

SONY

VIDEO CASSETTE RECORDER

SL-HF900

OPERATING INSTRUCTIONS

Before operating the unit, please read this manual thoroughly, and retain it for future reference.

OWNER'S RECORD

The model and serial number of your set are located at the rear. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. SL-HF900 Serial No. _____



Super Beta hi-fi

This unit can be used with any video cassette tapes having the mark **II**.

It is compatible with the **II** and **III** type recording and playback formats, and will play back tapes recorded in the **II** format.

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WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.



This symbol 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.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION:

TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

INFORMATION

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient the receiving antenna
- relocate the equipment with respect to the receiver
- move the equipment away from the receiver
- plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio-TV Interference Problems".

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

PRECAUTIONS

On safety

- Before operating, check that the operating power voltage and frequency of the unit are identical with those of your local power supply.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- One blade of the plug is wider than the other for the purpose of safety and will fit into the power outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

On installation

- Allow adequate air circulation to prevent internal heat build-up.
- Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation slots.
- Do not install the unit near heat sources such as radiators or air ducts or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- The unit is designed for operation in a horizontal position. Do not install it in an inclined position.
- Keep the unit and cassette tapes away from equipment with strong magnets, as for example a microwave oven or a large loudspeaker.
- Do not place any heavy object on the unit.
- Store cassettes in their cases and keep them in an upright position to prevent intrusion of dust and uneven winding.

On operation

- When the unit is not in use, turn the power off to conserve energy and to extend its useful life.
- Remove and store video cassettes after recording or playback.

On cleaning

Clean the cabinet, panel and controls with a dry soft cloth, or a soft cloth lightly moistened with a mild detergent solution.

Do not use any type of solvent, such as alcohol or benzene, which might damage the finish.

On repacking

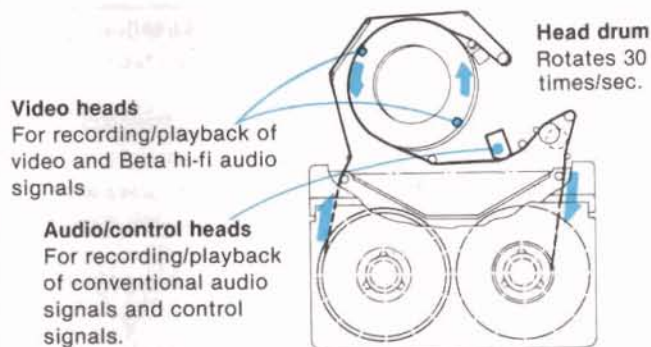
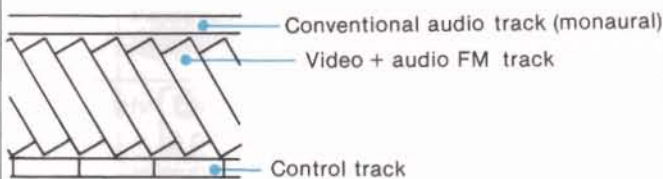
Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit to another location, repack it as illustrated on the carton.

WHAT IS BETA HI-FI RECORDING?

In conventional recording, audio signals are recorded on the audio track and video signals on the video track. In Beta hi-fi recording, audio signals are recorded on the video track together with the video signals using 2 rotary video heads.

The Beta hi-fi audio signals are frequency-modulated and recorded on 2 channels, so that you can record a stereo program with sound quality far superior to that of the conventional audio recording.

Beta hi-fi recording pattern on the video tape



When the BETA HI-FI switch is set to ON, this recorder records audio signals on the video track (Beta hi-fi recording) and on the conventional audio track at the same time, so that these tapes can also be played back on any ordinary video cassette recorder without a Beta hi-fi system.

FEATURES

Beautiful pictures, outstanding sound, sophisticated, easy operation—the SL-HF900 incorporates the best of Sony video and audio technologies in an advanced Beta hi-fi VCR. It will bring years of enjoyment to any audio-visual system.

SHARP, CLEAR PICTURES

- **Dramatically sharp and accurate picture of high resolution and contrast**—especially as the result of Sony's totally new technology, this VCR assures beautiful, professional quality home video recordings and reproduction.
- **Crystal clear freeze frame** provides sharp, clear pictures for precise viewing of any selected frame on the tape.
- **EDIT switch** ensures optimum picture quality of edited tapes.

OUTSTANDING SOUND QUALITY

- **Beta hi-fi recording** provides beautiful, audiophile-quality sound reproduction.
- **Independent left and right channel sound level slide controls**
- **Simulcast recordings can be enjoyed**, using the built in TV tuner for the picture and a separate audio system for the sound.

SOPHISTICATED ARRAY OF FUNCTIONS, EASY OPERATION


Versatile JOG Dial/SHUTTLE Ring

- **Triple-function JOG dial**—special effects playback, channel selection, timer setting.
 - Slow motion in both the forward and reverse directions.
 - High-speed tuning ideal for CATV systems.
 - Quick setting of hours and days for easy timer setup.
- **SHUTTLE ring** allows forward or reverse playback at the desired (X1/5, x1 or x2) speed and "Betascan" of the tape.

Editing Functions

- **Easy audio or video insert editing function** allows insertion of pictures and sound from a camera or other source on previously recorded tapes.
- **Automatic assemble editing function** enables the start and stop of recording of another connected Sony VCR simultaneously with the playback of this VCR within the preset start and stop points on the tape.

Convenience Functions

- **Automatic 8-program timer for unattended recording**, for this week, next week and the week after next.
- **Quick timer** allows you to record on a single channel up to 5 hours automatically (each push of button equals 30 minute increments).
- **Quick location of index signals** allows easy program confirmation.
- **Multi-function video/TV Remote Commander** can also be used with Sony remote control TVs (bearing the  mark).

Versatile auto functions

- **Auto play function** starts playback automatically after tape is fully rewound.
- **Tape return/Tape return play function** allows automatic playback or tape stop when the tape is wound to the 0H00M00S position on the counter.
- **Auto rewind** automatically rewinds the tape when the end of the tape is reached during recording or playback.
- **Auto eject** automatically ejects the tape if the tab on the cassette has been removed and the VCR has been engaged in the record mode.
- Power turns on automatically when a cassette is loaded with the power off.
- If the eject button is pressed when the VCR's power is off, the power will automatically be turned on for the cassette to be ejected, and then turn back off again.

Various Connection Arrangements

A variety of terminals are provided for connection to an optional video editing controller, and several video and audio components, making the SL-HF900 a central part of an audio-visual system.

CONNECTIONS

Before making connections

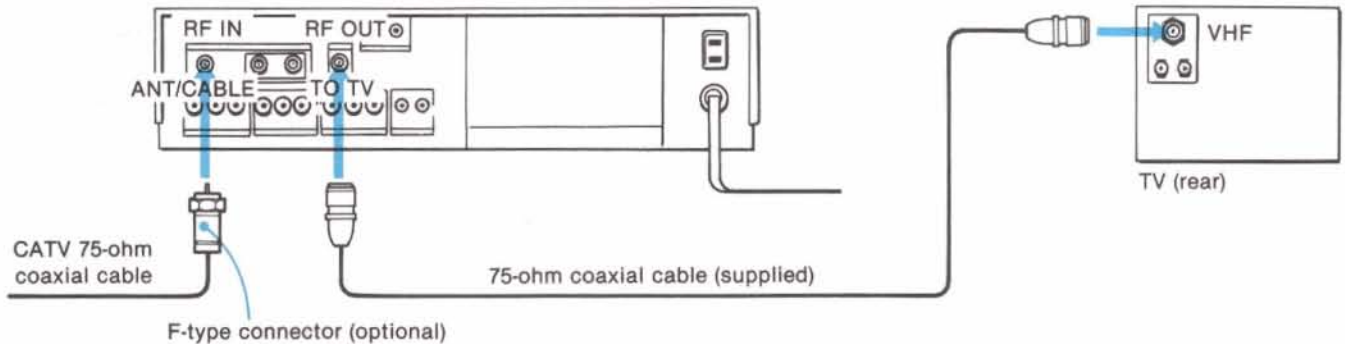
- Turn off the TV.
- Connect the ac power cord after all the connections of the video cassette recorder and the TV have been completed.
- Make connections firmly. A loose connection may cause a distorted picture.

ANTENNA/CABLE AND TV CONNECTION

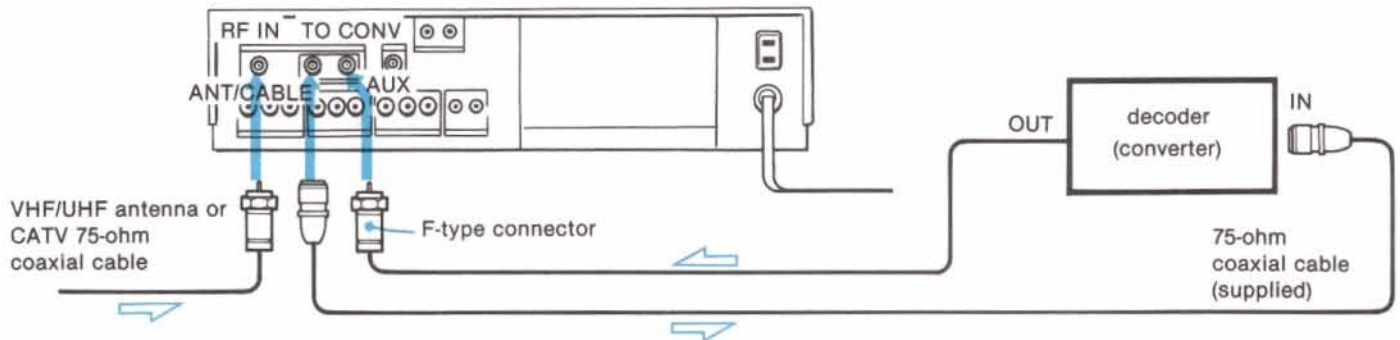
Disconnect the TV antenna cables from the TV receiver and connect them to the recorder, then connect the recorder and the TV. See page 5 on how to attach the optional/supplied connectors and separators, if necessary.

CATV (Cable TV) cable

We recommend that you consult your cable company to make sure that the cable is properly connected.

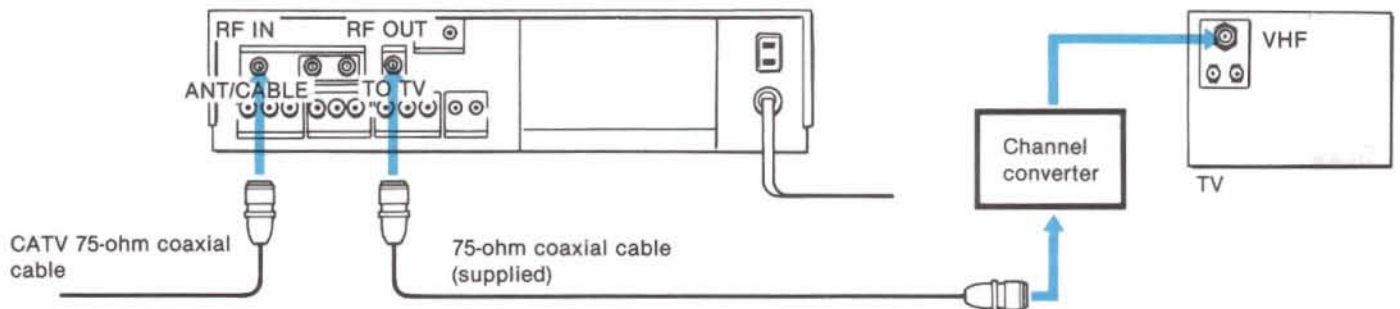


Connecting a decoder (converter)



When your TV is not a Cable TV compatible type

Connect the Cable TV channel converter between the recorder and the TV so that you will be able to watch another CATV program while recording one Cable TV program.



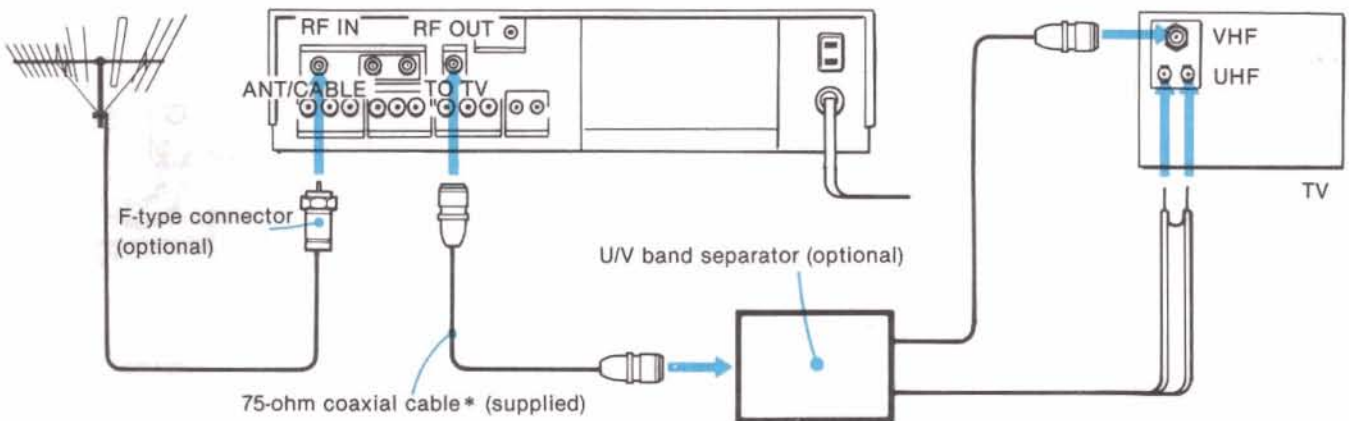
Note to CATV system installer in the U.S.A.:

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

Combination VHF/UHF antenna

Most combination antennas are equipped with a U/V band separator (signal splitter). Take off the separator and connect the cable directly to the recorder.

Use the removed separator to connect the recorder and the TV.



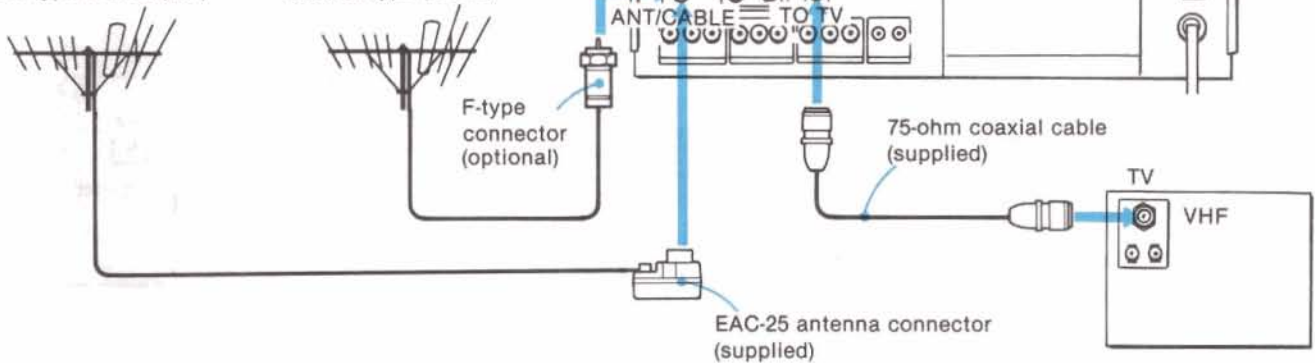
If you need a separator or a complete antenna system, consult your Sony dealer or a qualified technician.

*Use an optional RFC-8 extension cable (available in the U.S.A. and Canada), 8 m (25 ft) long, if the supplied 75-ohm coaxial cable is not long enough.

VHF antenna

When the cable is a 300-ohm ribbon type lead-in (flat)

When the cable is a 75-ohm coaxial type (round)



How to attach an F-type connector

- 1 7 mm (1/4 inch) 10 mm (3/8 inch)
- 2 F-type connector
- 3 3 mm (1/8 inch) Crimp.
- 4 ANT/CABLE

How to attach an EAC-25 external antenna connector

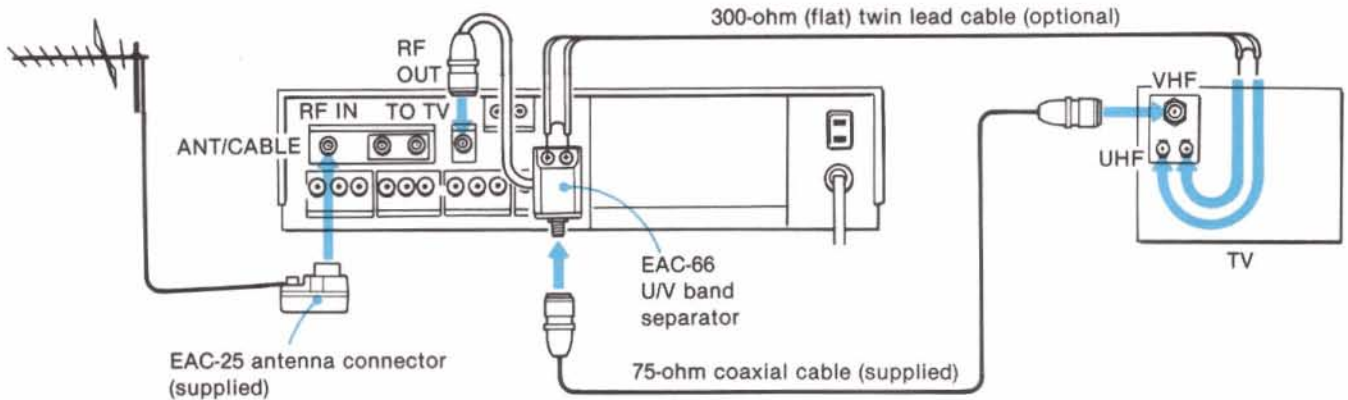
-
- 300-ohm twin lead
 - Connect the lead-in wire.
 - Plug into the ANT/CABLE connector.

How to attach an EAC-66 U/V band separator (mixer)

-
- 300-ohm twin lead
 - EAC-66
 - 75-ohm coaxial cable

UHF antenna

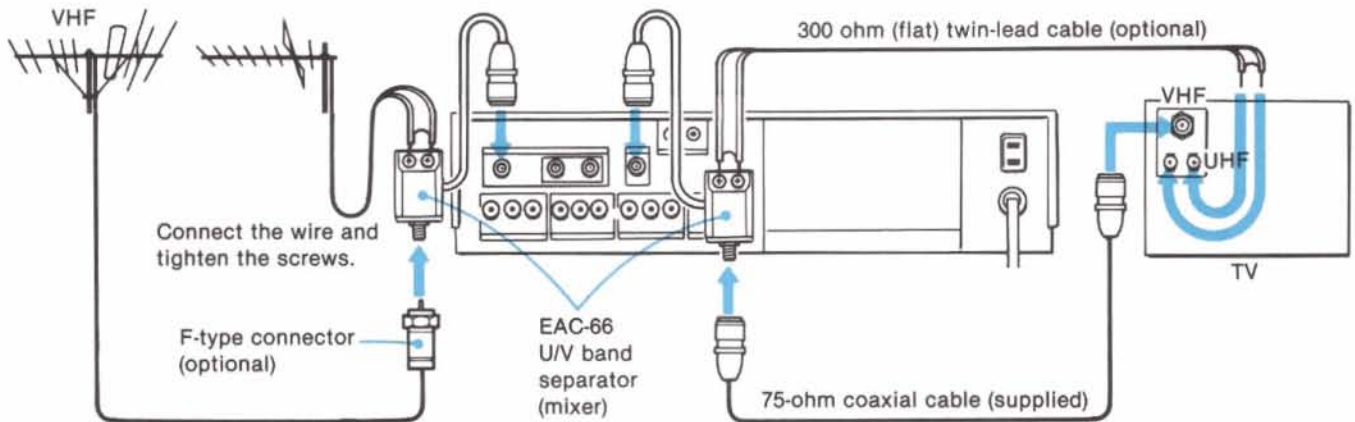
Attach an optional EAC-66 U/V band separator to the RF OUT connector of the recorder, and connect to the VHF and UHF antenna terminals of the TV.



When both VHF and UHF antennas are connected

Attach an optional EAC-66 U/V band separator (mixer) to the ANT/CABLE (RF IN) connector of the recorder, and connect the antennas to the U/V band separator. Then attach another optional U/V band separator to the RF OUT connector of the recorder, and connect to the VHF and UHF antenna terminals of the TV.

When your TV has a 75-ohm UHF/VHF antenna terminal
Easy connection of the recorder to the TV can be made with the supplied 75-ohm coaxial cable regardless of the types of antenna.



Caution

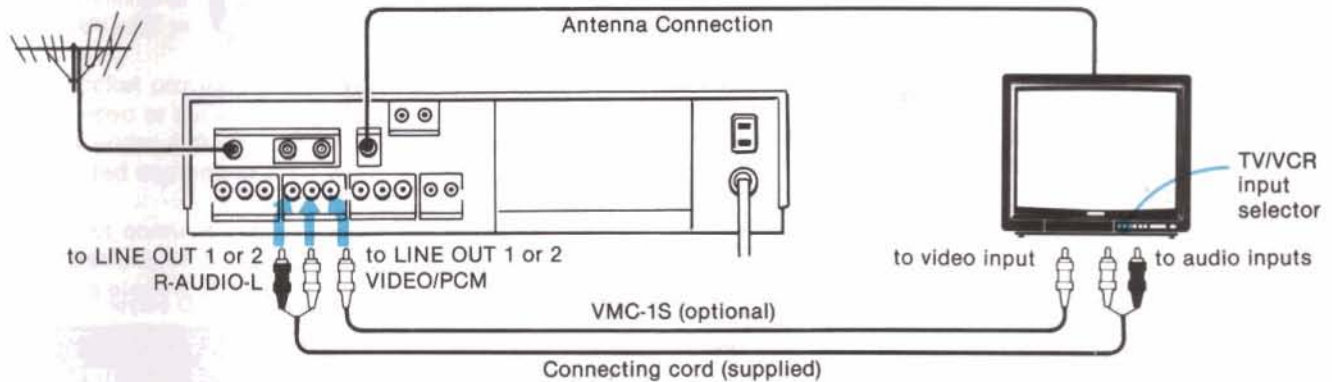
Connections between the recorder's RF OUT connector and the antenna terminals of a TV receiver should be made only as shown in these instructions. Failure to do so may result in operation that violates the regulations of the Federal Communications Commission regarding the use and operation of rf devices. Never connect the output of the recorder to an antenna or make simultaneous (parallel) antenna and recorder connections at the antenna terminals of your receiver.

- Once the connections explained above have been made, the antenna TV signals, as well as the signal from the recorder, will be fed to the TV and you can view TV programs in the usual way.

CONNECTION TO A TV SET EQUIPPED WITH VIDEO AND AUDIO INPUT JACKS

If your TV set is equipped with video and audio input jacks, connect the LINE OUT 1 or 2 jacks of this VCR to the input jacks of the TV in addition to the antenna connection you have made to the TV as described on pages 4-6.

Better picture and sound from the VCR will be obtained than if the TV is connected only to the antenna (RF OUT) terminal of this VCR.



