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
- If the product has been dropped or damaged in any way.
- When the product exhibits a distinct change in performance – this indicates a need for service.

21 Replacement Parts

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

22 Safety Check

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

23 Heat

The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

CONDENSATION

Leave the VCR on, without a tape in it, for 2 hours if the VCR has been exposed to sudden changes in temperature. Sudden temperature changes cause moisture to form on the metal parts inside the VCR. This moisture can cause the tape to stick and damage the head. Leaving the VCR on for a 2 hour period will dry the inside of the VCR.

PROTECT THE POWER CORD

Do not damage the power cord. Damage to the power cord may cause a fire or shock hazard. When unplugging the power cord, please hold it by the plug and remove it carefully.

DO NOT PLACE HEAVY OBJECTS ON THE RECORDER

Heavy objects placed on the recorder will cause damage; exception is your cable box. The top of the recorder is also slotted to provide ventilation. Do not obstruct these ventilation slots.

WHEN NOT IN USE

When you finish operating the recorder, always unload the cassette and turn OFF the VCR POWER.

CARE OF THE VIDEO CASSETTE TAPES

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

INFORMATION

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, try to correct the interference by one or more of these measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a different circuit than the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

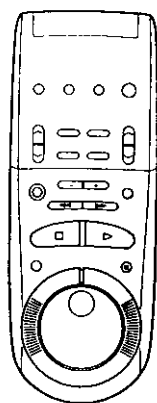
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. If necessary, consult the dealer or an experienced radio/TV technician for additional suggestions. You may find this booklet prepared by the Federal Communications Commission helpful: How to Identify and Resolve Radio-TV Interference Problems. This booklet is available from the US Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

Hooking Up Your VCR

Unpacking Your VCR

As you unpack your new VCR, please make sure the following items are included:

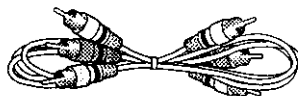
- Remote control



- 2 "AA" size batteries



- 1 Audio/Video cable



- 1 IR emitter



- Registration card

- 1 Coaxial cable



IMPORTANT

Never place any heavy objects on top of the VCR. Do not place the VCR on top of the television because of its instability.

Choosing a Hookup

The connections shown in this book are general. Individual televisions, stereo systems and satellite receivers can vary from those shown here. The first diagrams show connections for common equipment. Then, if you are connecting equipment such as a satellite receiver or a Home Theater receiver, you will also use those diagrams after you have connected the common equipment.

IMPORTANT

To maximize your system for its best performance, your dealer can help you customize these hookups and sell you any additional connection accessories that may be necessary to match your particular equipment and antennas.

- 1 Make a list of each piece of equipment that you want to hook up.
- 2 If you are connecting several pieces of equipment, you may be using more than one of these diagrams. Using your list, find EACH of the diagrams you will need to connect all of your equipment. For example, to hook up this VCR, a TV, a cable box, and a Home Theater receiver, you will use Cable System with Cable Box, and Connecting a Home Theater receiver.
- 3 If your TV has audio and video inputs, use the diagrams on page 6 in addition to the connections on the next page.

Hooking Up Your VCR

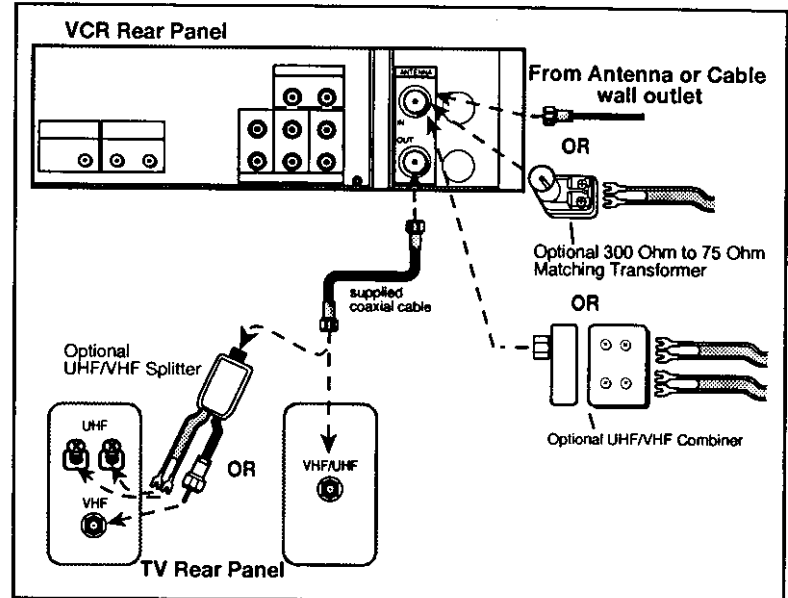
IMPORTANT

You must use one of the connections shown on this page in order to record television or cable programs.

Antenna or Cable System without Cable Box

Connecting Antenna or Cable

- 1 Connect antenna or cable from wall outlet to Antenna IN of the VCR.
- 2 Connect VCR Antenna OUT to the TV's Antenna jacks (varies by TV).
- 3 If your TV has audio video inputs, continue with the connections on the next page. If not, plug in power cords of VCR and TV.



Cable System with Cable Box

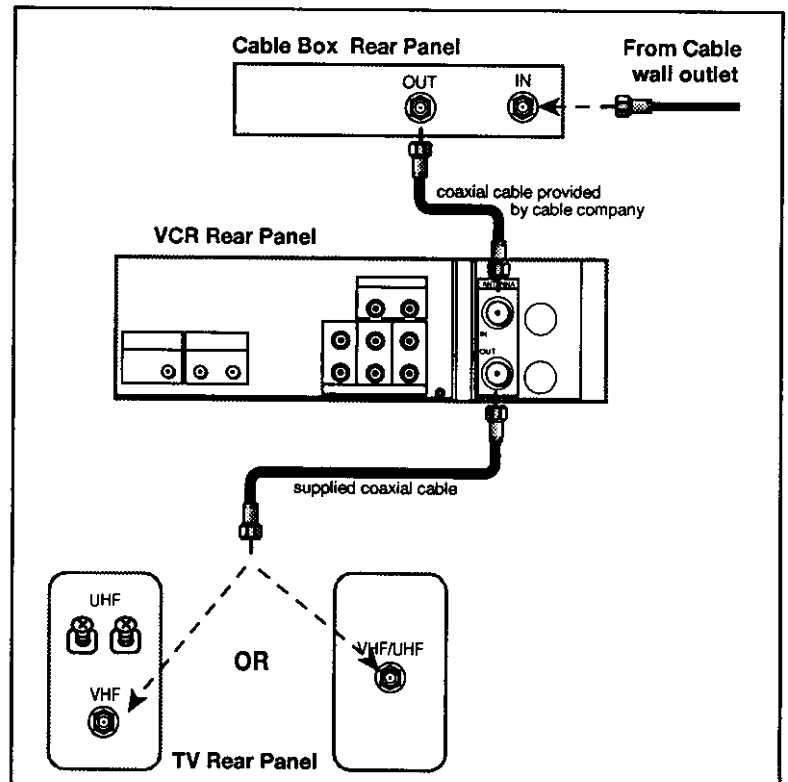
Connecting Cable and Cable Box

- 1 Connect cable from wall outlet to CABLE IN on the cable box.
- 2 Connect OUT or OUT TO TV on the cable box to Antenna IN on the VCR.
- 3 Connect Antenna OUT on the VCR to the TV's antenna jacks (varies by TV).
- 4 If your TV has audio video inputs, continue with the connections on the next page. If not, plug in power cords of VCR, TV, and cable box.
- 5 See page 9 for IR Emitter connection.

IMPORTANT

Your TV Owner's Guide may have additional suggestions for antenna/cable hookups.

If your TV has more than one antenna jack, ask your Mitsubishi dealer for advice on additional accessories.



Hooking Up Your VCR

Connections to TV with Audio Video Inputs

Because you purchased a Hi-Fi VCR, you will want to take advantage of its superior sound capability and connect it to a stereo TV system with audio and video inputs. This connection also helps maintain the best picture quality.

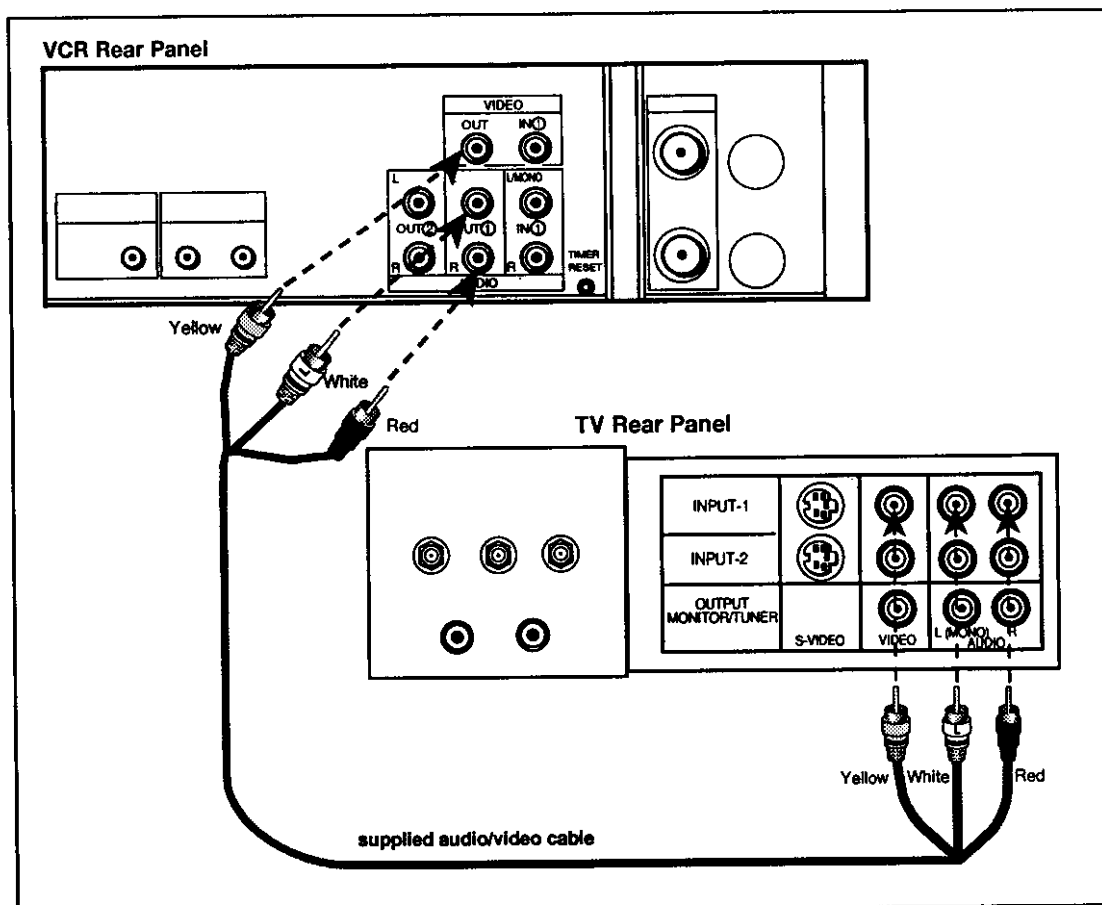
- 1 Connect the red and white audio cable to AUDIO OUT R (right) and AUDIO OUT L (left) on the VCR. Connect the other end to the TV's AUDIO IN RIGHT and AUDIO IN LEFT. Match the colors of the connectors to the cables.
- 2 Connect the yellow video cable to VIDEO OUT on VCR. Connect the other end to VIDEO IN on the TV.
- 3 Set the RF Converter to OFF. See page 44 for instructions on this setting, which can be done at a later time.

IMPORTANT

Your TV Owner's Guide may have additional suggestions for audio video hookups.

To connect your VCR to a mono (non-stereo) TV, connect only the white AUDIO OUT L of the VCR and the white AUDIO INPUT of the TV. Since the TV is not stereo, you cannot take advantage of your VCR's Hi-Fi stereo sound.

If you have an older TV without audio video inputs, simply connect only the antenna or cable as shown on the previous page.



Hooking Up Your VCR

Connections to Satellite Receiver

If you have an RCA DSS®, Sony DSS®, Toshiba DSS®, Panasonic DSS®, PRIMESTAR®, or DISH Network™ satellite system, you can connect the satellite receiver to your VCR and then set up the VCR to change the channels of the satellite receiver. This will allow you to program your VCR to make unattended recordings from several different satellite channels.

- 1 Connect the red and white audio cable to AUDIO OUT R and AUDIO OUT L on the satellite receiver. Connect the other end to the AUDIO IN R and AUDIO IN L on the back of the VCR. Match the colors of the connectors to the cables.
- 2 Connect the yellow video cable to VIDEO OUTPUT on the satellite receiver. Connect the other end to VIDEO IN on the back of the VCR.
- 3 See page 9 for IR Emitter connection.

Connecting both a satellite receiver and a cable box with audio video outputs

- 1 Connect the satellite receiver to the audio video inputs on the back of the VCR as shown.
- 2 Connect the cable box to the audio video inputs on the front of the VCR.

IMPORTANT

You may need to purchase an audio video cable for this hookup.

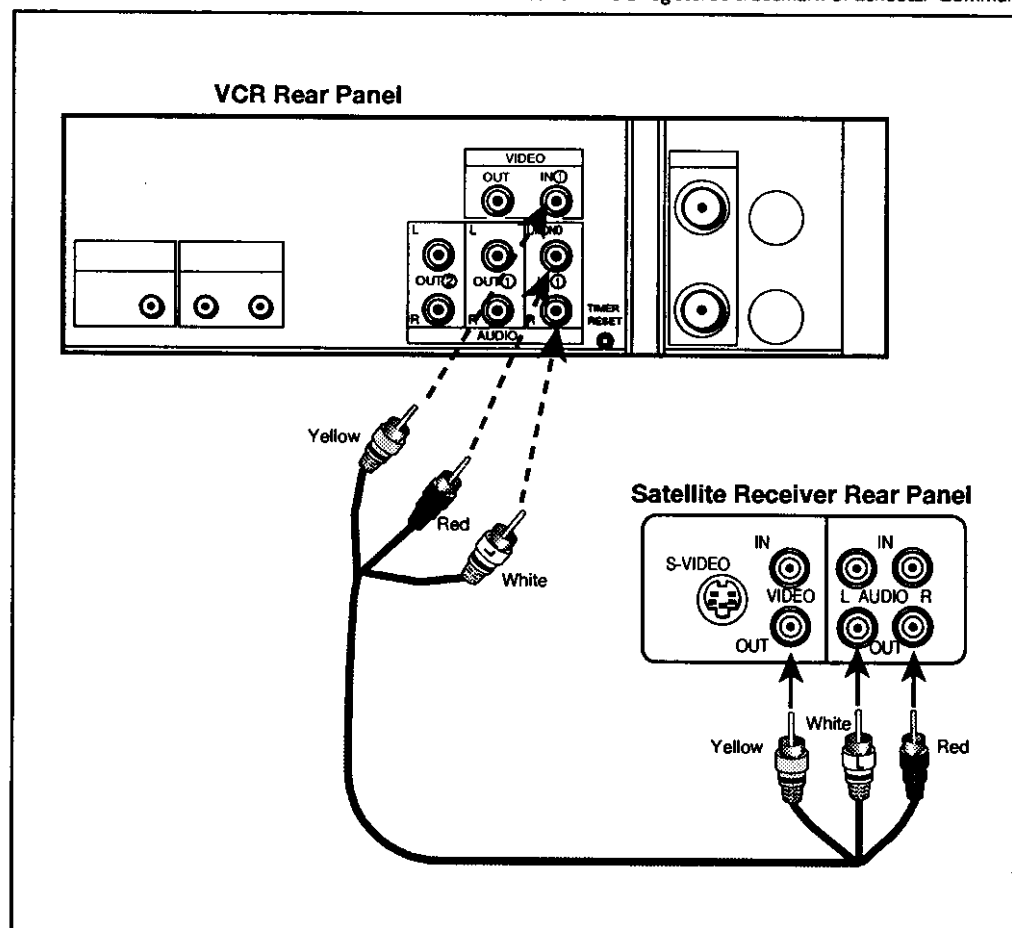
You will have to turn on your VCR to watch the video or hear the audio from the satellite receiver.

Refer to your Satellite Receiver Owner's Guide for Satellite dish to Satellite receiver connections, as well as possible video connection to your TV.

DSS® is a registered trademark of DirecTV, Inc.

PRIMESTAR® is a registered servicemark of PRIMESTAR Partners LP.

DISH Network™ is a registered trademark of EchoStar Communications Corp.



Hooking Up Your VCR

Connections to Home Theater Receiver

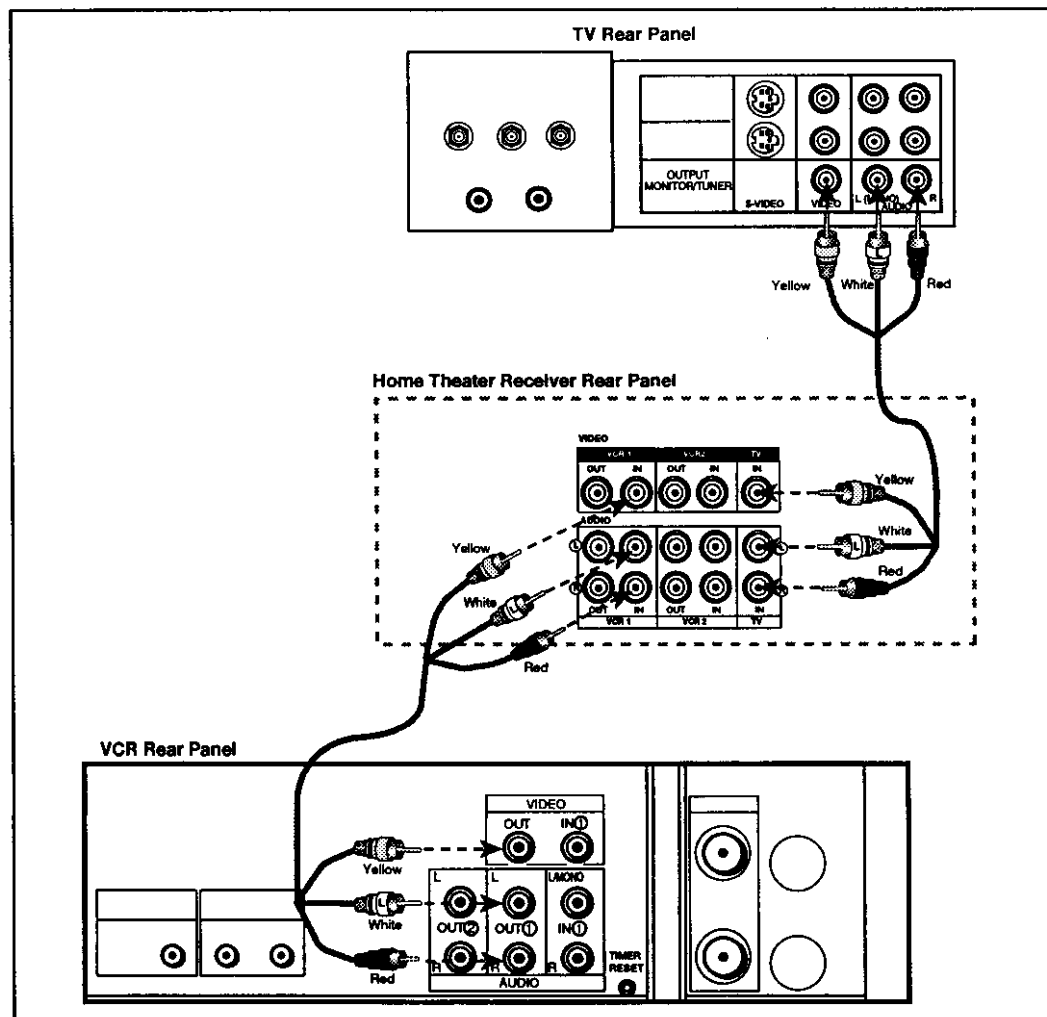
You may wish to connect your VCR to a Home Theater Receiver so that you can take advantage of the Surround Sound audio recordings that are common with many movies. Home Theater Receivers often will control both the sound that is heard from the speakers and the picture shown on your TV. Below is the basic connection between your VCR and Home Theater Receiver. If you use this connection, you will not use **Connections to TV with Audio Video Inputs**.

