

SONY®

STEREO VIDEO CASSETTE RECORDER ^{Beta} **B**

SL-HF1000

OPERATING INSTRUCTIONS

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

OWNER'S RECORD

The model and serial numbers 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-HF1000 Serial No. _____



This unit can be used with any video cassette tapes having the mark **B**. It is compatible with the **B1**s, **B11** and **B111** type recording and playback formats, and will play back tapes recorded in the **B1** format.

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WARNING

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

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
<p>CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>		



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 this receiving antenna
- relocate this equipment with respect to the receiver
- move this equipment away from the receiver
- plug this 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.

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.
- Store cassettes in their cases and keep them in an upright position to prevent intrusion of dust and uneven winding.

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.

FEATURES

PROFESSIONAL-QUALITY EDITING

- **The twin flying erase heads** eliminate color streaks and blurs which were conventionally caused by continuous recordings or insert editings.
- **The tape counter with frame digits** displayed on the monitor screen allows an accurate search of editing points.
- **Automatic assemble editing of up to 8 scenes** is possible.
- **The CONTROL T jack** allows highly accurate pre-roll editing by connecting another SL-HF1000.

OUTSTANDING PICTURE AND SOUND QUALITY

- **The 6.0 MHz Super Hi-Band recording** in **I**B_I mode allows recording of signal information in detail for high picture quality.
- **The DA (Double Azimuth) PRO 4 head** reduces noise in Betascan mode.

VERSATILE FUNCTIONS

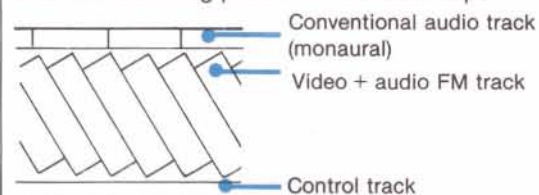
- **Data screen**—The information of timer programs, editing points, etc. are displayed on the monitor screen for easy presetting and checking.
- **The remaining tape counter** indicates the length of recording or playback time possible from the actual point on the tape to its end.
- **Time search function** provided to advance or rewind the tape automatically to the desired point by assigning the time.
- **Title recording and insert functions** provided to record or insert up to 8 titles created and stored in memory, as well as the tape counter, date and clock display.
- **The multi-function Remote Commander** controls almost all functions of the VCR, and can also be used with other Sony remote control VCRs and TVs.

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

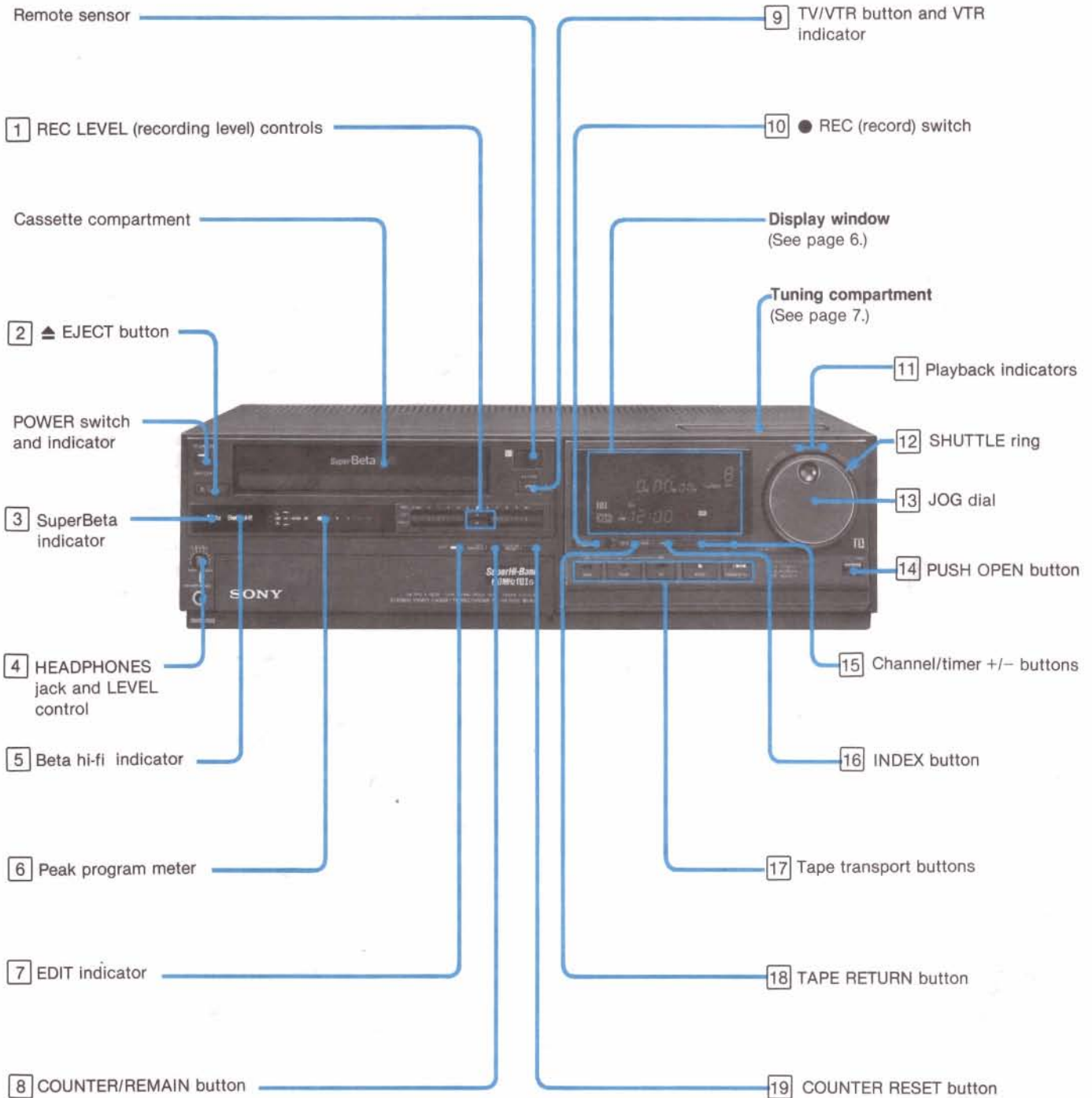


















In Beta hi-fi recording mode, this recorder records audio signals on the video track (Beta hi-fi recording) and on the conventional audio track at the same time, so that these tapes can also be played back on any ordinary video cassette recorder without a Beta hi-fi system.

LOCATION AND FUNCTION OF PARTS AND CONTROLS

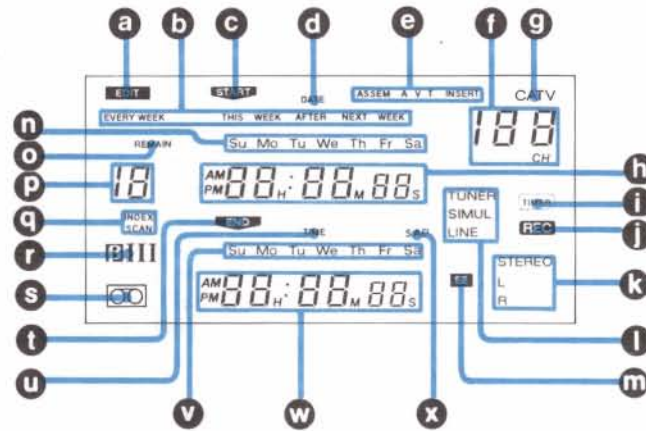
For details on the use of each control, refer to the pages indicated in the black circles (●).