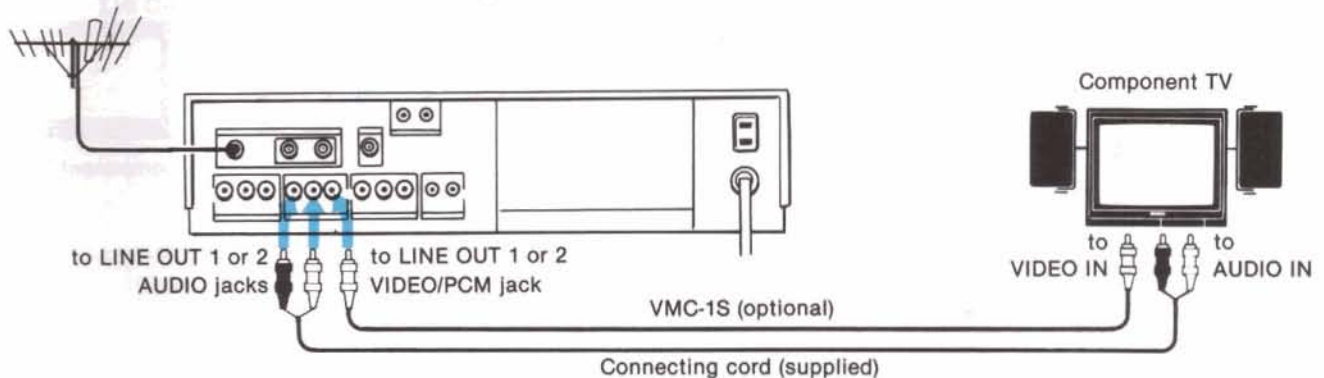
Such TV sets should have a TV/VCR input selector (often named TV/VIDEO button). By pressing or switching the position of this selector you will be able to view the picture of the connected VCR on the TV screen instead of by selecting channel 3 or 4 on the TV. "ADJUSTING THE TV" on page 10 is not necessary if the above connection is made.

CONNECTING A COLOR MONITOR

To obtain better-quality picture, connect a color monitor, such as the Sony Profeel Trinitron Component TV, instead of a conventional TV receiver.

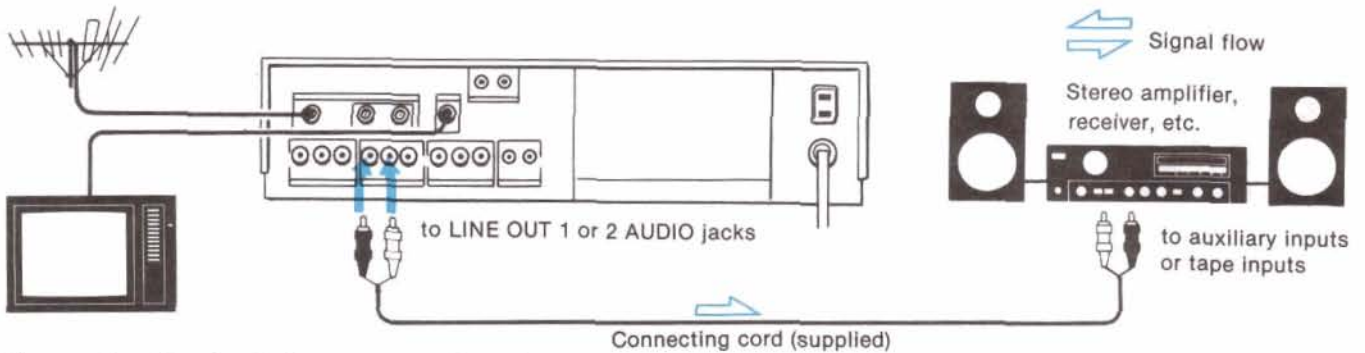
If a component TV is combined with a speaker system as illustrated, you will be able to enjoy the stereo sound of tapes recorded in the Beta hi-fi system through the speaker system.

If you use a component TV tuner together with the monitor, connect the recorder and the TV tuner in the same way as in the case of the recorder and the conventional TV receiver as described on pages 4 and 5. For details on the connection of the TV tuner and the monitor, refer to the instruction manual of the TV tuner.



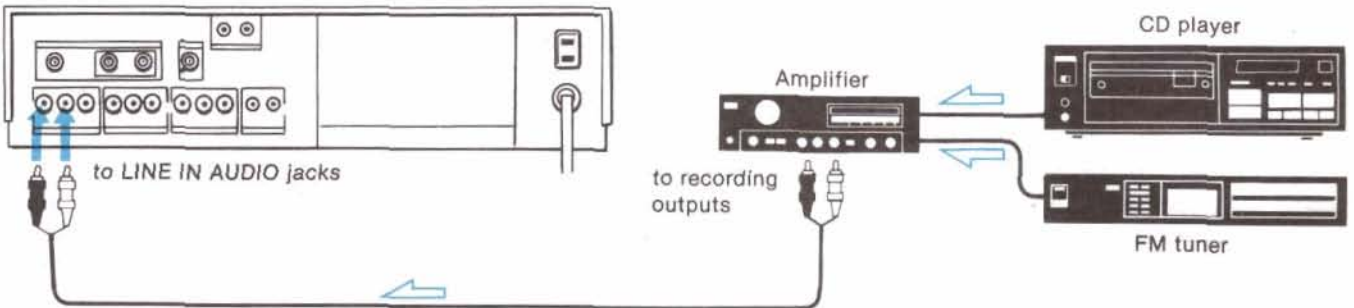
CONNECTION TO AN AUDIO SYSTEM

You can experience a more dynamic sound of tapes recorded in Beta hi-fi when the recorder is connected to an audio system.

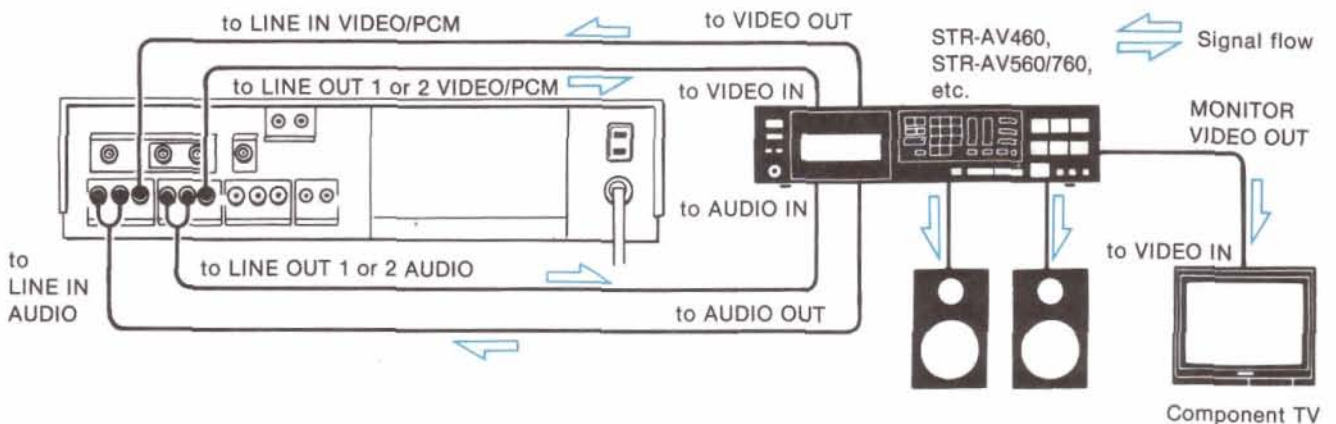


To record audio signals from your audio system

You can record only, or together with video, the audio (sound) of an audio source, such as an FM tuner or a CD player, in the Beta hi-fi system with the following connection.



Connection to a receiver equipped with VIDEO connectors

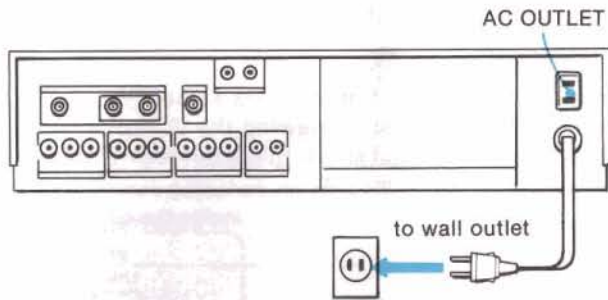


For details, see the instruction manual of the receiver.

Notes

- If the VCR is installed near a tuner or a radio, noise may be heard in AM reception. In this case, keep the VCR away from the tuner or the radio, adjust the AM bar antenna for minimum noise, or connect an external AM antenna to the tuner.
- Before connecting or disconnecting the power cord of the VCR, be sure to turn the connected amplifier off.

POWER CONNECTION



AC OUTLET

This socket provides a convenient ac power source for other video or audio equipment whose power consumption is under 400 watts. Power will be supplied to the connected equipment even when the recorder is turned off.

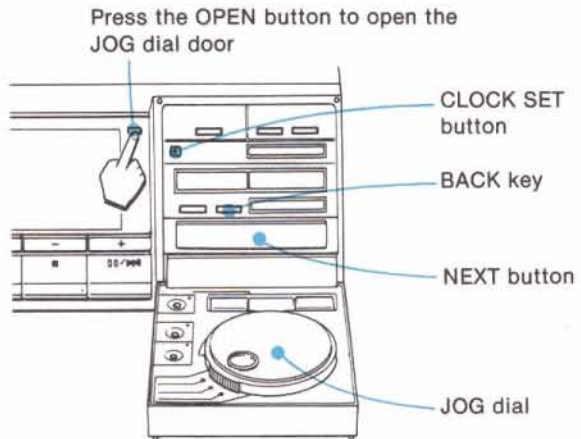
- Do not connect here any electrical home appliances whose power consumption exceeds 400 watts, such as an electric iron or fan.

When disconnecting the power cord from the wall outlet be sure that the POWER switch of this unit is turned off.

Occasionally, when the POWER switch is turned on and off immediately after plugging the set to a wall outlet, the VCR becomes unoperational. If this occurs, press the CLOCK SET button inside the JOG dial door, set the clock and then operate the set.

SETTING THE CLOCK

When you connect the ac power cord to a wall outlet, the clock shows "SU AM12:00" indicating that it must be set.



Example: To set for Wednesday afternoon at 7:30

Turn the JOG dial clockwise for advancing the number and counterclockwise for reverse.

- 1 Press CLOCK SET.
The day of the week indicator will blink.
- 2 Set the day by turning the JOG dial until "WE" (for Wednesday) appears.



- 3 Press NEXT.
Set the hour by turning the JOG dial.
Make sure that "AM" or "PM" is correctly set.



- 4 Press NEXT.
Set the minute by turning the JOG dial.



- 5 For accurate setting, press NEXT at the same time as an announced time signal. The clock will start.

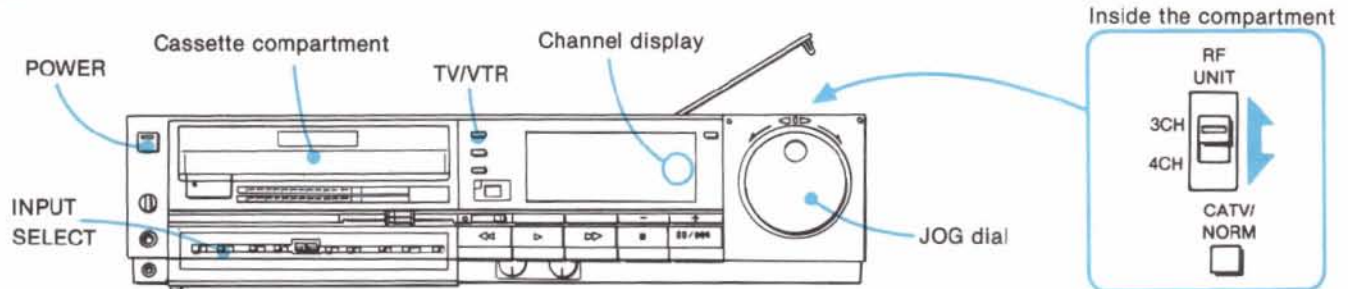


The dots of the colon (:) alternately blink every 30 seconds.

ADJUSTMENT

ADJUSTING THE TV

Your TV must be adjusted to receive the signal transmitted by your VCR. The VCR transmits its signal on either channel 3 or 4 and this is why you will be selecting channel 3 or 4 on the TV whenever viewing the VCR picture. If you have connected a color monitor or a TV set equipped with video and audio input jacks, this adjustment is not necessary.



- 1 Set the RF UNIT selector located in the tuning compartment to "3 CH" or "4 CH" whichever channel is not active in your area.
- 2 Press POWER switch to turn on the power.

If you do not have a recorded cassette tape

If you have a recorded cassette tape

- 3 Press TV/VTR button so that the button lights up.
- 4 Check that the INPUT SELECT switch is set to TUNER, then select an active channel (Observe the channel display) in your area by turning the JOG dial.
For cable TV channels, the "CATV" indicator should be displayed above the channel display.
For off-the-air channels the "CATV" indicator should be off. To turn on/off the indicator, press CATV/NORMAL button.

- 3 Insert the cassette into the cassette compartment.
- 4 Press ► (play) button.

- 5 Turn on the TV.
- 6 Select either VHF channel 3 or 4 on your TV to agree with the setting of the RF UNIT selector of the VCR.
The TV program selected on the VCR or the playback of the inserted cassette tape will be displayed on the TV screen.
If a picture does not appear or is not clear, fine tune the selected channel 3 or 4 with the controls of the TV. For fine tuning the channel, read the instruction manual of the TV.

Now your TV receiver is tuned to the VCR. Whenever using the VCR, you should set the TV to the channel 3 or 4 (whichever you selected).

BASICS

SELECTING CHANNELS

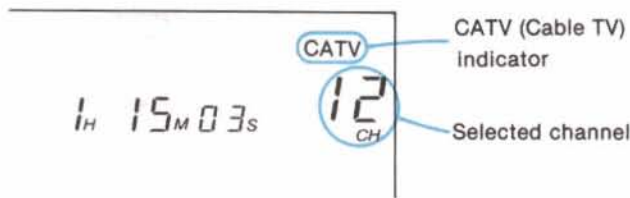
Receivable channels of your VCR are:

VHF: 2-13

UHF: 14-69

Cable TV: 1-125 (See Cable TV channel chart.)

The channel selected on this VCR will be displayed in the display window.



For Cable TV broadcasts, the "CATV" indicator should be displayed. For off-the-air broadcasts, the indicator should be off. If necessary, turn on (or off) the indicator by pressing the NORMAL/CATV selector button in the tuning compartment.

There are 3 ways to select the channels on your VCR.

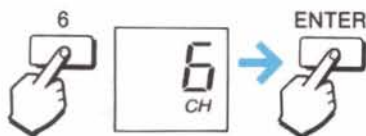
● By turning the JOG dial



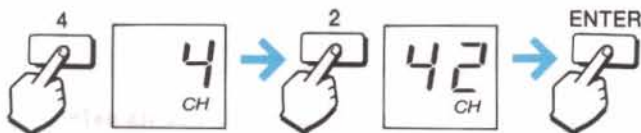
● By pressing the channel number buttons and the ENTER button of the Remote Commander

Press the numeral(s) of the channel and then press ENTER button.

Ex. To select channel 6, press 6 and then ENTER.



To select channel 42, press 4, 2 and then ENTER.



The channel will not be selected if the ENTER button is not pressed and the previously selected channel number will be displayed again after a few seconds.

● By pressing the channel +/- buttons



The channels will change consecutively if you hold the button down.

By adding and erasing channels, you can preset your VCR so that only the desired channels appear in sequence when the channel +/- button is pressed. (See next page.)

Cable TV channel chart*

Cable TV systems use letters or numbers to designate channels. To tune in a channel, refer to this chart.

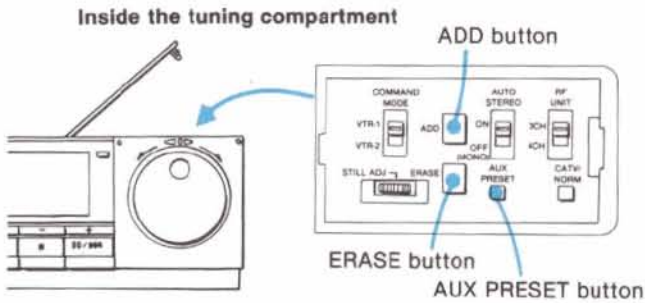
Number on this VCR	1	5	6	14	15	16	17					
Corresponding Cable TV channel	A-8	A-7	A-6	A	B	C	D					
18	19	20	21	22	23	24	25	26	27	28	29	30
E	F	G	H	I	J	K	L	M	N	O	P	Q
31	32	33	34	35	36	37	38	39	.....	93	94	
R	S	T	U	V	W	W+1	W+2	W+3	.....	W+57	W+58	
95	96	97	98	99	100	101	102	.....	123	124	125	
A-5	A-4	A-3	A-2	A-1	W+59	W+60	W+61	.....	W+82	W+83	W+84	

Check with your local cable TV company for more complete information on the available channels.

*The designation of the cable TV channels conforms to the EIA/NCTA recommended standards.

PRESETTING CHANNELS

PRESETTING CHANNELS TO BE SELECTED WITH THE CHANNEL +/- BUTTONS



Adding channels

- 1 Select the channel to be added with the JOG dial or the Remote Commander.
- 2 Press ADD button.
A “—” will appear for an instant in the channel display, indicating that the channel will appear in the proper numerical sequence when you press the channel +/- button.

Repeat steps 1 and 2 for other channels to be added.

Erasing channels

- 1 Select the channel to be erased.
- 2 Press ERASE button.
A “—” will appear for an instant in the channel display, indicating that the channel has been erased. When channel +/- button is pressed, you will see that the channel is skipped over in the numerical sequence.

Repeat steps 1 and 2 for other channels to be erased. To add erased channels again, follow the steps in “Adding channels”.

Non-existent channels (channels other than those listed on the previous page) cannot be preset and the “—” indicator will not appear when the ADD or ERASE button is pressed.

TO PRESET THE OUTPUT CHANNEL OF THE DECODER CONNECTED TO THE AUX TERMINAL

You can preset your VCR so that the channel received through the decoder connected to the AUX terminal can be selected simply by pressing the AUX key on the VCR or on the Remote Commander.

- 1 Select the output channel of the decoder (generally 3 or 4) by turning the JOG dial.
- 2 Press AUX PRESET button.
A “—” will appear for an instant and then “PP (preset program)” will appear in the channel display. The output channel that you have selected in step 1 is preset.

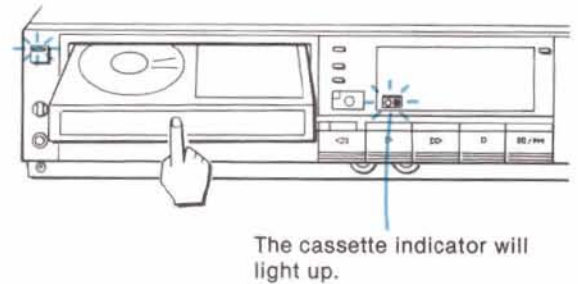
By pressing the AUX key inside the JOG dial door or on the Remote Commander you will be able to view the programs received through the decoder. “PP” will be displayed whenever this channel is selected.

To return to viewing regular channels, simply select another channel or press the AUX key again. (Selection will start from 103 or 199 when the JOG dial is turned.)

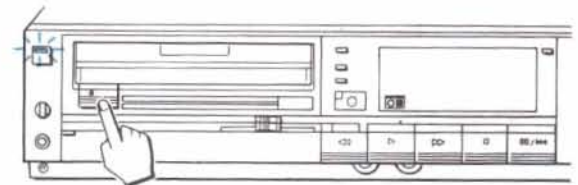
If you desire to select the decoder's channel with the TV's channel selectors without using the VCR, simply press the AUX key so that “PP” is lit (it will light up even without the power turned on), then select the channel.

INSERTING/EJECTING CASSETTES

Insert cassettes gently into the compartment until it starts sliding in. There should be a direction on the cassette showing in which way the cassette should be inserted.



The power of this VCR will turn on automatically whenever a cassette is newly inserted.



To eject the cassette, press the EJECT button. The cassette indicator will turn off.

If the EJECT button is pressed when the power is turned off, the power will turn on for the cassette to be ejected and then turn off again automatically.

USE OF THE SAFETY TAB

When a new recording is made on a previously recorded cassette, the previous recording will be automatically erased.

To avoid erasing the recording

Break off the safety tab using a screwdriver or similar object. The cassette will be ejected automatically when you slide the REC (recording) switch to the right.



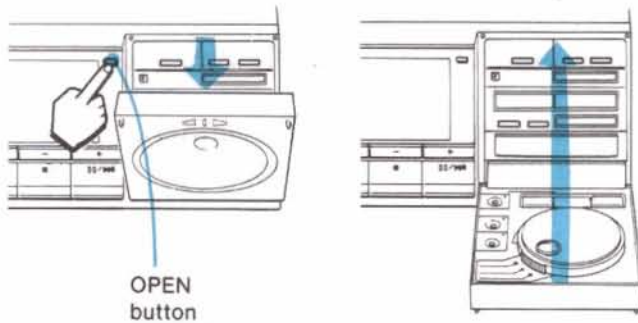
To re-record on a cassette which has had its safety tab removed

Cover the hole with a piece of plastic tape.



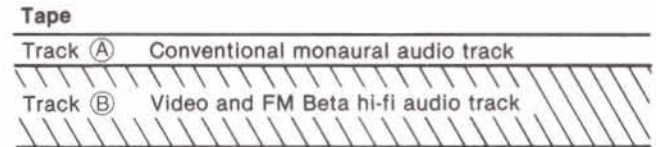
OPENING AND CLOSING THE JOG DIAL DOOR

To open the JOG dial door, press OPEN button.
To close the door, gently push the door up.



ABOUT THE CONVENTIONAL AND BETA HI-FI AUDIO TRACK

In the Beta hi-fi recording system, sound is recorded simultaneously on 2 tracks on the tape as illustrated below.



On track (A), a monaural recording is made so that tapes recorded on this VCR can also be played back on VCRs that are not Beta hi-fi.

It is on track (B) that the Beta hi-fi recording of high-fidelity stereo sound is made. The Beta hi-fi recordings can only be played back on Beta hi-fi VCRs.



The BETA HI-FI switch should be set to ON to make Beta hi-fi recordings. When it is set to OFF, sound recordings will be made only on the conventional audio track.

In the illustrations of the tape in this instruction manual, Track (A) is referred to the conventional audio track and Track (B) to the Beta hi-fi audio track.

Selecting the audio track to be monitored

You can listen to the sound of each track separately or together by setting the AUDIO MONITOR selector as follows during recording or playback.



Position	Selected sound
BETA HI-FI	Beta hi-fi recording sound (Track (B))
MIX	Mixed sound of Beta hi-fi and conventionally recorded sound (Track (A) and (B))
NORM	Conventionally recorded sound (Track (A))

When tapes recorded on other non-Beta hi-fi VCRs are played back, the conventional audio track of such tapes will be automatically selected and played back regardless of the switch position.

OPERATIONS

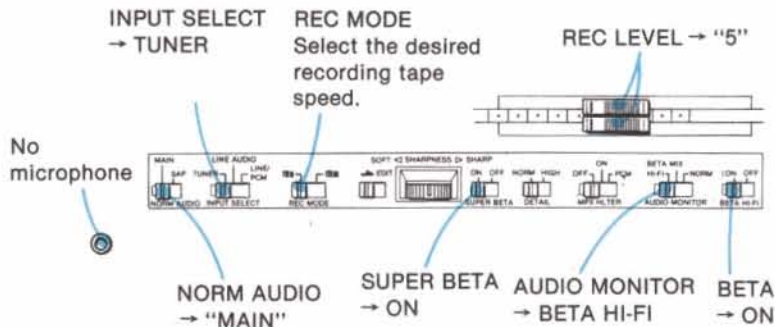
RECORDING TV PROGRAMS

Caution

Television programs, films, video tapes and other materials may be copyrighted. Unauthorized recording of such material may be contrary to the provisions of the copyright laws.

Also, use of this recorder with cable television transmission may require authorization from the cable television transmitter and/or program owner.