- 1 Connect the red and white audio cables to AUDIO OUT R and AUDIO OUT L on the VCR. Connect the other end to the VCR I AUDIO INPUT R and AUDIO INPUT L on the Home Theater Receiver.
- 2 Connect a yellow video cable to VIDEO OUT on the VCR. Connect the other end to the VCR I VIDEO INPUT on the Home Theater Receiver.

- 3 Connect a yellow video cable to the TV (or MONITOR) VIDEO OUTPUT of the Home Theater Receiver. Connect the other end to the VIDEO INPUT on the back of the TV.
- 4 See your Home Theater Receiver Owner's Guide for information concerning additional hookups and operations.

IMPORTANT

You may need to purchase additional sets of audio video cables for this hookup.

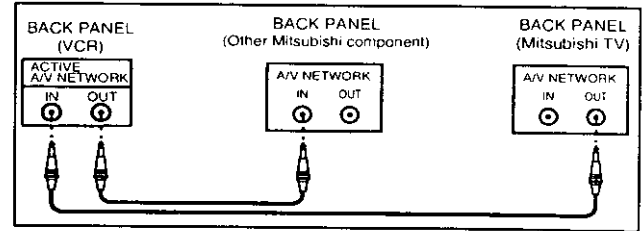


Hooking Up Your VCR

Connections to A/V Network

Some Mitsubishi TVs and VCRs have special input and output terminals called the A/V Network. This network "passes" remote control commands between Mitsubishi components. That is, when the A/V Network is connected, you can point your VCR remote control at the TV, and the TV will "pass" the commands onto the VCR.

- 1 You will need a cable with a "mini" jack at both ends. A mini jack is the kind you find on headphones for personal stereos. This cable may be included with your Mitsubishi TV. If not, you can purchase a cable with mini jacks at your Mitsubishi dealer or electronics store.
- 2 Connect ACTIVE A/V NETWORK OUT or A/V NETWORK OUT on the TV to ACTIVE A/V NETWORK IN on the VCR.
- 3 If you have another Mitsubishi component with A/V Network, connect another mini jack cable to ACTIVE A/V NETWORK OUT on the VCR, and connect the other end to (ACTIVE) A/V NETWORK IN on the other component.



IMPORTANT

For Active A/V Network to work properly, you must make these connections shown and your VCR must be connected to EXT-1 or INPUT-1 of your Mitsubishi TV.

Never connect your A/V Network in a loop, as shown.



Connections to IR Emitter

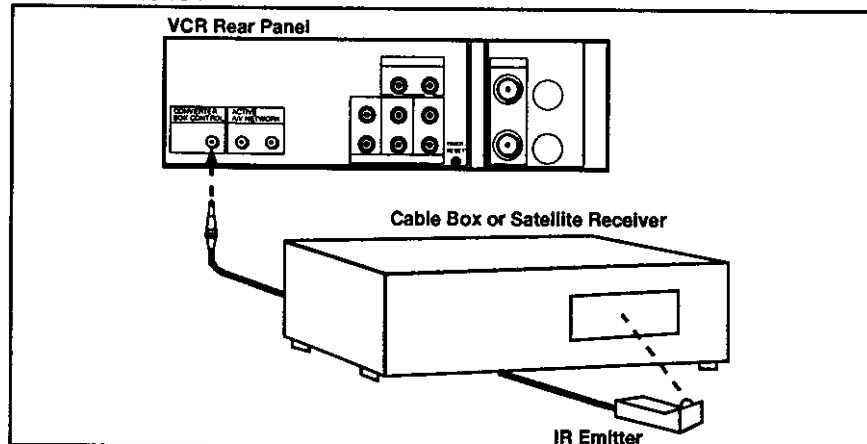
Your VCR will be able to send remote control channel changing commands to your compatible cable box or satellite receiver. The VCR uses the IR Emitter to send these commands in the same way as when you use the hand held remote that came with the cable box or receiver.

- 1 Connect the supplied IR Emitter to CONVERTER BOX CONTROL on back of the VCR.
- 2 Run the wire under or along side the cable box or satellite receiver and place the end in front of the cable box and/or satellite receiver.

- 3 Use the double stick tape to secure the end of the emitter in the proper place.

IMPORTANT

If you connect both a cable box and satellite receiver, place the IR Emitter to face the remote control window (sensor) in the front of both. If you cannot place it this way, you can purchase a dual IR Emitter from your Mitsubishi dealer.



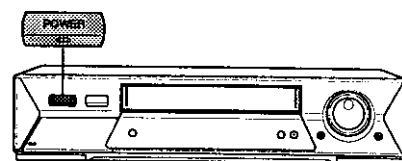
Playback

Setting Up Your VCR

The first thing you need to do is set up your VCR to see the picture coming from the VCR. It's important to take a few minutes to set up your VCR correctly before you try to use it. Based on your type of TV, choose one of the following:

TV with Audio/Video Inputs

- 1 Turn on your TV and switch it to the correct external input. For most Mitsubishi TVs, this means pressing the TV's INPUT button until you see the words **Ext-1** or **Input-1** on the screen. If you do not have a Mitsubishi TV, please refer to your TV Owner's Guide for this procedure.
- 2 Turn the VCR on by pressing POWER.
- 3 You are now watching the VCR's picture. To go back to viewing the picture from the TV, press the TV's INPUT button to go back to the previous input position.
- 4 Later, you should turn the RF converter OFF by following instructions on page 44.



TV without Audio/Video Inputs

If your TV does not have separate audio/video inputs, then your VCR will need to convert the VCR's picture to channel 3 or 4. This is called the video channel. The factory has already selected channel 3; however, if it is a broadcast channel in your area, then you will need to change this to channel 4. To make this change:

set up

- 1 To choose channel 4; with VCR power OFF, turn the front panel jog dial clockwise while holding down the REC SPEED button on the front panel. **Ant ch4** will display on the front panel and the VCR will send signals on channel 4.

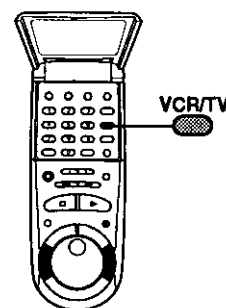
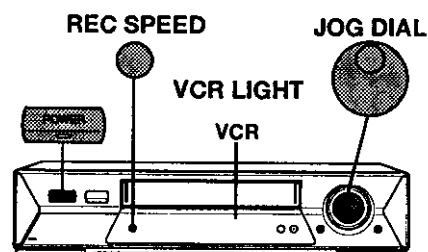
If needed, to return to channel 3; with the VCR turned OFF, turn the jog dial counter-clockwise while holding down the REC SPEED button on the front panel. **Ant ch3** will display.

- 2 Turn the VCR on by pressing POWER.

operating

- 3 Check to see if the VCR light on the front panel display is lit. If it is not, press VCR/TV on the remote control until the VCR light appears on the front panel. This light must be on when you watch a video tape or use the VCR menus. The VCR light will turn on automatically when you play a tape or use the VCR menus when the RF converter is set to ON. See page 44.
- 4 Turn on the TV and change the TV to the video channel (3 or 4). You are now watching the VCR's picture.

To watch a channel that is different than the channel your VCR is recording, the VCR light must be off. The VCR/TV button turns this light on and off.



Playback

Operating Your Remote Control

installing the batteries

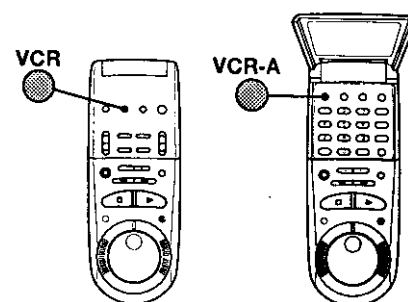
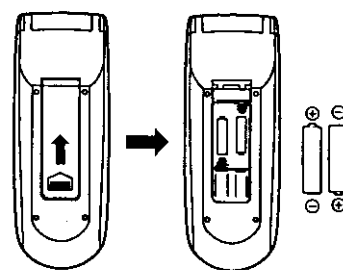
- 1 To remove the back cover, press the ridged area gently, then push the cover in the direction of the arrow and lift.
- 2 Load the batteries, making sure the polarities (+) and (-) are correct.

Next, you need to tell the remote control to operate the VCR, not the TV or some other component.

operating the VCR with the remote control

The HS-U595 has two VCR operation modes: VCR-A and VCR-B. The HS-U595 is pre-set to VCR-A mode.

- 1 Press the VCR button on the remote control. This "tells" the remote that you want to control the VCR.
- 2 Press the VCR-A button under the flip cover on the remote control. Now your remote is ready to operate your HS-U595.



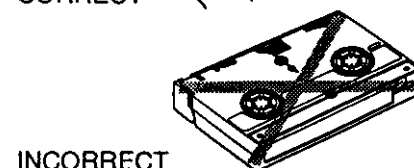
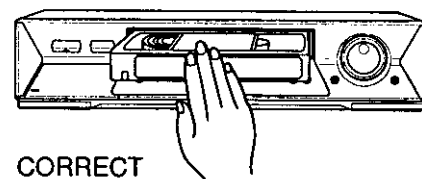
Loading a Tape

Tapes can be loaded into your VCR as long as the VCR is plugged in. Even when the VCR POWER is off, loading a tape will automatically turn the VCR on. Use only tapes that have a **VHS** or **SVHS** label.

- 1 Hold the tape so that the long narrow edge with the contents label faces you. The other edge is hinged and should face the VCR. The plastic window that shows the videotape should face up.
- 2 Gently insert the tape evenly into the cassette slot until the VCR automatically takes it in.

If the VCR will not automatically take the tape in, press EJECT and try again.

Your VCR will eject the tape if you improperly load it. If the VCR ejects the tape; remove the tape, check to see that the contents label is facing you, that the geared tape reels are facing down, wait a few seconds, and try again.



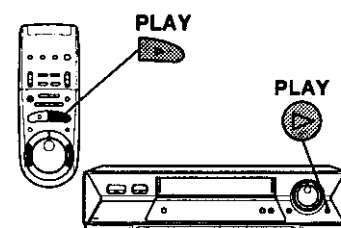
Playing a Tape

- 1 Press the PLAY button on the front panel or the remote control.

The VCR will automatically play the tape at the correct speed. When the VCR reaches the end of the tape, it will automatically rewind the tape and stop. You can stop playing by pressing STOP.

You can play back a tape recorded in S-VHS format with standard VHS resolution (S-VHS quasi playback). This feature functions only during playback. You cannot obtain the original resolution of S-VHS.

Depending on the tapes you are using, some interference may appear on the screen during S-VHS quasi playback.



Playback

Using basic playback controls

rewinding a tape

Press REW on the remote control or turn the shuttle ring on the front panel to the left.

Press and hold REW or turn the shuttle ring left to step up to a faster search speed. A second press of REW will return to normal play.

fast forwarding a tape

Press FF on the remote control or turn the shuttle ring on the front panel to the right.

Press and hold FF to step up to a faster search speed.

A second press of FF will return to normal play.

pausing a tape

Press PAUSE on the remote control or on the front panel to freeze the picture on the screen.

Press PAUSE a second time to return to normal play.

If you leave the VCR in pause for more than 5 minutes, the VCR will automatically stop to prevent damage to the tape.

controlling vibration during still frame

If the picture vibrates during still frame, turn the jog dial while holding down REC SPEED on the front panel until the picture is steady.

Unloading a tape

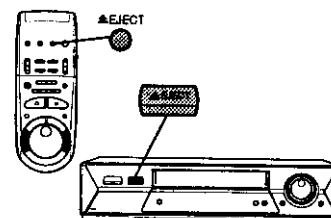
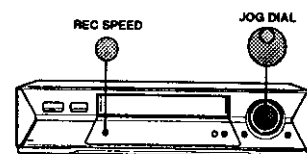
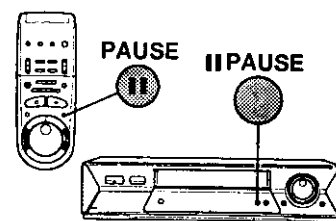
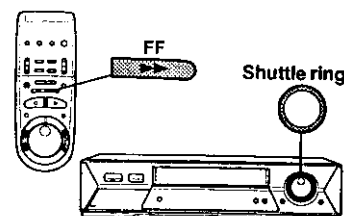
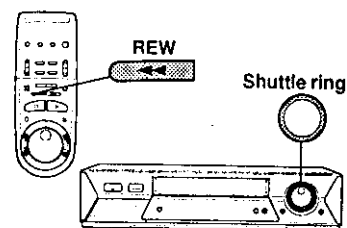
- 1 Press EJECT on the front of the VCR or on the remote control. If the VCR POWER is off, the VCR will turn on, eject the tape, then turn off.
- 2 Remove the tape.

Using repaired tapes

We recommend that you take any broken or torn tapes to a professional for repair. If you repair a torn tape with improper materials, you could damage your VCR when you play the tape.

Head cleaning

Your VCR automatically cleans the head and the drum of the VCR whenever you load a tape. If you see "noise" or snow when playing a tape, eject the tape, re-load the tape, then wait 3 or 4 seconds. Repeat this process several times to improve the picture.

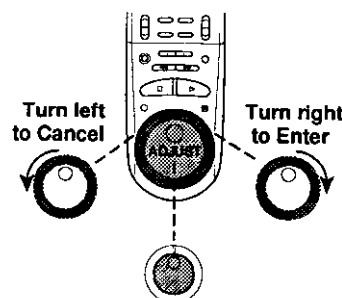


Setting Up Your VCR

Your VCR comes with Mitsubishi's exclusive **ViewPoint®** on-screen operating system. This system has been developed to simplify the operation of your VCR with clear, understandable language and design.

Before your VCR can receive television channels or you can program your VCR to record, you need to program all of the channels you can receive into your VCR and set the clock. Additionally, if you want to program with the VCR Plus+ system, you must do a first time setup to record using the PlusCode numbers. Fortunately, your VCR makes this an easy process with our menu system.

When using the on-screen menus, use the JOG/SHUTTLE control on the remote control, not the front panel. Use the ADJUST dial to move the highlight bar up or down and to change the setting of selected features. Turn the SHUTTLE ring to the right to enter a selection or adjustment (the ENTER button may also be used for this). Turn the shuttle ring to the left to cancel or clear a setting (the CANCEL button may also be used for this).



Using AllSet™ to set up your VCR automatically

AllSet will automatically set the clock, memorize all of the television stations available to you and set the VCR Plus+ guide channel numbers.

You need to manually set the guide channel numbers for the channels from a satellite receiver.

If your local cable company scrambles some or all stations, and/or requires you to use a cable box, then your ability to program channels would normally be limited. The cable box receives all of your channels, then sends only one to your TV and your VCR, usually on channel 3 or 4.

If you are required to use a cable box, you should choose Cable box only option in step 5 on the next page and turn the cable box on. Your HS-U595 will use its Converter Box Control technology to change the channels on the cable box. Make sure you have properly placed the IR Emitter (see page 9).

If your cable box or cable system seems incompatible with your new VCR, call your cable company. They may be able to provide solutions to your problems.

A special note to cable box subscribers

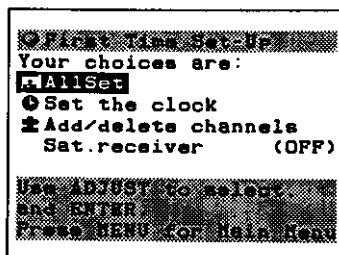
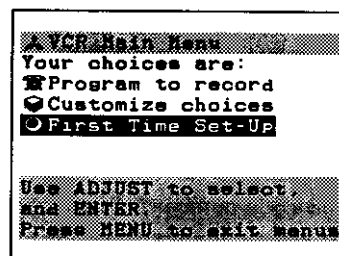
1 Make sure you are viewing the picture coming from your VCR. Press MENU on the remote control. **VCR Main Menu** comes up. If **First Time Set-Up** is not highlighted, use the ADJUST dial on the remote to highlight it.

2 Turn the shuttle ring on the remote control to the right.



First Time Set-Up menu will appear. **AllSet** will be highlighted. Turn


IMPORTANT

If you are recording or playing back a tape, **Not available** will flash and an error message will appear. To correct this, stop the tape.



Setting up your VCR


- 3 You will see the AllSet explanation screen. Turn .
- 4 You will see the menu for sources connected to the VCR. Using the list below as a reference, turn  to select the kind of antenna you connected.
 - **Cable** if you have standard cable service without a cable box, use a cable box with an A/B switch, or your cable box is not remote controllable
 - **Cable box only** if you use a standard cable box
 - **Digital Cable box only** if you use a digital cable box
 - **Indoor/outdoor ant** if you use rabbit ears type or roof mounted type antennas

After you have selected, turn .