Front



- 1 REC LEVEL controls** 
Adjust the recording level when the BETA HI-FI switch is set to ON. Normally keep these controls at the center detent position [5].
- 2 EJECT button** 
Press to eject the cassette.
This button does not function during recording.
- 3 SuperBeta indicator**
Lights when the SUPER BETA switch is set to ON. When recording in  mode, the indicator lights up to show  recording, regardless of the position of the SUPER BETA switch.
- 4 HEADPHONES jack and LEVEL control**
Connect stereo headphones (with a stereo phone plug) to the HEADPHONES jack. The volume can be adjusted with the LEVEL control.
- 5 Beta hi-fi indicator**
Lights during recording with the BETA HI-FI switch at ON. When playing back a Beta hi-fi recorded tape, the indicator lights up regardless of the position of the BETA HI-FI switch.
- 6 Peak program meter**
Shows the peak input level of the right and left channels during Beta hi-fi recording.
- 7 EDIT indicator**
Lights when the EDIT switch is set to ON.
- 8 COUNTER/REMAIN button** 
Press to change the tape counter display to the approximate recording or playback time remaining on the tape.
- 9 TV/VTR button and VTR indicator**
Press to watch the program selected on the recorder so that the button lights up (VTR mode). To watch a different TV program while recording another, press this button again so that the light goes off.
- 10 REC switch** 
Slide to the right to start recording.
- 11 Playback indicators**
Indicate the direction of playback (including various playback modes and playback pause mode).
: Reverse direction
: Playback pause mode. When this indicator lights, the JOG dial and SHUTTLE ring can be operated.
: Forward direction
- 12 SHUTTLE ring**
When this ring is turned and held during the playback pause mode, you can play back the tape at various speeds, 1/10 or 1/5 normal speed, normal speed, double speed, or Betascan speed. The more it is turned, the faster the playback will be.
- 13 JOG dial**
Turn to select the 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. This dial is also used for setting date and clock, presetting timer recordings and creating titles.
- 14 PUSH OPEN button**
Press this button to open the drawer. For the controls inside the drawer, see page 10.
- 15 Channel/timer +/- buttons**
Press to select the channels, to set the date, clock or timer program and to create titles. Press + to advance and - to reverse.
- 16 INDEX button** 
Used for the index scan or index search operation.
- 17 Tape transport buttons**
 REW (rewind),  PLAY,  FF (fast-forward),  STOP,  PAUSE/STILL
- 18 TAPE RETURN button** 
In the stop mode, press this button to advance or rewind the tape to the counter zero point.
- 19 COUNTER RESET button**
Press to reset the tape counter to "0H00M00S" and "0:00:00:00" on the TV screen.

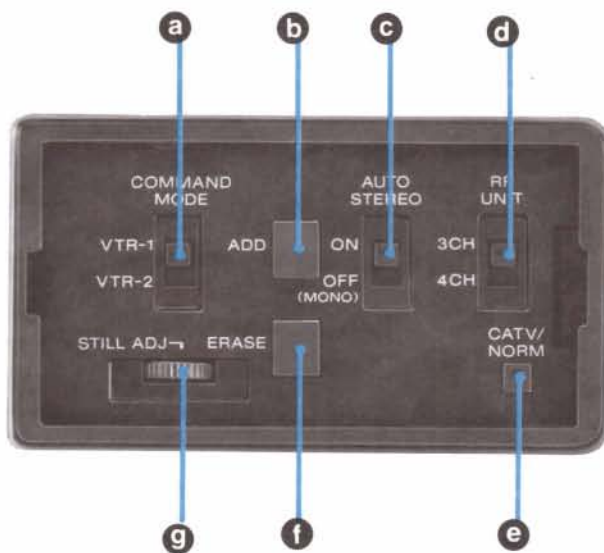
Display window



- a Automatic editing mode indicator
- b Week indicator
- c Appears when the starting time of a timer recording or the starting point of the automatic editing is displayed.
- d Appears when the date is displayed.
- e Indicates the editing mode: ASSEM (assembly editing), A INSERT (audio insert), V INSERT (video insert), T INSERT (title insert)
- f Channel number or the L1 (line 1)/L2 (line 2) input indicator
- g CATV (cable TV) indicator
- h Date, starting time of a timer recording, starting point of the automatic editing, tape counter or remaining time counter
- i Appears during timer setting or checking. "TIMER REC" will appear when a timer recording is activated.
- j Appears during recording.
- k Channel of the stereo program
- l Input mode indicators
- m EE mode* indicator
- n Day-of-the-week indicator
- o Appears when the remaining time counter is displayed.
- p Timer program number for timer-activated recording, index number for index searching or scanning, or scene number for automatic assemble editing
- q Index scan or index search indicator
- r Tape speed indicator
- s Indicates that a cassette is inserted.
- t Appears when the ending time of a timer recording or the ending point of the automatic editing is displayed.
- u Appears when the current time is displayed.
- v Day-of-the-week indicator
- w Current time, ending time of a timer recording, or ending point of the automatic editing
- x SAP (Second Audio Program) indicator

*EE (Electronics-to-Electronics) mode: The input signals (which are not the signals recorded on the tape) are displayed on the monitor screen.

Tuning compartment



a COMMAND MODE selector 25

To remotely control this VCR with the supplied Remote Commander, set this selector to the same position as that on the Remote Commander.

b ADD button 25

c AUTO STEREO switch

Normally set to ON. When the signal is weak on a particular channel, set to OFF.

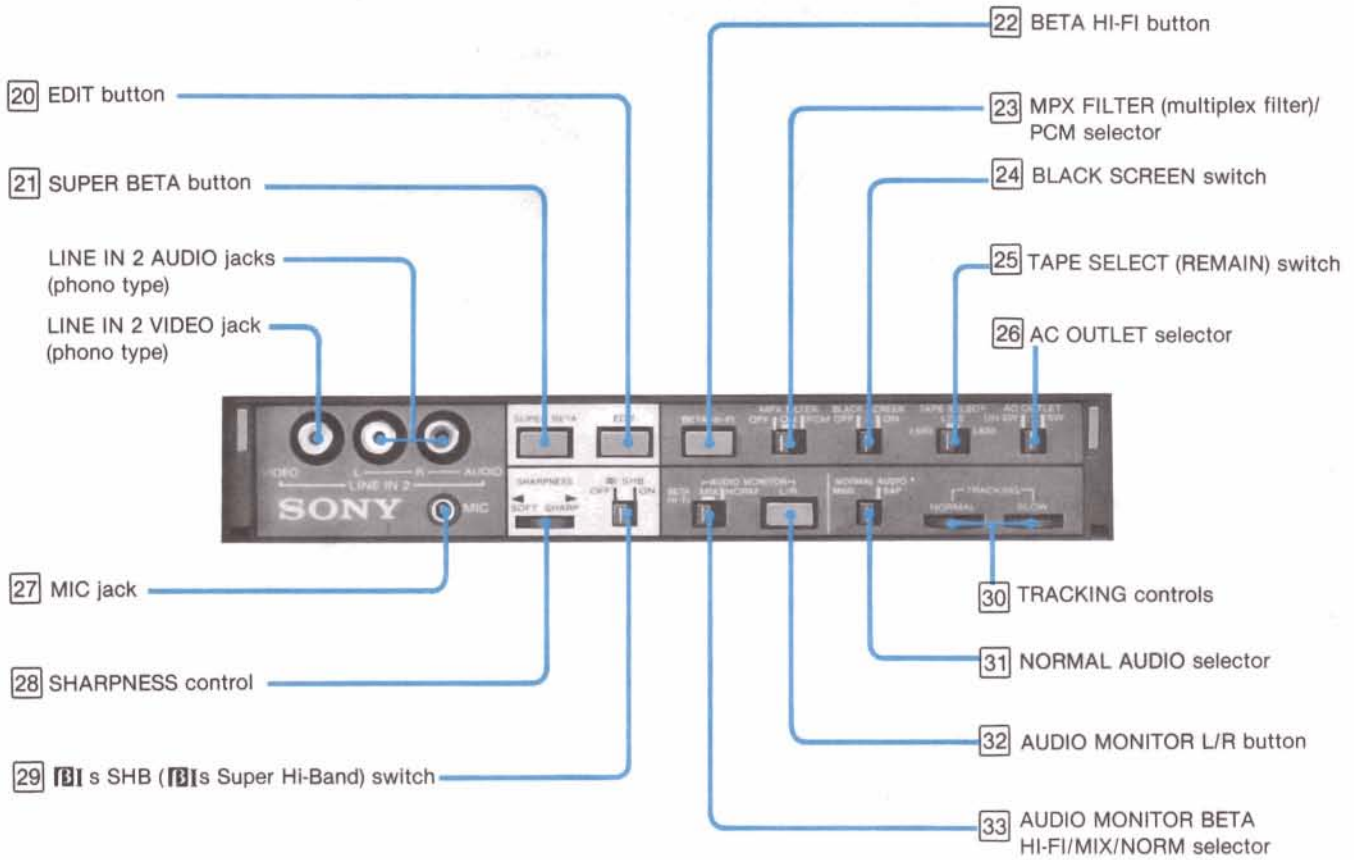
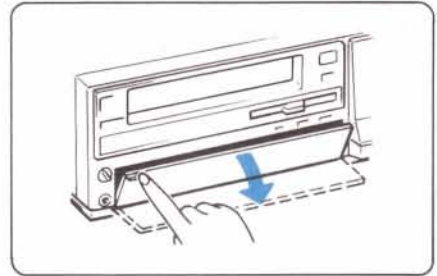
d RF UNIT selector 24