Before recording



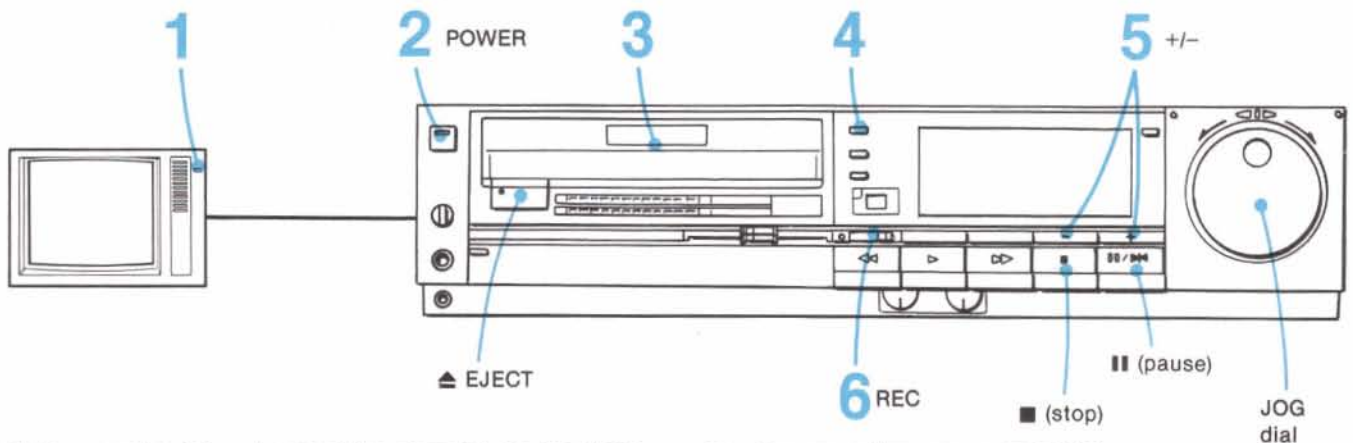
Recording time available in each mode

Cassette used	II	III
L-125	30 min.	45 min.
L-250	1 hr.	1 hr. 30 min.
L-500	2 hr.	3 hr.
L-750	3 hr.	4 hr. 30 min.
L-830	3 hr. 20 min.	5 hr.

The **II** mode is recommended for higher quality of sound and picture.

Recording

Numbers in the illustration show the sequence of operation.



- 1 Turn on the TV and select the channel for the video recorder 3 or 4*.
- 2 Press POWER on the recorder to turn the power on.
- 3 Insert a cassette.
- 4 Press TV/VTR to select the VTR mode.
- 5 Select the channel to be recorded with the JOG dial, channel + or - button, or the Remote Commander.
- 6 Slide REC to the right. The red lamp by the switch will light up and recording will start.
If the tape reaches the end during recording, the tape will be rewound to the beginning automatically.

*If your TV has a TV/VCR input selector (TV/VIDEO button) select the "VCR input" with the selector.

- To stop recording, press ■ STOP.
- To eject the cassette, press ■ STOP, then ▲ EJECT.
- To stop the tape momentarily, press || PAUSE.
To resume recording, press the button again. If you do not resume recording for more than about 8 minutes, the pause mode will be automatically released and the tape will stop.

For tapes to be recorded on other VCRs

On some VCRs, if the tape is fully rewound, a part at the very beginning of the tape will not be played back. We recommend that you run the tape for about 15 seconds before starting your actual recording.



TO VIEW ONE TV PROGRAM WHILE RECORDING ANOTHER

Press the TV/VTR button so that the lamp of the button turns off, then select the channel you want to view with the channel selectors on the TV.*

*If your TV has a TV/VCR input selector, simply select "TV" with the selector and then choose the desired channel.

TO START RECORDING IN THE MIDDLE OF A RECORDED TAPE

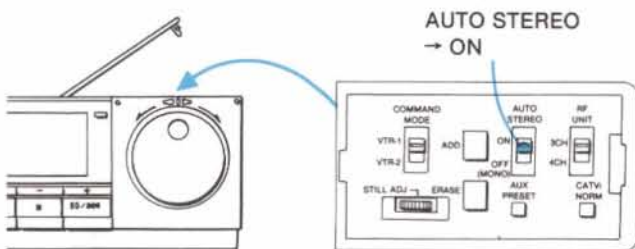
- 1 Play back the recorded tape by pressing the ► (play) button.
- 2 At the point where you wish to start a new recording, press ■■ (pause) button.
- 3 Slide the REC switch to the right.
The VCR will be in the recording pause mode and the picture selected by the INPUT SELECT switch (if it is set to "TUNER", the TV program) will appear on the monitor screen.
- 4 Press ■■ (pause) to release the pause mode.
Recording will begin.

The picture may be a little distorted in between the recordings, which is due to the stopping and starting of the tape.

RECEIVING/RECORDING MULTICHANNEL TV SOUND (MTS) BROADCASTS (STEREOCASTS)

In the years to come, an increasing number of programs will be broadcast in stereo. Called Multichannel TV Sound or MTS, the new technology will greatly enhance TV viewing by bringing you programs with high fidelity stereo sound.

MTS also provides for an extra channel called the Second Audio Program or SAP which broadcasters can use to transmit a second language for bilingual transmissions or some other sound track.



The MTS programs can be received with the AUTO STEREO switch set to ON.

To receive and record a stereo program

With the BETA HI-FI switch and the AUTO STEREO switch in the tuning compartment both set to ON, you will be able to receive, and record the stereo programs in the Beta hi-fi system. Whenever an MTS broadcast is being received, the "STEREO" indicator in the display window will light up.

On the conventional audio track of the tape, a monaural recording will be made.

Tape

Track (A)	Monaural recording
Track (B)	Stereo recording

To receive and record SAP (Second Audio Program) broadcasts

If you desire to receive and record the SAP broadcasts, set the NORM (normal) AUDIO selector to SAP.

To listen to the SAP being received or recorded, set the AUDIO MONITOR selector to "NORM (normal)" (also making sure that the AUTO STEREO switch in the tuning compartment is set to ON).



The SAP will be recorded on the conventional audio track of the tape. The main sound (stereo or monaural) of the program will also be recorded on the Beta hi-fi audio track as long as the BETA HI-FI switch is set to ON.

Tape

Track (A)	SAP
Track (B)	The main sound

To listen to the SAP and the main sound at the same time, set the AUDIO MONITOR selector to "MIX".



If during recording, there is no SAP being broadcast and the NORM AUDIO selector is set to "SAP", nothing will be recorded on the conventional audio track.

Only when there seems to be much noise interference in the MTS broadcasts, set the AUTO STEREO switch to OFF, in which case all the TV programs will be received with the monaural main sound.

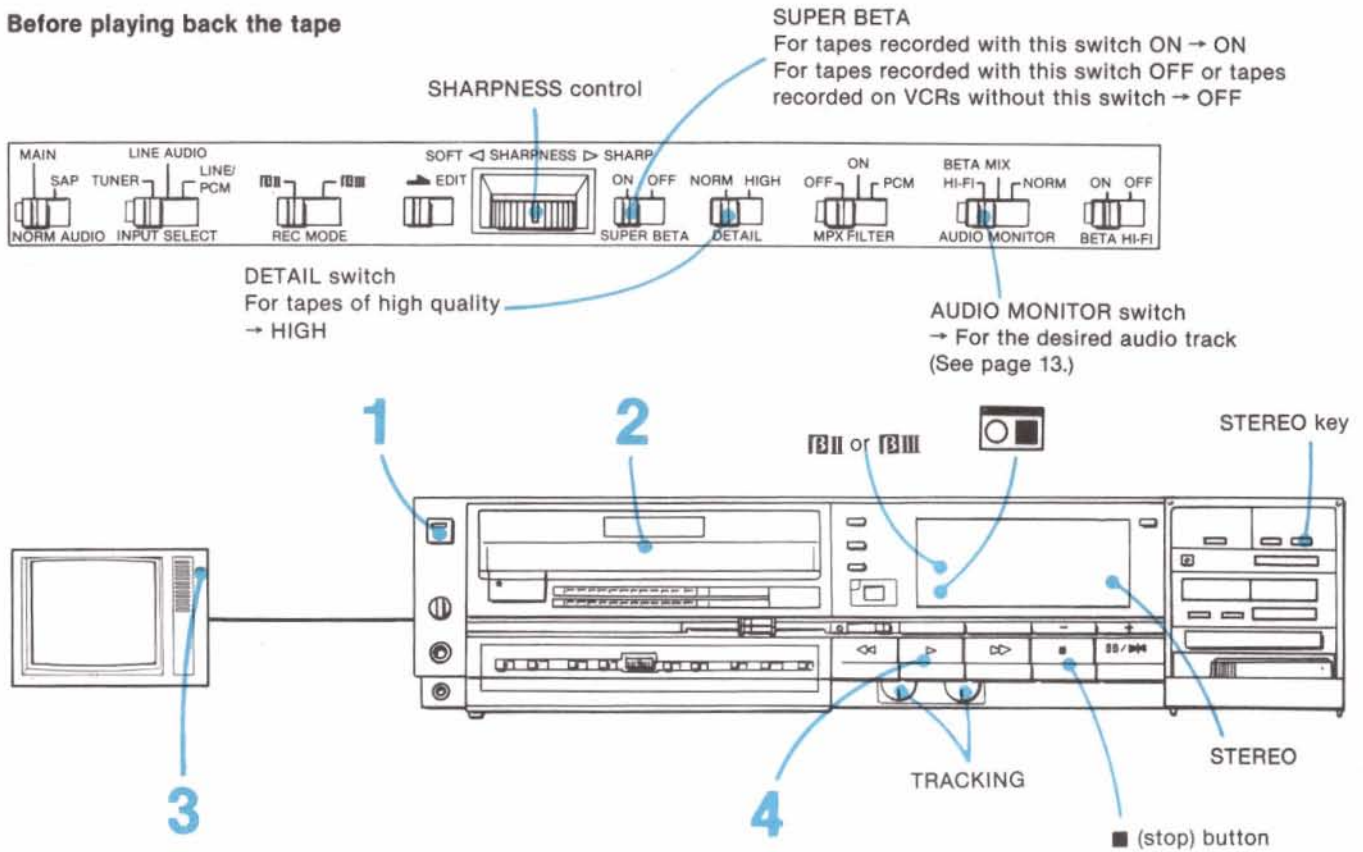
NOTE

ABOUT THE SUPER BETA SWITCH

Normally keep this switch in the "ON" position to obtain high picture quality recordings and playback. Tapes recorded in other non-SuperBeta VCRs can be played on SuperBeta VCRs. Tapes recorded in SuperBeta can be played on other non-SuperBeta VCRs: However, some over-modulation noise may appear in the picture during playback. If you intend to play back on other non-SuperBeta VCRs, then set the SuperBeta switch to "OFF" position when making your recordings.

PLAYBACK

Before playing back the tape



- 1 Turn on POWER switch.
- 2 Insert a cassette.
- 3 Turn on the TV and select the channel for the VCR channel 3 or 4*.
- 4 Press ► (play) button. Playback will start.

To stop the playback, press ■ (stop) button. If the tape reaches the end during playback, the tape will be automatically rewound to the beginning.

*If your TV has a TV/VCR Input selector (TV/VIDEO button) select the "VCR Input" with the selector.

When changing the channel on your TV from channel 3 or 4 on which you have been viewing the picture of the VCR to another channel, first press TV/VTR button and then select the desired channel. If you change the channel first and then press TV/VTR button, a picture may sometimes not appear at all. If this happens, select another different channel on the TV, and then select the desired channel again.

Playback of Beta hi-fi stereo sound recordings
If the VCR's LINE OUT 1 or 2 AUDIO jacks are connected to the stereo audio (L, R) input jacks of a TV that is stereo broadcast ready or to a stereo system, or if you have stereo headphones connected to the HEADPHONES jacks, you will be able to enjoy the stereo sound reproduction of stereo programs recorded in the Beta hi-fi system.

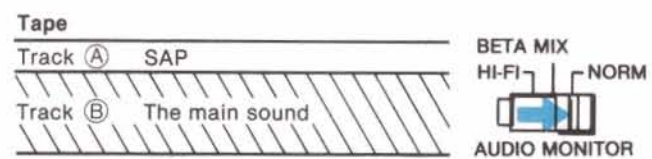
Be sure that the AUDIO MONITOR selector is set at BETA HI-FI (or at MIX) when playing back stereo programs. Only the monaural sound recorded on the conventional audio track will be heard if it is set to NORM.

If you desire to listen only to the left or right channel of the stereo program, select the desired channel with the STEREO L-CH/R-CH (left channel/right channel) key behind the JOG dial door. Each time you press the key, the indicator for the selected channel will appear in the display window.



If the connected TV is a monaural TV or (even when the TV is stereo broadcast ready) if this VCR is connected only to the antenna terminal of the TV, the left and right channels of stereo will be mixed and reproduced monaural.

Playback of SAP (Second Audio Program) recordings
When playing back the SAP recorded on the conventional audio track of the tape, be sure to set the AUDIO MONITOR selector to NORM (for listening only to the SAP) or to MIX (for listening to both the SAP and the main sound of the program recorded on the Beta hi-fi audio track).



PICTURE ADJUSTMENTS

- To adjust the sharpness of the playback picture, turn the SHARPNESS control.
- If the picture of a tape played back at the normal or double speed seems distorted or snowy, turn the TRACKING NORMAL control for the best possible picture.
Be sure to return the control to the center detent position after viewing that particular tape.

Note

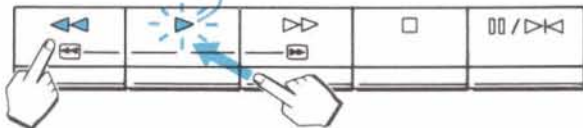
The playback picture may blank out for an instant at a spot on the tape where the switching of the recording mode from **II** to **III** had been made.

AUTO PLAY

To have the tape automatically be played back after the tape has fully rewound itself.

Press **◀◀** (rewind) button and while holding it down, press **▶** (play) button.

Blinks while rewinding.

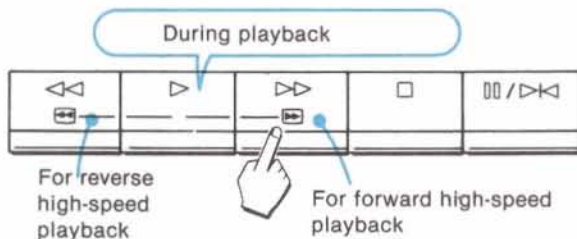


The tape will be rewound and playback will begin.

BETASCAN

Viewing the picture at a fast speed to find a particular scene

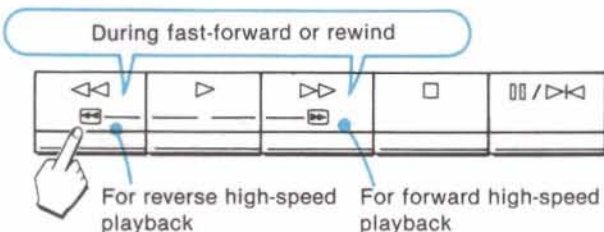
Press **▶▶** or **◀◀** during playback. When you release the button, the normal playback will resume.



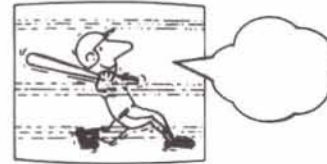
BETA SKIPSCAN

Viewing the picture momentarily during fast-forward or rewind

Press **▶▶** or **◀◀** during fast-forward or rewind mode. When you release the button, the fast-forward or rewind mode will resume.



Streaks will appear and sound will be muted in the Betascan and Beta SkipScan pictures.

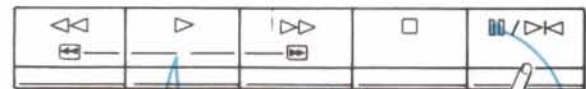


During Betascan, the Beta hi-fi indicator may sometimes not light even when a Beta hi-fi recorded tape is played back.

VARIOUS PLAYBACK MODES

FREEZE PICTURE

Press **||** PAUSE during playback.



During playback



The sound will be muted.

The lamp will light up.

To resume playback press **||** (pause) again.

- If the displayed still picture seems to shake, turn the STILL ADJ (adjustment) control in the tuning compartment until the picture stabilizes. As long as the same TV is used with this VCR, it should not be necessary to make this adjustment so frequently. This control may not work for particular tapes recorded in the **II** mode.
- If streaks or noise appear, play back the tape at slow speed (see next page), adjust the TRACKING SLOW control and then freeze the picture with the **||** (pause) button again.
- To protect the video heads and the tape, the pause mode will be automatically released after about 8 minutes and playback will resume.

DOUBLE-SPEED PLAYBACK

(for tapes recorded in the **II** or **III** mode)

Press the x2 button during normal playback.



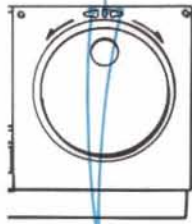
The tape will be played back at double speed and if the tape was recorded in the Beta hi-fi system the sound will be played back at double speed also. (Adjust TRACKING NORMAL control if necessary.)

This button will not function for tapes recorded in the **II** mode.

To return to normal playback, press the **▶** (play) button.

PLAYBACK USING THE JOG DIAL AND THE SHUTTLE RING

Lights up during the playback pause mode.



Indicate the forward or reverse playback of the tape.

Press the OPEN button to open the JOG dial door.



JOG dial
(can be turned also from the outside of the door)

SHUTTLE ring

Using the JOG dial

- 1 Play back a tape and stop the playback with the ■■ (pause) button.
- 2 Turn the JOG dial.



The tape will be played back at the speed you are turning the dial. Turn it clockwise for forward playback or counterclockwise for reverse playback.

Using the SHUTTLE ring

- 1 Play back a tape and stop the playback with the ■■ (pause) button.
- 2 Turn and hold the SHUTTLE ring.



Turn it as much as desired for the playback at one-fifth the normal speed, normal speed, or at double speed.

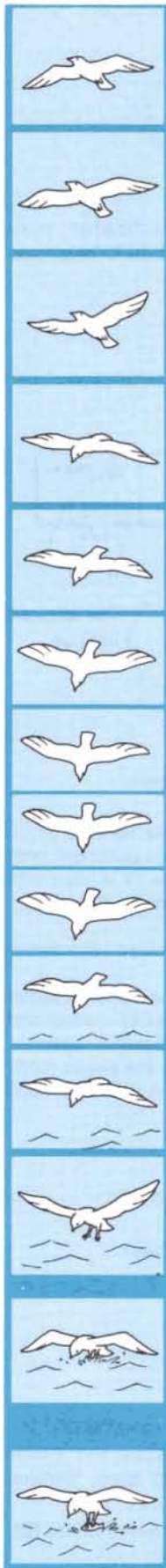
When it is fully turned you will be able to "Betascan" the picture. Turn it clockwise for forward playback or counterclockwise for reverse playback.

When the SHUTTLE ring is released, the picture will freeze again.

Streaks will appear in the playback at a speed other than the normal speed. The sound will be muted.

If the picture of a tape played back at a speed slower than the normal speed seems distorted or snowy, turn the TRACKING SLOW control for the best possible picture. (By this picture adjustment of slow playback, the still picture of that recording will be adjusted as well.)

Be sure to return the control to the center detent position after viewing that particular tape.

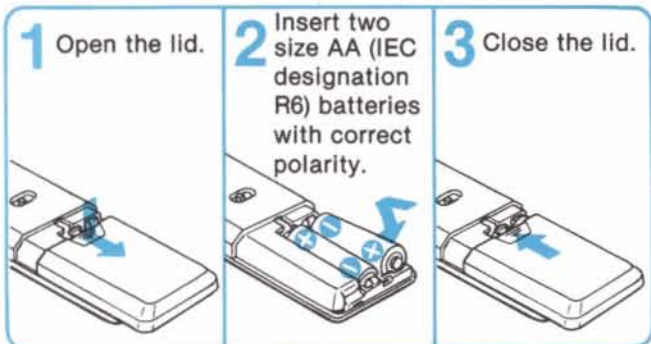


REMOTE CONTROL OPERATION

(Continued on next page)

You can control almost all the functions of this video cassette recorder from your armchair using the supplied Remote Commander.

BATTERY INSERTION



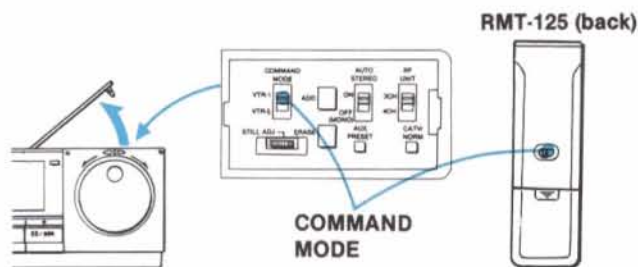
Battery life

In normal operation, batteries will last for about six months. If the range of the Remote Commander becomes noticeably shorter, replace the batteries with new ones. When the batteries are exhausted, the indicator will not light when the buttons on the Commander are pressed.

If the Remote Commander is not to be used for a long period of time, remove the batteries to avoid possible damage from battery leakage.

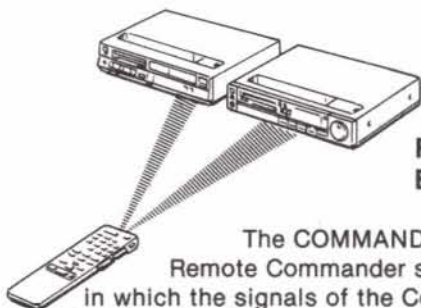
SETTING THE COMMAND MODE SELECTOR

For remote control of this VCR, set the COMMAND MODE selector inside the tuning compartment and on the back of the Remote Commander to the same "VTR-1" or "VTR-2" position as illustrated below.



Ex.1	VTR-1 VTR-2	VTR-1 VTR-2
Ex.2	VTR-1 VTR-2	VTR-1 VTR-2

For details on the difference between the "VTR-1" and "VTR-2" remote control mode, read "FOR OWNERS OF ANOTHER SONY VIDEO EQUIPMENT" below.



FOR OWNERS OF ANOTHER SONY VIDEO EQUIPMENT

The COMMAND MODE selector on the Remote Commander selects the mode (code) in which the signals of the Commander will be sent. On the other hand, the corresponding selector on the VCR selects the mode in which the VCR detects the signals. This VCR will accept only signals in the mode (VTR-1 or VTR-2) selected by this selector. Most Sony Betamax infrared remote control VCRs detect signals in the VTR-1 mode and therefore, can be controlled by the supplied RMT-125 Remote Commander when the COMMAND MODE selector of the Commander is set to "VTR-1". If you desire to avoid having this VCR and the other VCR to function simultaneously, set the COMMAND MODE selector in the tuning compartment of this VCR to "VTR-2". (If, such as the Sony TT-V8U tuner timer unit, the other Sony video equipment detects VTR-2 mode signals, set the selector to

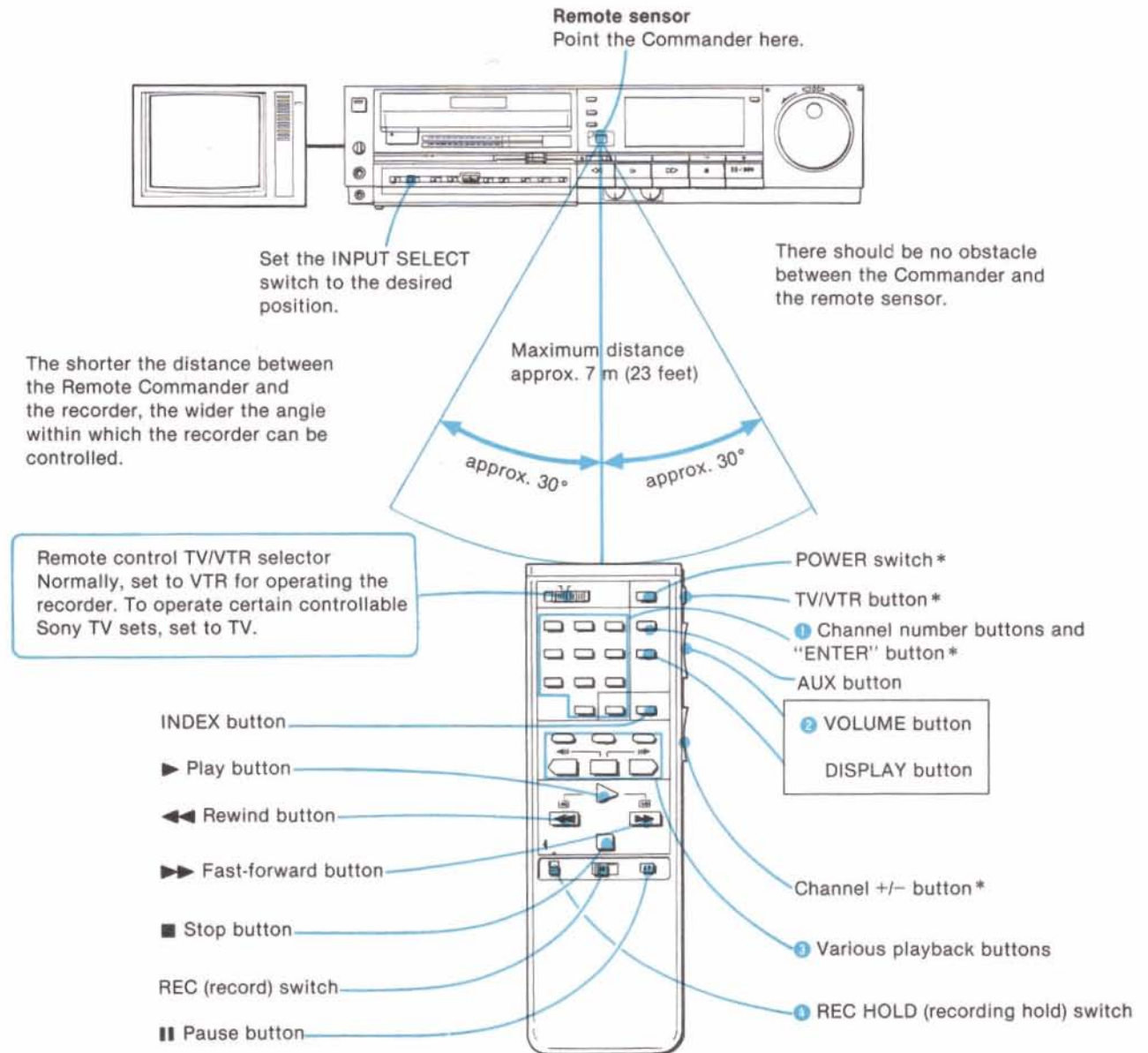
"VTR-1".) Then, by simply switching the position of the selector on the back of the Remote Commander, you will be able to remote control this VCR and the other video equipment separately.