- 5 If you choose **Cable** or **Indoor/outdoor ant**, an on-screen message and the display on the front of your VCR will show you that the VCR is memorizing the stations you can receive. After the VCR has programmed all the channels, you will see the screen for entering the zip code. Go to step 11 in this section.

If you choose Cable box only or Digital Cable box only

You need to tell the VCR which manufacturer makes your cable box or digital cable box, and on which channel the cable box or digital cable box sends a signal. The screen at right will appear.

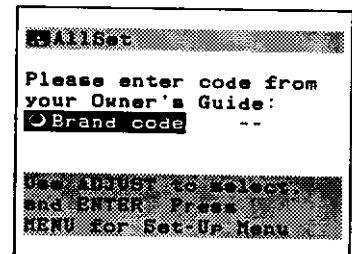
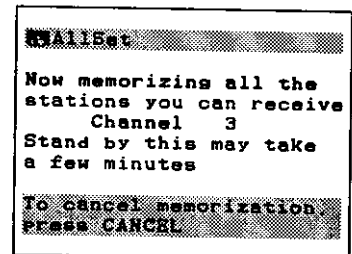
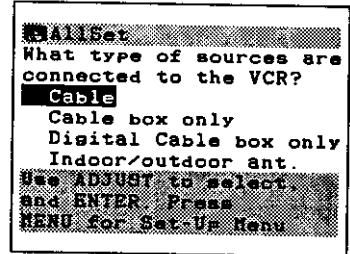
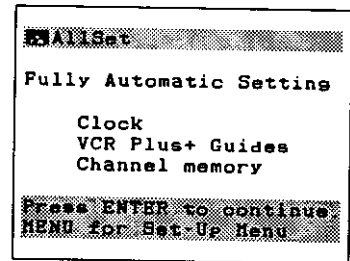
- 6 Brand code will be highlighted. Turn  or press the number buttons to select the manufacturer's code number for your cable box or digital cable box. The codes are listed on the next page.
- 7 To determine if the Brand code is correct, press CHANNEL on the remote. The channel number on the front of your VCR should change. Then your cable box or digital cable box should change to the exact same number a moment after it appears on your VCR.

If your cable box or digital cable box does not change channels at all, or does not show the exact same number, try the next Brand code, if another is listed for your type of cable box or digital cable box. Also make sure the IR emitter bulb faces the IR window on the cable box.

If no code number is listed for your cable box or digital cable box, or if none of the listed numbers work, try each code from 01 to 94.

If your cable box or digital cable box cannot be operated by a remote control (if it has a mechanical dial or slide), then your VCR will not be able to change channels on the cable box or digital cable box.




If your cable box or digital cable box will not respond to any of the codes, your VCR cannot change channels on the cable box or digital cable box. You will need to change channels yourself, using the cable box or digital cable box's remote control. You should re-program your VCR, choosing Cable in step 4. When programming to record, you will need to leave your cable box or digital cable box ON and tuned to the channel you wish to record.



Setting up your VCR

Cable Box Brand Code

Manufacturer	Code Number	Manufacturer	Code Number	Manufacturer	Code Number
ABC	1, 2, 11	Magnavox	59, 61, 67	Sheritech	57
Archer	29, 58, 65	Movietime	30, 31, 51, 54	SL Marx	5, 14, 29
Century	29, 65	NSC	20, 51, 52	Sprucer	14, 21, 25
Citizen	29, 65	OAK	27, 39, 40, 49, 50, 61	Stargate	5, 14, 29, 65
Diamond	54, 58	Panasonic	14, 21, 25	Sylvania	66
Eagle	17, 18, 19, 61, 62, 63	Paragon	6, 7	Teknika	36
Eastern	68	Pioneer	14, 15, 16, 92, 93, 94	Texscan	53, 66
G C Electronic	29, 65	Philips	26, 61, 62, 63, 64	Tocom	1, 2, 3, 4, 5, 41, 42, 43, 44, 69, 91
Gemini	5, 60	RCA	14, 21, 25	Toshiba	32, 33, 34
General Electric	35	Realistic	37, 38	Unika	48
General Instrument	1, 2, 3, 4, 5, 41, 42, 43, 44, 69, 91	Regal	45, 48	United Cable	2
Hamlin	22, 23, 45, 46, 47	Regency	68	Universal	30, 31, 54, 65
Hitachi	24	Rembrandt	55, 56	Videoway	6, 7
Jerrold	1, 2, 3, 4, 5, 41, 42, 43, 44, 69, 91	Samsung	5, 14, 21, 25, 29	Viewstar	17, 18, 19, 61, 62, 63
Macom	28	Scientific Atlanta	10, 11, 12, 13	Zenith	6, 7, 8, 9

- 8 When the Brand code is correct, turn . The screen will add a Channel selection.
- 9 Use  to select the channel on which your cable box or digital cable box sends a signal to the VCR (normally channel 3 or 4). If you connected your cable box or digital cable box with audio/video cables, use INPUT to select L1 (if you used the rear panel jacks), or L2 (if you used the front panel jacks).
- 10 After entering the channel number, turn . The VCR will begin memorizing the available channels. During this process your TV screen, the front of your VCR, and your cable box should all display each channel number one by one.
- 11 When the VCR is finished memorizing, you will see the screen for entering your zip code. Use the number keys to enter your zip code. For example, if your zip code is 92618, press 9-2-6-1-8.

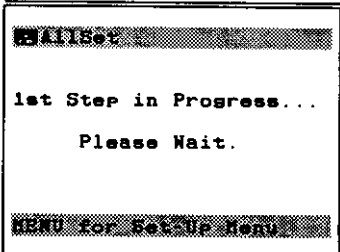
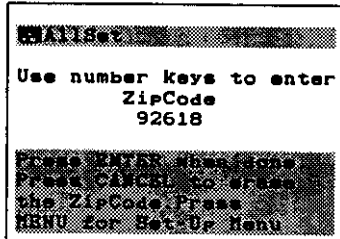
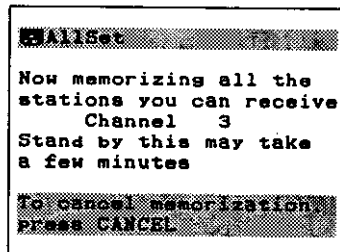
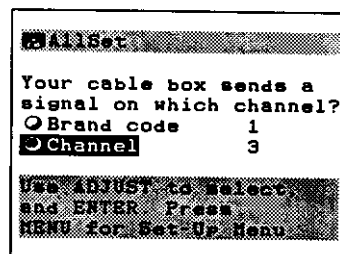
If you enter a number incorrectly, turn  or press CANCEL.

When you have finished entering the zip code, turn .

The VCR will begin to search for a channel that carries a time signal to set the clock. If the VCR can find the channel, it will set the clock. You can see if the clock has been set in the display window on the VCR.

The clock setting set up time varies, it may take up to 30 minutes as the VCR searches one by one for a channel that carries a time signal.

If the VCR will not set the clock (the current time display still shows --:--), see **Setting the Clock** on page 20.



Setting up your VCR

- 12 Once the VCR has set the clock, it shows the message indicating that the first step is completed. Then, press POWER to turn off the VCR and leave the VCR off for the night. The full set-up will be completed overnight (from about Midnight to 7:00AM).

During this time, the VCR will search for a channel that carries data to set the VCR Plus+ guide channel numbers for your area and then check the guide channel number against the channel number you receive in your home and select the correct lineup automatically.

IMPORTANT

If you use a cable box or digital cable box, you will need to leave your cable box ON at all times.

- 13 Turn on the VCR the next day. When you set your TV's input to view the VCR picture, you will see one of the following messages:

- **Setup Completed**
- **Press MENU to see the message of AllSet**
- **Setup failed**

Setup Completed means AllSet has successfully completed the setup procedure and set the VCR Plus+ system for recording. Press MENU to clear the screen.


Press MENU to see the message of AllSet means that you need to perform one more operation before AllSet can complete the setup procedure. Press MENU to see the full message as shown here.


This message is displayed when there is more than one cable company servicing your zip code area. In these situations, there will be more than one channel lineup and your VCR may not be able to identify which is the correct lineup for your home. To select the correct channel lineup:

- 1 Turn . You will see the first lineup screen, Lineup1, which will show selected key stations.

- **Guide** column shows the selected stations' call letters or network name.
- **VCRCH** column shows the channel numbers used for the selected stations by one of the local cable companies.

Note: As the VCR's memory is limited, the Guide column may not display call letters completely.

- 2 Turn  to cycle through the other possible lineups, Lineup2, Lineup3 and so forth, until you find the lineup that matches your cable company.

- 3 Turn . The screen will instruct you to turn the VCR off so that AllSet can complete the setup overnight. Leave the VCR turned off overnight and check it the next morning for the **Setup Completed** display.

If the correct lineup is not displayed or you see **Setup failed**, the VCR cannot set up the VCR Plus+® guide channel numbers automatically. Set them manually when you program your VCR to record with VCR Plus+® system. (See page 32.)

```

AllSet
1st Step successful.

Please leave
your VCR off Overnight

AllSet will be
completed Overnight

MENU for Set-Up Menu
  
```

```

AllSet

Setup Completed.

Press MENU to exit.
  
```

```

AllSet

Setup has not been
completed yet.
Your choice is necessary
to complete Setup.

Press ENTER to continue.
  
```

```

AllSet
Lineup1
Guide VCRCH Guide VCRCH
NBC - 023 --- - ---
HBO - 027 --- - ---
--- - --- --- - ---
--- - --- --- - ---

Use ADJUST to choose
correct Lineup
and ENTER
  
```


```

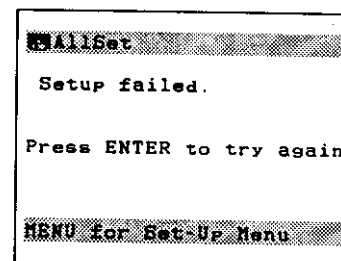
AllSet
Lineup2
Guide VCRCH Guide VCRCH
NBC - 032 --- - ---
HBO - 005 --- - ---
--- - --- --- - ---
--- - --- --- - ---

Use ADJUST to choose
correct Lineup
and ENTER
  
```

Setting up your VCR

Setup failed means an error has prevented AllSet from properly setting up the VCR Plus+ Guide channel numbers. This is normally caused by one of the following reasons:

- You entered an invalid zip code for your area. Turn  to return to the zip code screen and re-enter the correct zip code. Try the setup again and do not turn on the VCR until after 7:00 am the next day.
- You entered a new zip code that AllSet is not ready to use. Turn the shuttle ring to the right to return to the zip code screen and re-enter your old zip code. Try the setup again and do not turn on the VCR until after 7:00 am the next day.
- You turned on the VCR and interrupted the AllSet procedure before it was complete. AllSet completes the setup normally between midnight and 7:00 am. Try the setup again and do not turn on the VCR until after 7:00 am the next day.
- AllSet information is not broadcast in your area. You will need to set the VCR Plus+ Guide channel manually when you program your VCR to record with VCR Plus+® system.



IMPORTANT

Automatic channel programming using AllSet may include vacant channels if there are stray signals or noise on those channels. If this occurs, you can manually delete the channels using the procedure in the section **Adding and deleting channels**. You cannot delete satellite channels.





You do not need to perform this set-up again unless your cable company changes their channel lineup, or you move the VCR to a new address.

After a power failure, if you have set Clock set within the Set the clock menu to AUTO, then AllSet will automatically set the clock again.

Once the VCR has completed the AllSet set-up, it can automatically set the clock, including your time zone and daylight saving time. In order for the auto clock function to work, the Clock set within the Set the clock menu must be set to AUTO. Follow ALL the steps in **Using the auto clock function**.

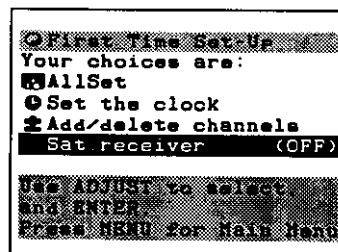
Memorizing Satellite channels

If you are using a satellite receiver, you need to set the guide channel numbers for the channels from a satellite receiver.

- 1 Make sure you are viewing the picture coming from your VCR. Press MENU on the remote control. VCR Main Menu appears.
- 2 Turn  on the remote control to select First Time Set-Up. Turn .
- 3 You will see the First Time Set-Up menu. Turn  to select Sat. receiver. Turn .

IMPORTANT

You cannot select Sat. receiver if you select Digital Cable box only in step 4 of AllSet (on page 14).



Setting up your VCR





- 4 Use  to select the correct code for your satellite receiver.

<u>Manufacturer</u>	<u>Code</u>
RCA or GE	1
PRIMESTAR®	2
Sony	3
DISH Network	4
Toshiba	5
Panasonic	6
none	OFF

- 5 After you have selected, press MENU three times to exit the menus.




Adding and deleting channels

If necessary, you can manually add or delete channels after you have completed the automatic channel programming by using AllSet. You cannot do this for channels coming from a satellite receiver.

- 1 Make sure that video mute is ON. See page XX.
- 2 Press MENU on the remote control. VCR Main Menu appears.
- 3 Turn  on the remote control to select First Time Set-Up. Turn .
- 4 You will see the First Time Set-Up menu. Turn  to select Add/delete channels. Turn .

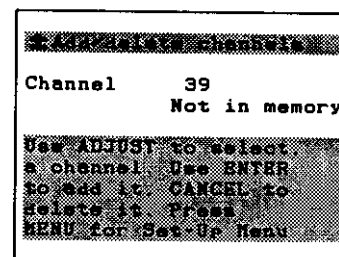
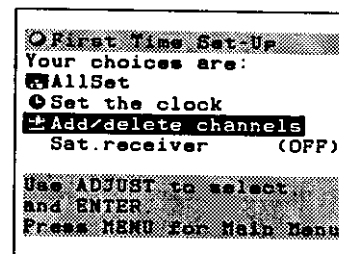
IMPORTANT

If you are recording, playing back a tape, or watching a satellite receiver channel, then Not available will flash on-screen. To correct this, stop the tape or switch the VCR to a local channel.

- 5 You will see the screen for adding or deleting channels. Use  to select the channel that you want to add or delete. Press ENTER or turn  to add the channel; press CANCEL or turn  to delete it.
- 6 When you are finished adding or deleting channels, press MENU three times to exit the menus.

IMPORTANT

If you use AllSet to memorize channels again, you will lose all of the manual changes you made. All of the deleted channels will be added; all of the added channels will be deleted. If your cable box receives only one or two digit channels, you cannot add a three-digit channel.



Selecting a channel

Now that you have programmed channels, and added or deleted some, you will want to be able to select channels. If you have not yet programmed channels using AllSet, see page 13.

Setting up your VCR

Antenna/Cable selections
indoor/outdoor antenna
cable box only
cable antenna
digital cable box

Your VCR can receive
VHF/UHF channels 2–69
cable box channels 0–99
cable channels 1–125
digital cable box channels 0–999

Satellite Receiver selections
Sony, RCA, GE, Toshiba,
Panasonic, DISH Network™

Your VCR can receive
any channel from 100–999 provided
by your satellite service
(cable channels 100–125 cannot be selected)
any channel from 1–999 provided
by your satellite service

PRIMESTAR®

If you try to select a channel number that the VCR cannot receive, the VCR will not change channels.

selecting antenna, cable or digital cable channels sequentially

Press CHANNEL on the remote control or turn the jog dial on the VCR front panel. This will cycle through the channels in sequential numerical order.

When you select the digital cable channels from 100 to 999, holding down the CHANNEL on the remote will advance the channels in 10 channel increments.

selecting antenna, cable or digital cable channels directly

Use the number buttons on the remote control. For example, to choose channel 23, press 2-3. If you select digital cable channels, you can select the three digit channels directly by using the number buttons. For example, to choose digital cable channel 157, press the 1-5-7.

To select a single digit channel, such as channel 5; press 0-5. You can also press 5, then press ENTER.

selecting satellite channels sequentially

Press CHANNEL on the remote or turn the jog dial on the VCR front panel. When pressing the up arrow or turning the jog dial to the right, the lowest satellite channel will follow the highest antenna or cable channel. When pressing the down arrow or turning the jog dial to the left, the highest satellite channel will follow the lowest antenna or cable channel. The other satellite channels will follow in numerical order.

Continuously holding down CHANNEL on the remote will advance the channels in 10 channel increments.

selecting satellite channels directly

For Sony, RCA, GE, Toshiba, Panasonic and DISH Network; press the number buttons on the remote. For example, to go to channel 263, press 2-6-3.

For PRIMESTAR channels, press INPUT until the channel number with the PRIMESTAR light (◆) appears on the front panel display. Then press the number buttons on the remote.

For one or two digit channel numbers, press the number buttons, then press ENTER. For example, to go to channel 29, press 2-9-ENTER.

Setting up your VCR






Setting the Clock

If your clock is set correctly, skip this section.

If your VCR cannot set the clock automatically in the AllSet™ procedure, you have to set the clock using either **Setting the Auto Clock** or **Setting the Clock Manually**.

Setting the Auto Clock

Your VCR can set the clock automatically by picking up a time signal which some TV and cable channels transmit with their broadcasts. Most PBS stations send this signal; however, this function works only if a channel in your area is broadcasting a time signal. If you don't receive this signal, set the clock manually.

- 1 Press MENU on the remote control. VCR Main Menu will appear.
- 2 Turn  to select First Time Set-Up. Turn . The First Time Set-Up menu will appear. Turn  to select Set the clock. Turn .
- 3 You will see the Set the clock menu. Clock set will be highlighted. Turn  to select AUTO.
- 4 Turn the VCR off to activate the auto clock setting function.

The VCR will search for a channel that carries a time signal, then set your time zone and daylight saving time. If there are only a few channels in your area that carry time signals, it may take about 30 minutes to complete. If you turn the VCR on before the correct time displays, the auto clock setting will be canceled. See if the clock has been set on the front panel display on the VCR.

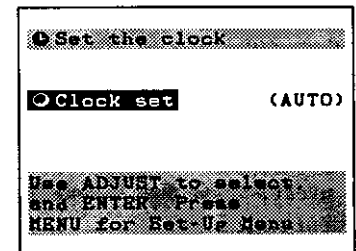
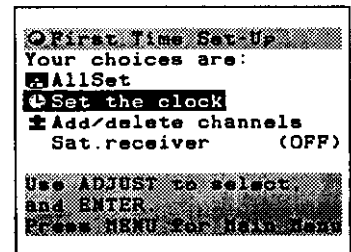
If the VCR displays the wrong time, the time zone setting may not be correct. To adjust this, follow the steps in **If the VCR displays the wrong time**.

IMPORTANT

When you memorized channels, if you chose **Cable box only**, make sure you leave the cable box on. At 3:00 am, when the VCR power is off, the VCR will begin to automatically change channels on the cable box, one by one, to set the clock. At this time you cannot use the cable box.