e CATV/NORM (normal) selector 25

f ERASE button 26

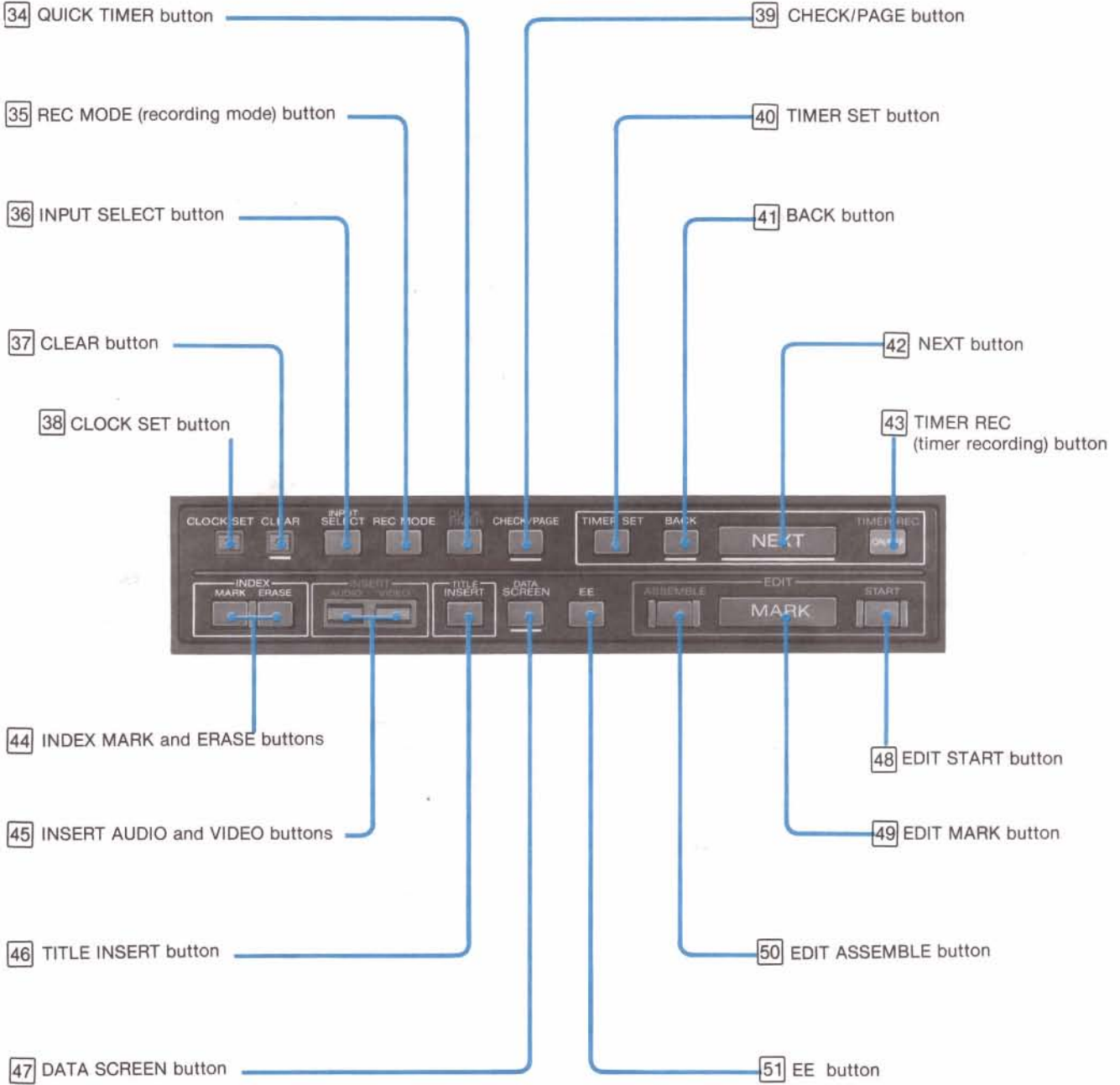
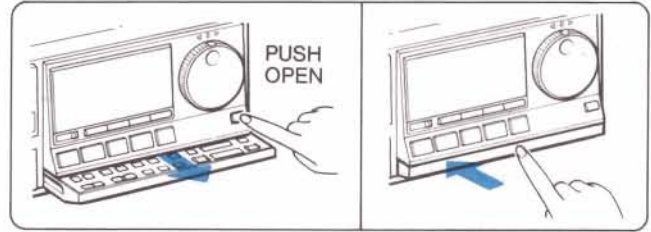
g STILL ADJ (freeze picture adjustment) control 36