The buttons on the Remote Commander that can be used to control other video equipment are limited by the functions of the other equipment.

If you have set the VCR's COMMAND MODE selector at "VTR-2"

As the remote control mode will automatically be VTR-1 when the remote control TV/VTR selector is set to "TV", always set the Remote control TV/VTR selector to "VTR" whenever controlling the VCR.

USE AND FUNCTIONS OF THE BUTTONS



The buttons other than buttons 1, 2, 3 and 4 will function the same as the buttons on the recorder with the similar name or mark. (The auto play cannot be operated.)

The buttons marked with an "" are buttons that can be used also on certain Sony remote control TV sets. To use these buttons on the TV, set the **remote control TV/VTR selector** to "TV" and then direct the Commander to the Remote control detector of the TV. The buttons that can be used on the TV are limited by the functions of your TV.

1 Channel number buttons and "ENTER" button

Select channels. After pressing the digits of the desired channel one by one, press "ENTER" button (See page 11).

Note

Channel selection on certain Sony TV sets can also be made with these buttons in the similar way by setting the remote control TV/VTR selector to "TV". With some TV models that have only 14 channel (program) positions, channel positions 1 through 9 will be selected simply by pressing buttons "1" through "9", channel position 10 by pressing "0" button, and channel position 12 by pressing the "ENTER" button. For such models, use the channel +/- button to select channel positions 11, 13 and 14.

- 2 These are buttons for use with Sony remote control TV sets only.

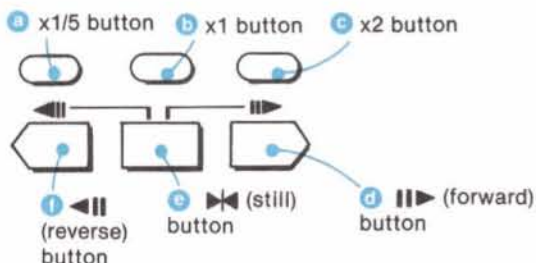
VOL (volume) button

Press the + side to increase the volume of the TV and the - side to decrease it.

DISPLAY button

The on-screen displays of certain TV models can be kept turned on or off with this button.

3 Various playback buttons



a, b, c x1/5, x1, x2 buttons

By pressing these buttons during playback or while a still picture is displayed with the || or ||> button, you will be able to switch the playback speeds to slow (one-fifth the normal speed), normal, or double speed.

To view the reverse playback at the same speed, press <|| (reverse) button.

d ||> (forward) button

Press during reverse playback for forward playback. When this button is pressed while a still picture is being displayed with the || or ||> button, you will be able to view the picture one action at a time (stop-action advance operation).



e ||> (still) button

Press while the tape is being played back with the > (playback), x1/5, x1, or x2 button for a still picture. To start playback again, press x1, > (playback) or || (pause) button.

f <|| (reverse) button

Press during playback for reverse playback at the same playback speed.

To return to the forward playback, press ||> (forward) button.

When this button is pressed while a still picture is being displayed with the || or ||> button, you will be able to view the reverse picture one action at a time (stop-action advance operation).

Normal playback will resume whenever the > (playback) button is pressed.

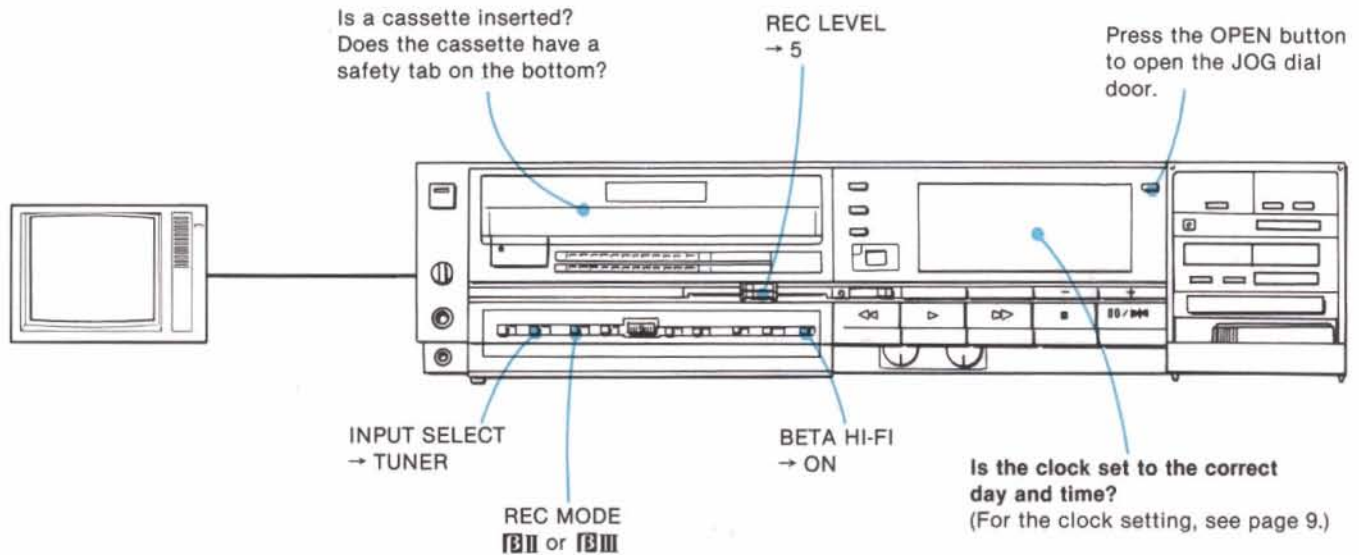
4 REC HOLD (recording hold) switch

When this switch is set at the lower position, the ■ (stop) button of this Commander will not function. It can be used to prevent accidental stopping the unit during a recording.

TIMER-ACTIVATED RECORDING

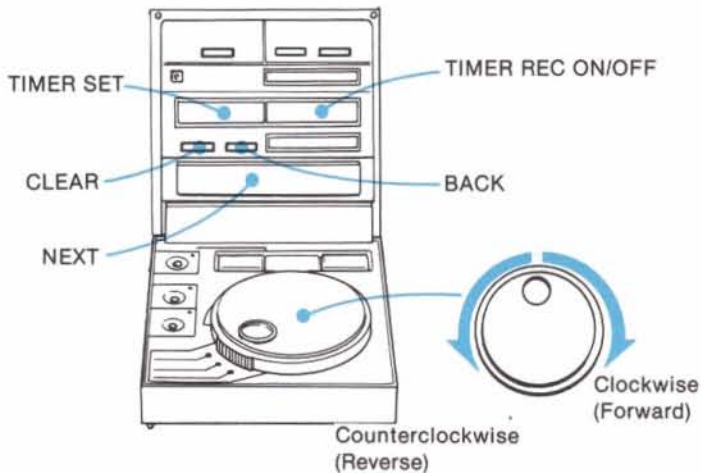
The timer of this VCR can be preset to record up to 8 programs within this week, the next week and the week after next.

Before setting the timer



SETTING THE TIMER

Buttons and keys to be used

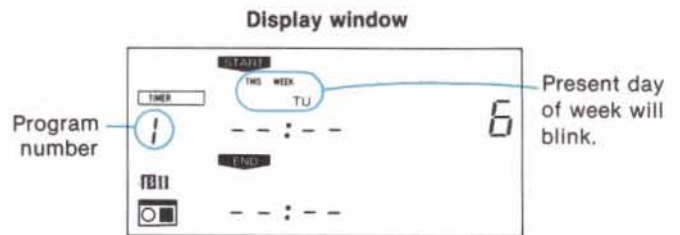


Suppose you want to make a recording of channel 10 from 8:15 p.m. to 10:00 p.m. on Saturday next week.

You will be using the JOG dial and the NEXT button. Every time the NEXT button is pressed, the item to be preset will blink and you will be setting the item by turning the JOG dial. Press the BACK key if you desire to go back a step and change the setting of a particular item.

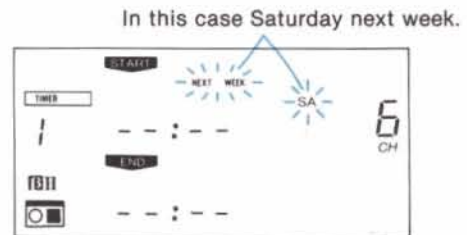
1 Press TIMER SET.

The program number (up to 8) will appear. "!" indicates that you are making the first timer setting.



2 Set the day and week for recording by turning the JOG dial.

(By turning the dial clockwise, the day and week will advance.)



3 Press NEXT.

Set the turn-on hour by turning the JOG dial. Make sure that A.M. or P.M. is properly set.



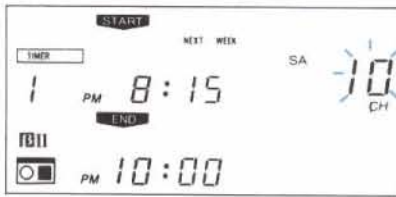
- 4 Press NEXT.
Set the minute by turning the JOG dial.



- 5 Press NEXT.
Set the turn-off time (hour and minute) as in steps 3-4.



- 6 Set the channel to be recorded by turning the JOG dial or by pressing the channel +/-.



- 7 Press NEXT.
The memorized turn-on and turn-off times will be displayed for about 3 seconds, and then the time counter and the present time will reappear.

To preset another program, press TIMER SET again and repeat steps 2-7.

When eight programs have been preset, you cannot set any more programs.

- 8 Press TIMER REC ON/OFF.
The power will be turned off and the VCR will be in the standby mode.



"TIMER REC" will light up and the present time will be displayed.

Recording will start at the preset time and will automatically stop when the recording is completed.

The succeeding program numbers of other preset programs will shift automatically by the number of completed recordings.

- If the cassette's safety tab is removed, the cassette will be ejected automatically when TIMER REC ON/OFF is pressed.
- "TIMER REC" will not light up if the preset turn-on time is earlier than the present time.

NOTICE:

ONCE THE "TIMER REC" INDICATOR HAS LIT UP, only the functions of CHECK, AUX, and TIMER REC ON/OFF on the recorder can be activated. To turn on the power again for the usual manual operations, press TIMER REC ON/OFF again so that the indicator turns off. This does "not" affect the memory of the timer. As long as you press it again, timer recording will be made exactly as preset.

To record up to the very end of the tape

Figure out how long a recording can be made with the remaining tape and then set the turn-off time so that it will be after the tape reaches its end.

To set the channel received through the AUX terminal

Press AUX key so that "PP" lights up for the channel display in step 6.

EVERY WEEK/EVERY DAY TIMER RECORDINGS

To record at the same time every day

When setting the day of the week, turn the JOG dial counterclockwise one notch so that all the day-of-the-week indicators are lit.



Recording will be made every day at the preset time until the end of the tape.

To record at the same time and day every week

When setting the day of the week turn the JOG dial counterclockwise until the "EVERY WEEK" and the desired day-of-the-week indicator lights up.



Recording will be made every week at the preset time until the end of the tape.

To temporarily cancel out every week/every day recordings

Press TIMER REC ON/OFF key so that the "TIMER REC" indicator disappears.

The recordings will not be made.

When TIMER REC ON/OFF key is pressed again and the "TIMER REC" is lit, every week/every day recordings will be made just as preset.

BEFORE THE TIMER-ACTIVATED RECORDING STARTS...

To check the timer settings

Press the CHECK key. Every time you press CHECK, each preset time will be displayed.

To change the settings

- 1 Press TIMER REC ON/OFF.
- 2 Press CHECK to select the program to be changed.
- 3 Press TIMER SET.
- 4 Press NEXT consecutively until the item to be changed blinks.
- 5 Change the setting with the JOG dial.
- 6 Press NEXT so that the current time appears.
- 7 Press TIMER REC ON/OFF again to reactivate the timer.

To erase the memory of a particular program

- 1 Press TIMER REC ON/OFF.
- 2 Press CHECK to select the program to be erased.
- 3 Press CLEAR. The memory of the program will be eliminated.
- 4 If other programs have been preset for recording, press TIMER REC ON/OFF again to reactivate the timer.

AFTER A TIMER RECORDING HAS STARTED...

To stop the recording momentarily.

Press **||** (pause) button.

To resume the recording press **||** again. (Recording will automatically resume if this is not done for more than about 8 minutes.)

To stop a timer recording completely

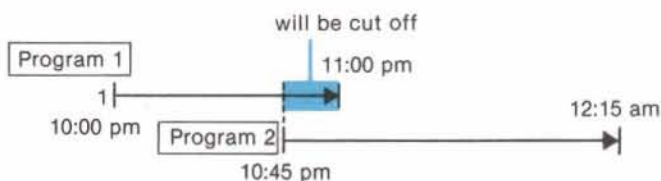
Press the **TIMER REC ON/OFF** key.

The recording will stop and the power will be turned off.

SPECIFIC NOTES ON TIMER-ACTIVATED RECORDINGS

When the presets of your timer-activated recordings overlap

There will be no error indication to inform you of the overlap. Even if there is an overlap, a recording will be made.



In this case, the recording of program 2 will begin before the first recording is completely finished. Consequently, program 1 will be cut off in the middle of its recording.

If the power should be interrupted before a timer recording

If a power interruption occurs, the clock will stop and the time indication will be "AM12:00". This means that the memory of the timer has been completely erased. Set the clock and the timer again.

A short power interruption of less than approx. 10 minutes will not affect the memory of the timer. The timer programs will be retained and performed and the clock will show the correct time.

If the power was interrupted during a timer or quick timer recording

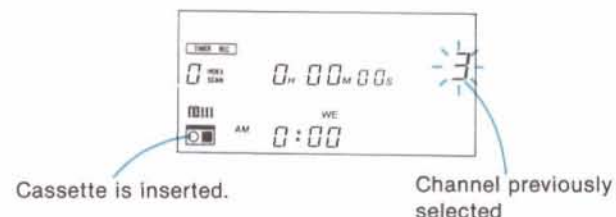
Recording will stop and the power will be turned off. If the interruption was less than approximately 10 minutes, the recording will resume.

QUICK TIMER RECORDING

You can immediately start a recording and set the duration as well simply by pressing the **QUICK TIMER** key. The duration can be set for up to 5 hours by 30 minute intervals so that the power will turn off automatically.

1 Press **QUICK TIMER**.

The power will be turned on had it not been turned on already.

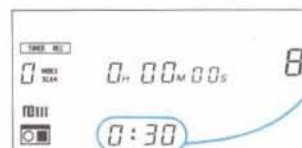


2 Choose the channel to be recorded.

If you do not advance to the next step within 30 seconds, power will turn off.

3 Press **QUICK TIMER** again so that the recording starts.

Now decide the recording duration.



Every time you press **QUICK TIMER**, the recording duration indication will change as follows:

0:30 → 1:00 → 1:30 5:00 → 0:00
30 minutes one hour one and a half hour five hours zero hours

When the recording starts, the displayed duration will decrease minute by minute to 0:00. The recorder will turn off automatically after the recording is finished.

To stop a quick timer recording

Press **TIMER REC ON/OFF**. The power will be turned off as well.

Once the quick timer recording has started

No function button except for the following will activate:

QUICK TIMER.....to change the recording duration
TIMER REC ON/OFF.....to interrupt the quick timer recording

PAUSE.....to stop the quick timer recording momentarily
CHECK.....to check the timer programs preset

During regular non-timer recording

You can set the recording duration during regular non-timer recording as well by consecutively pressing the **QUICK TIMER** key just as in step 3.

The power will turn off automatically after the recording is over.

USE OF THE TIME COUNTER

The time counter indicates the approximate running time of the tape and the relative position of programs on the tape.



Before starting recording or playback, press RESET button to set the counter to "0H00M00s".

By noting the counter reading at the desired point, you can easily find that point later by referring to the counter.

Use the label on the cassette to list the programs and their counter readings.

Notes

- The counter reading is automatically reset to zero when a cassette is newly inserted.
- The counter reading will be retained in the memory even after the power is turned off, as long as the cassette is kept inserted in the cassette compartment.
- The counter will not operate when a blank, unrecorded tape is being used. Therefore, you can easily find a blank part of the tape by observing where the counter stops.

TAPE RETURN/TAPE RETURN PLAY

By using the TAPE RETURN button, you can easily find and review the desired section of the tape after recording or playback.

- 1 During recording or playback, press the RESET button at the point you later want to return to.
- 2 When the recording or playback is finished, stop the tape by pressing the ■ (stop) button.
- 3 Press TAPE RETURN.

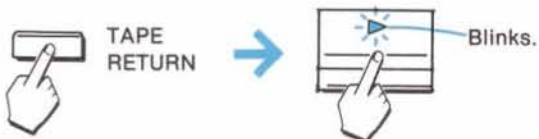


The tape will be rewound or (had it been rewound already) advanced close to the point where the counter reads "0H00M00s".

Depending on the movement of the tape, the lamp on either the ◀◀ or ▶▶ button will light up.

If you desire to have the tape play back automatically from the "0H00M00S" point

Press the ▶ (play) button after pressing the TAPE RETURN button.



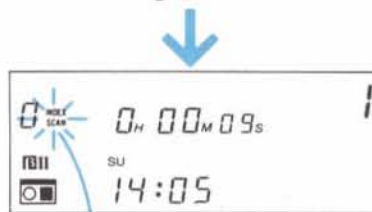
INDEX FUNCTION

Easy location (and playback) of the desired program can be done with the index function of this VCR. Programs will be located by their index signals recorded on the tape.

The length of the index signal recorded with this VCR varies according to the setting of the REC MODE selector:

- I : approx. 4 seconds
- II : approx. 8 seconds
- III : approx. 12 seconds

An index signal is automatically recorded on the tape when the REC switch is slid to the right or when timer recording starts.



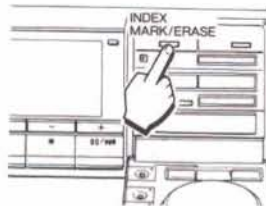
"INDEX" blinks while the index signal is being recorded.

Notes

- Index signals will not be recorded on the tape when the recording is started by releasing the recording pause mode.
- The index function operates also with index signals recorded on other VCRs with an index function, such as the Sony SL-2700/2700B or SL-2500.

Index signals can be recorded at any desired point on the tape during recording or playback.

At the point where an index signal is to be recorded, press the INDEX MARK/ERASE key inside the JOG dial door.



"INDEX" blinks while the index signal is being recorded.

Notes

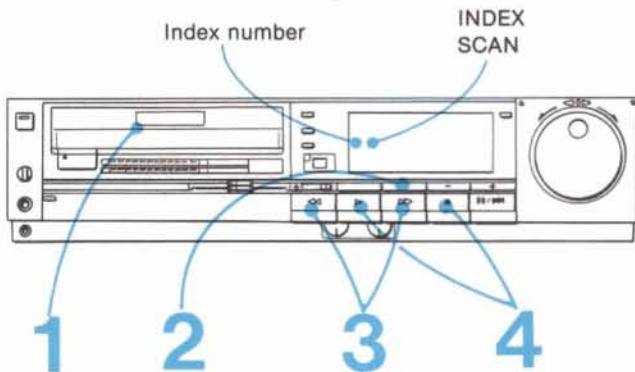
- During playback, the sound recorded on the conventional audio track will be muted while the index signal is being recorded, but the recording will not be affected.
- Do not attempt to insert an index signal immediately before a point on the tape where the recording tape speed (Ⅱ or Ⅲ) changes. In such a case, the index signal may not be registered.
- Index signals can be recorded on cassette tapes without the safety tab (including commercially available pre-recorded video tapes).

HOW TO ACTUATE THE INDEX FUNCTION

—There are two ways.

Index scan

This function allows you to play back the beginning of each program on the tape.

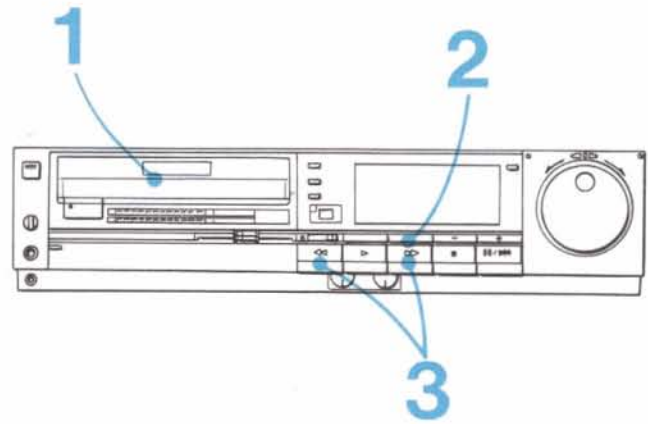
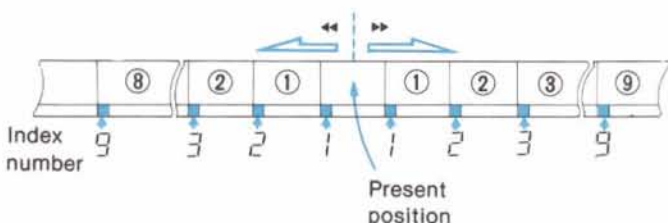


- 1 Insert a cassette that has index signals recorded.
- 2 Press the INDEX button once. The "INDEX" and "SCAN" indications will flash alternately.
- 3 When scanning the previous programs, press the ◀◀ (rewind) button. When scanning the programs ahead, press the ▶▶ (fast forward) button. The "INDEX" and "SCAN" indications will light steadily and the tape will be rewound or advanced rapidly to the next index signal recorded. Whenever an index signal is detected, the tape will be played back for approx. 10 seconds, and then rewound or advanced rapidly again to the next index signal.
- 4 At the desired program, press the ▶ (play) button. Playback of that program will begin.

Index search

You can have the desired program located and then played back automatically by designating the number of its index signal.

Up to the ninth index signal away from the present position on the tape can be located.