If you want to use the cable box at 3:00 am, turn on the VCR or set the Clock set of the Set the clock menu to MANUAL. In both cases, auto clock function will be canceled.

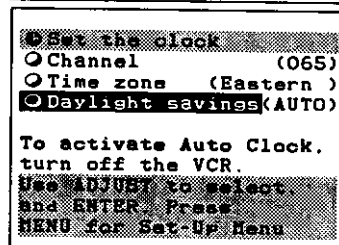
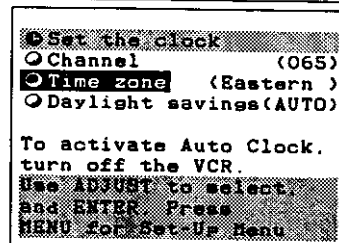
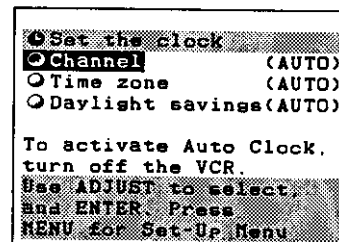
When you memorized channels, if you chose **Cable or Indoor/outdoor ant**, the VCR will set the clock as soon as you turn off the VCR, and at 3:00 am.



Setting up your VCR











If the VCR displays the wrong time

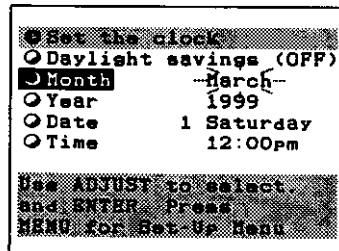
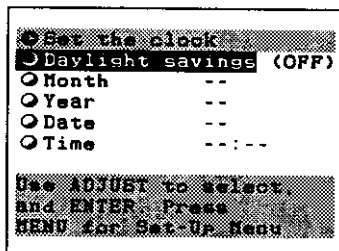
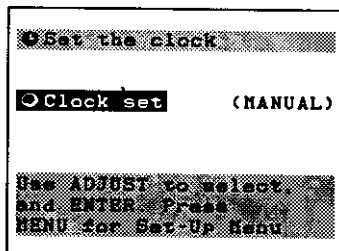
- 1 Follow the procedure on the previous page to step 3. Then turn .
- 2 You will see the Set the clock menu. Channel will be highlighted. If you know the channel that carries a time signal, turn  to enter the channel. Most PBS stations broadcast a time signal. For fastest response, enter your local PBS station. If you don't know it, leave the channel setting at AUTO. Turn .
- 3 Time zone will be highlighted. Turn  to select the time zone of your area. Available time zones are: Atlantic, Eastern, Central, Mountain, Pacific, Alaska, and Hawaii. Turn .
- 4 Daylight savings will be highlighted. Turn  to select AUTO, ON or OFF. If you follow daylight saving time, select ON. If not, select OFF. If you select AUTO, the VCR automatically sets the daylight saving time.
- 5 To activate the auto clock function, turn off the VCR.











Setting the clock manually


Skip this section if your VCR has set the clock correctly using AllSet.

- 1 Press MENU on the remote control. You will see the VCR Main Menu.
- 2 Turn  to select First Time Set-Up. Turn . First Time Set-Up menu will appear. Turn  to select Set the clock. Turn .
- 3 You will see the Set the clock menu. Clock set will be highlighted. Turn  to select MANUAL. Turn .
- 4 Daylight savings will be highlighted. Turn  to select ON or OFF. If you are currently following daylight savings, select ON. Otherwise, select OFF. Turn .
- 5 Turn  until the correct month appears on screen. Turn .



Setting up your VCR

- 6 Turn  to set the current year. Turn .
- 7 Turn  to set the date. Turn .
- 8 The hour numbers and the am/pm indicator will be blinking. Turn  to set the hour and am/pm at the same time. Turning the dial *right* moves the clock *forward*; turning the dial *left* moves the clock *backward*. Turn .
- 9 Turn  to set the minutes. When you have set the correct time, turn . First Time Set-Up menu will appear, and the clock will start running.
- 10 Press MENU twice to turn off the menus.

You can adjust the daylight saving time manually. When Daylight savings is highlighted, turn  to select ON or OFF.

If you select ON, the VCR will set the clock forward one hour.

If you select OFF, the VCR will set the clock back one hour.

IMPORTANT

Any time you adjust this setting, check your programmed recordings to be sure they are set to the correct times.

If you have a Mitsubishi TV with StarSight® feature, the TV can set the time on your VCR. See your TV Owner's Guide for details.

To allow StarSight® to do this, you must set the VCR's Clock set to MANUAL, and the VCR's A/V Network setting to ACTIVE.

```

● Set the clock
○ Daylight savings (OFF)
○ Month      March
○ Year       1999
● Date       -14 Sunday-
○ Time       12:00pm

Use ADJUST to select,
and ENTER. Press
MENU for Set-Up Menu
    
```

```

● Set the clock
○ Daylight savings (OFF)
○ Month      March
○ Year       1999
○ Date       14 Sunday
● Time       7:00pm

Use ADJUST to select,
and ENTER. Press
MENU for Set-Up Menu
    
```

StarSight® is a registered trademark of StarSight Telecast, Inc.

Recording

Your new VCR offers a wide variety of recording options that take full advantage of our advanced electronics. First, right now, you can learn how to record a current broadcast. Then, in another section of this book called **Timer Recording**, you can learn how to program your VCR to record at a later time and day.

Recording a current broadcast

To record a TV program that is currently playing:

- 1 Load a tape with its erasure prevention tab intact into the VCR.
- 2 If you have not already done so, set the speed at which you would like to record. See **Selecting and adjusting the audio and video functions** on page 28.
- 3 Set the VCR's input to tuner. To do this, press INPUT until a channel number shows on-screen or on the front panel display. If L1 or L2 appears instead of a channel number, continue to press INPUT until a channel number appears. To record channels from a PRIMESTAR® receiver, press INPUT until a channel number with the PRIMESTAR light (◆) appears on the front panel display.
- 4 Select the channel you wish to record by pressing CHANNEL or the number buttons on the remote or the jog dial on the front panel. If you are using a cable box that the VCR cannot control, select channel 3 or 4 on the VCR, and change the channel on the cable box, not on the VCR.
- 5 Press REC on the remote or REC/②REC LENGTH on the front panel.

Recording will start. When you reach the end of the tape, the VCR will automatically rewind.

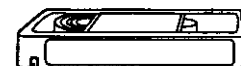
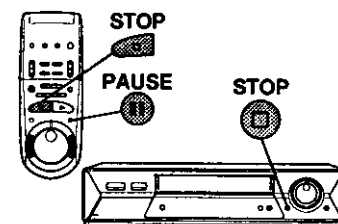
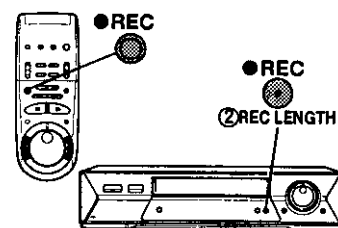
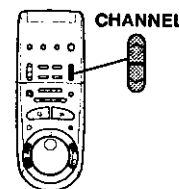
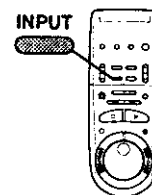
- You can stop recording at any time by pressing STOP or PAUSE on the remote or on the front panel.
- To resume recording from STOP, press REC.
- To resume recording from PAUSE, press PAUSE.
- You cannot use REC/②REC LENGTH to resume recording from PAUSE.

IMPORTANT

If you pause the VCR for more than five minutes, recording will stop automatically to protect the tape.

If you record in extended play (EP), you will only be able to play the tape on a VCR equipped for EP play, such as this one.

If you attempt to record on a tape that has had its erasure prevention tab removed, the VCR will eject it. To record over such a tape, simply place a piece of vinyl tape over the opening.




Erasure prevention tab

Recording

Using One-Touch Recording (OTR)

One-Touch Recording (OTR) is a way to begin recording immediately, and have your VCR stop recording and turn off automatically after your show is over.

- 1 Load a tape with its erasure prevention tab intact into the VCR.
- 2 If you have not already done so, set the speed at which you would like to record. See **Selecting and adjusting the audio and video functions** on page 28.
- 3 Set the VCR's input to tuner. To do this, press INPUT on the remote until a channel number shows on-screen or on the front panel display. If you would like to record channels from a PRIMESTAR® receiver, press INPUT until a channel number with the PRIMESTAR light  appears on the front panel display.
- 4 Press CHANNEL or the number buttons on the remote or the front panel jog dial to select the channel to be recorded. If you are using a cable box that the VCR does not control, select channel 3 or 4 on the VCR, and change the channel on the cable box.
- 5 Press REC/②REC LENGTH on the front panel twice. The first time you press the key, recording will begin. The second keypress adds 30 minutes to the OTR timer, displayed on the front panel. The OFF-T/OTR key on the remote control can also be used. When you first press this key, the VCR will begin recording and 30 minutes is added to the OTR timer.
- 6 Press REC/②REC LENGTH or OFF-T/OTR for each 30 minutes you want to add to the OTR timer, up to 4 hours. If you press the key 10 times, you will see End on the front panel display. The VCR will record until the end of the tape. If you press the key an eleventh time, the VCR will resume normal manual recording.

The OTR timer will begin to count down backwards. When it reaches zero, the VCR will stop recording and turn off.

If you program too much time into the OTR timer

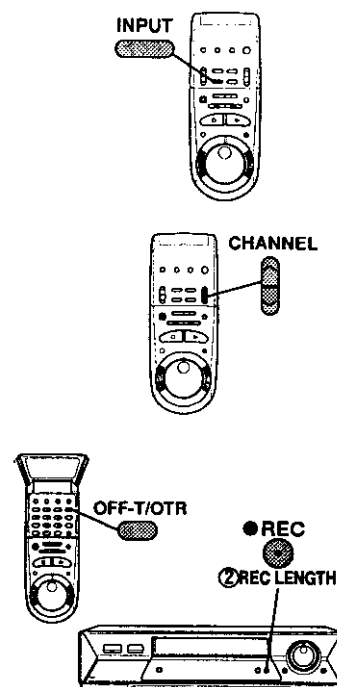
Continue pressing REC/②REC LENGTH or OFF-T/OTR. After the 4-hour point you can start over from zero, adding time in 30 minute intervals.

How OTR affects other controls

If you press PAUSE during OTR, the VCR will pause recording, but the OTR timer continues to count down.

Press PAUSE again to resume recording from the record-pause mode. The REC/②REC LENGTH button will not resume your recording.

If you press STOP during OTR, you erase the OTR programming.



Recording

Using Standby One-Touch Recording (OTR²)

Standby One-Touch Recording (also called OTR²) is a programming method to begin recording within 24 hours and record in 30 minutes intervals.

- 1 Load a tape with its erasure prevention tab intact into the VCR.
- 2 If you have not already done so, set the speed at which you would like to record. See **Selecting and adjusting the audio and video functions** on page 28.
- 3 Set the VCR's input to tuner. To do this, press INPUT on the remote until the channel number shows on-screen or on the front panel display. To record PRIMESTAR® channels, see Step 3 on previous page.
- 4 Press CHANNEL on the remote control or the front panel jog dial to choose the channel to be recorded. If you are using a cable box that the VCR does not control, select channel 3 or 4 on the VCR, and change the channel on the cable box.
- 5 Press PAUSE/①START TIME on the front panel to set the time when you wish recording to start (within 24 hours). The start time is displayed on the front panel. Each time you press the button, the start time is delayed by 30 minutes.
- 6 Press REC/②REC LENGTH for each 30 minutes you want to add to the OTR² timer, up to 4 hours. If you see End on the front panel display, the VCR will record until the end of the tape.

If you have a cable box, a PRIMESTAR® or a DISH Network™ satellite receiver, leave the cable box or receiver turned ON. If the HS-U595 does not control your cable box, leave the box tuned the station you wish to record.

After 30 seconds, the power will turn off and the programmed recording light will be lit. The VCR will automatically turn on at the OTR² start time and recording will begin. When the OTR² timer reaches zero, the VCR will stop recording and turn off automatically. If the end of the tape is reached before OTR² is finished, the VCR will stop and the power will turn off.

IMPORTANT

Other programs you have set to record may be erased if:

- the start times are before the OTR² start time
- conflicts with the OTR²
- starts within one minute or less after the OTR² finishes

If you turn the power on while your VCR is in stand-by for the OTR², the OTR² programming will be erased.

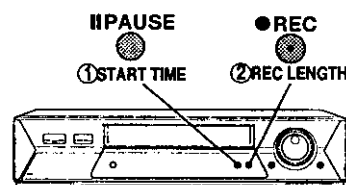
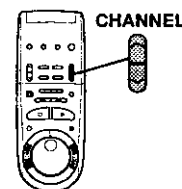
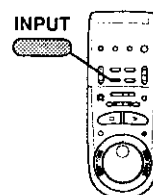
To cancel OTR²

- Turn the power OFF while you are programming the timer
- Turn the power ON if you have finished programming the timer

How OTR² affects other controls

If you press REC/②REC LENGTH on the front panel during OTR², 30 minutes will be added to the OTR² timer.

If you press STOP during OTR², you erase the OTR² programming.



Recording

Using Audio and Video functions

The audio and video function menus allow you to set things such as listening to the stereo track of your recording, or setting the tape recording speed (SP or EP). The VCR will display the functions and settings on your TV screen. The first section describes the functions, the next section tells you how to adjust the functions.

Audio functions

audio monitor
normal record

Video functions

record speed counter zero stop
tape (length) repeat playback
play PerfectTape® PerfectTape®

Descriptions of audio functions

audio monitor (Listen to:)

This allows you to listen to the various audio tracks that your VCR is capable of recording.

- Choose **Stereo** to listen to both stereo channels.
- Choose **L** to listen to the left channel of a stereo track.
- Choose **R** to listen to the right channel of a stereo track.
- **MONO** track is lower in quality than the others. The audio monitor is automatically set to **Mono** if you are watching a tape that was not recorded in VHS Hi-Fi. Set the audio monitor to **Mono** to hear an S.A.P. signal recorded on the mono track of a Hi-Fi tape.

IMPORTANT

Surround Sound systems:

If you have your VCR connected to a surround sound system, set the audio monitor to **Stereo**. Surround sound requires both left and right channels to create the rear channel effects.

While the VCR is not playing tape, you will see the following displays on the TV screen for 3 seconds when you change the channel or press the DISPLAY button.

If you change the channel to:	Display
stereo broadcast	Stereo
S.A.P broadcast	SAP
stereo and S.A.P	Stereo + S.A.P

While the VCR is playing a tape, you will see the following displays on the TV screen for 4 seconds when you press the DISPLAY button.

The audio monitor you listen to	Display
Stereo	Audio Stereo
L	Audio L
R	Audio R
Mono	Audio Mono

Recording

normal recording (Record:)

When your VCR is recording, it actually records the audio portion of a program twice: once on the stereo Hi-Fi tracks, and once on the mono track. Additionally, your VCR can receive Separate Audio Program (SAP) broadcasts. An SAP broadcast is an alternative soundtrack for a program; it is often a soundtrack in another language. The SAP broadcast is recorded only on the mono track.

Use the normal recording function to record the SAP broadcast on the mono track by choosing **Stereo+SAP**. Otherwise, choose **Stereo**. In either case, the main program is recorded on the stereo Hi-Fi track. Also, if there is no SAP broadcast, the VCR will record the main program on the mono track.

Be careful if you choose **SAP**. If you play your tapes on a non-Hi-Fi VCR, you only hear the mono track. You may have to watch your favorite show in a language you don't understand!

Descriptions of video functions

recording speed (REC speed)

Recording speed has an effect on picture quality. **SP** produces the best picture quality and records up to two hours of video on a T-120 tape. Mitsubishi's **EP** speed has only slightly poorer quality, and records up to six hours on a T-120 tape. Longer recording times in each speed are available when using longer tapes.

tape (Tape)

Adjust this function to ensure the accuracy of the Tape Remaining display. The tape remaining function does not work properly with a tape that is less than 30 minutes long.

<u>Length of tape</u>	<u>Use Setting</u>
2 hours long or less (T-30 through T-120)	T-120
160 minutes (T-160)	T-160
180 minutes (T-180)	T-180
210 minutes (T-210)	T-210

play PerfectTape® (Play PerfectTape)

This function turns on the Play PerfectTape circuitry, which automatically maximizes picture quality when playing a worn or poor quality tape.

Set the switch to **ON** to use this feature.

If not, set it to **NORMAL**. Use **NORMAL** on new or high quality tapes.

counter zero stop (Counter zero stop)

This function is used to automatically fast forward or rewind to "0H00M00S" and stop the tape. See page XX for more information on this feature.

repeat playback (Repeat play)

Use this function to repeatedly play a section of tape between two index marks. See page 42 for more information on this feature.

PerfectTape®

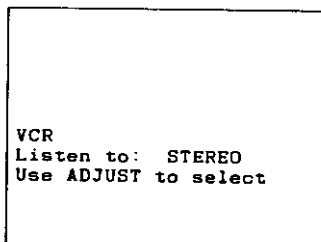
PerfectTape function allows you to test the quality of video tapes you will record on. After each test, the VCR adjusts its circuitry in order to make the best possible recording on your tape. See page 45 for more information on this feature.

Recording

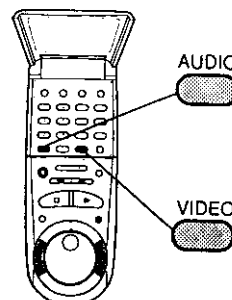
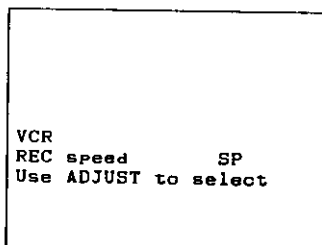
Selecting and adjusting the audio and video functions

- 1 Press AUDIO on the remote control to see the audio function menu, or press VIDEO to see the video function menu.

Audio function menu

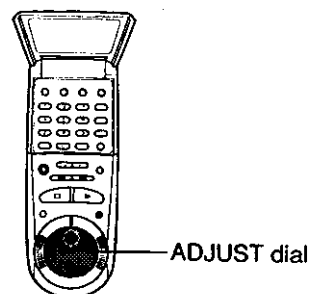


Video function menu



- 2 Press AUDIO or VIDEO repeatedly until the function you want to adjust appears.
- 3 Turn the ADJUST dial on the remote to adjust the setting.

The functions will disappear if you do not press any buttons for 5 seconds.