Inside the front panel



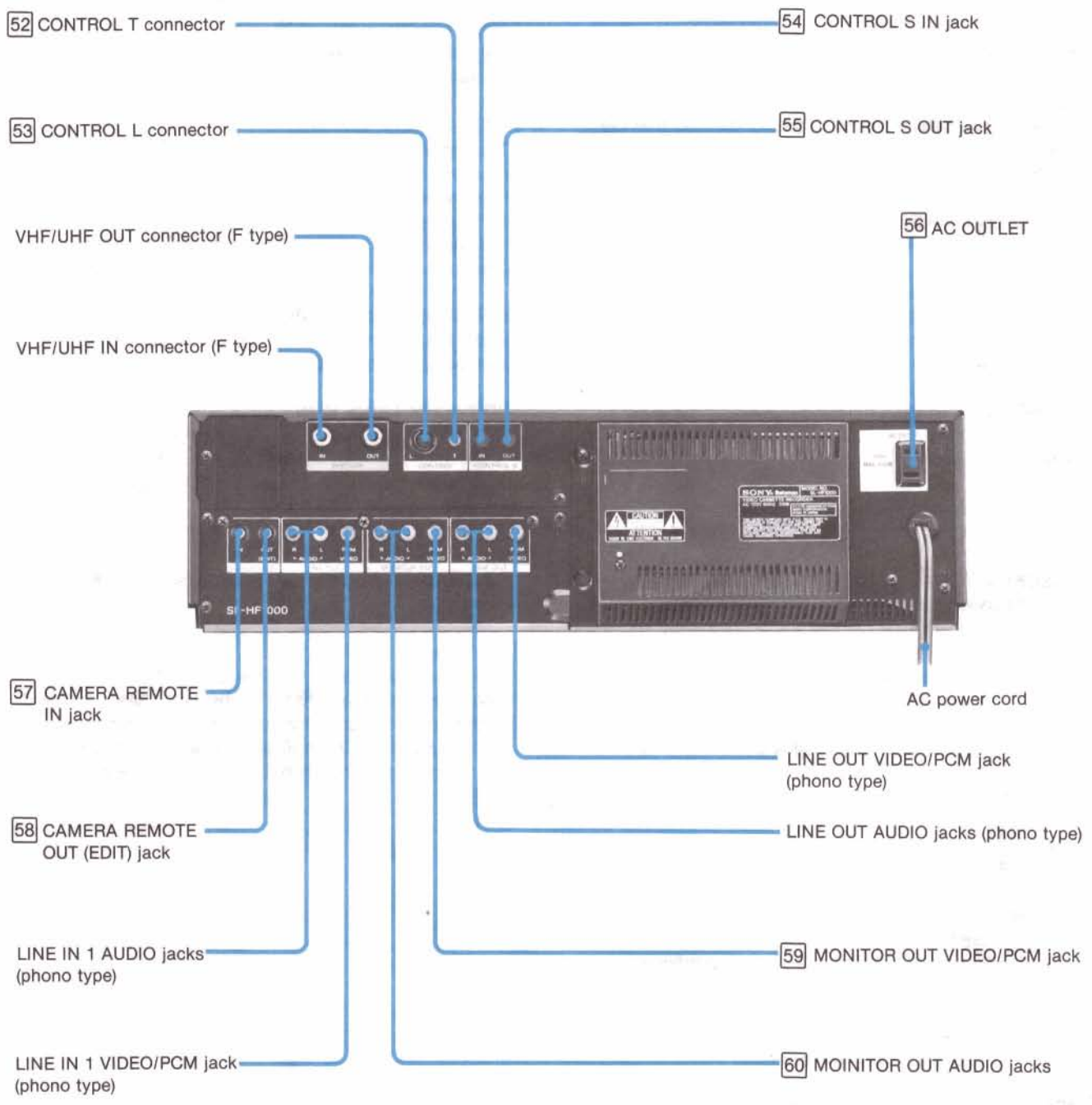
- 20 EDIT button** ⑩
Normally keep this button at OFF (i.e. the EDIT indicator is off). When editing a tape onto another recorder, press the button so that the EDIT indicator lights.
- 21 SUPER BETA button** ⑪
Normally keep this button at ON (i.e. the SuperBeta indicator lights).
- 22 BETA HI-FI button**
Normally set this button to ON for high-quality Beta hi-fi recording (i.e. the Beta hi-fi indicator lights). To record only in the conventional system, press the button so that the indicator goes off.
- 23 MPX FILTER/PCM selector**
When making a recording other than regular TV recordings, set the selector as follows:
OFF: For recording the sound from a record player or a compact disc player
ON: For recording FM radio broadcast programs (If your FM tuner is provided with an MPX filter, set this selector to OFF.)
PCM: For PCM recording and playback
- Note**
Regardless of the setting of this selector, TV programs are automatically recorded in MPX FILTER ON mode.
- 24 BLACK SCREEN switch** ⑫
Normally set to OFF. When recording a title with a black background, set to ON.
- 25 TAPE SELECT (REMAIN) switch** ⑬
Set this switch according to the length of the tape being used.
L500: For L-500 cassette tape
L750: For L-750 cassette tape
L830: For L-830 cassette tape
If this switch is not set appropriately for above listed tapes, the correct remaining recording/playback time cannot be obtained.
For L-125 and L-250 cassettes, any position will do.
- 26 AC OUTLET selector**
SW (switched): The AC OUTLET on the rear is controlled by the front panel POWER switch.
UNSW (unswitched): The AC OUTLET is not controlled by the POWER switch and always supplies AC power.
- 27 MIC jack (mini type)**
Connect a microphone to record the sound from this microphone on the conventional audio track.
- 28 SHARPNESS control**
Use to adjust the sharpness of the picture if necessary. Normally set the control at the center detent position.
- 29 IBI's SHB switch** ⑭
Set to ON to obtain better quality recording in IBI's mode.
- 30 TRACKING 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 tapes recorded on other VCRs.
NORMAL: For normal and double speed playback.
SLOW: For slow speed playback by turning the JOG dial or SHUTTLE ring, x1/5 and x1/10 speed playback, and freeze picture.
- 31 NORMAL AUDIO selector**
Select the sound to be recorded on the conventional audio track. Normally set to MAIN. To record SAP (Second Audio Program), set to SAP.
- 32 AUDIO MONITOR L/R button**
Select the channel(s) of the Beta hi-fi sound to be monitored so that the desired indicator appears in the display window.
STEREO: To monitor in stereo mode
L: To monitor the L (left) channel of a stereo program
R: To monitor the R (right) channel of a stereo program
- 33 AUDIO MONITOR BETA HI-FI/MIX/NORM selector**
Select the sound to be monitored.
BETA HI-FI: Normally set to this position for Beta hi-fi sound
MIX: To monitor the sound recorded on both the video track in Beta hi-fi and the conventional audio track
NORM: To monitor the sound recorded on the conventional audio track only

Inside the drawer



- 34 QUICK TIMER button** 45
Press to start a quick timer recording and then set the duration of the recording.
- 35 REC MODE button** 28
Press to select the recording tape speed, **I**, **II** or **III**.
The playback speed will be set automatically regardless of the setting of this button.
- 36 INPUT SELECT button**
Press to select the program to be recorded so that the desired input mode indicator appears in the display window.
TUNER: For recording TV programs
SIMUL: For recording the sound from LINE IN 1 AUDIO and the picture of TV program (FM simulcast recording)
LINE L1 (line 1): For recording signals from LINE IN 1 VIDEO/PCM and AUDIO
LINE L2 (line 2): For recording signals from LINE IN 2 VIDEO/AUDIO inside the front panel
- 37 CLEAR button** 44 54
Press to clear the timer setting or erase a character during title creating.
- 38 CLOCK SET button**
Press to start the setting of the date and current time.
- 39 CHECK/PAGE button**
Press to check the contents of the preset timer programs and the starting and ending points of the automatic assemble editing. This button is also used for checking the titles created.
- 40 TIMER SET button** 42
Press to start the setting or resetting of timer programs.
- 41 BACK button**
Press to go back to the item previously set during date, clock or timer setting, automatic assemble editing or title creating.
- 42 NEXT button**
Press to advance to the next item to be set during date, clock or timer setting, automatic assemble editing or title creating.
- 43 TIMER REC button** 43
Press to activate the timer recording.
- 44 INDEX MARK and ERASE buttons** 45 48
Press MARK to mark an index signal at the desired point on a tape during recording or playback. To erase a prerecorded index signal, locate the index signal and press the ERASE button.
- 45 INSERT AUDIO and VIDEO buttons** 62 65
Use to "insert" a new recording onto a portion of a recorded tape.
AUDIO: To insert sound on the conventional audio track
VIDEO: To insert picture and/or Beta hi-fi sound on the video track
- 46 TITLE INSERT button** 58 68
Use for creating titles and recording them. (Title insert operation)
- 47 DATA SCREEN button**
The channel number, tape operation mode, tape counter, index function, display for setting and checking timer recording programs and display for automatic editing are displayed on the TV or monitor screen together with a picture. To turn off the display, press this button. To resume the display, press it again.
- 48 EDIT START button** 67 71
Press to start the automatic assemble editing or automatic audio/video insert operation.
- 49 EDIT MARK button** 65 70
Use to mark the starting and ending points for the automatic assemble editing and automatic audio/video insert operation. Locate the desired editing point and press this button.
- 50 EDIT ASSEMBLE button** 70
Press to set the unit to automatic assemble editing mode.
- 51 EE button**
During tape playback, keep this button pressed to momentarily view and listen to the TV program received by the built-in tuner or the program input from the LINE IN 1 or LINE IN 2 jacks. When the button is released, the playback picture will return on the TV screen.

Rear



52 CONTROL T jack (stereo mini type) 65 69
Connect to the CONTROL T jack of another SL-HF1000 for automatic editing.

53 CONTROL L connector (5-pin DIN) 65
Connect to the CONTROL L connector of other Sony products for various systematic operations.

Note

Do not connect equipments to the CONTROL T jack and the CONTROL L jack simultaneously. This may cause malfunction of the equipments.

54 CONTROL S IN jack (mini type) 75
Connect to the CONTROL S output jack of other Sony products for various systematic operations.

55 CONTROL S OUT jack (mini type) 68
Connect to the CONTROL S input jack of other Sony products for automatic assemble editing and other systematic operations.