- 1 Insert a cassette that has index signals recorded.
- 2 Press the INDEX button several times until the number of the desired program is displayed. For instance, to locate the second program ahead, two index signals will have to be detected, so press the button until "2" is displayed. On the other hand, to locate the second program behind, three signals will have to be detected, so press the button until "3" is displayed.
- 3 When locating a previous program on the tape, press the ◀◀ (rewind) button. When locating a program ahead, press the ▶▶ (fast forward) button.

The tape will be rewound or advanced rapidly. Every time an index signal is detected, the displayed number will decrease. When the number reaches 0, playback of your desired program will start.

Notes

- The index function can be activated during playback, as well as from the stop mode.
- While the index signals are being scanned or searched for, there will be no picture or sound.
- If the tape is rewound to the beginning during index scan, playback will begin automatically.

When the desired program cannot be played back with the index function, check the following:

- Is there a program of less than one minute? Such a program will not be counted.
- The nearest index signal may not have been counted. If the point where you pressed the ◀◀ or ▶▶ button is fairly close (within one minute of the normal tape-run) to the nearest index signal, the nearest index signal will not be counted. In such a case, designate one number less than the actual number.
- Is there a space of more than 2 minutes between each index signal? If there is more than one index signal recorded within a space of two minutes of the normal tape-run, the mechanism may not function properly.

TO ERASE INDEX SIGNALS

Note

Index signals that were recorded by sliding the REC switch to the right from an unrecorded portion of the tape cannot be erased.

Scan-erasing —erasing all the index signals

- 1 Stop the tape with the ■ (stop) button.
- 2 Press the INDEX button. The "INDEX" and "SCAN" indications will blink alternately.
- 3 Press the INDEX MARK/ERASE key. "SCAN" stops blinking.
- 4 To scan-erase the previous index signals on the tape, press the ◀◀ (rewind) button. To scan-erase index signals ahead, press the ▶▶ (fast forward) button. The tape will be rewound or advanced rapidly to the nearest index signal. At each index signal found, the tape will be played back for approx. 10 seconds during which index signals will be erased. During the erasure, the sound recorded on the conventional audio track will be muted but the recording will not be affected.

To stop the scan erasing, press the ■ (stop) button.

Search erasing —designating the index signal to be erased

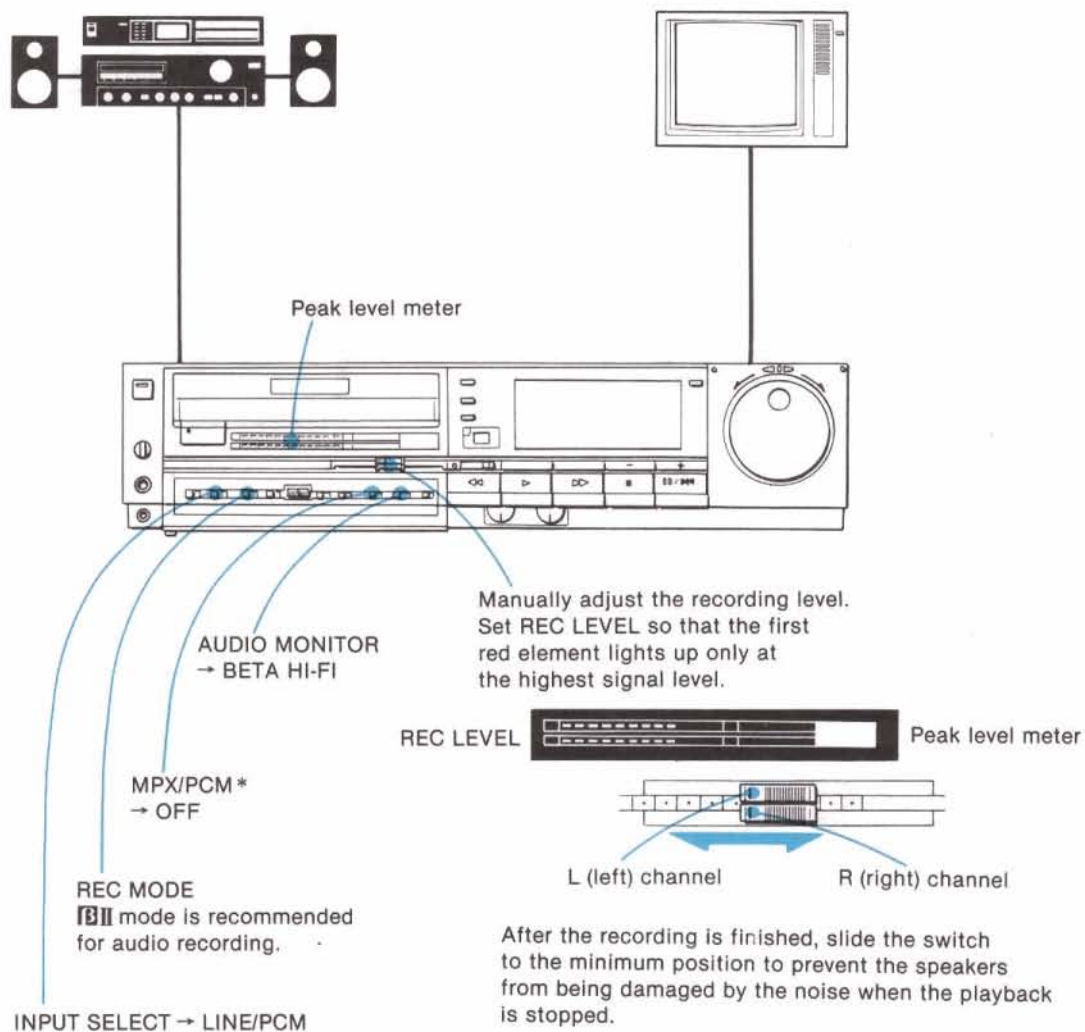
- 1 Stop the tape with the ■ (stop) button.
- 2 Count the number of the index signals from the present position of the tape to the signal you want to erase and set the number (on the left of the time counter) with the INDEX button.
- 3 Press the INDEX MARK/ERASE key. The "INDEX" indication will flash.
- 4 To search and erase a previous index signal, press the ◀◀ button. To search and erase an index signal ahead, press the ▶▶ button. The designated index signal will be searched for and when detected, playback will begin and the signal will be erased at the same time. Every time an index signal is detected, the displayed number will decrease until it reaches 1, which indicates that the designated index signal has been found. At this point a slight automatic adjustment of the tape position will be made and then playback/erasing will begin. When the erasing of the index signal ends, the displayed number will become 0.

ADVANCED OPERATIONS

BETA HI-FI AUDIO RECORDING

RECORDING FROM YOUR AUDIO SYSTEM

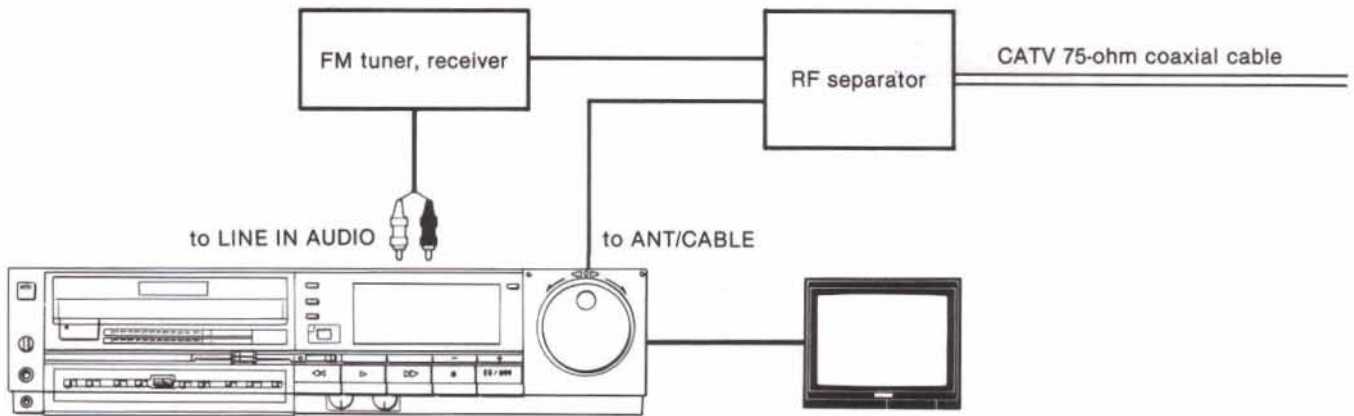
To connect the VCR to your audio system, see page 8.
Set the switches as shown below.
To start recording, insert a cassette and slide the REC switch to the right.



*When recording from an FM tuner without an MPX filter, set the MPX/PCM switch to ON.

FM SIMULCAST RECORDING

By connecting an FM tuner to the LINE IN AUDIO jacks in addition to the CATV cable connection, you can record a CATV program with stereo sound, such as MTV (music TV), whose audio signals are divided into the FM tuner from the cable. For FM simulcast recording, set the INPUT SELECT switch to LINE AUDIO. The sound from the FM tuner is recorded on the video track (Beta hi-fi recording) together with the picture, while the normal TV sound is recorded on the conventional audio track.

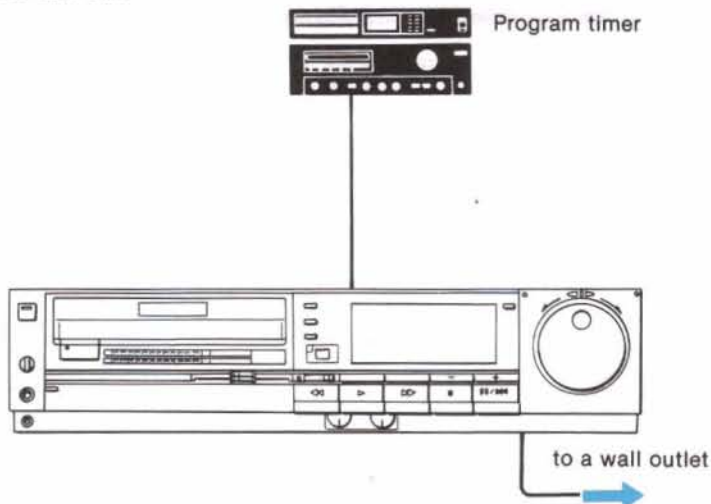


Note

If there has been a switching of the broadcasting source during FM simulcast recording, the sound may be distorted when that part of tape is played back.

TIMER-ACTIVATED FM RECORDING

Use an optional program timer to turn the audio system on and off.

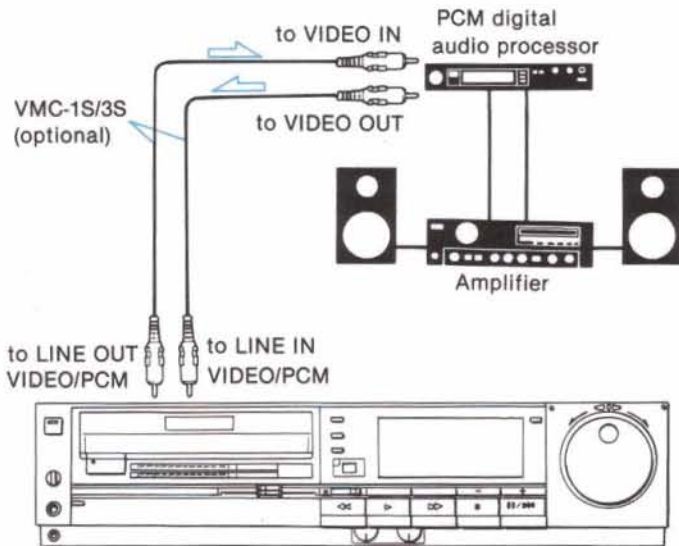


The setting of the controls is the same as in "RECORDING FROM YOUR AUDIO SYSTEM".

Set the VCR's timer and the program timer to the same turn-on and turn-off times. The setting of the VCR's timer is the same as in "TIMER-ACTIVATED RECORDING" on page 22.

PCM RECORDING AND PLAYBACK

Connect a PCM digital audio processor as shown below.



For PCM recording, set the INPUT SELECT switch to LINE/PCM and MPX/PCM switch to PCM.

For optimum performance, use a video cassette with a model number of L-500 or under, (L-250, L-125, etc.), and select the tape speed **II**.

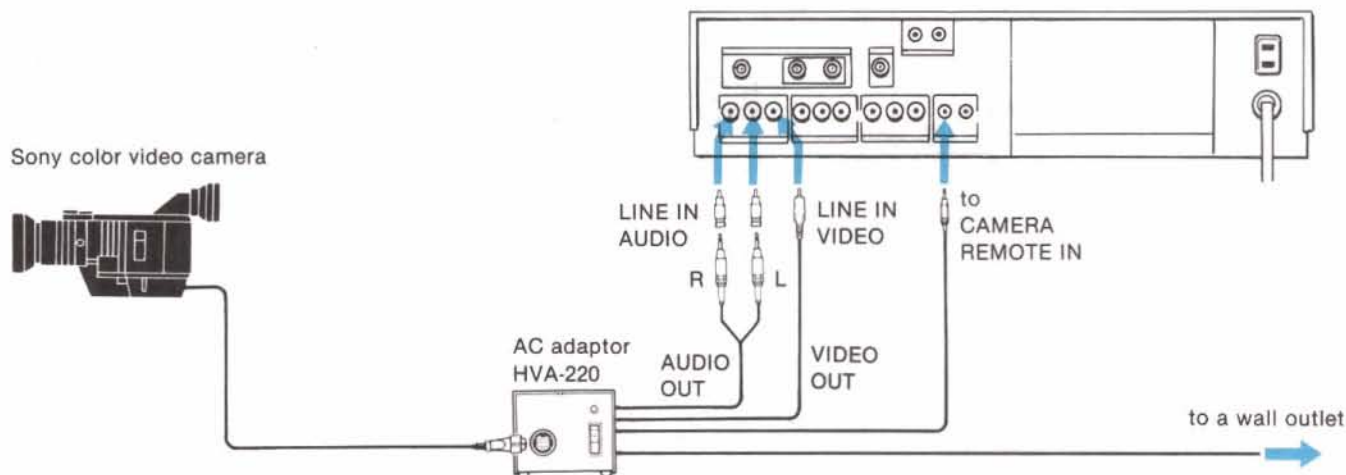
After the PCM recording or playback is finished, be sure to set the MPX/PCM switch to OFF. Otherwise, the still picture of regular video tapes may be distorted.

For details, refer to the instruction manual supplied with the digital audio processor.

CAMERA RECORDING

CONNECTIONS

- The camera must conform to American TV (EIA) standards.
- The use of a Sony HVA-220 ac adaptor is required.



OPERATION

Set the INPUT SELECT switch to LINE/PCM.

To start recording, slide the REC switch to the right. Once the recording is started, you can stop (pause) and start the recording with the tape run/stop button on your camera as well as with the **||** (pause) button on the VCR or on the Remote Commander.

To stop the recording completely, press the **■** (stop) button on the VCR or the camera.

FRAME-BY-FRAME SHOOTING

To tape an animated program of your own, follow the steps below.

- 1 Shoot an object, a doll for example, with your camera for several seconds, then set the VCR in the recording pause mode with the **||** button.
- 2 Move the object a little and slide the REC switch of the VCR to the right or press the record switch of the Remote Commander.
A very short recording of approximately seven frames will be made and then the VCR will automatically go into the pause mode again.

Repeat Step 2 as many times as you like.

When such recordings are played back continuously, the object will seem as if it is moving.

Notes

- This function can also be used when recording from the TV.
- The picture may be a little distorted when the frame-by-frame recordings are played back.
- If the VCR is kept in the pause mode for more than about 8 minutes, the pause mode will be automatically released and the tape will stop.

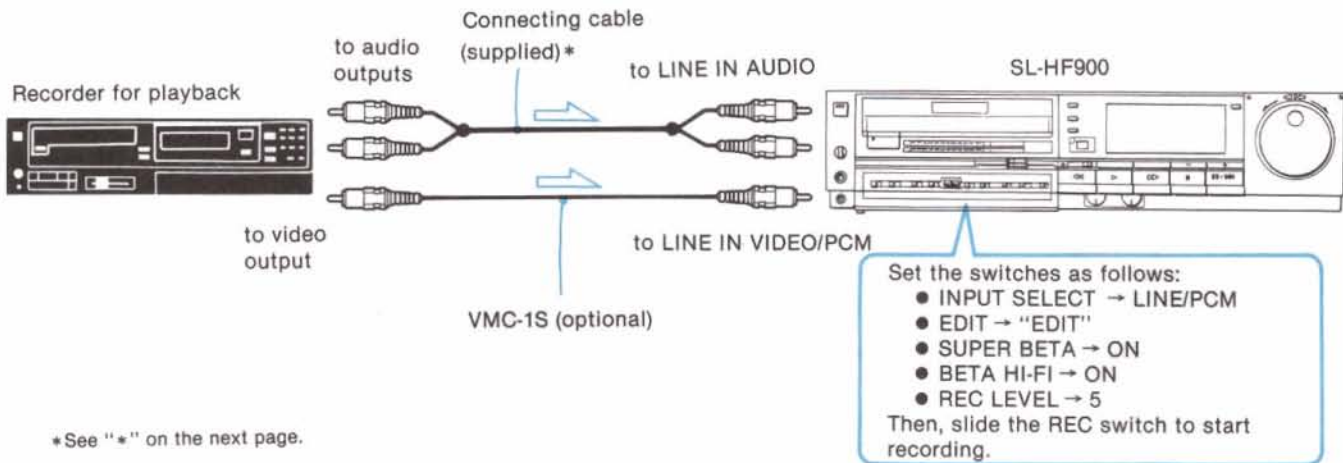
EDITING TAPES


To edit a tape, you will need two VCRs: one is to play back the original tape and the other is to record.

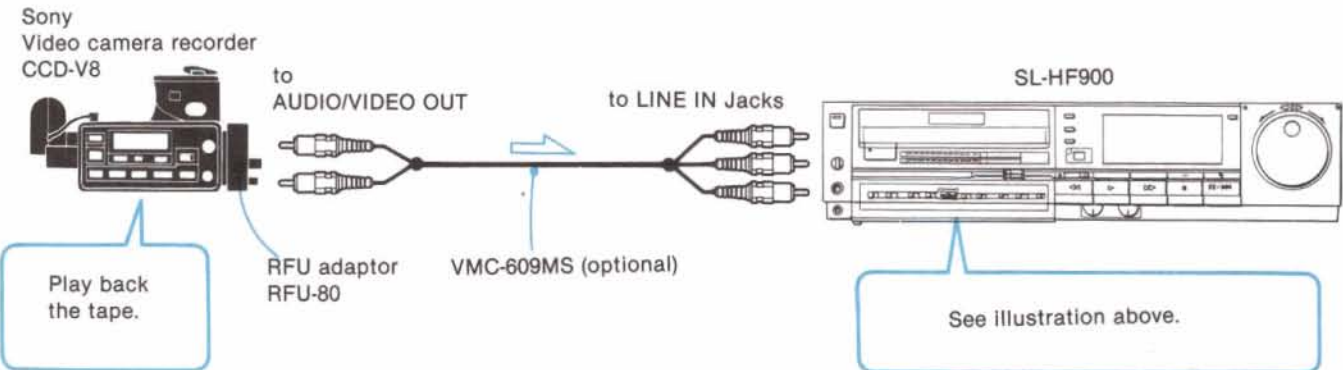
As illustrated below, by setting the EDIT switch at the "EDIT" position, the quality of the edited picture can be improved. Be sure to return the switch to the left position when you have finished editing. For details on this switch, read page 40.

If your other VCR is a Sony remote control VCR, see also pages 43–45 for further systematic operations.

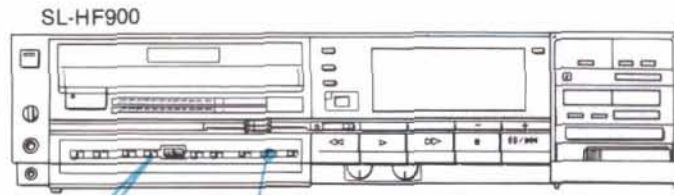
To record the playback of another VCR



Video camera recorders, such as the Sony CCD-V8, that use 8 mm cassettes can also be connected so that you can edit and transfer what you have filmed on an 8 mm format cassette to a  Beta format cassette.



To record the playback of this VCR on another VCR



EDIT → "EDIT"
Then, press ► (playback) button to start the playback.

AUDIO MONITOR switch

to LINE OUT 1 or 2 VIDEO/PCM

to LINE OUT 1 or 2 R-AUDIO-L

VCM-1S (optional)

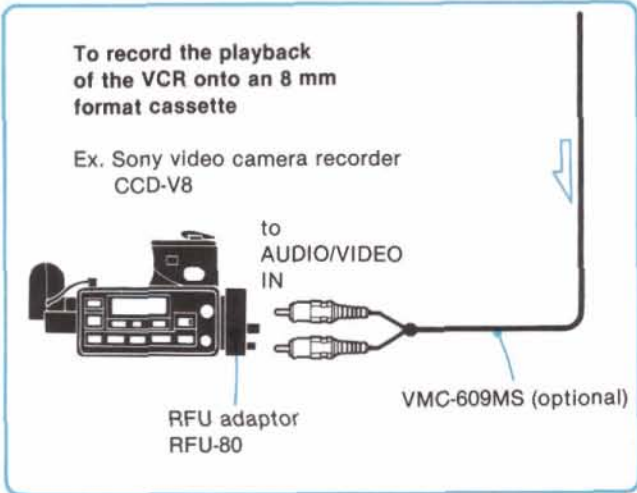
Connecting cable (supplied)*

to video input

to audio inputs



VCR for recording
(Be sure to set the input selector correctly)



*If your other VCR is a monaural VCR, use the optional RK-105A (and, if the audio input jack is a phono-type jack, the optional PC-5A plug adaptor).

When recording the playback of this VCR on a VCR that is not of the Beta hi-fi system

If the sound on the Beta hi-fi audio track and on the conventional audio track of the tape were originally recorded separately (such as when the SAP of a TV program is recorded on the conventional audio track and the main sound is recorded on the Beta hi-fi audio track), be sure to select the audio track to be played back with the AUDIO MONITOR selector. The selected (and only the selected) sound will be recorded by the other VCR.

Note that if the switch is set to "MIX", the sound of the two audio tracks will be mixed and with VCRs that are not of the Beta hi-fi system, they will be reproduced mixed as well.

CAUTION

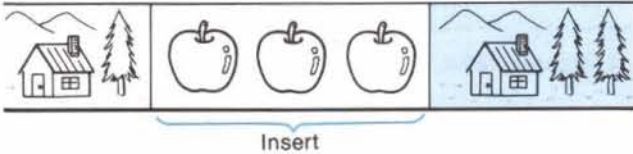
Television programs, films, video tapes and other materials may be copyrighted.

Unauthorized duplication of such material may be contrary to the provisions of the copyright laws.

AUDIO AND VIDEO INSERT

(Continued on next page.)

By using the INSERT buttons inside the JOG dial door, you can easily "insert" (re-record) new sound or picture onto a recorded tape.



Audio insert —Inserting new sound (monaural) without erasing the original picture of the tape

If the original tape was recorded in the Beta hi-fi system, the original sound of the Beta hi-fi audio track will remain also.