IMPORTANT

The audio and video function menus do not appear:

- when the VCR menu is displayed
- during special effects playback

During playback these do not appear:

recording speed (REC speed)
tape functions (Tape)

PerfectTape® displays only when a tape with its erasure tab intact is loaded and the VCR is stopped.

Timer Recording

Mitsubishi offers 4 ways to set your VCR to record upcoming broadcasts. Choose from:

Conventional VCR timer recording

Quick Program (easy) -- VCR does not need to be on to begin programming
VCR Plus+® system programming (easy)

You can schedule up to 8 recording events within a one month period.

Clock must be set before **any** timer recordings can be performed.

Conventional VCR timer recording

- 1 Load a tape with its erasure prevention tab intact into the VCR.
 - 2 Press MENU. VCR Main Menu appears on your screen. Use to select Program to record. Turn .
- If there is at least one programmed recording already entered, you will see the Recap screen. Either choose an empty recording slot, or wait 4 seconds and the VCR will automatically choose the first empty slot.

IMPORTANT

If you have already programmed 8 recording events, Program memory is full will appear on your screen. Use CANCEL to erase an entry before you can add another one.

- 3 VCR Plus+ Program to record menu appears. See the next section to learn how to program with VCR Plus+. To pass this screen, turn .
- 4 Program to record menu appears. Turn to choose the channel you would like to record; for example, channel 2. Turn .
 - If you are using a **cable box** that the VCR cannot control, enter the channel number on which the cable box sends a signal to your VCR (usually channel 3 or 4).
 - If you are recording from a **DSS®, PRIMESTAR® or DISH Network™ satellite receiver**, simply choose the channel you would like to record; for example, channel 245. SAT will display next to the channel number.
 - To record from an **external source**, press INPUT or turn to:
 - Select External L1 for a source connected to the rear panel.
 - Select External L2 for a source connected to the front panel.
- 5 Day will flash. Turn to choose the day on which you want to record; for example, Monday the 15th. Turn .

Your choices are:

 - a single day up to one month away
 - every day from Monday through Friday; for example, to tape a soap opera. To program, turn until Monday-Friday appears.
 - the same day every week; for example, to tape your favorite weekly sitcom. To program, turn until Every and the desired day of the week appear.
- 6 The hour numbers of the starting time, along with the am/pm indicator, will flash. Turn to set the hour when recording is to start. Turn .
- 7 The minute numbers of the start time will flash. Turn to set the minutes when recording is to start. Turn .

VCR Main Menu
 Your choices are:
☒ Program to record
☐ Customize choices
☐ First Time Set-Up
 Use ADJUST to select,
 and ENTER.
 Press MENU to exit menu

Program to record
 CH DAY ON OFF
 2 M015 11:30a 1:30p SP
 --- --- --- SP
 --- --- --- SP
 --- --- --- SP
 Use ADJUST to select,
 and ENTER.
 Press MENU for Main Menu

Recap screen

Program to record
 Use number keys to enter
 the PlusCode number



 or press ENTER to
 program
 Press MENU for Main Menu

Program to record
☒ Channel
☐ Day
☐ Start time ---:
☐ Stop time ---:
☐ Record speed AUTO
 Use ADJUST to select,
 and ENTER.
 Press CANCEL to clear


Program to record
☐ Channel
☒ Day
☐ Start time ---:
☐ Stop time ---:
☐ Record speed AUTO
 Use ADJUST to select,
 and ENTER.
 Press MENU for Main Menu

Program to record
☐ Channel
☐ Day
☒ Start time 11:00am
☐ Stop time ---:
☐ Record speed AUTO
 Use ADJUST to select,
 and ENTER.
 Press MENU for Main Menu



Timer Recording

- 8 Set the stop time the same way as the start time, using steps 6 and 7.
- 9 Turn  to set the recording speed:
SP — standard play; EP — extended play; AUTO — auto. **Auto speed programming** is discussed on page XX. Turn .


IMPORTANT

If you turn  when you set the timer recording incompletely, Program is not completed will appear on your screen.

If two programmed recording times overlap, VCR is already programmed for that time will display on your screen for about 3 seconds, and then the Recap screen will appear. The program you have just set will flash for 3 seconds and the start time and the stop time will be shown in red letters. The start and stop time of the overlapped program will be highlighted in red color. You will need to erase either of them.

- 10 The programmed memory will appear on the Recap screen. **S** display indicates satellite channels.
- 11 To program additional recording times, select an empty program line by turning . Turn . The VCR Plus+ Program to record screen will appear. Continue the programming procedure from step 3.
- 12 When you are finished with all programming, check the following:
 - If you have a cable box, digital cable box, a PRIMESTAR® or a DISH Network™ satellite receiver, leave the cable box or receiver turned ON.
 - If your VCR does not control your cable box, leave the box tuned to the station you wish to record.
 - Turn the VCR power OFF and make sure the programmed recording light is lit.

IMPORTANT

Only 4 of the 8 program lines appear on-screen at any one time. To see additional program lines, turn  to scroll the lines on the screen.

canceling a recording in progress

There are two ways to cancel a recording in progress:

Press STOP. The recording stops, but the program is not cancelled. Therefore, if you press REC, the recording will start again.

Press POWER on the front panel. The recording stops and the program is cancelled.

changing settings while programming

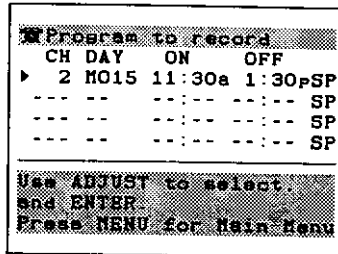
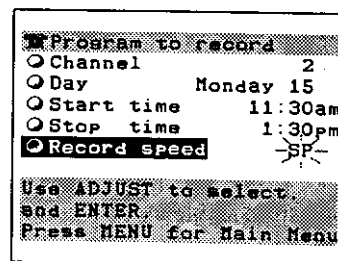
To change one of your settings (such as start time) while you are programming:

Turn the shuttle ring right to move forward through the program list.

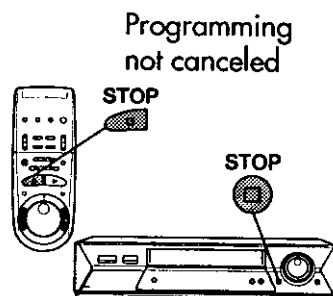
Turn the shuttle ring left to move backward.

Then use ADJUST to change the setting.

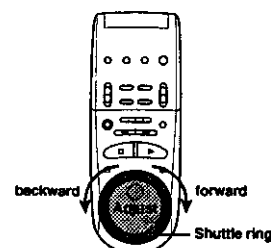
You will cancel the entire program if you turn the shuttle ring left while the channel number is flashing.



Recap screen



Programming canceled



Timer Recording

Quick Program

Quick Program is an exclusive Mitsubishi feature that simplifies the process of programming your VCR to record. When you press the QUICK PROGRAM/VCR Plus+ key on the remote control, you will immediately see the VCR Plus+ Program to record menu and can begin programming right away.

You can use this feature even when the VCR is stopped, playing, recording, fast forwarding, rewinding, or off.

Quick Program is also an Active A/V Network feature. If you have a Mitsubishi TV with Active A/V Network, see page XX for more information.

- 1 Press QUICK PROGRAM/VCR Plus+ on the remote control. If the VCR is off, it will turn on. After tuning your TV to the correct channel or input, VCR Plus+ Program to record screen will appear.

IMPORTANT

If the VCR memory is full, Program memory is full will appear. Use CANCEL to erase an entry before you can add another one.

- 2 Complete steps 3 through 10 in **Conventional VCR timer recording**. When you are finished, press QUICK PROGRAM/VCR Plus+ again.

If the VCR is stopped, it will turn off and be ready to record your program at a later time.

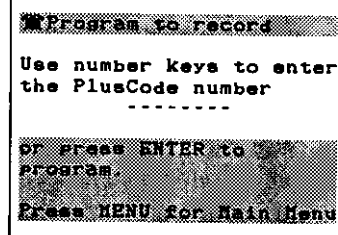
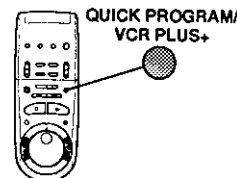
If the VCR is playing, recording, fast forwarding or rewinding, the menus will turn off, but the VCR power will remain on.

- 3 When you are finished with all programming, check the following:
 - If you have a cable box, a PRIMESTAR® or a DISH Network™ satellite receiver, leave the cable box or receiver turned ON.
 - If your VCR does not control your cable box, leave the box tuned to the station you wish to record.
 - Turn the VCR power OFF and make sure the programmed recording light is lit.

IMPORTANT

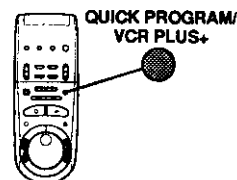
If you press QUICK PROGRAM/VCR Plus+, but the clock is not set, Set the clock menu will appear. Set the clock manually.

If you have set the A/V Network to ACTIVE, point your remote control at the TV when using Quick Program.



Recap screen



Program to record			
CH	DAY	ON	OFF
▶ 2	MO	15	11:30a 1:30pSP
10	TH	18	9:00p 10:00pEP
7	E	WE	8:00a 9:00aEP
S125	FR	19	5:30p 5:45pEP
8	TU	23	11:00p 0:30aSP
S980	N	F	7:00p 7:15pEP
15	SA	3	8:00p 9:00pEP
46	SU	21	7:00a 9:00aSP



Timer Recording

VCR Plus+® System programming



The VCR Plus+ system allows you to program your VCR to record by simply entering a PlusCode programming number. You can find this number in *TV Guide* or possibly your local TV listings.

- 1 Load a tape with its erasure prevention tab intact into the VCR.
- 2 Press MENU. VCR Main Menu appears on your screen. Use  to select Program to record. Turn .

IMPORTANT


If the VCR memory is full, Program memory is full will appear. Use CANCEL to erase an entry before you can add another one.


If there is at least one programmed recording already entered, the Recap screen will appear. You can choose an empty recording slot, or wait 4 seconds and the VCR will automatically choose the first empty slot.

- 3 VCR Plus+ Program to record screen will appear. Use the number buttons on the remote control to enter the PlusCode number for the television show you want to record. For example, if the PlusCode number for the program you want to record is 5678, simply enter 5-6-7-8. See your local newspaper or *TV Guide* for PlusCode numbers.
- 4 If you enter a number incorrectly, turn  or press CANCEL on the remote control. When you have finished entering the PlusCode number, turn .

IMPORTANT

If the code number you entered is wrong, VCR PlusCode. Not a valid code will display on the screen for 3 seconds and VCR Plus+ Program to record screen will reappear.


- 5 Use  to select whether you want to record your program once, daily, or weekly.
 - **Once** will record a program one time.
 - **Daily** will record the same channel at the same time, Monday through Friday.
 - **Weekly** will record the same channel at the same time, on the same day each week.

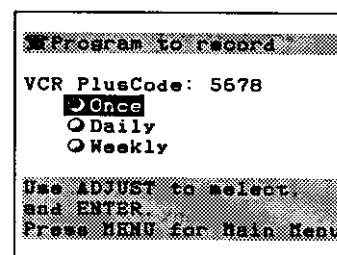
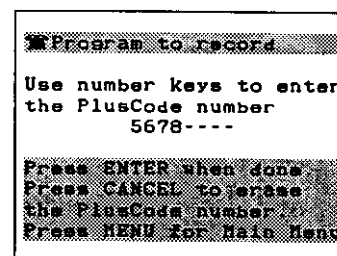
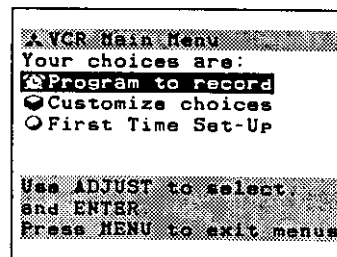
After you have made your choice, turn .

IMPORTANT

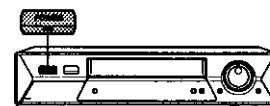
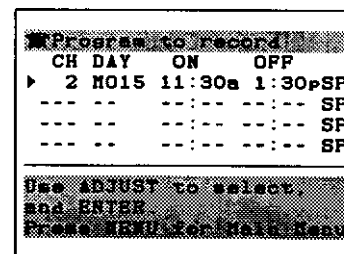
If two programmed recording times overlap, VCR is already programmed for that time will display on the screen. You will need to erase the previous program before you can enter the new one.

- 6 The program you have chosen to record will appear on the Recap screen.






The channel number will appear in blue color. Make sure that the correct channel number is shown on the screen. If the displayed number is not correct, press the INPUT to flash it, then turn  to select the desired channel number. Press the ENTER to memorize.



Recap screen



Timer Recording

- 7 If you wish to change the record speed, turn  repeatedly until the record speed is flashing. Change the recording speed by turning . Turn .
- 8 To program additional recording times, select an empty program line by turning . Turn . You will return to the VCR Plus+ Program to record screen. Continue the VCR Plus+ programming procedure from step 3.
- 9 When you are finished with all programming, check the following:
 - If you have a cable box, digital cable box, a PRIMESTAR® or a DISH Network™ satellite receiver, leave the cable box or receiver turned ON.
 - If your VCR does not control your cable box, leave the box tuned to the station you wish to record.
 - Turn the VCR power OFF and make sure the programmed recording light is lit.

If you want to stop the programmed recording after it starts, press POWER on the front panel.

Timer Recording hints

To use the VCR before timer recording begins, press POWER on the remote once. This turns the programmed recording light off and the VCR on.

If you use POWER on the front panel for this purpose, press it twice. Pressing it once turns off the programmed recording light; pressing it again turns the VCR on.

When you are finished using the VCR, turn the VCR power off again. Make sure the programmed recording light is back on.

After a program has been recorded, the VCR memory is cleared (unless you have scheduled the VCR to record the program every day or every week).

If there is already a program in the VCR's memory, you will see the Recap screen when you bring up the menus for programming to record. If the VCR's memory is full, Program memory is full will appear on the screen. If so, you must erase a program before you can enter a new one.

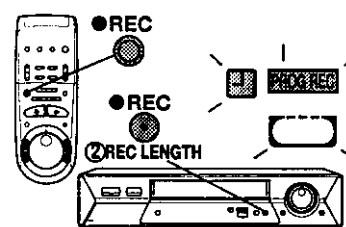
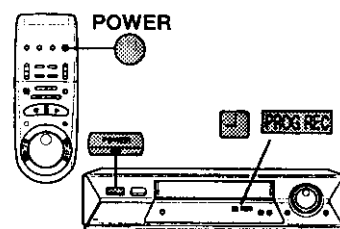
If a tape runs out during timer recording, the VCR ejects the tape and the programmed recording light and the tape status symbol will flash. Load a new tape and press REC. Recording will resume.

If you forget to load a tape, the programmed recording light and the tape status symbol will flash when you turn the VCR power off.

Do not overlap the recording times you enter into the VCR. If you set two programmed recording times overlap, VCR is already programmed for that time will appear on your screen.

Remember that the VCR will record over the next section of tape. If you want to save a tape, remove it and instead use a different tape for a new recording.

Your VCR will not record over a tape that has the erasure prevention tab removed. All rental movies have this tab removed, so they are safe from being accidentally erased.



Timer Recording

auto speed programming

Use auto speed programming if you want to record as much of the program as possible in standard play (SP) speed, but you want the VCR to automatically switch to extended play (EP) if there is not enough tape left.

Auto speed programming is only available in the first programming slot. In the first slot, the recording speed is automatically set to AUTO.

Make sure that the Tape video function matches the length of tape you are using. See **Selecting and adjusting the audio and video functions** on page 28.

At the point where the recording mode changes from standard play (SP) to extended play (EP), some noise may be in the picture or sound when playing the tape.

program caution

If your VCR is set to record, but the power is still ON within 3 minutes before timer recording starts, this screen will appear to remind you to turn off the VCR.



If the VCR is still turned on 12 seconds before the start time of the recording, that timer recording will be canceled.


TV programs that end on the day after

If you want to start the recording at 11:00 PM and end it at 2:00 AM the next day, simply set the start time to 11:00 PM on the recording start day and the end time to 2:00 AM. There is no need to change the day of the week.

program skip using menus

Sometimes you may want to skip one day of a timer recording but do not want to erase it. Program skip will prevent the recording, for the current day only, of a program you have scheduled to record every day or every week.

1 Press MENU on the remote control. Your VCR will turn on and VCR Main Menu will appear. Turn  to select Program to record. Turn . Recap screen will appear.

2 Turn  to place the cursor arrow next to the program you wish to skip.

3 Press STOP. The cursor arrow will change to a block X.

4 Use MENU to turn off the menus.

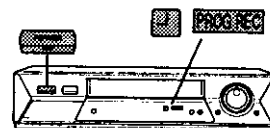
To resume recording every day or every week, change the block X to the cursor arrow by following steps 1 to 4 again.

program skip using the POWER button

If you have entered only one program into your VCR's memory, you can skip the program without going into the VCR's menus. Simply press POWER on the front panel once. The programmed recording light will turn off, and the program will be skipped. If you decide not to skip the program, press POWER on the front panel twice; the programmed recording light will light up again.

program caution

REC in 3 min
Turn off VCR



Programs to record					
CH	DAY	ON	OFF		
2	MO15	11:30a	1:30p	SP	
10	TH18	9:00p	10:00p	EP	
2	M-F	8:00a	8:30a	SP	
---	---	---	---	---	SP
Use ADJUST to select and ENTER					
Use STOP to skip on/off					

Programs to record					
CH	DAY	ON	OFF		
2	MO15	11:30a	1:30p	SP	
10	TH18	9:00p	10:00p	EP	
X	2 M-F	8:00a	8:30a	SP	
---	---	---	---	---	SP
Use ADJUST to select and ENTER					
Use STOP to skip on/off					

Timer Recording

changing timer recording settings

To change timer recording settings:

- 1 Press MENU on the remote control. Your VCR will turn on and VCR Main Menu will appear.
- 2 Turn to select Program to record. Turn . Recap screen will appear.
- 3 Turn to place the cursor arrow next to the program you wish to change. Turn . You will see the Program to record setting menu.
- 4 Repeatedly turn to select the item you wish to change. Use to change it. Then turn repeatedly to return the altered program to the Recap screen.
- 5 Press MENU to turn off the menus. Then press POWER to turn off the VCR. Make sure the programmed recording light is on.

canceling a timer recording before the recording starts

- 1 Press MENU on the remote control. Your VCR will turn on and VCR Main Menu will appear on your screen. Use on the remote control to select Program to record. Turn .
- 2 Recap screen will appear. Use to place the cursor next to the program you wish to cancel.
- 3 Press CANCEL. The program is erased.
- 4 Press MENU twice to turn off the menus.

using a satellite receiver

If you are using a Panasonic, RCA, Sony, or Toshiba satellite receiver, your VCR will turn the receiver on and off when a timer recording begins.