56 AC OUTLET 25
Supplies AC power to video or audio equipment.

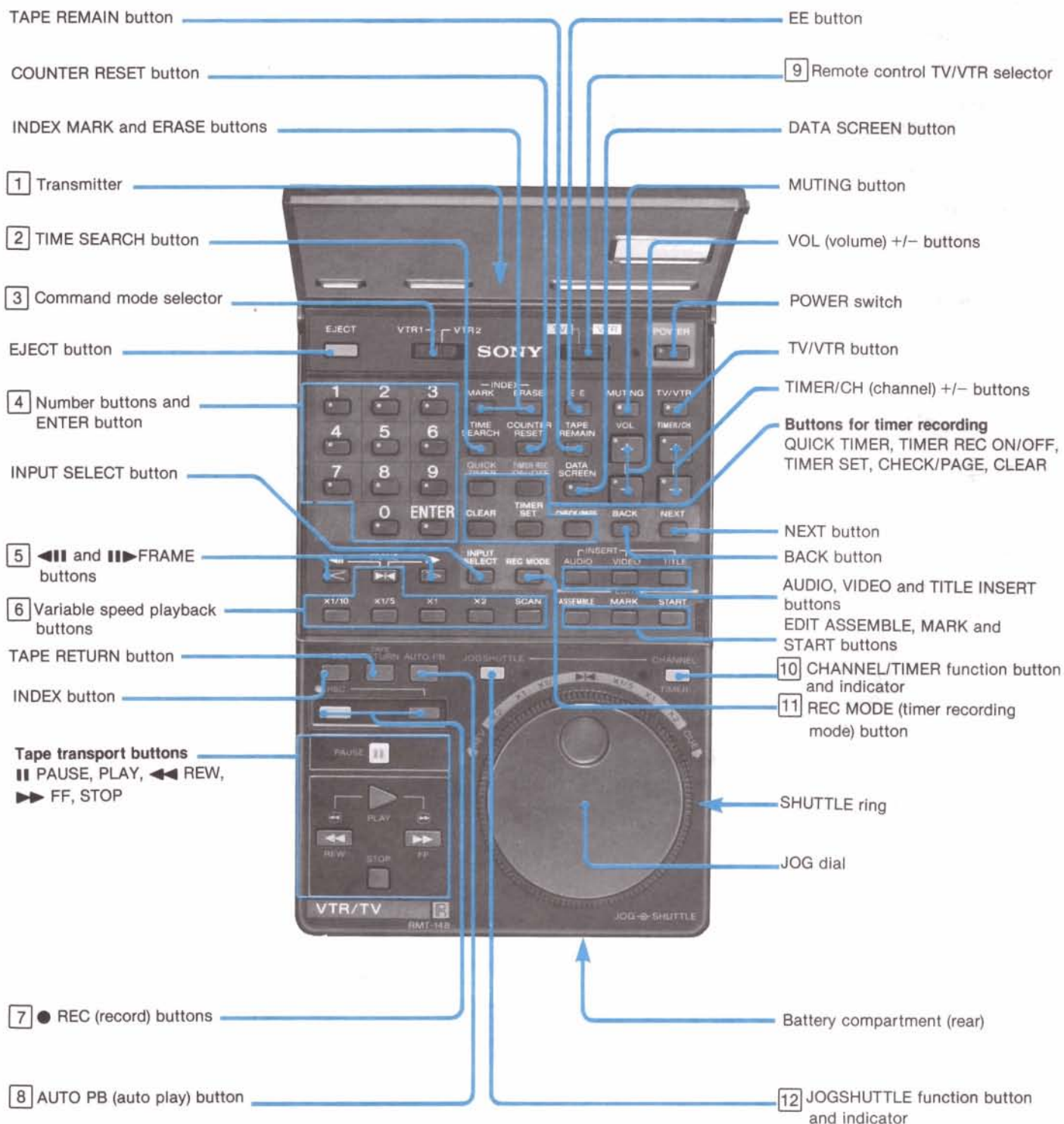
57 CAMERA REMOTE IN jack (special mini type) 62
When recording with a video camera, connect the Sony HVA-220 AC adaptor to this jack.













58 CAMERA REMOTE OUT (EDIT) jack (special mini type) 69
Connect to the CAMERA PAUSE or CAMERA PAUSE IN jack of another Sony VCR for editing.

59 MONITOR OUT VIDEO/PCM jack (phono type)
Connect to the video input of a color monitor, TV, another VCR or PCM digital audio processor. The data for the "Data Screen" display are output from this jack.

60 MONITOR OUT AUDIO L/R jacks (phono type)
Connect to the audio inputs of a color monitor, TV, another VCR or stereo system.

Remote Commander RMT-148



- 1 Transmitter**
Point the transmitter toward the remote sensor on the VCR.
- 2 TIME SEARCH button** 
Press to start setting the time for which you want to advance or rewind the tape automatically (time search operation).
- 3 Command mode selector** 
Select the command mode of the equipment you want to operate with the Commander. To operate this VCR, set to the same position as that of the COMMAND MODE selector inside the tuning compartment of the VCR.
- 4 Number buttons and ENTER button**  
Use for selecting channels. After pressing the digits of the desired channel one by one, press ENTER. The number buttons are also used for setting the time for the time search function.
- 5  and  FRAME buttons**
In freeze picture mode, press  to reverse the picture by one frame, and  to advance the picture by one frame (stop-action advance picture). If the button is kept depressed, the picture moves continuously. These buttons are also used to select the direction of playback. Press  for reverse picture, and  for forward picture.
- 6 Variable speed playback buttons**
During playback, press one of these buttons to select the desired playback speed.
 (freeze picture), x1/10, x1/5, x1, x2, SCAN (for BetaScan picture)
- 7  REC buttons**
To start recording, press these buttons simultaneously.
- 8 AUTO PB button**
Press to play back a tape automatically from the beginning of the tape after rewinding.
- 9 Remote control TV/VTR selector**
Normally set to VTR for operating the recorder. To operate certain Sony TVs, set to TV.
- 10 CHANNEL/TIMER function button and indicator**
Press this button when using the JOG dial for timer setting, channel selection or title creating.
- 11 REC MODE button**
Press to select the recording mode of timer recordings. This button only operates during timer setting.
- 12 JOGSHUTTLE function button and indicator**
Press this button when using the JOG dial and SHUTTLE ring for various speed playback.
 - The other buttons on the Commander have the same function as the buttons on the VCR with the similar name or mark.
 - Some of the buttons on the Commander can be used to operate certain Sony remote control TVs. See page 29.

Before making connections

- Turn off the TV.
- Do not connect the AC power cord to a wall outlet until all the connections of the video cassette recorder and the TV have been completed.
- Make connections firmly. Loose connections may cause a distorted picture.

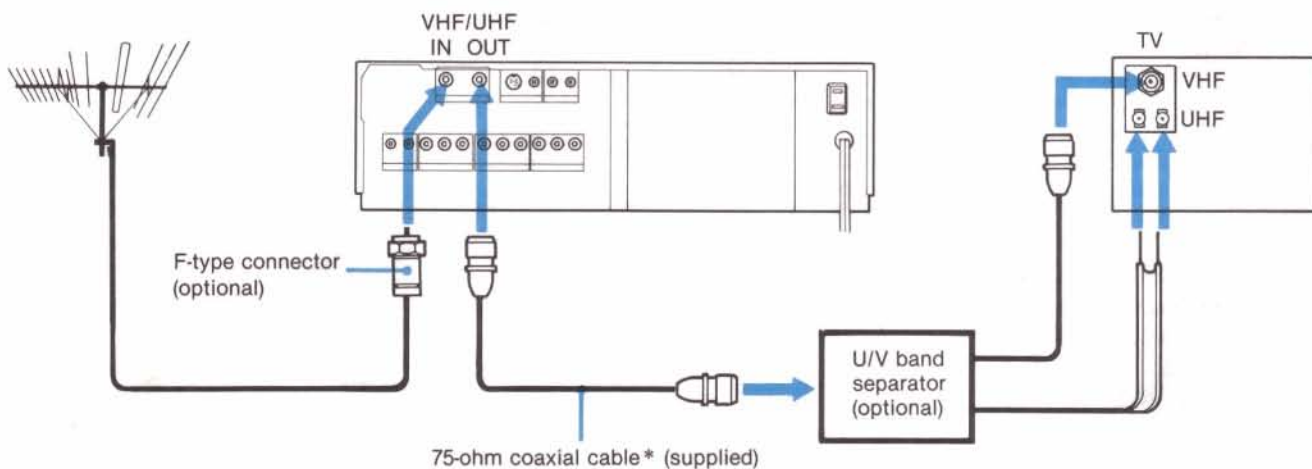
ANTENNA/CABLE AND TV CONNECTION

Disconnect the TV antenna cables from the TV receiver and connect them to the recorder. Then connect the recorder and the TV.