Video insert —Inserting new picture and Beta hi-fi sound, without erasing the original sound on the conventional audio track

Audio and video insert —Inserting new sound and picture onto a part of the tape

The recording on the tape after audio, video or audio/video insertion

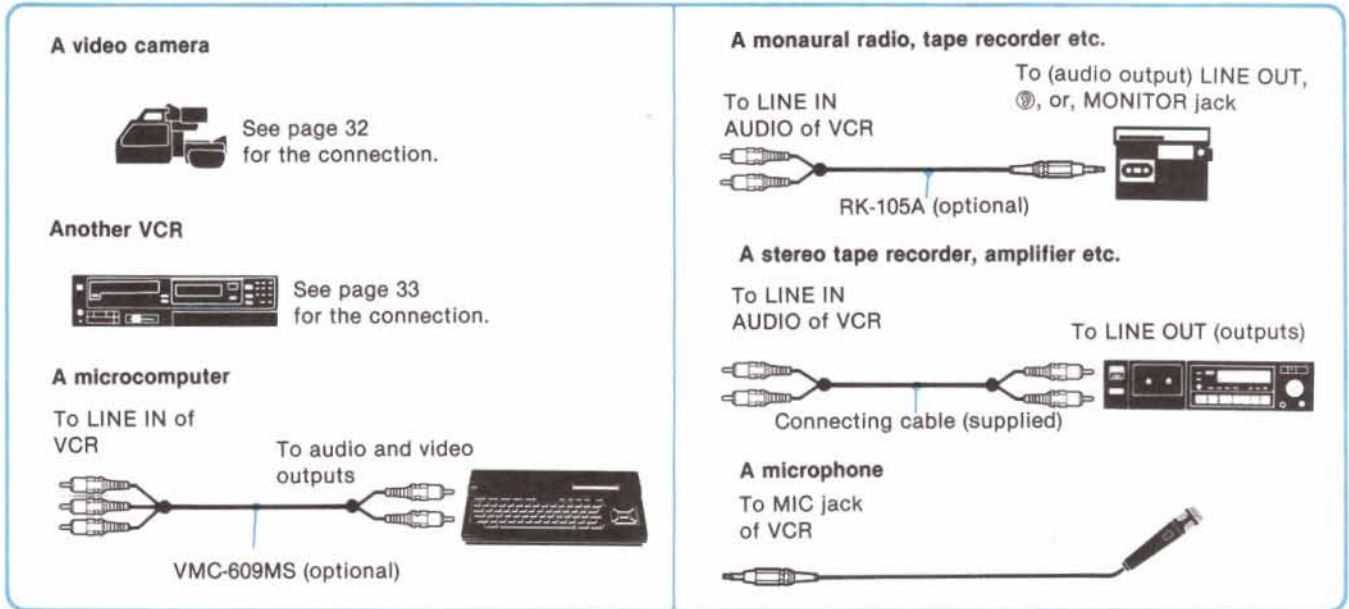
	Tape
Audio insert	Track (A) newly inserted monaural sound Track (B) Original picture*
Video insert	Track (A) Original sound of the conventional audio track Track (B) Newly inserted picture and or Beta hi-fi sound
Audio/Video insert	Track (A) newly inserted monaural sound Track (B) Newly inserted picture and Beta hi-fi sound

*"and Beta hi-fi sound," if the tape was originally recorded in the Beta hi-fi system.

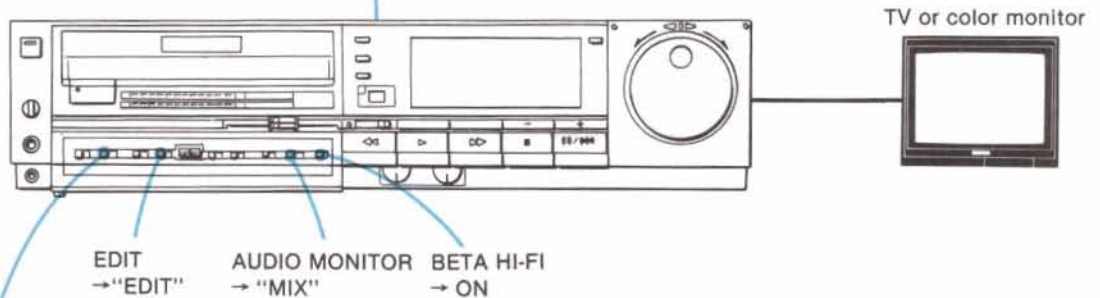
When playing back the tape (or also while the insertion is being made), you can select the sound on Track (A) or on Track (B) to listen to by setting the AUDIO MONITOR selector to the desired position. (See page 13.)

PREPARATION

Select the desired audio and/or video source for the insertion and connect the source to the VCR
Examples are shown below.



After the connection is made, set the switches on the VCR as follows:

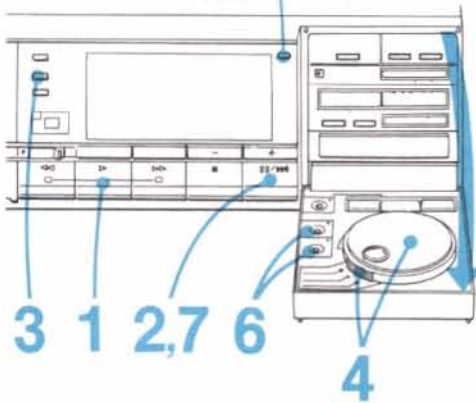


INPUT SELECT

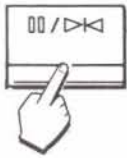
- For inserting TV programs → **TUNER**
- For inserting the picture of TV programs with the sound of the audio source connected to the LINE IN AUDIO jacks → **LINE AUDIO**
- For inserting the sound of the microphone → Any position
- For other insertion → **LINE/PCM**

STEPS

Press the OPEN button to open the JOG dial door.



- 1 Play back the original tape that you like to record on.
- 2 At the point where you want to stop the insertion to be made, press the **||** (pause) button.



(If necessary, turn the JOG dial or the SHUTTLE ring for deciding on the point more accurately.)

- 3 Press RESET button.
The time counter will be reset to "0H00M00S".
- 4 Turn the JOG dial or the SHUTTLE ring counterclockwise or press the **◀◀** (rewind) button and at the point where you desire to start the insertion, release the dial, ring or the button.



- 5 Turn on the audio and/or video source that you have connected.
- 6 For "Audio insert", press AUDIO INSERT button.
For "Video insert", press VIDEO INSERT button.
For "Audio and Video insert", press VIDEO INSERT button and then the AUDIO INSERT button.



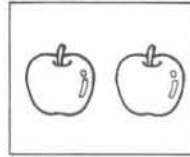
When these buttons are pressed, you will be able to monitor the sound and/or picture of the connected source.

- 7 Press the **||** (pause) button.

The video and/or audio insertion will start.

Had the original tape been recorded in the Beta hi-fi system, and you are inserting new sound onto the tape, you will be able to hear both the original audio recordings and the new sound being inserted.

At the point where you have pressed the RESET button in step 3, the recording will stop.



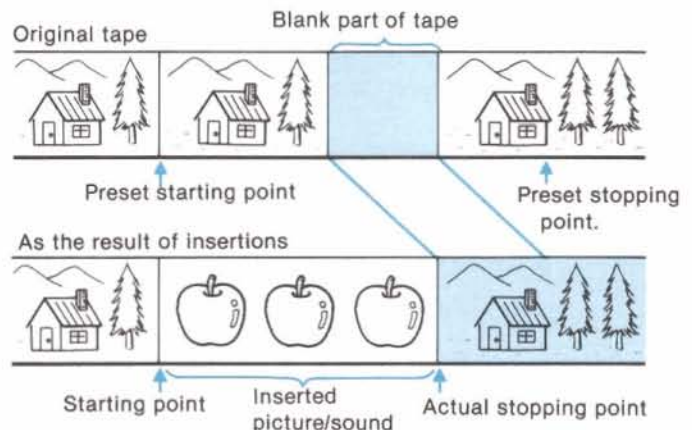
The picture of the connected video source will still be displayed even after the insertion is stopped.

Audio and/or video insertion can be made simply by stopping the playback with the **||** (pause) button and then going through steps 6 and 7, however, remember that the recording will stop at the point where the counter reads "0H00M00S".

To stop the insertion that has started, press the **■** (stop) button.

Notes

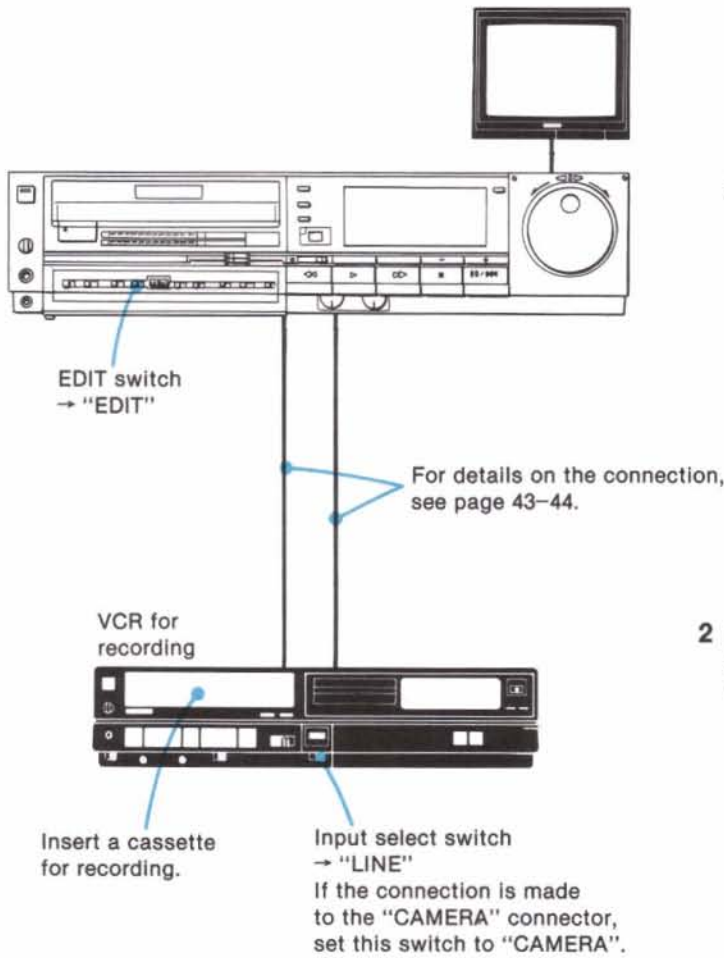
- During the insertion, the **▶** (play), **◀◀** (rewind) and **▶▶** (fast-forward) buttons will not function.
- If a microphone is connected to the MIC jack, the sound from the microphone will always be recorded on the conventional audio track.
- Insertions can be made just as described above without setting the AUDIO MONITOR selector to "MIX", but you will only be able to hear either the new sound being recorded or the originally recorded sound.
- If the safety tab of the tape is removed, the cassette indicator in the display window will blink when the INSERT buttons are pressed and insertion will not be made.
- As the time counter does not work with blank tapes, if there is a part that is unrecorded in between the starting and stopping points, the video and/or audio insertions will stop earlier than the preset stopping point by the amount of the unrecorded part.



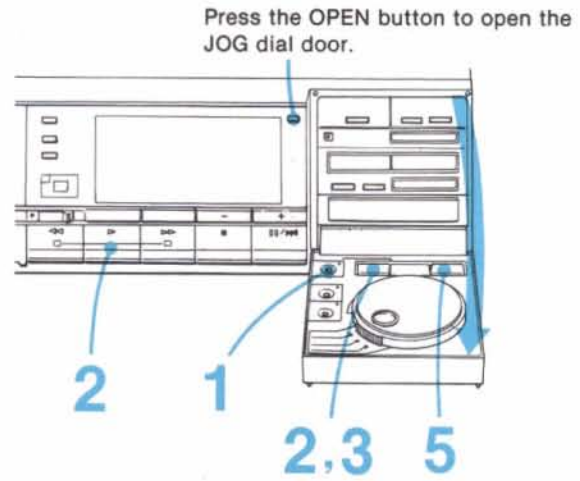
AUTOMATIC ASSEMBLE EDITING

If you have another Sony VCR as designated on page 43, you can preset the VCR so that, with a push of a button, the desired (and only the desired) part of the tape will be played back while the connected VCR records the play-back simultaneously. You can easily "assemble" parts of the recording of one or of many tapes onto a single cassette using this function.

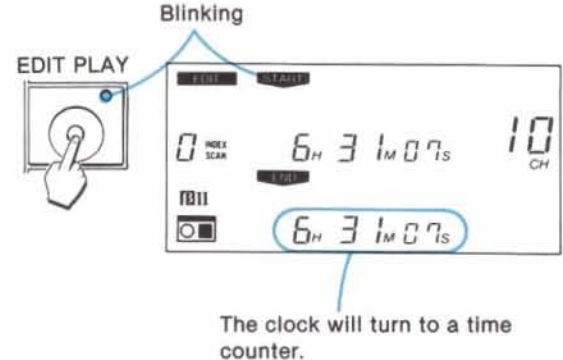
PREPARATION



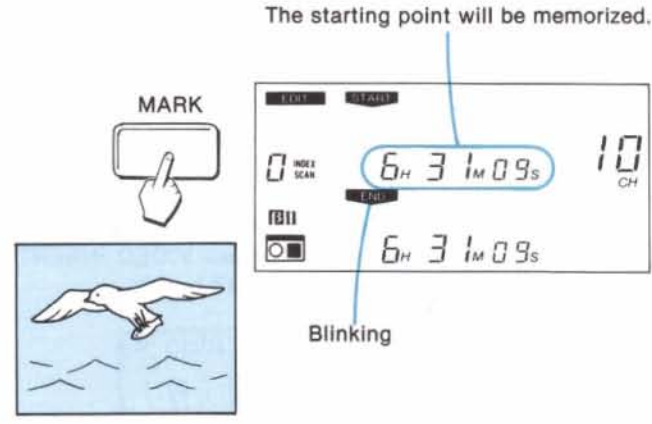
STEPS



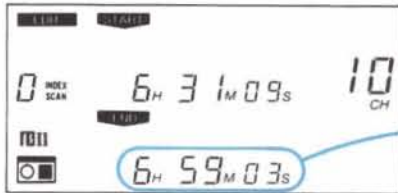
Press EDIT PLAY button



2 Play back the original tape and at the start of the scene to be recorded on the connected VCR, press MARK button.

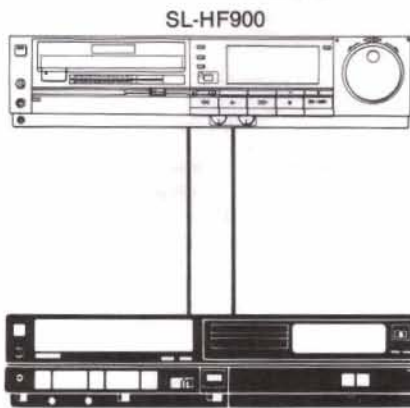


- 3 Continue the playback and at the end of the scene to be recorded, press MARK button again. Use the Betascan or Beta SkipScan function for quick searching of the ending point.



The ending point will be memorized.

- 4 Set the connected VCR to the recording pause mode. (For details, read the instruction manual of the other VCR.)
- 5 Press EDIT START button. The tape on this VCR will be rewound to the starting point you chose in step 2 and playback will begin, and at the same time, the connected VCR will start recording.



Automatic start and stop (pause) of playback

Automatic start and stop (pause) of recording

Connected VCR

At the stopping point you chose in step 3, this VCR will be in the playback pause mode and the connected VCR will be in the recording pause mode. The lamp on the EDIT PLAY button will blink.

To repeat the same recording again, press the EDIT START button again.

The preset starting and ending points may shift by a small amount if you repeat this several times.

The tape transport buttons, ■, ►, ◀◀ and ▶▶, can be used as usual after presetting the starting and ending points. When the EDIT START button is pressed, the playback and recording will be made as preset.

To preset another scene of the same tape

By "Betascan" or by turning the JOG dial/SHUTTLE ring or simply by releasing the pause mode with the || (pause) button, play back the tape and repeat steps 2-5.

To stop the tape during the automatic assemble editing, Press the ■ (stop) button.

To put the VCR back to the normal recording/playback mode

Press the EDIT PLAY button so that the lamp of the button turns off.

The current time will be displayed again.

To change the preset starting or ending point before pressing the EDIT START button

Press the EDIT PLAY button once so that the lamp of the button turns off, then repeat steps 1-3.

Notes

- The || (pause), ▶▶ (fast-forward) and ◀◀ (rewind) buttons will not function while the automatic assemble editing is being carried out.
- The preset starting and ending points will be erased if you turn off the power or eject the cassette.
- You cannot set the ending point at a point on the tape that comes before the starting point.
- With certain other VCRs, the starting and ending points of the recording will be shifted a little behind the preset points.

The starting/ending points can be selected more accurately using the JOG dial or the SHUTTLE ring

Before pressing the MARK button in steps 2 and/or 3, press the || (pause) button. Then turn the JOG dial or SHUTTLE ring to playback the desired starting/ending point. The playback pause mode need **not** be released to press the MARK button or the EDIT START button.

TAPE EDITING TECHNIQUES

Tape editing is a simple process that can add much enjoyment to viewing of recorded tapes. Through editing, you can transfer just the sections of previously recorded tapes you want to keep to another tape, add scenes, change the order of playback, and otherwise create a final video tape with just the contents you want. While the arrangement of VCRs and connections for editing is shown on pages 33 and 34, this section contains hints and tips for editing that can make it more interesting and enjoyable—not to mention more successful.

MINIMIZING LOSS OF PICTURE AND SOUND QUALITY

Some loss of picture and sound quality is an unavoidable by-product of editing. However, by making sure that the equipment is properly set up and adjusted, and by selecting proper tape types, the edited tape will be barely distinguishable from the originals.

First set the VCR's EDIT switch to the EDIT position.

The EDIT switch is located inside the front panel. For normal operation, it should be set to the left position, but when another VCR is connected for tape editing, it should be set to the right.



Generally, for accurate playback of a tape's recorded signals on a TV or monitor, the VCR electrically rectifies the signal. When the EDIT switch is set to the left position, this function is engaged. However, the playback rectification from the original VCR is not needed when the signal is being recorded onto a tape in another VCR; in fact, overrectification can result. Therefore, when you set the EDIT switch to the right, you're cancelling the VCR's rectification circuit. This allows direct recording of the original signal onto the tape in the second VCR.

What's more, when the video playback signal from another VCR is edited on this VCR with the EDIT switch engaged, editing faults such as color shift can be reduced.

The SL-HF900's EDIT switch, in conjunction with the SUPER BETA switch (ON) which produces higher recording quality, this VCR is ideally suited for editing.

If the input and output terminals or the recording head become dirty, the signal is reduced significantly.

Terminals are the entrance and exit points for signals. If these terminals become dirty, it is impossible to achieve high-quality pictures or sound. Therefore, the terminals on the back of the VCR should be checked occasionally for dirt or corrosion. If any is present, wipe the terminal with a dry cloth or cloth slightly dipped in alcohol until it is clean.



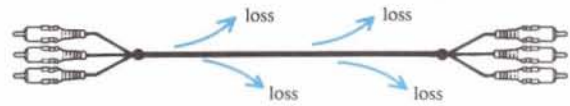
Also, if the video head becomes soiled with dust or magnetic particles, the S/N (signal-to-noise) ratio will drop and picture and sound quality will be reduced. Since the head can be dirty even if it looks clean, it should be cleaned once every two or three months if the VCR is used frequently, using a Sony Video Head Cleaning Cassette L-25CL or similar product.

When the head has been used for about 1,000 hours, it should be checked by a qualified technician. For details, consult a Sony dealer or contact your nearest authorized service facility.



Use short connection cords

The longer the connection cords, the greater the signal loss will be. To minimize signal loss, use the shortest cords possible.



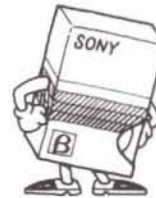
Don't forget tracking adjustment

When playing back tapes recorded on other VCRs, adjust the picture for the best quality using the TRACKING NORM control. (Use the TRACKING SLOW control for adjustment when playback is slower than normal, such as when the JOG dial, SHUTTLE ring, or Remote Commander are used.) If tracking is not adjusted properly, noise will be excessive, and if edited onto another tape, it will be even more severe on the latter. When editing, the position of the tracking control on the recording VCR should be set to the mark or to the spot in the middle where it stops naturally when turned.



Use high-quality tapes

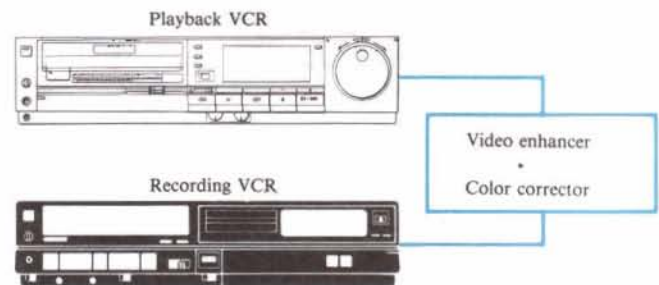
The higher the quality of the tape, the better the quality of both the original recording and edited versions will be. If high-quality tape, such as those of the Sony HG type, is used, color loss will be reduced along with editing marks in the edited tape.



High grade (HG) type

Helpful Assistants in Editing: Video Enhancer and Color Corrector

With just a little attention to proper setup and adjustment, you'll be able to maximize the picture quality of your edited tapes. But if you're not satisfied with the quality of the picture, you may want to consider using a video enhancer and color corrector to achieve higher quality, more sophisticated recordings.



The video enhancer modulates the playback picture to rectify the picture's loss in quality. When the signal is being sent from one VCR to another, the most easily lost part of the signal is the portion that contains the information on picture details, especially in the high frequency range.

When the information on picture details is reduced, picture contours are lost. The video enhancer, then, strengthens the information in the high-frequency signal range to enhance picture quality. Even pictures taken with a camera that is out of focus can be made to appear sharper when edited using a video enhancer.

On the other hand, the color corrector allows independent adjustment of color tint and density.

Colors which have become thinner after editing can be restored to near their original density, and colors that were incorrectly recorded by camera due to errors in setting the white balance or filter attachment can be rectified using the color corrector.

As the pictures below show, shade (or colors) can be added to the original using the color corrector to achieve special effects.



Original



Shade (or colors) added with the color corrector to create an instant sunset.

In addition, you can use the color corrector for other purposes—for example, if you want to insert a scene you've taken by camera into scenes of recorded TV programs, you can balance the colors to create smooth, natural transitions.

Sony video color corrector XV-5000W has a negative/positive color switching function in addition to enhancer and corrector functions to make video editing even more convenient and enjoyable.



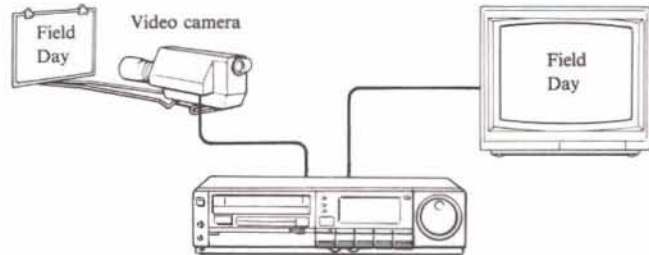
Sony Video Color Corrector XV-5000W

ADDING TITLES TO ORIGINAL PRODUCTIONS

By adding titles to your edited tapes, you can create an entirely different impression on viewers. Titles add a completed touché to your productions, and quickly capture the interest of your audience.

You can create titles on paper, shoot them with a camera and record them on the edited tape using SL-HF900's insert function. For best results, the paper should be non-glossy, blue or green in color. For letters, use white poster colors.

When writing titles, keep in mind the proportions of the TV screen (4 wide × 3 high) and be sure to leave sufficient room at the top and the bottom.



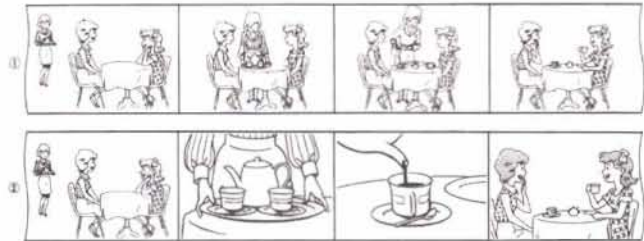
THE IDEAL: EFFICIENT EDITING

The editing method of collecting just those scenes that have been recorded by camera or from the television is called ASSEMBLE editing, while replacing unwanted scenes with scenes from other tapes is called INSERT editing. Selecting scenes for recording on another tape using another VCR or inserting scenes into tapes with smooth transitions from the previous scene to the following scene—both require visual sensitivity and imagination. And to develop these important talents, nothing is more important than the experience gained in editing many tapes. "Efficient editing" is the foundation of all your editing operations.