However, if you are using a PRIMESTAR® or DISH Network™ receiver, you will have to turn the receiver on before a timer recording begins.

Before turning off the VCR to put your VCR in stand-by for recording, make sure that your satellite receiver's menu turns off.

An S-Video cable must be used to connect your VCR and TV in order to view satellite channels through your VCR when your VCR is off.

Exception: if auto clock function is in progress (at 3:00 am) while the VCR is off, you cannot view satellite channels.

If you used a standard video cable, you can only view satellite channels through your VCR when the VCR is on.

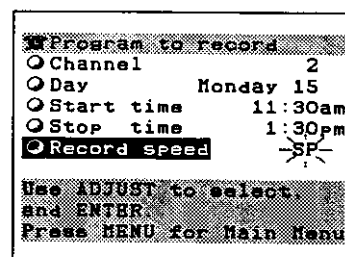
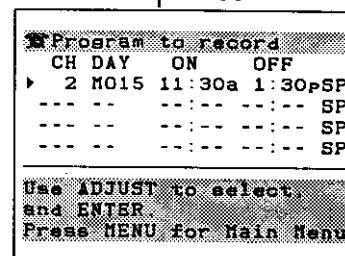
TIMER RESET

You can use TIMER RESET on the rear panel to erase both the clock and all timer recordings.

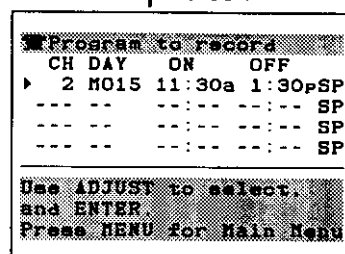
To use TIMER RESET, press it with a pencil or a ball point pen. The power will turn off and the clock will be cleared. All timer recordings are erased.

If you have set the Clock set setting of the Set the clock menu to AUTO, the auto clock function will automatically set the clock again.

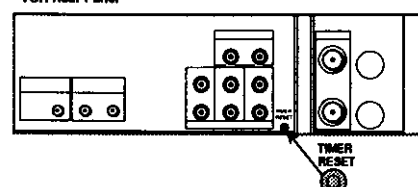
Recap screen



Recap screen



VCR Rear Panel



Timer Recording

memory backup

If the VCR is without power for 30 minutes or less, it will retain the clock and the programmed settings. The VCR must have been plugged in for at least an hour beforehand to change this backup. If the power is lost for more than 30 minutes, the time and the programmed settings will be lost.

If you have set the Clock set setting of the Set the clock menu to AUTO, the auto clock function will automatically set the clock again when power is restored.

Editing Features

Using Two VCRs to Copy

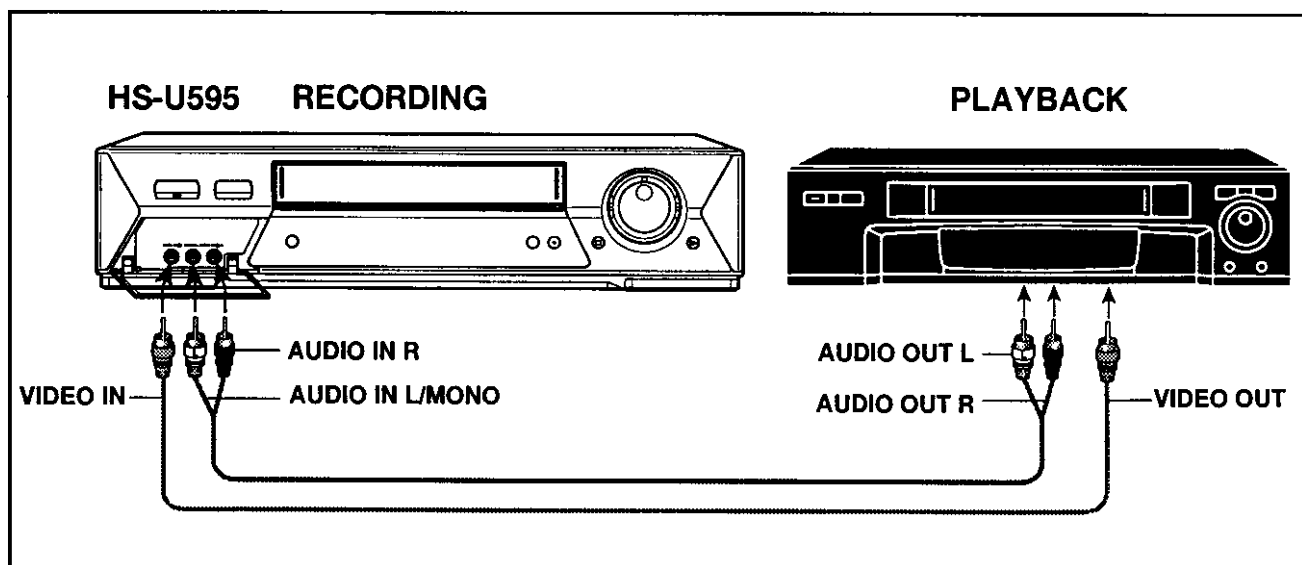
There are two basic ways to make a copy of a tape.

One way is to use the HS-U595 to record and another VCR for playback. The other way is to use another VCR to record and use the HS-U595 for playback.

Whichever method you choose, you will need one RCA audio cable and one RCA video cable to connect the two VCRs. If you do not have these cables, they are available at your local electronics dealer.

Using the HS-U595 to record from another VCR

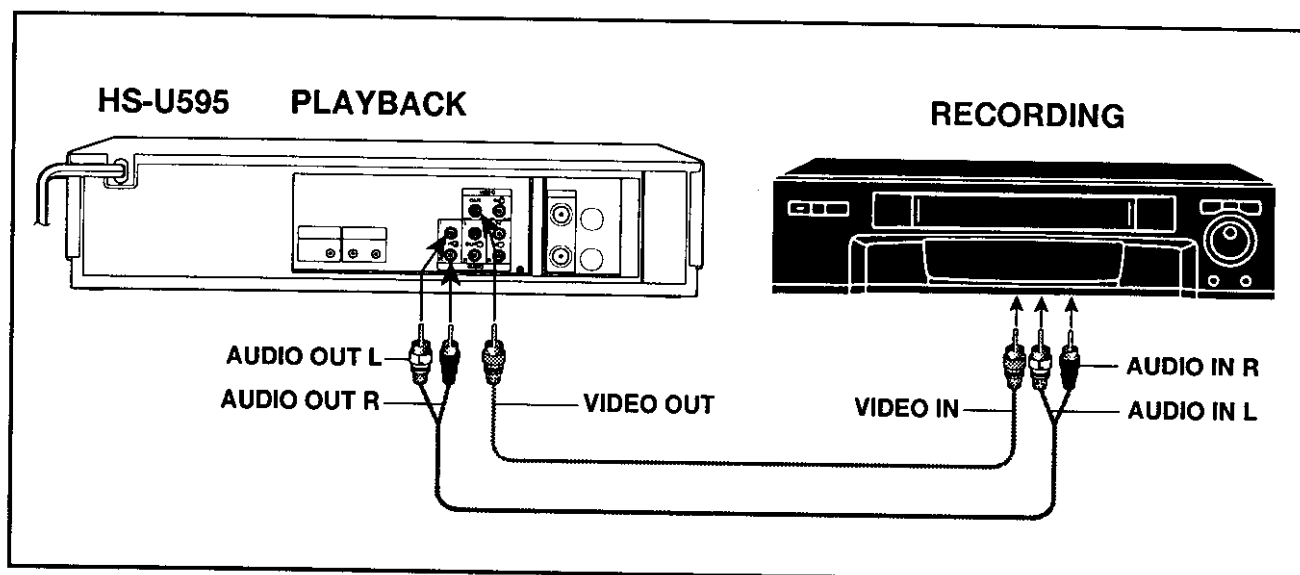
- 1 Connect the audio cable to AUDIO OUT L and R on the playback VCR and to AUDIO IN L and R on the HS-U595. If the playback VCR is mono, use only the AUDIO IN L on the HS-U595.
- 2 Connect a video cable to VIDEO OUT on the playback VCR and to the VIDEO IN on the HS-U595.
- 3 If the playback VCR is Hi-Fi, set the audio monitor to STEREO.
- 4 Use INPUT to set the HS-U595 to **External 1 (L1)** if you used the HS-U595 rear panel jacks, or **External 2 (L2)** if you used the HS-U595 front panel jacks.
- 5 Put a blank tape into the HS-U595. Press STOP.
- 6 Put the tape you want to copy into the playback VCR and find the cue point. Press STOP.
- 7 On the HS-U595, press REC, then PAUSE.
- 8 On the playback VCR, press PLAY, then PAUSE.
- 9 Press the PAUSE buttons on both VCRs at the same time to begin copying the tape.
- 10 When finished, press STOP on both VCRs.



Editing Features

Using the HS-U595 to playback to another VCR

- 1 Connect one stereo audio cable to AUDIO IN L and R on the recording VCR, and to AUDIO OUT L and R on the HS-U595.
- 2 Connect a yellow video cable to VIDEO IN on the recording VCR and to VIDEO OUT on the HS-U595.
- 3 Set the audio monitor on the HS-U595 to **Stereo**. If the other VCR is a mono VCR, set the audio monitor on the HS-U595 to mono. See **Selecting and adjusting the audio and video functions** on page 28.
- 4 Set the input of the recording VCR to **External**.
- 5 Put a blank tape into the recording VCR. Press STOP.
- 6 Put the tape you want to copy into the HS-U595 and find the cue point. Press STOP.
- 7 On the recording VCR, press REC, then PAUSE.
- 8 On the HS-U595, press PLAY, then PAUSE.
- 9 Press the PAUSE buttons on both VCRs at the same time to begin copying the tape.
- 10 Press STOP on both VCRs when you are finished.



Advanced Features

Advanced Playback Controls

Special effects

You can use the shuttle ring and the jog dial on the front panel, or the shuttle ring and the ADJUST dial on the remote to control the playback speed of the tape.

change playback speed while tape is paused

- 1 While the VCR is playing a tape, press PAUSE to freeze the picture.
- 2 Turn the shuttle ring and hold it to play the tape at a particular speed (see diagram). If you release the ring, it will come back to the center position, and the still (PAUSE) mode will resume.
- 3 To resume normal playback, press PLAY.

After about 5 minutes in the still or slow-motion mode, the VCR will automatically stop to avoid damage to the tape. The picture may vibrate vertically when you pause the VCR's picture.

still adjustment

Sometimes during still frame, the picture may vibrate or shake. To correct this problem, turn the jog dial on the front panel while pressing REC SPEED on the front panel until the vibration is reduced or stops. Side-to-side vibration cannot be corrected.

change playback speed while tape is playing

You can also change the playback speed with the shuttle ring without entering the PAUSE mode. To do this, turn the shuttle ring and hold it to play the tape at a particular speed (see the diagram). If you release the ring, it will come back to the center position, and normal playback will resume.

advance tape frame by frame

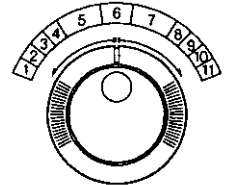
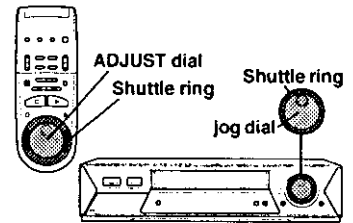
- 1 While the VCR is playing a tape, press PAUSE to freeze the picture.
- 2 Turn the jog or the ADJUST dial clockwise to advance the tape forward. Turn it counter-clockwise to reverse the tape. The faster you turn the dial, the faster the tape will move.
- 3 To resume normal playback, press PLAY.

double speed playback with sound

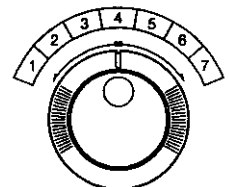
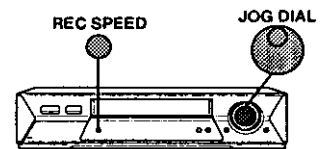
You can see the contents of the videotape in double speed playback with Hi-Fi sound when your tape was recorded in extended (EP) speed.

- 1 While the VCR is playing a tape, press INPUT. You'll see the picture in double speed playback. A certain amount of noise in the picture or the sound is normal.
- 2 To resume normal playback, press PLAY.

If you are playing back a tape recorded in standard (SP) speed, the sound is muted. You cannot hear the sound if you set the audio monitor to Mono or if the tape was recorded on a mono VCR.



- 1 Reverse high speed search
- 2 Reverse speed search
- 3 Reverse fast playback
- 4 Reverse playback
- 5 Reverse slow-motion playback
- 6 Still
- 7 Slow-motion playback
- 8 Playback
- 9 Fast playback
- 10 Forward speed search
- 11 Forward high speed search



- 1 Reverse high speed search
- 2 Reverse speed search
- 3 Reverse fast playback
- 4 Playback
- 5 Fast playback
- 6 Forward speed search
- 7 Forward high speed search

Advanced Features

Adjusting the tracking

automatic tracking

Your VCR automatically adjusts the tape to give you the best quality picture. When you start playback of a newly inserted tape, the DIGITAL TRACKING light (D) will flash, showing that the VCR is adjusting the picture. When the VCR has finished adjusting the picture, the DIGITAL TRACKING light will shine steadily.

A certain amount of noise in the picture or sound is normal while the VCR is tracking a tape.

manual tracking

From time to time, you might play a tape that has excess noise in the picture, often looking like vibration or interference at the top or bottom of the screen. To correct the picture, you have to manually track the tape.

- 1 While the tape is playing, press and hold REC SPEED and turn the front panel jog dial until the picture is clear of excess noise.
- 2 To continue automatic tracking, press REC SPEED again. Automatic tracking will also resume when you eject the tape.

slow tracking

Slow tracking is used to adjust the playback quality during slow motion playback and still frame. You can only use slow tracking if your tape was recorded in extended play (EP) speed. To adjust the slow tracking, put a tape into slow motion, then press and hold REC SPEED and turn the front panel jog dial until the best picture is obtained.

Time counter

Your VCR has a time counter that shows the amount of time the tape has run in hours, minutes, and seconds. This counter is useful when you want to find specific points on a tape. The counter will not work with blank tapes, on blank sections of tape, or when the VCR's power is off.

setting the counter

To set the counter to "0H00M00S," press CANCEL on the remote control.

You cannot reset the counter if you are using the VCR's menus.

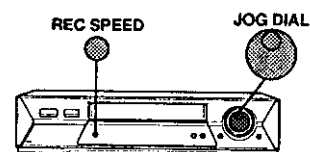
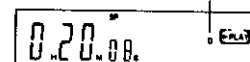
Your VCR will automatically reset the counter to "0H00M00S" when you load a tape. It will display "- H - - M - - S" when there is no tape in the VCR.

Searching Techniques

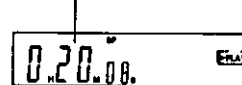
Your VCR lets you search through a tape in a number of ways. These include:

- Quick search (CM skip)** -- 30 second intervals
- Speed search** -- visually search
- Counter zero stop** -- direct to start of recording
- Index search** -- find specific index points

D (digital tracking) light



Time counter



Advanced Features

Index search

Index search is a way to find specific points on a tape. Before using index search, index marks are placed at important places on a tape. Index search is used to find these marks. Index marks are added automatically whenever your VCR starts a new recording; you can also add index marks manually at any point during recording.

automatic index marks

Whenever recording is begun from the STOP mode, an index mark is automatically added to the tape. A message will indicate that the mark is being recorded.

Index marks are not added when you press PAUSE to begin recording from the record-pause mode.

manual index marks

To add an index mark yourself, press REC on the remote control while a tape is recording.

Index marks must be added at least one minute apart.


- 1 Press INDEX SEARCH + on the remote control to begin a forward search; press INDEX SEARCH - to search in reverse. The VCR will fast forward or rewind and index search display appears on the TV.

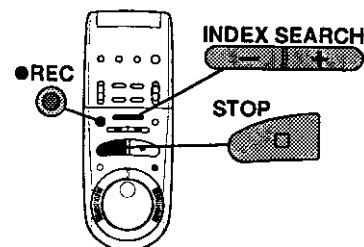
Once the VCR finds an index mark, it will begin playing back the tape from that point.

- 2 You can press the plus + or minus - buttons up to 19 times to search for that many index marks. For example, to find the third index mark ahead, press plus + button three times. The on-screen display will count down the number of marks to be passed before playback begins.
- 3 To cancel index search, press PLAY or STOP.

repeat playback

You can play back a section of tape over and over using repeat playback. The tape will play until the next index mark, rewind to the previous index mark, and resume playing. If there is only one index mark on the tape, then the VCR will play or rewind to that mark and resume playback. If there is no index mark, the entire cassette will repeat.

- 1 Press VIDEO on the remote control to display the video function menu. Press VIDEO until the repeat playback function appears.
- 2 To start the playback, turn . When the VCR encounters the next mark or the end of the tape, it will automatically rewind to the previous mark and begin playback again. The VCR will also search for a blank section of tape. If the VCR encounters any section longer than 4 seconds in length, the repeat playback will begin.
- 3 Press STOP to cancel the repeat.



VCR Looking
for index+ 1

SEARCH
REN 1:40
0h20m08s

VCR
Repeat play
Use ENTER to start

Advanced Features

Displaying the time gauge and the remaining time

The time gauge is a graphic representation of your position on a video tape. The left side of the gauge is the tape start (S), and the right side is the tape end (E). For a T-120 length tape played at standard (SP) speed, each mark on the gauge represents about 15 minutes. The remaining time display shows the time, in hours and minutes, left until the end of a tape.

the time gauge and the remaining time automatically appear during:

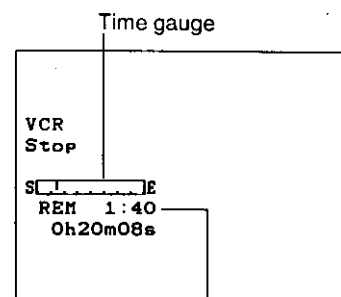
- fast forward and rewind (from a stopped tape)
- counter zero stop
- index searches
- rewinding for repeat playback

Turn off the time gauge and the remaining time by pressing DISPLAY twice.

to make the time gauge and the remaining time appear:

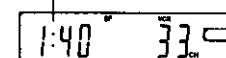
Press DISPLAY once. The time gauge and remaining time appear on the TV screen, and the remaining time appears on the fluorescent display. They disappear after 4 seconds when playing a tape.