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.

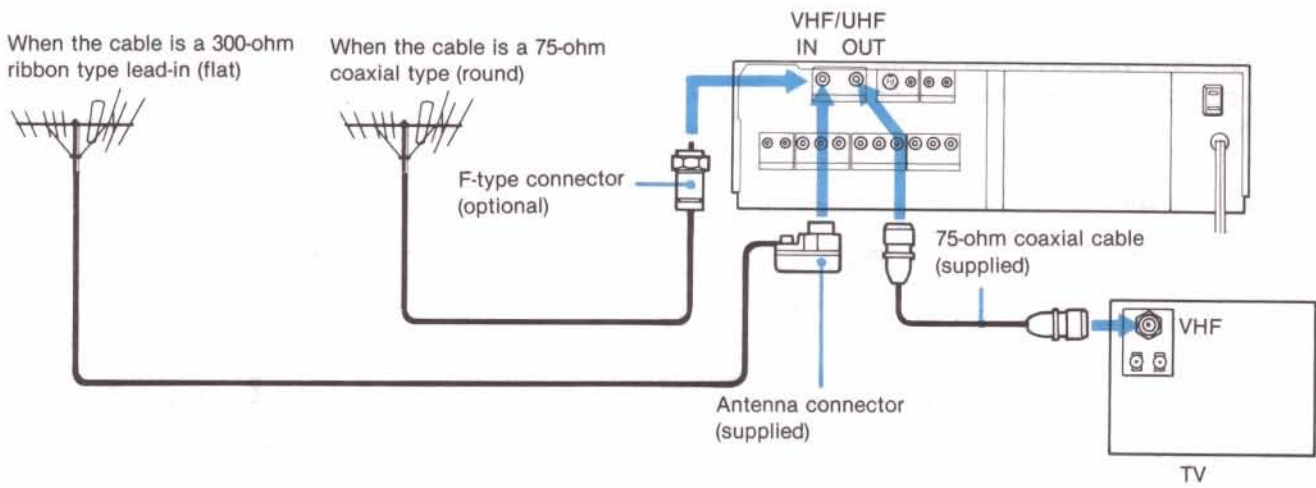
Use the removed separator to connect the recorder and the TV.



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

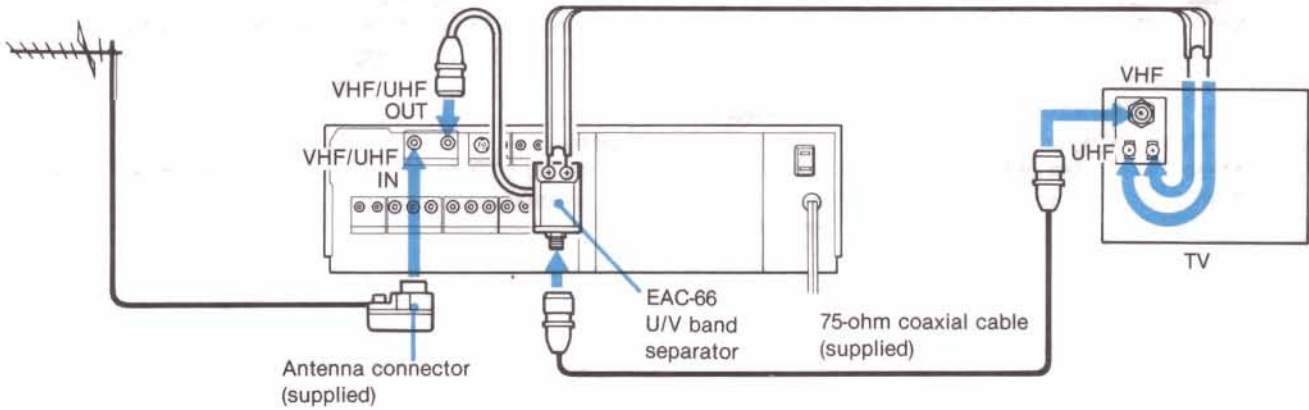
*Use an optional RFC-8 extension cable, 8 m (25 ft) long, if the supplied 75-ohm coaxial cable is not long enough.

VHF antenna



UHF antenna

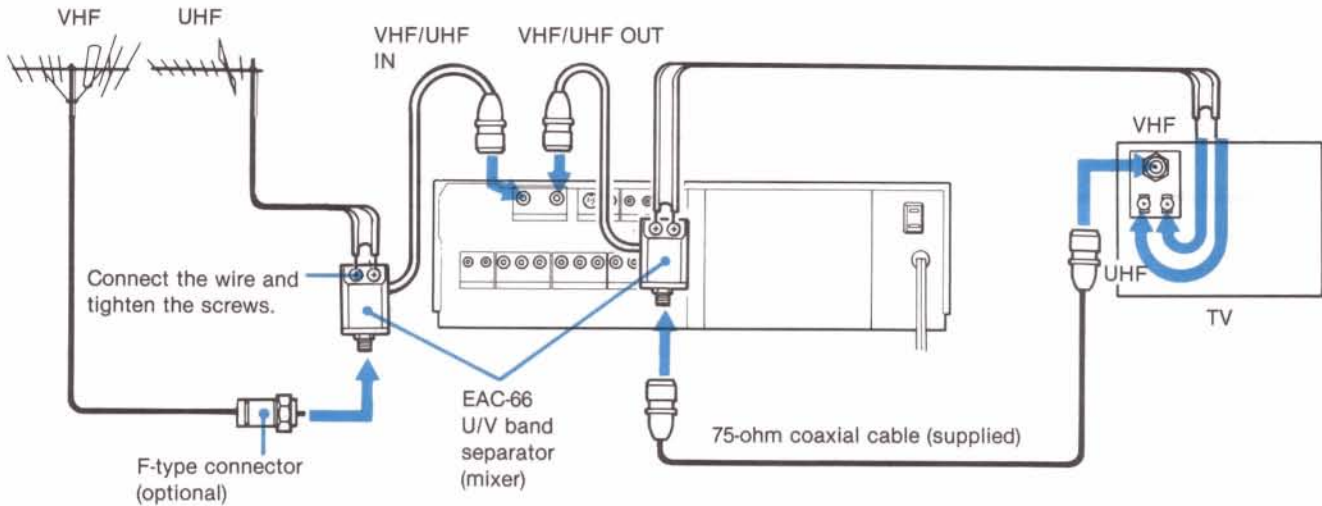
- 1 Attach an optional EAC-66 U/V band separator to the VHF/UHF OUT connector of the recorder.
- 2 Connect the separator to the VHF and UHF antenna terminals of the TV.



When both VHF and UHF antennas are connected

- 1 Attach an optional EAC-66 U/V band separator (mixer) to the VHF/UHF IN connector of the recorder.
- 2 Connect the antennas to the U/V band separator.
- 3 Attach another optional U/V band separator to the VHF/UHF OUT connector of the recorder.
- 4 Connect it to the VHF and UHF antenna terminals of the TV.

When a 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 VHF/UHF 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.