Don't "Go Easy" on Editing

Most of us have special feelings for certain scenes, especially favorite scenes that we have taken ourselves, and are very reluctant to leave them out of the final edited tape. But however 'beautiful' a scene may be, if it is too long, or is out of context with the previous and following scenes, it will detract from the overall quality of the recording. Scenes that have no meaning in the overall context of the tape, or are out of place, are best eliminated. Although this is not always easy, you should be decisive and consistent in editing, eliminating scenes which do not contribute to making the best edited tape possible—no matter how good they may be individually.

"Efficient editing" concerns more than skillfully eliminating unnecessary scenes—it's also important to think about how to present images which tell your story clearly and in an easily understood way. Inevitably, this involves improving your camera-work skills. An example illustrates this best.

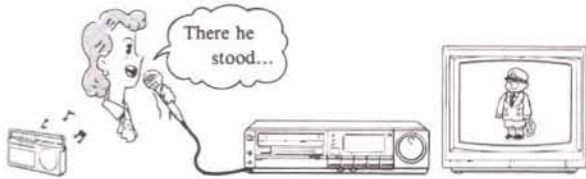


Examples 1 and 2 are both simple scenes of two women drinking tea and chatting, but it's easy to see that the way in which this scene was shot in example 2 creates a stronger impression of the viewer.

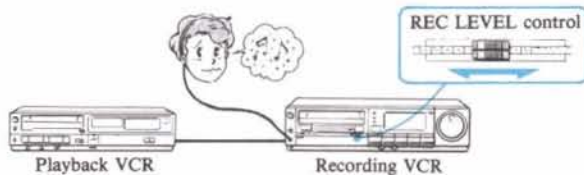
ADDING A SOUND TRACK

Adding a sound track enhances the drama of your tapes. By adding narrations to scenes recorded either by camera or from the TV, or by putting in background music, you can make your tapes far more interesting.

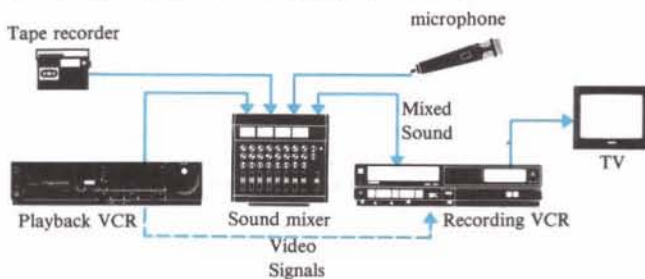
The SL-HF900's audio insert function lets you record over the original sound track on your tapes to record just the sound you want. If your original tape was recorded in Beta hi-fi, you can listen to either the original track or the inserted track, or both at the same time.



Use the REC (recording) LEVEL control to balance live recordings
Making the best possible live recordings is an important part of video. However, when you record sound while shooting, annoying extraneous sounds may be included, or you may discover while editing, that a quiet scene is quickly followed by jarringly noisy one. Unfortunately, these problems occurs all too often. But by using the SL-HF900 or any other VCR with a REC (recording) LEVEL control as the recording VCR, you can adjust the sound level together with the video signal during editing. To do this, use headphones while editing (plug into the VCR's HEADPHONES jack) and reduce the volume with the REC LEVEL control when unwanted sound or static is heard.



If you are a video enthusiast who enjoys dubbing sound onto tapes, skillfully matching the sound and picture together, or recording from a tape recorder, microphone, or two or more sound sources at the same time, you'll get best results using a sound mixer. Using a mixer, you can easily blend sounds from different sources, such as narrations and background music, when adding audio to tapes.



The components you connect will depend on the types of sound you want to record, but the general configuration will look like that in the above diagram. In the case of editing the video signal and sound at the same time, as the arrows indicate, the video signal only is connected directly to the recording VCR, while the audio signal is connected to the audio output terminals on the playback VCR, passed through the sound mixer, and connected to the recording VCR's audio input terminals.

When recording, plug headphones into the recording VCR to monitor the sound levels of the audio sources to be used, and adjust the level of each using the appropriate button or lever on the mixer. To familiarize yourself with adding sound using a mixer, it is suggested that you start with background music, then add narration, special effects, and adjust the sound of each source for best results.

FOR MORE ENJOYABLE EDITING

While various points concerning editing have been discussed, the important point is how to activate your imagination as a producer. With some imagination, you can enjoy making all kinds of tapes, such as:

- Compiling scenes from tapes of the family taken over the years to make a video diary of the growth and development of children.
- Edit the scenes of a favorite entertainer from your recorded tapes to create a "special" all your own.
- Create a "best hits" tape of your favorite baseball team.
- Shoot scenes from a storybook with a camera then add a narration to create original picturebook videos.
- Imitate people's voices and dub them over the original sound track to create surprise effects.
- Intersperse scenes taken from the TV with scenes taken by camera to make yourself the "star" of your favorite TV program.

These are just a few examples, of course. The SL-HF900's insert function, assemble function, and JOG dial allow you to achieve a full range of playback effects to create unique videos. Why not give it a try!

USING THE SONY CONTROL SYSTEM

- When two VCRs are connected for editing tapes, isn't there an easy way to operate both recorders?
- When more than one remote control video/audio component is used, shouldn't it be possible to operate both with the same Remote Commander or remote sensor?

Many owners want to incorporate their various audio and video components into a single audio-video entertainment system. To make this wish a reality, Sony audio and video components are equipped with various terminals that make intercomponent control possible.

The SL-HF900 is fully capable of operating as the part of the most advanced control systems. By connecting various components you can discover the exciting possibilities of the AV (Audio/Video) age for yourself.

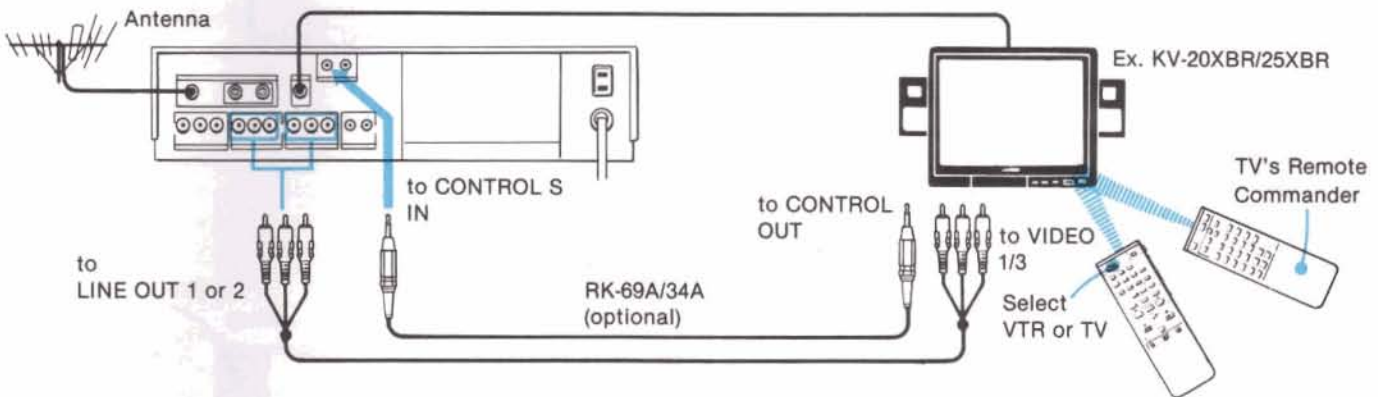
Operating by remote control through a TV set or component TV tuner

If your Sony TV set or component TV tuner is equipped with a CONTROL OUT (output) jack, you can operate the SL-HF900 by remote control through the TV or TV tuner. This is especially handy for operating the VCR by remote control while watching TV when the two are located apart from each other.

If your TV is a Sony model KV-25DXR

If connected as shown at right, automatic timer playback for the VCR is possible within the time limits set on the TV's timer, and the start and stop times for automatic preset recording can be set on the TV. For details, please refer to the KV-25DXR's instruction manual.

*If a VTX-1000R/1100R component TV tuner is used, connect to the CONTROL jack of the MONITOR OUTPUT.

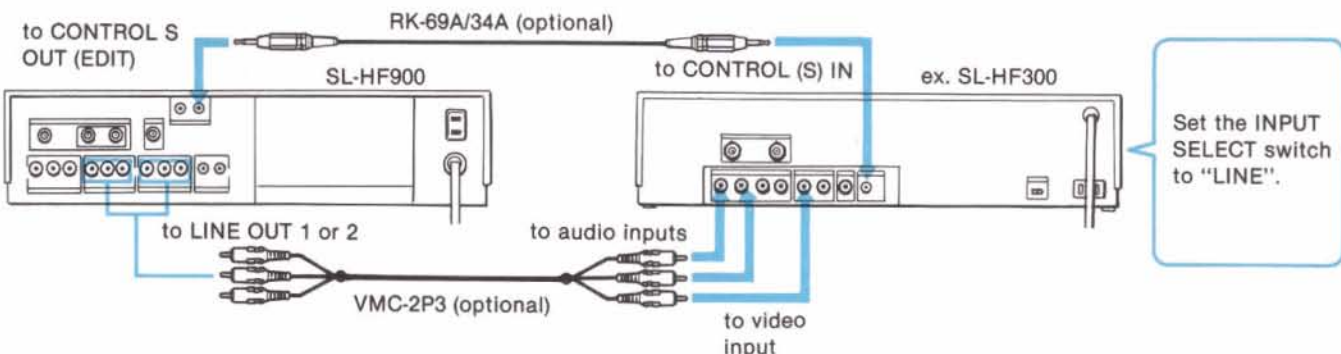


Assemble editing using one more VCR

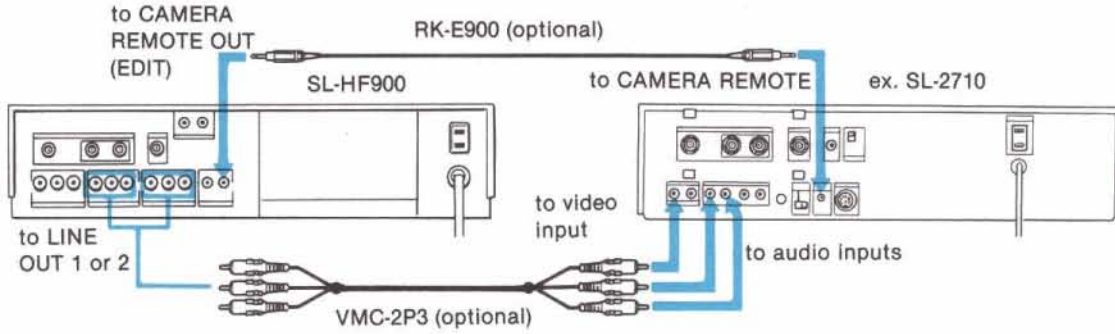
One of the biggest problems that goes with tape editing using two VCRs is getting the timing right when starting and stopping recording on the recording VCR while the playback VCR is playing. However, connecting the SL-HF900 and another Sony (infrared remote control) VCR as shown in the diagram below, you can avoid this pro-

blem. First set the scene you want to record in the SL-HF900's automatic assemble editing function for the start and stop playback on the SL-HF900 and the start and stop of recording on the second VCR at the same time. Connections on the second Sony VCR are made as follows.

① Connection to VCR with CONTROL IN or CONTROL S IN (input) minijack

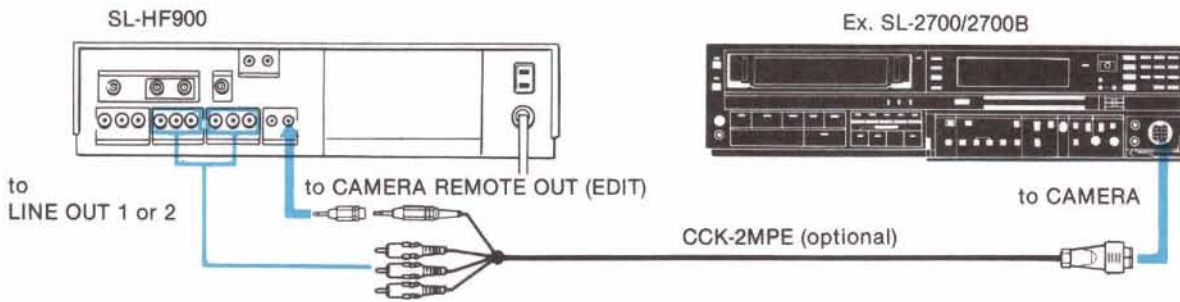


② Connection to VCR with CAMERA PAUSE (input) special mini jack



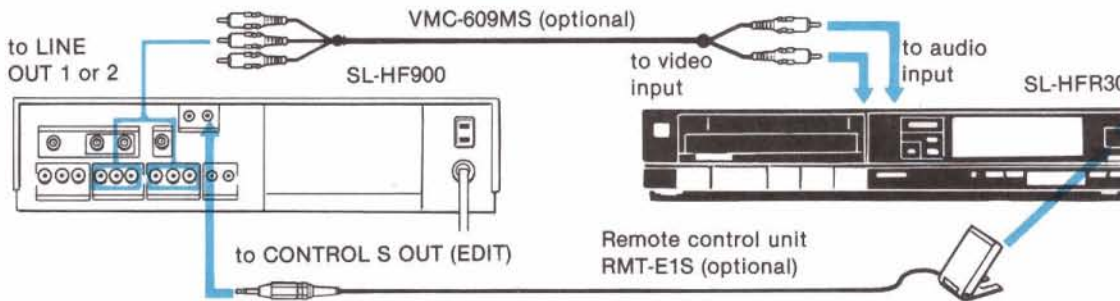
Set the INPUT SELECT switch to "LINE".

③ Connection to VCR with CAMERA 14-Pin, K type connector




Set the INPUT SELECT switch to "CAMERA".

④ Connection to Sony infrared remote control VCR other than ①, ② or ③ above



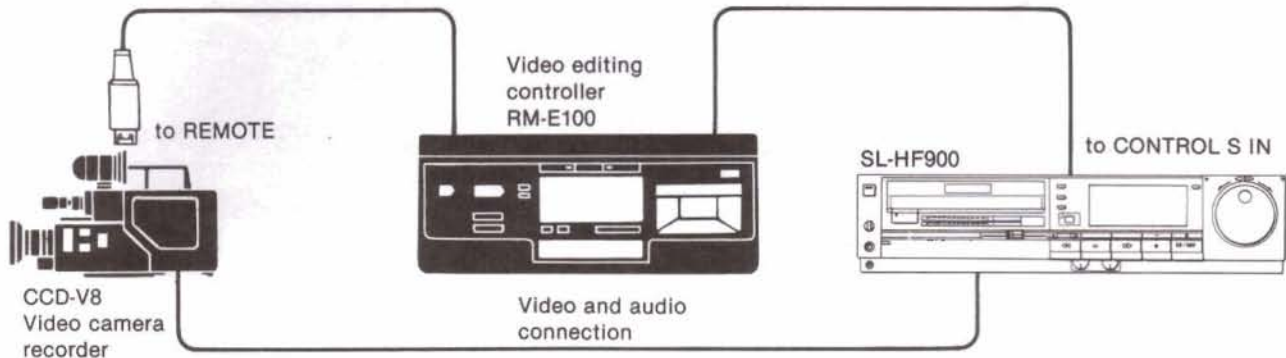
Direct the unit to the remote sensor

EDITING THE RECORDING ON 8MM FORMAT TAPES ONTO BETA TAPES WITH THE RM-E100 VIDEO EDITING CONTROLLER

If you own an 8 mm video camera recorder (such as the Sony CCD-V8) equipped with a 5-pin REMOTE connector, you can connect the RM-E100 video editing controller between the camera recorder and this VCR for easier and much faster tape editing, i.e., editing 8 mm tapes onto  Beta format tapes.

With this controller, you will be able to preset the locations of the scenes you want to record (up to 8) in the controller and with a press of a button, these scenes will be recorded by this VCR automatically in the order preset.

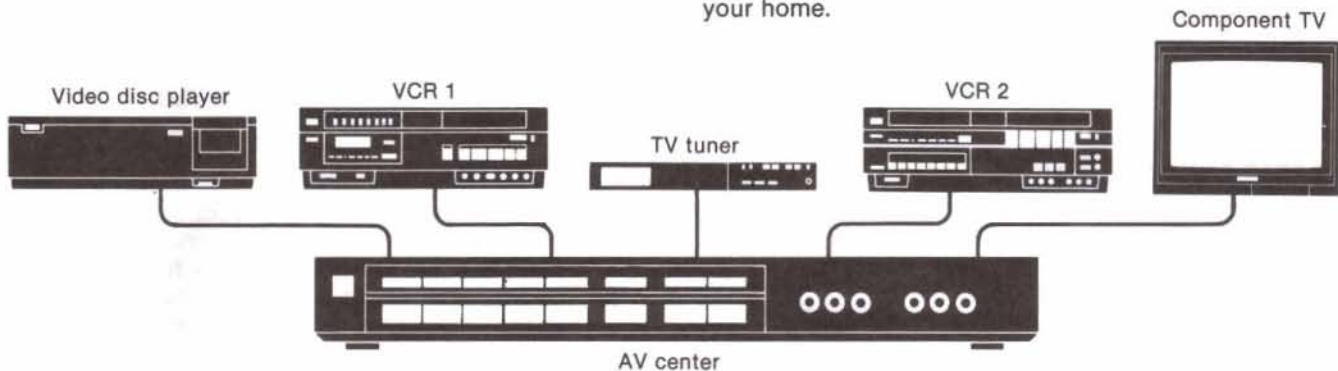
For details, refer to the instruction manual of the RM-E100.



BUILD YOUR OWN AV HOME ENTERTAINMENT SYSTEM!

As the number of AV (audio/video) components grows, so does the enjoyment of using them as part of a home entertainment system. Unfortunately, the complexity of connecting all these components and using them effectively also grows. To solve this problem, you need a home AV center.

With all your AV components connected to a system center, you can be the director of your own home entertainment programming at the flip of a switch. Watch TV, listen to the stereo, have programs recorded, edited, or played for your enjoyment—an AV center serves as the focal point for a whole wide world of entertainment in your home.



SB-V5W Audio/Video Selector

Equipped with five line inputs and three line outputs, and EDIT buttons for easy tape editing control of two components

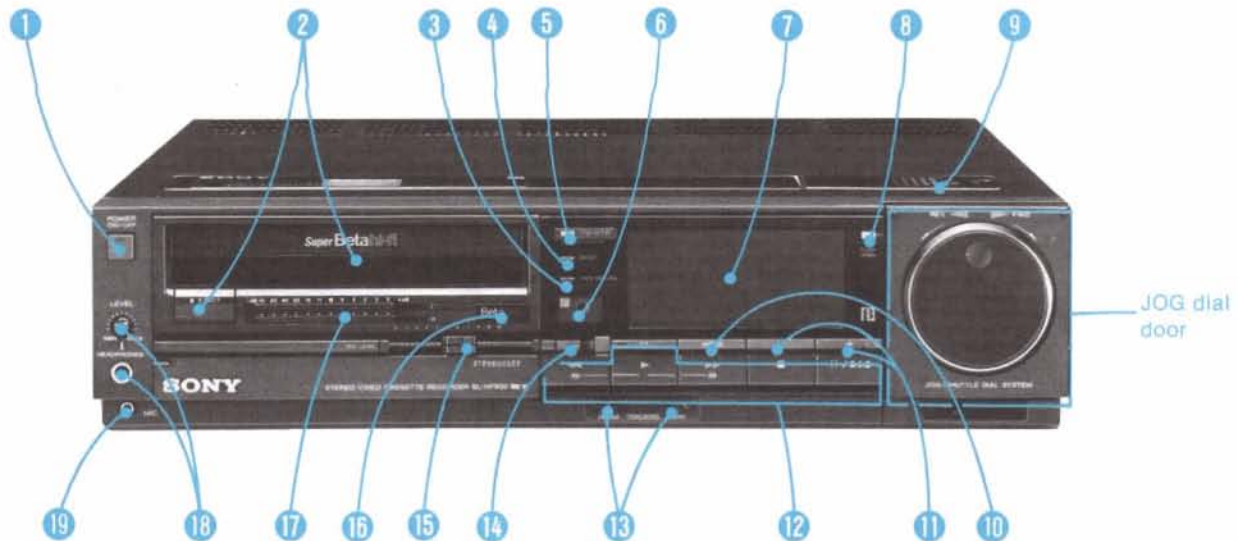
AVH-555ES Hi-fi Audio/Video selector (soon to be on sale)

Besides five audio and five video components, a component TV, a graphic equalizer, and a PCM processor can be connected.

Remote controllable.



LOCATION AND FUNCTION OF PARTS AND CONTROLS



1 POWER switch and lamp

Press to turn the power on. The lamp will light up. To turn the unit off, press this switch again. The timer section will continue to operate and the current time will be displayed even when the POWER switch is off, as long as the ac power cord is plugged into a working outlet.

2 Cassette compartment and **EJECT** button

Insert a cassette here. To eject the cassette, press **EJECT**. When **EJECT** button is pressed during playback, rewind or fast-forward operations, the tape transportation will stop and the cassette will be ejected.

3 TAPE RETURN buttons

Press, when the tape is in the stop mode, to wind the tape to the point where the time counter reads "0H00M00S" point.

4 RESET button

Press to reset the time counter to "0H00M00S".

5 TV/VTR button

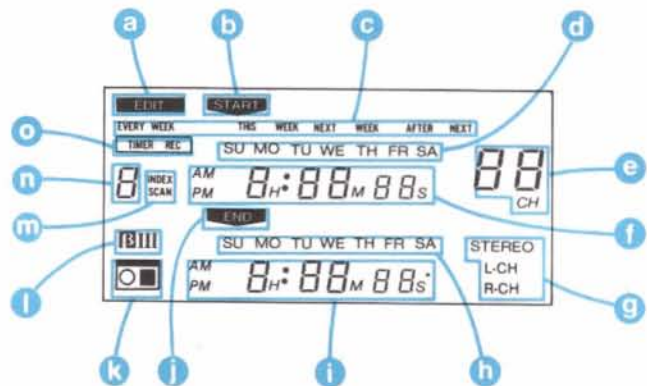
To view the TV program of the channel selected on this VTR, or to monitor the picture being recorded, press this button so that the button lights up. The recorder will be automatically set in this mode when the **▶** (play) button is pressed.

To view the TV program of the channel selected by the channel selectors of the TV, press this button again so that the light goes off. The lamp of this button will always be off when the power of this VTR is turned on newly.

6 Remote sensor

Detects the infrared transmitting signal from the supplied Remote Commander.

7 Display window



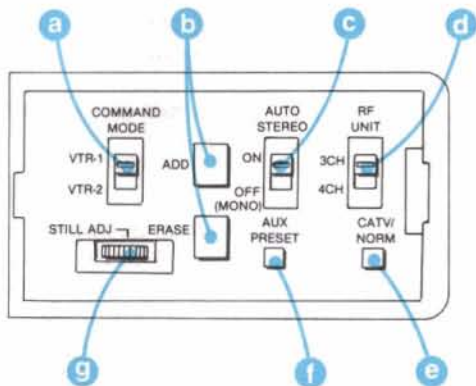
- a Lights up when the EDIT PLAY button is pressed for the automatic assemble editing operation.
- b Indicates that the starting time of a timer recording or the playback starting point on the tape for the automatic assemble editing operation is being displayed.
- c Selected week for the timer recording
- d Selected day of the week for the timer recording
- e Selected channel number
- f Time counter which indicates the approximate tape running time by the hour (H), minute (M) and second (S).
The starting time of timer recordings and the playback starting point for the automatic assemble editing operation will also be displayed here.
- g Selected channel of stereo TV programs being played back.
- h Present day of the week
- i Current time display.
The ending time of timer recordings and the playback ending point on the tape for the automatic assemble editing operation will also be displayed here.