To turn off the display, press DISPLAY twice.



Tape remaining display

Tape remaining display



IMPORTANT

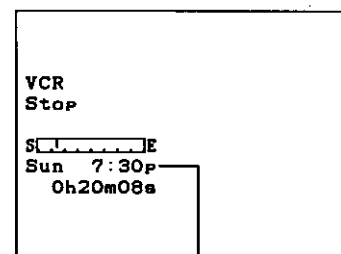
The time gauge and remaining time work by detecting control signals on recorded tapes. Therefore they do not function while playing tapes that have not yet been recorded.

The tape remaining display may not show the correct remaining time if the **Tape** function is incorrectly set, if you are using speed search, if you are using a special length cassette (such as T-10 length), or if you are using a VHS-C tape with an adapter.

Displaying the current time

The current time is shown in the display window or the TV screen. If you have not set the clock, or if there has been a power failure of longer than 30 minutes, the display will show - : - -. The current time will be displayed when the VCR is off. To see the current time when the VCR is on:

- 1 Press DISPLAY twice. The counter will be replaced by the current time.
- 2 To turn off the current time, press DISPLAY once.



Current time display

Current time display



Self diagnostic system

Your VCR uses a self diagnostic junction to detect an internal malfunction. If there is a fault, the VCR will show error messages on the fluorescent display. Error messages and countermeasures are shown in a diagram to the left.

IMPORTANT

If the display shown E5, the video heads need to be cleaned. Do not use a wet-type cleaning cassette, as it may damage your VCR. The instructions of all head cleaning cassettes must be followed exactly to avoid damage to your VCR. If you do not solve the problem, please contact your dealer.



E5 may not appear, even if the video heads need cleaning.

Error message	Countermeasure
E1	Please contact your dealer
E2	
E3	
E4	
E5	Please clean the video heads

Advanced Features



Customize Choice Menu

In the Customize Choices menu are 5 options that you can set. For each of the 5 options, start with these 2 steps:

- 1 Press MENU on the remote control. VCR Main Menu appears on your TV.
- 2 Use  on the remote to select Customize choices. Turn .



Video mute

When you turn video mute ON, any blank section of tape or many stations with a weak signal will be replaced by a blue screen. The sound will also be turned off. When you would like to try to tune in a weak station, turn video mute OFF.

- 3 Complete steps 1 and 2 above. Customize choices menu appears. Use  to select Video mute. Turn  to set video mute to ON or OFF.
- 4 Press MENU twice to turn off the menus.

Auto power saving (auto-off)

When the Auto Power Save feature is turned on, the VCR will automatically turn off after remaining idle for 30 minutes. If a control, such as a menu function or channel selection, is used or if there is a tape playing or being recorded, the VCR will remain on.



- 3 Complete steps 1 and 2 above. Customize choices menu appears. Use  to select Auto power save. Turn  to set to ON.
- 4 Press MENU twice to turn off the menus.

IMPORTANT

When viewing broadcast stations through the VCR, 3 minutes → Power off will appear on the TV screen three minutes before the VCR power turns off. The display will count down the number of minutes until the VCR turns off. If you want to continue using the VCR, load a cassette or press any of the keys.

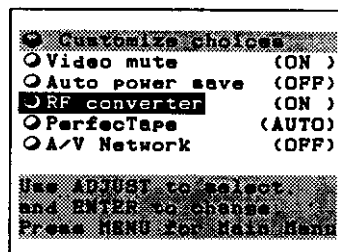
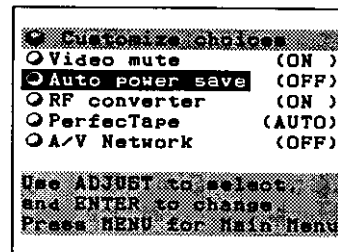
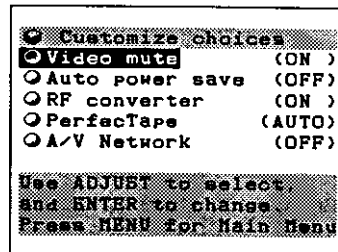
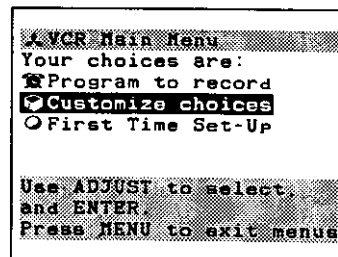
RF converter

If your TV has audio and video inputs, turn the RF converter OFF. If your TV does not have audio and video inputs, keep the RF converter set to ON. It is preset by the factory to ON.

- 3 Complete steps 1 and 2 above. Customize choices menu appears. Use  to select RF converter. Turn  to select ON or OFF.
- 4 Press MENU twice to turn off the menus.

IMPORTANT

If the RF converter is set to ON, you aren't required to press VCR/TV to play a tape or to use VCR menus. The VCR light will automatically light up when you press PLAY or MENU.



Advanced Features

PerfectTape®

PerfectTape is an exclusive Mitsubishi feature that tests the quality of video tapes you will record on. After each test, the VCR will adjust its internal circuitry in order to make the best possible recording on your tape.



setting up PerfectTape

You can set up PerfectTape to function two ways.

If you want the VCR to automatically test any non-recorded tapes when the tape is loaded, select AUTO.

If you do not want the VCR to automatically test tapes, select MANUAL. PerfectTape will now function only when you start a test. Any tape with the erasure prevention tab intact can be manually tested.

It will not automatically test recorded tapes – you must choose to test those yourself.

- 3 Complete steps 1 and 2 on the previous page. Customize choices menu appears. Use  to select PerfectTape.
- 4 Turn  to set PerfectTape to AUTO or MANUAL.
- 5 Press MENU twice to turn off the menus.


using PerfectTape automatically

- 1 Load a tape that has not been recorded into the VCR.

The VCR will display the testing status screen. When testing, the VCR records for one second, then evaluates the recording it made. The entire test takes about 8 seconds. During this time, the PT light on the front panel will flash. If you wish to cancel the test, press STOP on the remote while the PT light is still flashing.

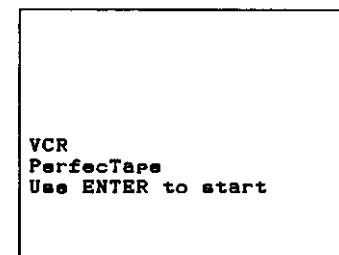
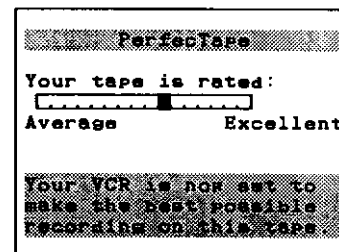
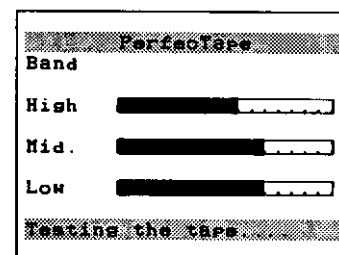
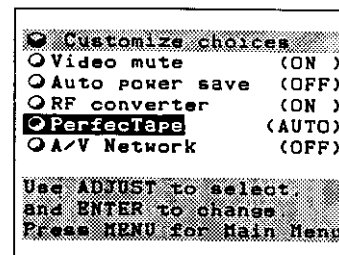
When the test is done, the VCR will display the rating of your tape for 8 seconds. On the front panel, the PT light will shine steadily, indicating that the VCR has set its internal circuitry to make the best possible recording on this tape.

using PerfectTape manually

- 1 Load a tape that has its erasure prevention tab intact into the VCR.
- 2 Find a portion of the tape that is OK to record over; this feature will record over one second of your tape.
- 3 Press VIDEO on the remote control. Video function menu appears. Press VIDEO until the PerfectTape function appears.
- 4 Turn  on the remote to begin the test. During this time, the PT light on the front panel will flash. To cancel the test, press STOP on the remote while the PT light is still flashing.

When the test is finished, the VCR will display the rating of your tape for 8 seconds. Turn off the display by pressing STOP on the remote control.

If wish to erase the settings, eject the tape. The settings will also be erased if you press TIMER RESET or if the VCR loses power. After the test is finished, the PerfectTape function will not appear unless the tape is ejected.



Advanced Features



Active A/V Network™

Active A/V Network allows you to directly operate many of the combined functions of certain Mitsubishi TVs and your VCR at the press of one button.

If you have a Mitsubishi TV with Active A/V Network, check the following:

- your VCR must be connected to External 1 (EXT-1) or Input-1 of a Mitsubishi TV with Active A/V Network
- video mute must be ON
- Active A/V Network setting on your TV must be set to ACTIVE (see your TV's owner's guide for information)
- VCR remote mode set to VCR-A
- The A/V Network must be connected as shown on page 9

To turn on the Active A/V Network on your VCR:

- 3 Complete steps 1 and 2 on page 44. Customize choices menu appears.
Use  to select A/V Network.
- 4 Turn  to set A/V Network to ACTIVE.
- 5 Press MENU twice to turn off the menus.

what the Active A/V Network does

The Active A/V Network makes it easier and faster to use the VCR's Quick Program, MENU, and Play commands.

When you press QUICK PROGRAM/VCR Plus+ to begin programming:

- Active A/V Network turns on your VCR and brings it to the VCR Plus+ Program to record Screen.
- Active A/V Network turns on your TV if it is off, and switches the TV to EXT-1 or INPUT-1.

When you press QUICK PROGRAM/VCR Plus+ to end programming:

- Active A/V Network turns off your VCR (unless a tape is currently playing or recording).
- Active A/V Network returns your TV to the channel it was on before, or turn it off (if it was off originally).

When you press MENU on the remote:

- Active A/V Network turns on your VCR and brings up the VCR Main Menu screen.
- Active A/V Network turns on the TV, set to EXT-1 or INPUT-1.

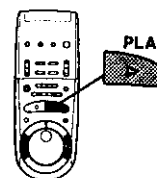
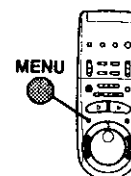
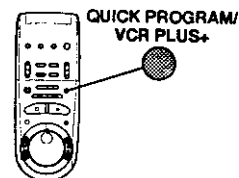
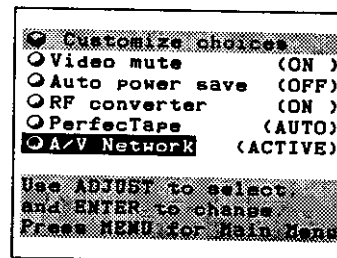
When you press PLAY on the remote:

- Active A/V Network turns on your VCR and begins playing the tape.
- Active A/V Network turns on the TV, set to EXT-1 or INPUT-1.

When you turn off your TV:

- Your VCR turns off, unless it is playing or recording.

Active A/V Network can also affect your VCR when selected TVs PIP function is used. Active A/V Network can set your VCR's clock if your TV is equipped with StarSight®. See your TV Owner's Guide for more information.



IMPORTANT

When using Active A/V Network, always point your remote control at your television, not at your VCR.

Advanced Features

Using the remote control to operate your TV

The HS-U595 remote control can operate many of the frequently-used functions of your TV. You only need one remote to operate both your VCR and TV.

The HS-U595 remote control is pre-set to operate Mitsubishi televisions, but it can also operate TVs from other manufacturers. To set your remote control for your particular brand of television, follow these instructions.

setting up your remote control to operate your TV

- 1 Turn off your TV.
- 2 On the HS-U595 remote control, press TV on top of the flip-up cover to tell the remote that you want to operate the TV.
- 3 Flip up the cover of the remote, then while holding in the PIP button, press the code key listed that corresponds to the brand of your TV.
- 4 Close the cover, then press POWER. If your TV turns on, your remote is set up to operate your brand of TV.

If your TV does not turn on, repeat step 3 using the next code listed for the brand of your TV.

If none of the codes listed for the brand of your TV work, then repeat step 3 several times, using a different code key until one works. The possible code keys are: 0, 1-9, CANCEL, AUDIO, ENTER, and VCR/TV.

You do not need to perform this set-up again until you change the batteries, set up your remote for another brand of television, or you get a new TV.

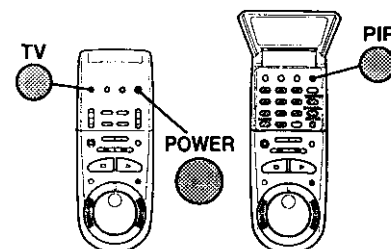
Once you have correctly set your remote control to operate your TV, you will be able to use the POWER, CHANNEL, VOLUME, MUTE, and (some models) INPUT and number buttons to operate your TV.

IMPORTANT

Because of variations among models, some or all buttons may not work, or they may operate different functions than expected for your particular TV. If this occurs, you may need to use your TV remote control.

Sometimes manufacturers will change the remote control codes for their products, or they will use more than one code. If this is the case, your remote may not be able to control your TV.

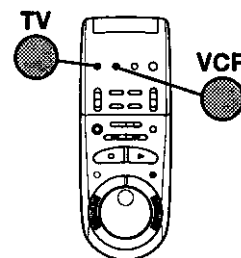
When you replace the batteries in your remote, the remote may return to its initial setting (code key 1). Repeat the steps above to reset your remote control. If you enter a new code, the previous code will be erased.



Brand of TV	Brand code keys
Mitsubishi	1, 2, 3
Fisher	0
G.E.	CANCEL
Goldstar	2, 9
Hitachi	8
Magnavox	4
NEC	2, 9
Panasonic	6
Pioneer	AUDIO
Philips	4
Proscan	CANCEL
Quasar	6
RCA	CANCEL
Sanyo	0
Sharp	3, 5
Sony	VCR/TV
Toshiba	7
Zenith	ENTER

operating your TV with the HS-U595 remote control

- 1 Press TV on the HS-U595 remote control to tell the remote that you want to operate the TV.
- 2 Point the remote control towards the TV and press the desired buttons.
- 3 To once again control the VCR, press VCR.



Advanced Features

using one remote to operate two Mitsubishi VCRs

If you have another Mitsubishi VCR (from 1986 or later), you can use the HS-U595 remote control to operate both VCRs. You do not want both VCRs to respond simultaneously to the remote control's signal, so you need to set each VCR to respond to different sets of signals. This remote has two separate signal systems, known as dual remote codes. VCR-A system operates all Mitsubishi VCRs introduced in 1986 and later. VCR-B system operates the HS-U595 and selected other Mitsubishi VCRs.

Since all Mitsubishi VCRs since 1986 and later respond to VCR-A signals, then you should program the HS-U595 VCR to respond to VCR-B signals and program the remote control to send VCR-B signals.

To program the HS-U595 and the remote to VCR-B

- 1 Make sure the HS-U595 is plugged in but turned off. On the VCR front panel, turn the shuttle ring left while holding down REC SPEED on the front panel. To confirm that the VCR responds to VCR-B signals, **b** appears on the front panel display.
- 2 On the remote, press VCR, then press VCR-B. The remote will now send VCR-B signals.

When you wish to operate the other VCR

- 1 On the remote, press VCR, then press VCR-A. The remote will now send VCR-A signals.

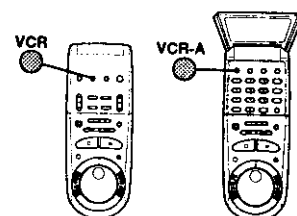
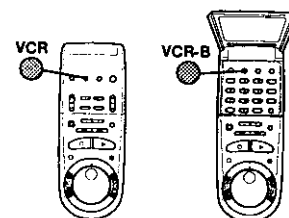
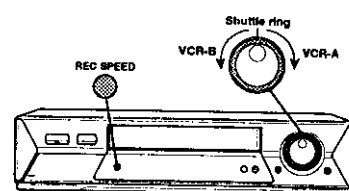
To reprogram the HS-U595 to respond to VCR-A signals again

- 1 Make sure the HS-U595 is plugged in but turned off. On the VCR front panel, turn the shuttle ring right while holding down REC SPEED on the front panel. To confirm that the VCR responds to VCR-A signals, **A** appears on the front panel display.

IMPORTANT

Some other models of Mitsubishi VCRs can respond to VCR-B signals. If your other VCR is one of these models, and you would like to program the other VCR to respond to VCR-B signals, refer to the owner's guide that came with the other VCR.

Some of the buttons may not function or they may operate different features than expected for the other VCR.



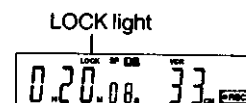
Child Lock

The child lock feature prevents others from using your VCR. To lock the VCR:

- 1 Press and hold down DISPLAY on the remote control for about 8 seconds. The LOCK light on the fluorescent display will light up.
- 2 To cancel the child lock, press and hold down DISPLAY for about 8 seconds, until the LOCK light on the fluorescent display goes out.

IMPORTANT

You can lock the VCR with the power off, even if the VCR is standing by for a programmed recording. If you lock the VCR with no cassette in it, the VCR will not accept a cassette.



Location of Controls

Remote Control

TV, VCR

Press VCR to tell your remote to operate the VCR.
After setting up your remote to operate your brand of TV, (See Advanced Features) press TV to tell the remote to operate your TV.

EJECT

Ejects a tape.

POWER

Turns the VCR on or off.
If you have programmed the VCR to record, you need to turn the VCR off.

VOLUME Up and Down

Raises and lowers the sound of the TV.

MUTE

Turns off the TV sound. Press again to restore the TV sound to its previous volume.

Q.V.

Mitsubishi TV's QuickView™ feature. See your Mitsubishi TV owner's guide for more details.

CHANNEL Up and Down

Selects next higher or lower channel in the TV's channel memory.

INPUT

Select between the antenna and any other video equipment that may be connected.
Use double speed playback with sound when playing a tape.

DISPLAY

Displays on the TV screen:

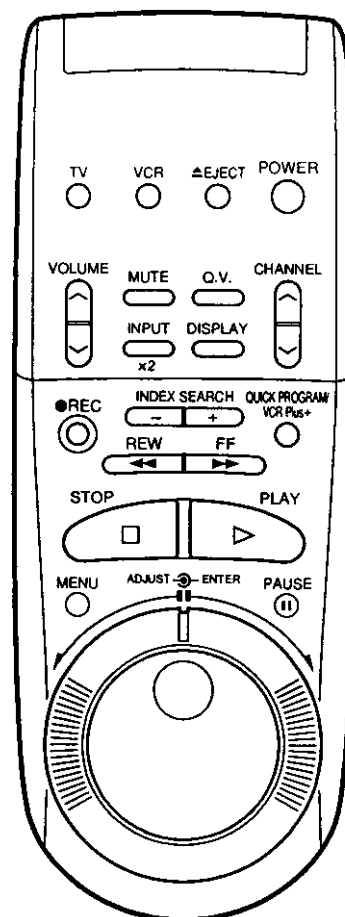
- Time elapsed on the tape
- Time left on the tape
- Current time
- Channel number and audio reception mode
- Audio channel(s) selected
- Source supplying the VCR with a signal
- If the VCR is stopped, playing, or recording
- Turns on and off Child Lock

● REC

Starts recording.
While recording, adds manual index mark.