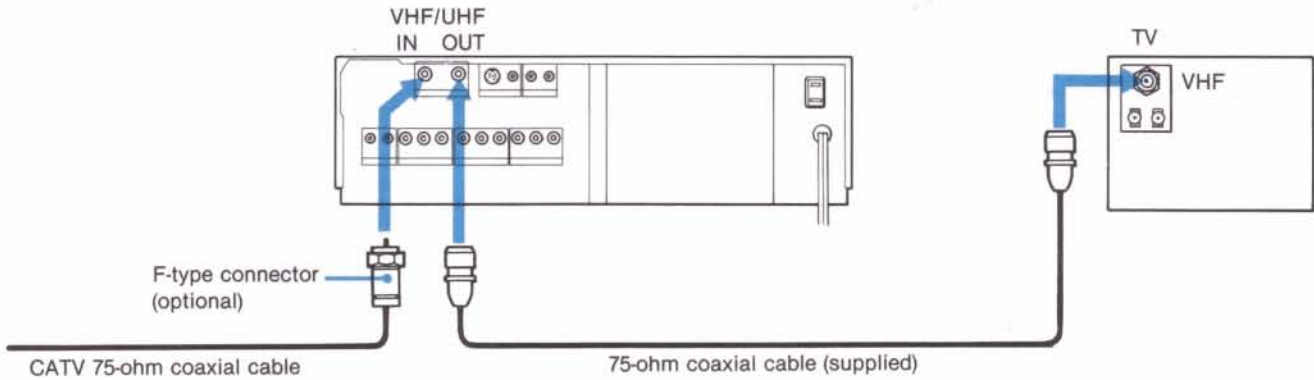
Once the connections explained above have been made, the antenna TV signals, as well as the signal from the recorder, will be fed to the TV and you can view TV programs in the usual way.

Note

Keep the VCR away from the TV, if the display or sound is affected.

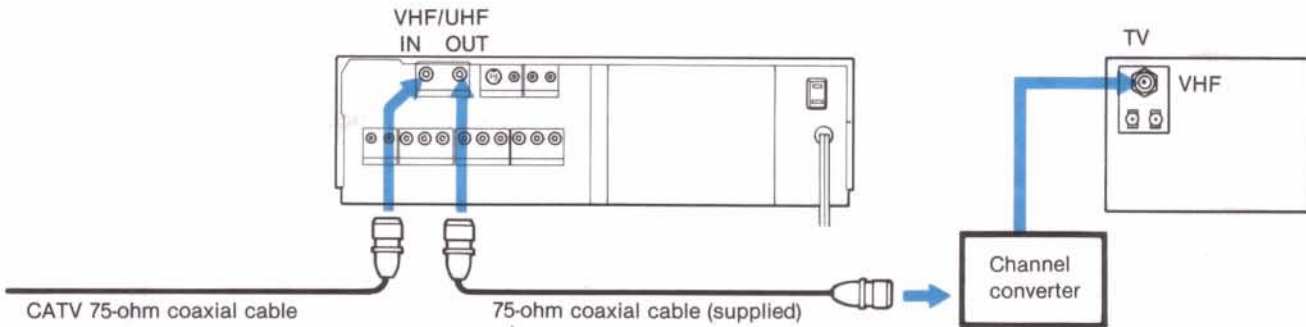
CATV cable

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



When a TV is not a cable TV compatible type

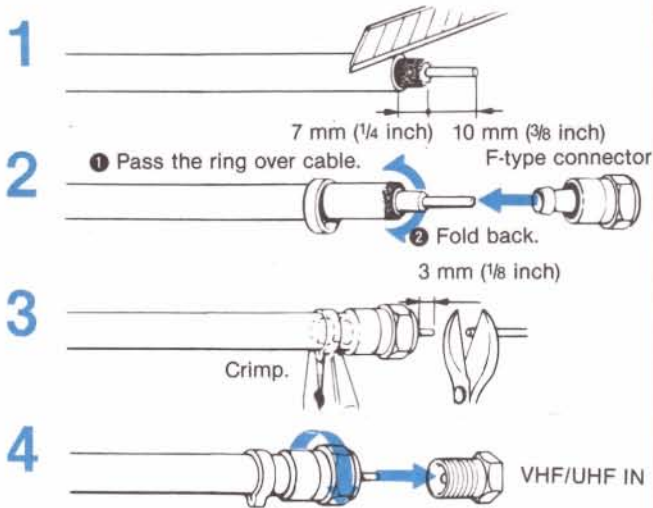
Connect the cable TV channel converter between the recorder and the TV so that you can watch another cable TV program while recording one cable TV program.



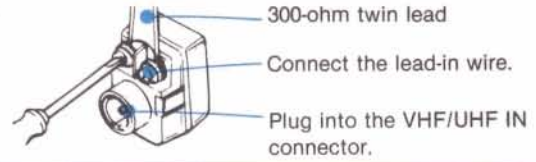
Note to CATV system installer in the U.S.A.

This reminder is provided to call the cable TV 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.

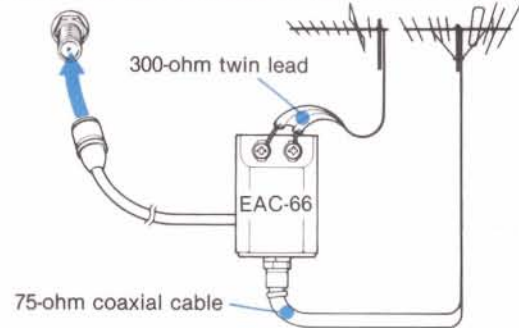
How to attach an F-type connector



How to attach an external antenna connector



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

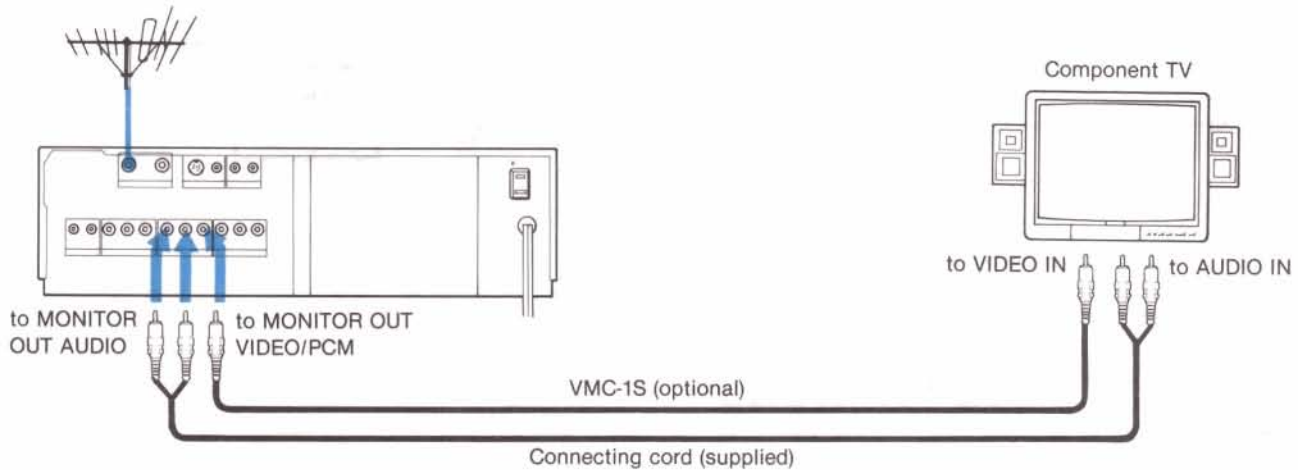


CONNECTING A COLOR MONITOR

To obtain a better-quality picture, connect a color monitor, such as the Sony-Profeel Trinitron Component TV. When a component TV is combined with the speaker system as illustrated, you can enjoy tapes recorded with Beta hi-fi stereo.

To use a component TV tuner together with the monitor, make the same connection as in the case of the recorder and the conventional TV receiver described on pages 16, 17 and 18.