- j** Indicates that the ending time of a timer recording or the playback ending point for the automatic assemble editing operation is being displayed.
- k** Lights up when a cassette is inserted.
- l** Recording tape mode (speed)
- m** Flashes during the index search and index scan operation
- n** Index number for indexed programs to be searched or scanned/Program number of timer recordings
- o** Lights up when the TIMER REC ON/OFF or QUICK TIMER key is pressed for timer recordings. Only "TIMER" will appear while presetting the timer.

8 OPEN button

Press to open the JOG dial door.

9 Tuning compartment



a COMMAND MODE selector

To remotely control this VTR with the supplied Remote Commander, set this switch to the same position as that of the corresponding selector on the back of the Remote Commander.

b ADD button, ERASE button

Adds or erases channels that can be selected with the +/- channel buttons.

c AUTO STEREO ON/OFF selector

Normally keep this switch to ON so that MTS (Multi-channel TV Sound) broadcasts can be received. Only when there seems to be much noise interference in the stereo broadcasts, set this switch to OFF in which case all the TV programs will be received monaural.

d RF UNIT selector

Set this selector to 3CH (channel 3) or 4CH (channel 4) whichever is not active in your area. This selector converts the VHF output of the VCR to either channel 3 or 4 so that you will be able to view the picture of the VCR by selecting either of these channels on the TV.

e CATV/NORMAL button

If you have connected this VCR to a cable antenna (CATV) system to view cable TV programs, press this button so that the "CATV" indicator in the display window lights up. To view regular "off-the-air" broadcasts, press again so that the indicator turns off.

f AUX PRESET button

Press this button to preset the output channel of a decoder (converter) that is required for certain cable TV systems.

g STILL ADJ (adjustment) control

If the still playback picture stopped with the **||** pause button seems to shake, turn this control until it stabilizes.

10 INDEX button

Press before pressing **◀** (rewind) or **▶** (fast-forward) for the index-search or index-scan operation.

11 Channel +/- buttons

Press + to select higher numbered channels or - to select lower numbered channels. The channels will change consecutively when these buttons are held down.

12 Tape transport button

◀◀ (rewind) button: Press to rewind the tape. A fast reverse picture can be viewed when double-pressed or when pressed during normal playback. (Betascan, Beta SkipScan operations)

▶ (play) button: Press to play back the tape.

▶▶ (fast-forward) button: press to advance the tape rapidly. A fast picture can be viewed when double-pressed or when pressed during normal playback. (Betascan, Beta SkipScan operations)

■ (stop) button: Press to stop the tape.

|| (pause) button: Press to stop the tape momentarily during recording or playback. A still picture will be displayed when pressed during playback. Press again to release the pause mode.

x2 button: Press this button after pressing **▶** button for double speed playback. (Not functional for tapes recorded in the **BI** mode).

13 TRACKING NORM (normal)/SLOW controls

Normally keep these controls at the center detent position. Turning either of these controls may help clear possible streaks on the screen especially for cassettes recorded on other recorders. Turn **NORM control** when playing back the tape at the normal speed or at double speed. Turn **SLOW control** when playing back the tape at a slow speed by turning the JOG dial or the SHUTTLE ring or by pressing the 1/5 button on the Remote Commander.

14 REC (record) switch

Slide to the right to start recording. The red lamp on the button will light up.

15 REC (recording) LEVEL controls

Adjust the recording sound volume of the L (left) and R (right) channels of Beta hi-fi recordings. Normally keep these controls at the center detent position "5".

16 Beta hi-fi indicator

Lights up when a recording is being made in the Beta hi-fi system with the BETA HI-FI switch set to ON, or when a tape that has been recorded in the Beta hi-fi system is being played back.

17 PEAK LEVEL METER

Indicates the peak volume level of the Beta hi-fi recording being made or being played back.

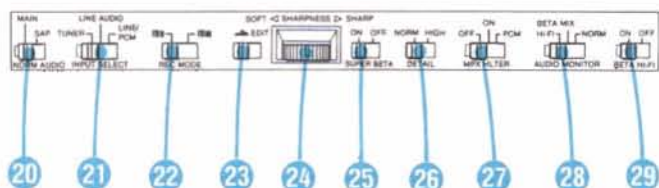
18 HEADPHONES jack (stereo phone) and LEVEL control

Connect headphones here to monitor the sound. The sound volume can be adjusted with the LEVEL control.

19 MIC (microphone) jack

By connecting a microphone here, you will be able to record the sound from the microphone on the conventional audio track.

Inside the front panel



20 NORM (normal) AUDIO MAIN/SAP selector

If you desire to listen to (and record) the SAP (Second Audio Program) of TV broadcasts, set this selector to "SAP".

Keep this selector to "MAIN" if you do not listen to or do not desire to record the sound of Second Audio Programs.

21 INPUT SELECT switch

Select the input signal to be recorded.

Tuner: for TV programs

LINE AUDIO: for recording simultaneously the video (picture) of TV programs received through the 49 RF IN terminals and the audio (sound) of the audio source (such as an FM tuner) connected to the 50 LINE IN AUDIO (input) jacks

LINE/PCM: for the video and/or signal received through the 58 LINE IN VIDEO/PCM (input) jack

22 REC (recording) MODE selector

Selects the recording tape speed **II** or **III**.

The playback speed will be set automatically regardless of the position of this switch.

23 EDIT switch

Normally keep this switch at the left position.

When editing a tape by connecting another VCR, set to the right "EDIT" position.

24 SHARPNESS control

Adjust the sharpness of the picture if necessary. Normally, set this control at the center detent position.

25 SUPER BETA switch

Normally, keep this switch at "ON" to obtain high-quality recording/playback picture.

Only if by setting this switch to "OFF", noise in the playback of tapes recorded or played back on other VCRs seem to be eliminated, set this switch to "OFF".

26 DETAIL NORM (normal)/HIGH switch

Normally, keep this switch at NORM.

When a tape of good quality, such as the Sony HG or PRO-X type, is being used, a sharper picture will be obtained by setting this switch to "HIGH" during playback.

27 MPX (ON/OFF)/PCM selector

When making a recording other than regular TV recordings, set as follows.

OFF: For recording the sound from a record player or a compact disk player

ON: For recording FM radio broadcast programs (If your FM tuner is equipped with an MPX filter, set this selector to OFF).

PCM: For PCM recording and playback.

(Regardless of the setting of this selector, TV programs are automatically recorded in the "ON" mode so that the internal MPX filter cuts off the unpleasant sound of high frequency.)

28 AUDIO MONITOR selector

Selects the sound (audio track on the tape) to be played back and monitored.

BETA HI-FI: The Beta hi-fi sound recorded on the Beta hi-fi audio track will be heard.

MIX: The sound recorded on both the Beta hi-fi audio track and on the conventional audio track will be heard.

NORM: Only the sound recorded on the conventional audio track will be heard.

29 BETA HI-FI switch

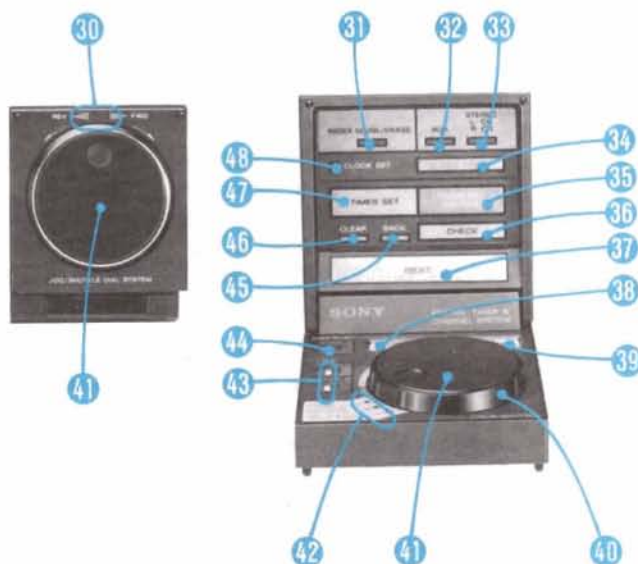
ON: Normally, keep this switch in this position.

Recording and playback will be made in the Beta hi-fi system that produces the sound of high fidelity. (Recording in the conventional monaural system will be made together so that tapes recorded on this VCR can be played back on VCRs that are not Beta hi-fi.)

Tapes not recorded in the Beta hi-fi system will be played back in the conventional system automatically.

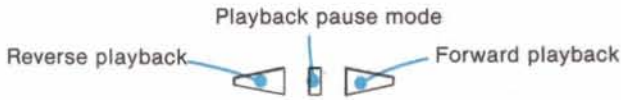
OFF: Set this selector in this position if you desire to record and playback the sound only in the conventional (not Beta hi-fi) system.

Inside the JOG dial door



30 Playback indicators

Indicate the forward or reverse movement or the pause mode of the tape during playback.



31 INDEX MARK/ERASE key

Press during playback or recording to record index signals on the tape. Erasing the index signals can also be done by pressing this key after pressing **INDEX** button.

32 AUX key

Press to select the channel received through the decoder (converter) that is connected to the TO CONV and AUX terminals. To return to the regular channel received from the ANT/CABLE terminal, press again.

33 STEREO (L-CH/R-CH) key

Selects the R (right) or L (left) channel of stereo recorded tapes to be played back. Observe **3** of the display window as you select the desired channel. Each time you press this key, the indicator for the selected channel will change.

STEREO: You will hear the stereo of stereo broadcasts or of the playback of stereo tapes.

This indicator will light up automatically when a stereo program is received.

L-CH: Only the sound of the left channel will be heard.

R-CH: Only the sound of the right channel will be heard.

Note that even with Beta hi-fi recorded tapes, the sound will be monaural when the **28 AUDIO MONITOR** selector is set to "NORM".

34 QUICK TIMER key

Press consecutively to start a quick timer recording and then to set the duration of the recording. The duration can be set in 30-minute intervals up to 5 hours so that the power will turn off. To stop a quick timer recording, press **TIMER REC ON/OFF** key.

35 TIMER REC ON/OFF key

Press after programming VCR for timer recordings so that the timer activates. To deactivate the timer, press again.

36 CHECK key

Press to check the contents of the timer presettings.

37 NEXT button

Press to advance to the next item to be set while setting the timer or the clock.

38 MARK button

Press to preset the starting and ending point of the automatic assemble editing operation.

39 EDIT START button

Press to start the playback (and the recording of the connected VCR) for the automatic assemble editing operation.

40 SHUTTLE ring

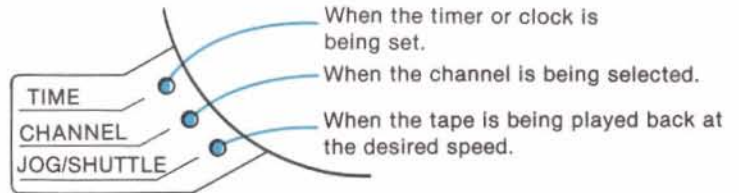
When this ring is turned and held during the playback pause mode, you will be able to play back the tape at double, normal or one-fifth of normal speed. The more it is turned, the faster the playback will be and when fully turned, you will be able to "Betascan (See page 17.)" the picture. Turn to the right or left for forward or reverse playback.

41 JOG dial

Turn to the right to select higher numbered channels or to the left to select lower numbered channels. When this dial is turned during the playback pause mode, the picture will be played back at a speed according to the speed you are turning the dial. Turn to the right or left for forward or backward playback. This dial is also used to preset timer recordings.

42 JOG dial function indicators

Light up to indicate for what purpose the JOG dial is being turned.



43 VIDEO INSERT/AUDIO INSERT button

Press to "insert" a new recording onto a part of a recorded tape.

44 EDIT PLAY button

Press as the first step of the automatic assemble editing operation.

45 BACK key

Press to go back to the previous step during clock or timer setting.

46 CLEAR key

Press to cancel a timer setting.

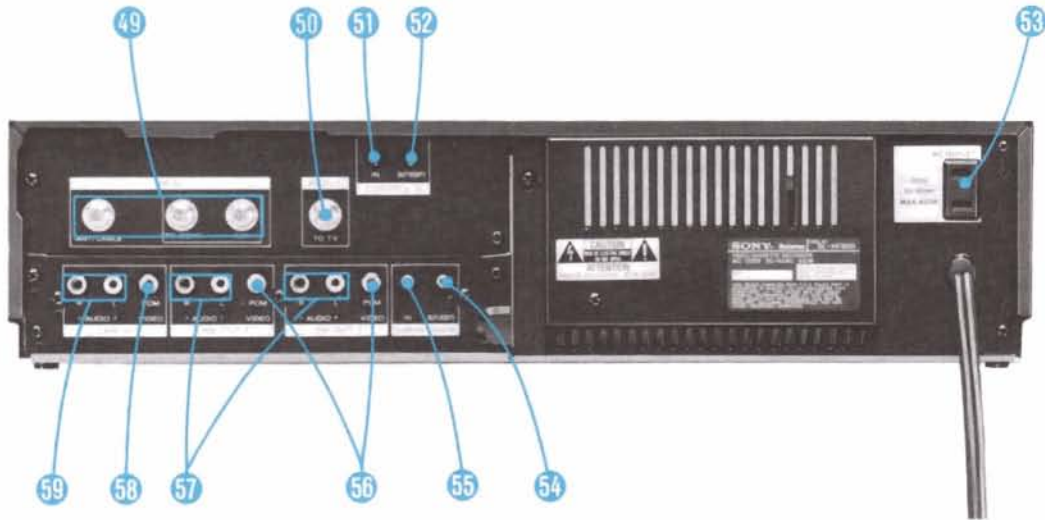
47 TIMER SET key

Press as the first step to preset the timer.

48 CLOCK SET button

Press this button as the first step to set the clock.

Rear



49 RF IN terminals

ANT/CABLE: Connect a VHF and/or UHF TV antenna or CATV cable here.

TO CONV, AUX: If you desire to watch cable TV programs that require a decoder (converter), connect the decoder (converter) here.

Connect the input of the decoder (converter) to the TO CONV terminal and the output of the decoder (converter) to the AUX terminal.

50 RF OUT (TO TV) terminal

Connect to the VHF and/or UHF antenna terminal(s) of the TV receiver. The output of this VCR converted to channel 3 or 4 and the VHF/UHF TV signals received by this VCR will be supplied to the TV receiver by this connection.

51 CONTROL S IN (input) jack (mini jack)

Connect to the CONTROL S OUT (output) jack of other Sony products for various systematic operations.

52 CONTROL S OUT (EDIT) jack (mini jack)

Connect to the CONTROL IN (input), or CONTROL S IN (input) of another Sony VCR for the automatic editing operation.

53 AC OUTLET (unswitched)

Supplies ac power to video or audio equipment with power consumption of under 400 watts.

54 CAMERA REMOTE OUT (EDIT) jack (special mini jack)

Connect to the CAMERA PAUSE or CAMERA PAUSE IN (input) jack of another Sony VCR for the automatic assemble editing operation.

55 CAMERA REMOTE IN (input) jack (special mini jack)

When recording with a video camera, connect the Sony HVA-220 ac adaptor to this jack.

56 LINE OUT (output) 1, 2 VIDEO/PCM jacks (phono jacks)

Connect to the video input of a color monitor, TV or another VCR. For PCM playback, connect a PCM digital audio processor.

57 LINE OUT (output) 1, 2 R-AUDIO-L jacks (phono jacks)

Connect to the audio input of a color monitor, TV, or another VCR, or to a stereo system.

58 LINE IN (input) VIDEO/PCM jack (phono jack)

Connect to the video output of another VCR, camera adaptor, video disc player etc., for recording. For PCM recording, connect a PCM digital audio processor.

59 LINE IN (input) R-AUDIO-L jacks (phono jacks)

Connect to the line output of a sound source such as a tape recorder, an amplifier, a radio, or the audio output of another VCR. For FM simulcast recording, connect an FM tuner here.

SPECIFICATIONS

System

Video recording system	Rotary two-head helical scanning
Audio recording system	Beta hi-fi system (2 channels) (Recording on the conventional audio track is monaural)
Video signal	EIA standard, NTSC color
Usable cassettes	Cassettes having the mark β βIII : 1.33 cm/sec. βII : 2.0 cm/sec. βI : 4.0 cm/sec. (only for playback)
Maximum recording time	βIII : 5 hours βII : 3 hours 20 min. (with Sony L-830 cassette)
Fast-forward and rewind time	Approx. 3½ min. (L-500)
Audio frequency response	Beta hi-fi MPX FILTER OFF βII , βIII : 20–20,000 Hz
Wow and flutter	Beta hi-fi ON Less than 0.005% WRMS
Dynamic range	Beta hi-fi ON More than 80 dB

Tuner section

Channel coverage	VHF channels 2 to 13 UHF channels 14 to 69 CATV channels 1–125
VHF output signal	Channel 3 or 4 (selected) 75 ohms, unbalanced
Antenna	75-ohm antenna terminal for RF IN ANT/CABLE, TO CONV, and AUX

Inputs and outputs

Video input	LINE IN VIDEO/PCM (phono jack) 1 V p-p ±0.5 V p-p, 75 ohms, unbalanced, sync negative
Video outputs	LINE OUT 1, 2 VIDEO/PCM (phono jacks) 1 V p-p ±0.5 V p-p, 75 ohms, unbalanced, sync negative
Audio inputs	LINE IN R-AUDIO-L (phono jacks) –10 dBs (0 dBs = 0.775 V rms), more than 47 k ohms
Audio outputs	LINE OUT 1, 2 R-AUDIO-L (phono jacks) –10 dBs (at load impedance 47k ohms) more than 10 k ohms
CONTROL S IN	Minijack
CONTROL S OUT (EDIT)	Minijack
CAMERA REMOTE	Special minijack

CAMERA REMOTE OUT (EDIT)

Special minijack	
Microphone input	Minijack –60 dBs, for low-impedance microphone
HEADPHONES jack	Stereo phone jack –26 dBs, 8 ohms

Timer section

Clock	Synchronized with the power frequency
Time indication	12-hour cycle
Timer setting	Only for recording 8 programs 21 days at max.
Power back up	Self-charging battery incorporated Back-up duration: up to 10 minutes at one time (after the battery has been charged at least 40 hours.)

General

Power requirements	120 V ac ±10%, 50/60 Hz ±0.5%
Power consumption	50 W
AC outlet	Unswitched max. 400 W
Operating temperature	5°C to 40°C (41°F to 104°F)
Storage temperature	–20°C to +60°C (–4°F to + 140°F)
Dimensions	Approx. 430 × 105 × 397.5 mm (w/h/d) (17 × 4¼ × 15¾ inches) incl. projecting parts and controls
Weight	Approx. 11.5 kg (26 lb) net

Remote Commander RMT-125

Remote control system	Infrared control
Power requirements	3 V dc, 2 size AA batteries (IEC designation R6)
Dimensions	Approx. 57 × 20 × 175 mm (w/h/d) (2¼ × 7/8 × 7 inches) incl. projecting parts and controls
Weight	Approx. 98 g (3.6 oz) without batteries

Accessories supplied

Betamax video cassette tape.....	1
75-ohm coaxial cable with F-type connectors (2 m, 6 feet).....	2
Antenna connector EAC-25.....	1
Connecting cord RK-74A.....	1
Remote Commander RMT-125 with two size AA batteries.....	1

Design and specifications subject to change without notice.

TROUBLESHOOTING

If any difficulty should arise during operation, first check the power cord connection, then go through the following list.

Should the difficulty persist, unplug the unit and contact your Sony dealer or local authorized Sony service facility.

	Symptom	Possible causes and corrections
POWER	POWER switch does not function.	<ul style="list-style-type: none"> ● The power cord is disconnected. ● The recorder is in the timer standby mode. Press the TIMER REC key so that the TIMER REC indicator goes off.
	The clock has stopped at "SU AM 12:00"	<ul style="list-style-type: none"> ● There has been a power interruption. Reset the clock time and timer settings.
CLOCK AND TIMER	Timer setting cannot be made.	<ul style="list-style-type: none"> ● The clock is not set. ● The timer cannot be set during recording.
	TV program is not clearly displayed on the TV screen.	<ul style="list-style-type: none"> ● The channel 3 or 4 for the VCR is not correctly tuned on the TV. ● The antenna connections are not correct. ● The TV signal is weak. Adjust the direction of the antenna. ● The ac power cord of the recorder is disconnected.
TV RECEPTION	The SAP (Second Audio Program) cannot be received or heard.	<ul style="list-style-type: none"> ● The NORM AUDIO selector is set to "MAIN". ● The AUDIO MONITOR selector is set to BETA HI-FI.
	Stereo programs are received monaural.	<ul style="list-style-type: none"> ● The AUTO STEREO switch is set to OFF.
	No picture during recording or playback.	<ul style="list-style-type: none"> ● The TV's channel is not set to that preset for the VCR.
RECORDING AND PLAYBACK	Picture being recorded cannot be monitored on the TV screen.	<ul style="list-style-type: none"> ● Press TV/VTR button so that the button lights.
	The displayed picture on the TV screen is not clear.	<ul style="list-style-type: none"> ● The SHARPNESS control is not properly adjusted. ● The MPX/PCM selector is set to "PCM". When you are not using a PCM processor, keep this selector at either of the other two positions. ● The cassette being played back has been recorded on another video recorder. Adjust the TRACKING NORM/SLOW control.
	Noisy picture	<ul style="list-style-type: none"> ● The video heads may be contaminated. Clean the heads using the Sony L-25CL video head cleaning cassette. For details on cleaning, refer to the instructions furnished with the cleaning cassette. If the L-25CL cleaning cassette is not available in your area, have the heads cleaned at the nearest Sony service facility.
	The picture is distorted during the Beta SkipScan operation or during the playback at 1/5 the normal speed.	<ul style="list-style-type: none"> ● Switching of the recording mode had been made when the tape was recorded. The distortion may be cleared by playing back the tape once at normal speed.
	Distorted or noisy sound	<ul style="list-style-type: none"> ● Recording level was not properly adjusted.
	Sound drop-outs of a Beta hi-fi recorded tape	<ul style="list-style-type: none"> ● The tape is defective. Use a new video cassette tape.
	The Beta hifi sound cannot be heard.	<ul style="list-style-type: none"> ● The AUDIO MONITOR selector is set to "NORM".
	Timer recording cannot be made correctly.	<ul style="list-style-type: none"> ● The clock time is not set correctly. ● The turn-on day and the turn-on time have not been set correctly. ● The TIMER REC key has not been pressed. ● There has been a power interruption. ● The cassette inserted has had the tab removed or no cassette has been inserted. ● The input select switch is not set to TUNER. ● Two or more timer settings overlap.

REMOTE CONTROL	The recorder cannot be remotely controlled.	<ul style="list-style-type: none"> ● The Remote control TV/VTR selector is set to "TV". ● The COMMAND MODE selector of the Remote Commander and that of the VCR are not set at the same position. ● The Remote Commander is not pointed to the REMOTE SENSOR on the recorder. ● The Remote Commander is too far away from the recorder. ● There is an obstacle between the Remote Commander and the recorder. ● The batteries are exhausted.
OTHERS	The time counter does not operate even if the tape moves.	<ul style="list-style-type: none"> ● The tape is brand-new. ● It will not operate with the unrecorded portion of a tape.
	Cassette cannot be inserted.	<ul style="list-style-type: none"> ● Another cassette has already been inserted.
	The cassette cannot be ejected.	<ul style="list-style-type: none"> ● Recording is being done.
	The tape stops suddenly during operation.	<ul style="list-style-type: none"> ● The safety device which protects the video cassette tape and recorder has activated. Reactivate the previous tape transport mode.
	The function buttons cannot be activated immediately after the cassette has been inserted into the recorder.	<ul style="list-style-type: none"> ● The safety device has activated. Press EJECT to remove the cassette and re-insert the cassette.
	None of the buttons function, power cannot be turned on or off.	<ul style="list-style-type: none"> ● You have turned on and off the power immediately after plugging the set to a wall outlet. Press the CLOCK SET button, set the clock and then try the function buttons again.