INDEX SEARCH + and -

Begins index search forward and backward.



QUICK PROGRAM/VCR Plus+

Goes to VCR Plus+ Program to record screen. Exits the programming screen.

REW ◀◀

Rewinds a tape or reverse searches.

FF ▶▶

Fast forwards a tape or fast forward searches.

STOP □

Stops a tape.

PLAY

Plays a tape.

MENU

Displays the menus.
Exits the menus.

PAUSE ||

Pauses a tape when recording.
Freezes a frame when playing a tape.

Location of Controls

Remote Control -- Flip cover open

ADJUST dial

Advance the tape frame-by-frame in pause mode.
Selects and adjusts menu selections.

shuttle ring

Adjusts playback speed when a tape is playing.
Enters or cancels selections when using the menus.

VCR-A, VCR-B

Operates two Mitsubishi VCRs with one remote.

PIP SOURCE, PIP

Controls the picture-in-picture functions of many Mitsubishi TVs.

number keys

Selects TV stations.
Enters PlusCode numbers.
Sets quick search (CM skip) time.

OFF-T/OTR

Use the TV's off-timer, if the remote is set up to operate a Mitsubishi TV.
Operates the VCR's One Touch Recording feature.

VCR/TV

Switches between the VCR's picture and the TV's tuner.

CANCEL

Cancels selections on the on-screen menus.
Resets the counter display to "0H00M00S".

ENTER

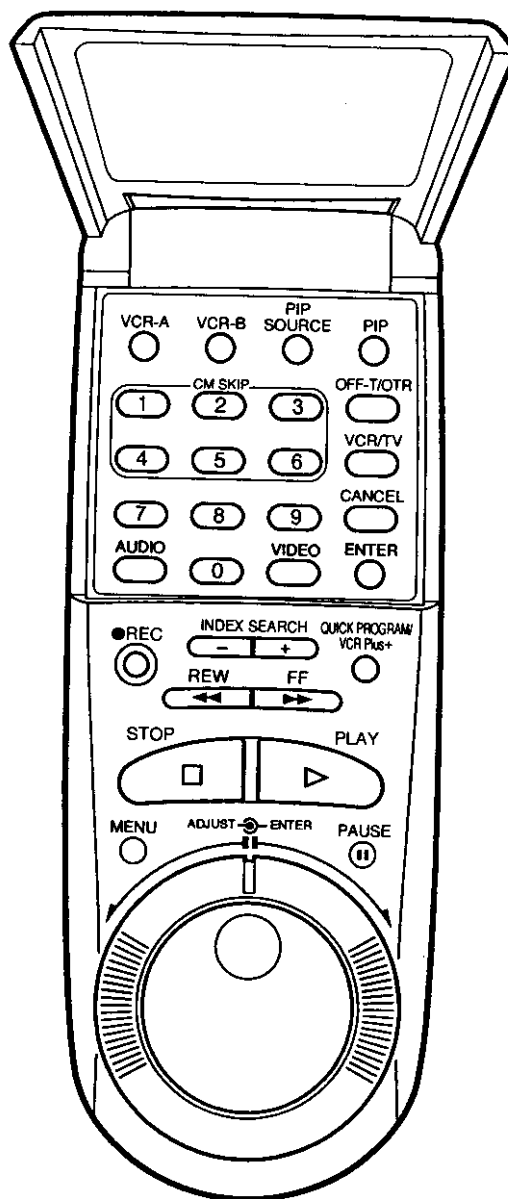
Enters selections on the on-screen menus.

AUDIO

Selects the VCR's audio settings to be adjusted.

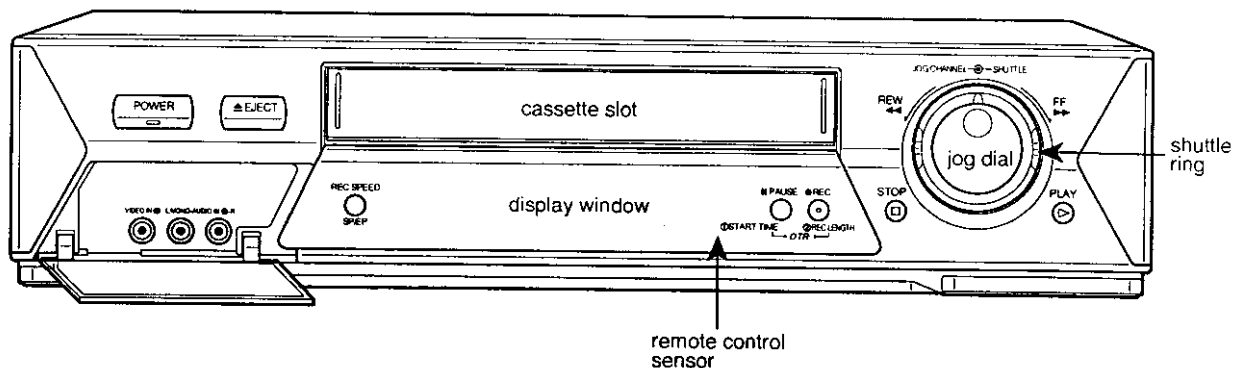
VIDEO

Selects the VCR's video settings to be adjusted.



Location of Controls

Front Panel Keys and Functions



POWER

Turns the VCR on or off.

If you have programmed your VCR to record, turn off your VCR.

EJECT

Ejects a tape.

video input 2 jacks

Connect source here, such as a VCR or camcorder, to record or dub video.

audio input 2 jacks

Connect source here, such as a VCR or camcorder, to record or dub audio.

cassette slot

Insert the video cassette tape here.

REC SPEED

Changes the recording speed (SP is standard play; EP is extended play).

display window

See the next section.

remote control sensor

Receives signals from the remote control. Do not block it.

● REC/② RECORD LENGTH

Records to the end of the tape by pressing once.

Sets the recording time for OTR recording by pressing repeatedly.

PAUSE/① START TIME

Pauses a tape when recording.

Freezes a frame when playing a tape. Sets the start time in OTR² recording.

jog dial

Changes channels when tape is stopped.

Advances tape frame-by-frame when the tape is paused.

Adjusts tracking and picture vibration.

shuttle ring

Fast forwards a tape or fast forward searches by turning right.

Rewinds a tape or reverse searches by turning left.

PLAY ▷

Plays a tape.

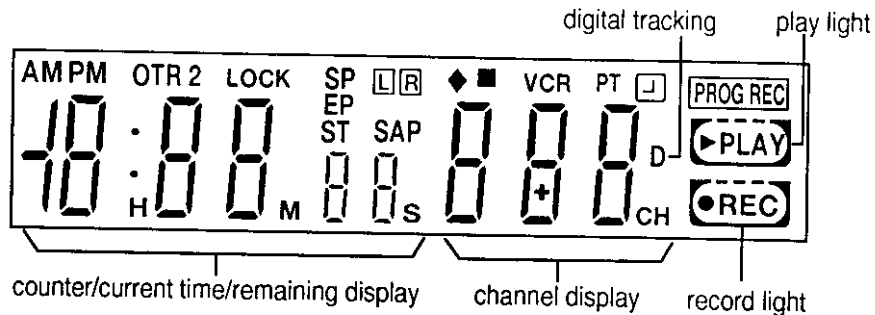
Resumes normal playback from special effects.

STOP □

Stops a tape.

Location of Controls

Display Window



OTR 2 light OTR 2

Lights up during recording the program with Standby One-Touch Recording.

lock light LOCK

Lights up when Child Lock feature is in use.

tape speed lights SP, EP

Indicates tape speed.

SP is standard play; EP is extended play.

stereo indicator ST

Indicates a stereo TV channel.

LR indicator LR

SAP indicator SAP

Indicates that channel has a Separate Audio Program, or SAP.

PRIMESTAR® light ◆

Lights up when VCR has selected channels from a PRIMESTAR receiver.

cable tuning light ■

Lights up when VCR is set to receive cable broadcasts.

VCR light VCR

Indicates that the picture is controlled by the VCR.

PerfectTape® light PT

Flashes when PerfectTape test is in progress. Stays lit when test is complete.

programmed recording light □ PROG REC

Lights up when VCR is off and it is programmed to record.

digital tracking light D

Flashes when VCR is adjusting the tracking. Glows steadily when tracking is finished. If tracking is adjusted manually, it turns off.

play and record lights ▶PLAY ●REC

cassette status light [---]

Light up when VCR is playing a tape or recording. Cassette status light turns on when a tape is in the VCR. Dashes in the center simulate movement of tape when playing and recording.

counter/present time/remaining display

This area displays:

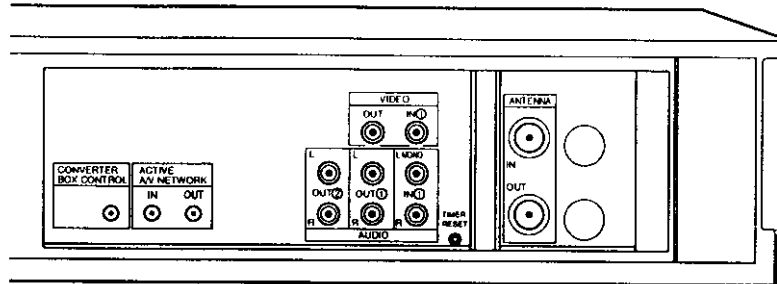
- current time
- time counter showing how long tape has run
- time remaining on the tape
- contents of a programmed recording when you are programming your VCR.

channel display

Displays cable channel, broadcast channel, satellite channel, or input.

Location of Controls

Rear Panel Jacks



VIDEO INput and OUTput jacks

Yellow jacks for receiving (IN) and sending (OUT) video signals to a monitor TV or another VCR.

AUDIO INput and OUTput jacks

Red and white jacks for receiving (IN) and sending (OUT) audio signals. Red signifies the right channel, and white signifies the left channel. Stereo audio cables are also color coded red and white. If you are receiving or sending a mono (non-stereo) signal, you should use only the left (white) terminal.

ANTENNA IN jack

Attach an external antenna or cable to bring in an outside signal.

ANTENNA OUT jack

Attach a coaxial cable to your TV to send out antenna/cable signals on the VCR to your TV.

CONVERTER BOX CONTROL jack

Connects IR Emitter to a cable box and/or satellite receiver.

ACTIVE A/V NETWORK jacks

Connects the VCR to other Mitsubishi products with Active A/V Network or A/V Network jacks.

TIMER RESET

Erases all programmed recording settings and resets the clock. Use this button with care.

Trouble Checks

Sometimes problems can be solved by checking some basic things first. If these do not solve your problem, contact your Mitsubishi dealer for help.

Problem

Try This...

The VCR won't turn on.

- Check the power cord and the AC outlet.
- Is the LOCK light ON? If so, press and hold DISPLAY on the remote for more than 8 seconds until the LOCK light turns off.
- Press VCR on the remote, then POWER.

The VCR power is on but no controls work.

- Is the LOCK light ON? If so, press and hold DISPLAY on the remote for more than 8 seconds until the LOCK light turns off.
- Press VCR on the remote, then VCR-A or VCR-B, then try again.
- Press TIMER RESET on the rear panel.

You can't see the VCR's picture on your TV.

- Check the TV's input setting.
- Check to see that your VCR is not set to L1 or L2.

Poor picture when watching the VCR's tuner on your TV.

- Check the video channel setting.
- Check your TV's fine tuning, if using an older TV.
- Check your connections to make sure they are secure.

VCR REC button doesn't function.

- Check the erasure prevention tab on the tape cassette.

No picture during recording.

- Check the hook-up.
- Check to see if your TV is set to the correct channel or input.

VCR does not record TV program.

- Check the VCR tuning.
- Check the input selection on the VCR. Does the front panel display show L1 or L2? If so, switch it to tuner by pressing INPUT.

The VCR timer recording does not operate.

- Check that the programmed recording light lights up in the display window.
- Check the clock time.
- Make sure you have turned the VCR off before the start time.

Noise in the picture and distorted sound.

- Check the tracking control. Adjust manually if necessary.

Poor or no Hi-Fi sound.

- Check the monitor settings.
- Check the quality of the video tape.

Playback is noisy or "snowy".

- Try automatic head cleaning.
- Clean the video heads using a dry-type video head cleaning cassette. Do not use a wet-type cleaning cassette, as it may damage your VCR. Excessive use of a cleaning cassette could shorten head life. Follow the cleaning instructions carefully.
- Have the VCR video heads cleaned by a qualified service technician.

VCR remote does not function.

- Check the remote mode of the VCR.
- Press VCR and the corresponding key, VCR-A or VCR-B, on the remote before operating your VCR.
- Press TV on the remote before operating your TV.
- Change the batteries.

Your converter box or satellite receiver does not respond to any signals from the VCR's IR Emitter.

- Try moving the IR Emitter so that there is a clear line of sight between the Emitter and the box's remote sensor.
- Sometimes a cable box needs to be set by the cable company to receive signals. Contact your cable company.
- Check that the IR Emitter is connected properly.

Specifications

FORMAT	VHS NTSC standard with Hi-Fi audio
VIDEO SIGNAL SYSTEM	EIA standard; NTSC color
RECORD/PLAYBACK SYSTEM	Video -- 4 head Audio -- 2 Hi-Fi channels and 1 normal audio control
ANTENNA	75-ohm external VHF/UHF combined antenna terminal
TUNER	181 channels capability VHF -- Channels 2 - 13 UHF -- Channels 14 - 69 CATV -- Channels 1-125
HORIZONTAL RESOLUTION	More than 400 lines (S-VHS) 240 lines (VHS)
SIGNAL-TO-NOISE RATIO	45 dB
COMB FILTER	Digital dynamic
TIMER PROGRAM CAPACITY	1-month programmable/8 programs
MEMORY BACKUP TIME	30 minutes
MAXIMUM RECORDING TIME	120 min. with T-120 video cassette (SP) 360 min. with T-120 video cassette (EP)
T-120 tape	1:26 min. for T-120 cassette
REWIND TIME	120V AC, 60 Hz
POWER REQUIREMENT	21 Watts -- 3.5 Watts standby
POWER CONSUMPTION	3-5/8 in Height x 16-3/4 in Width x 12-3/8 in Depth (93mm x 425mm x 315mm)
DIMENSIONS	8.4 lbs approx. (3.8kg)
WEIGHT	1 set coaxial cable 1 set stereo audio/video cables 1 remote control with jog dial and batteries 1 IR emitter
SUPPLIED ACCESSORIES	

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Warranty

MITSUBISHI VIDEO CASSETTE RECORDER LIMITED WARRANTY

MITSUBISHI CONSUMER ELECTRONICS AMERICA, INC. (MCEA) warrants to the original purchaser of this video cassette recorder if purchased from an authorized MITSUBISHI Audio/Video Dealer that, should it prove defective by reason of improper workmanship and/or material:

- a. **Parts.** For one year from the date of original purchase at retail, we will repair or replace, at our option, any defective part including the video head without charge for the part. Parts used for replacement are warranted for the remainder of the original warranty period.
- b. **Labor.** For six months from the date of original purchase at retail, we will provide the labor for a warranty repair without charge at an authorized MITSUBISHI service center.
- c. **Notice.** To obtain warranty service, you must notify an authorized MITSUBISHI service center of any defect within the applicable warranty time period.

1 TO OBTAIN WARRANTY SERVICE, deliver your VCR to the nearest MITSUBISHI service center.

Shipping expenses are your responsibility. The name and address of the nearest service center can be obtained from your MITSUBISHI Dealer, or by writing or calling MCEA at the address and telephone number below. Proof of purchase date from an authorized MITSUBISHI Dealer is required when requesting warranty service. Present your sales receipt or other document which establishes proof and date of purchase. **THE RETURN OF THE OWNER REGISTRATION CARD IS NOT A CONDITION OF WARRANTY COVERAGE.** However, please detach and return the Owner Registration Card so that we can contact you should a question of safety arise which could affect you.

2 THIS WARRANTY DOES NOT COVER damage caused by: modification, alteration, repair or service of this product by anyone other than an authorized MITSUBISHI service center; physical abuse to, or misuse of, the VCR; operation in a manner contrary to the instructions which accompany the VCR; freight damage; or any damage caused by acts of God such as lightning or fluctuation in electrical power. This warranty also excludes all costs arising from installation, adjustment of user controls, external antenna systems, service of products purchased or serviced outside the U.S.A., initial technical adjustments (set-up) and user-required maintenance including head cleaning. Consult the operating instructions enclosed with the product for information regarding user controls.

3 ANY EXPRESS WARRANTY NOT PROVIDED HEREIN, AND ANY REMEDY WHICH, BUT FOR THIS PROVISION, MIGHT ARISE BY IMPLICATION OR OPERATION OF LAW, IS HEREBY EXCLUDED AND DISCLAIMED. THE IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR ANY PARTICULAR PURPOSE ARE EXPRESSLY LIMITED TO A TERM OF ONE YEAR.

4 UNDER NO CIRCUMSTANCES SHALL MCEA BE LIABLE TO PURCHASER OR ANY OTHER PERSON FOR ANY INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES, WHETHER ARISING OUT OF BREACH OF WARRANTY, BREACH OF CONTRACT, OR OTHERWISE.

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

7 BEFORE REQUESTING SERVICE, please review the instruction booklet to insure proper installation and correct customer control adjustment. If the problem persists, contact your nearest MITSUBISHI Dealer for name(s) of authorized MITSUBISHI Service Center(s). If you are unable to obtain the information, please call 1-800-332-2119, or write us at the address below.

MITSUBISHI CONSUMER ELECTRONICS AMERICA, INC.
9351 Jeronimo Road
Irvine, CA 92618



RETAIN THIS PORTION FOR YOUR RECORDS

SERIAL NO. _____

CUSTOMER NAME _____

STREET ADDRESS _____

CITY _____ STATE _____ ZIP _____

PHONE (____) _____ PURCHASE DATE ____ / ____ / ____

MO DAY YR

PLACE OF PURCHASE _____

For your nearest Mitsubishi Authorized Servicenter
call 1-800-332-2119



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