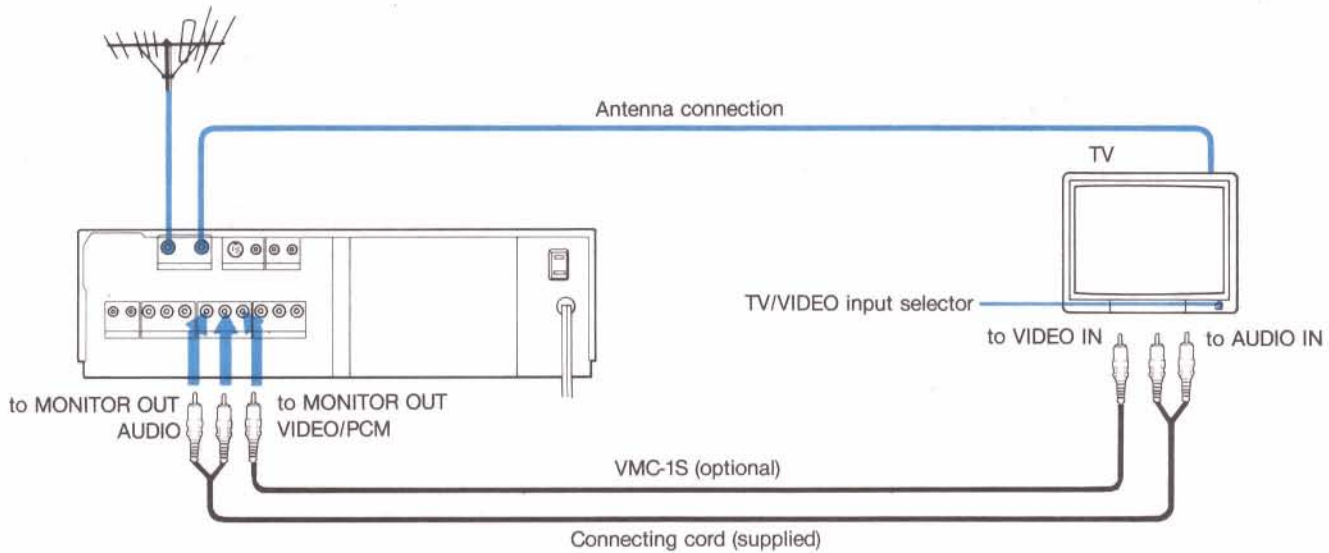
For details on the connection of the TV tuner and the monitor, refer to the instruction manual of the TV tuner.



CONNECTING A TV EQUIPPED WITH VIDEO/AUDIO INPUT JACKS

With the following connection, the picture and sound quality will be better than that when the TV is connected only to the VHF/UHF OUT terminal on the VCR.

To view the playback picture, set the TV/VIDEO input selector on the TV to VIDEO.



To cancel the automatic TV/VTR mode selection of this VCR

This VCR is preset at the factory so that it will be automatically set to VTR mode when playback starts. To cancel this function, proceed as follows:

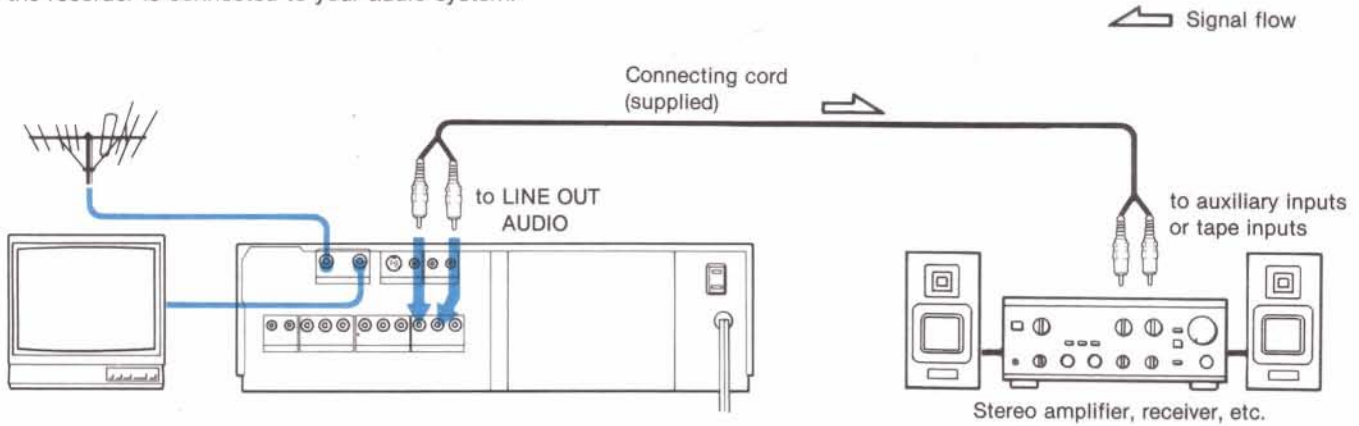
- 1 Turn off the VCR.
- 2 Keeping the TV/VTR button depressed, press the POWER switch.
The TV/VTR button blinks and the function is cancelled.

When playing back a tape, press TV/VTR to set to VTR mode.

To resume the automatic TV/VTR mode selection, repeat steps 1 and 2.

CONNECTION TO AN AUDIO SYSTEM

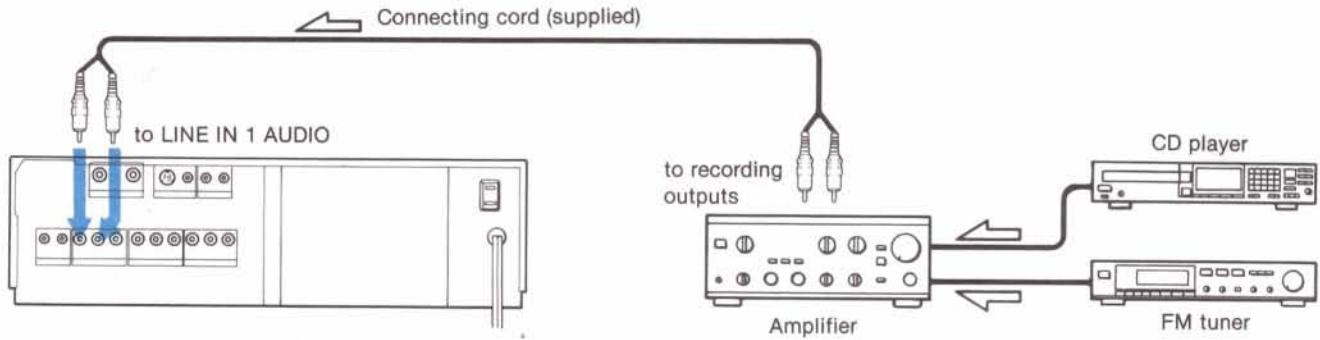
You can enjoy tapes recorded with Beta hi-fi stereo when the recorder is connected to your audio system.



To record audio signals from your audio system

You can record from an audio source such as an FM tuner, CD player, with the Beta hi-fi system without recording video signals.

The audio system can also be connected to the front panel LINE IN 2 AUDIO jacks. This connection is convenient for temporary use.



Notes

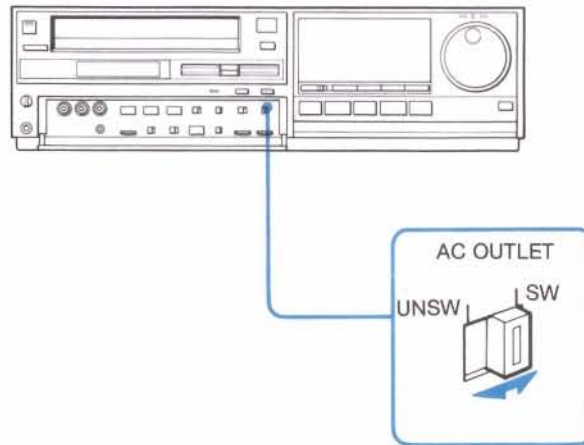
- If the VCR is installed near a tuner or a radio, noise may be heard in AM reception. In this case, keep the VCR away from the tuner or the radio, adjust the AM antenna for minimum noise, or connect an external AM antenna to the tuner.
- Before connecting or disconnecting the power cord of the VCR,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

POWER CONNECTION

AC OUTLET

The AC OUTLET on the rear panel provides a convenient AC power source for other video or audio equipment whose power consumption is under 200 watts.

Select the function of the AC OUTLET with the AC OUTLET selector inside the front panel.



Set to SW to switch on and off the power supply from the AC OUTLET with the front panel POWER switch. Set to UNSW so that the power is supplied even when the POWER switch is turned off.

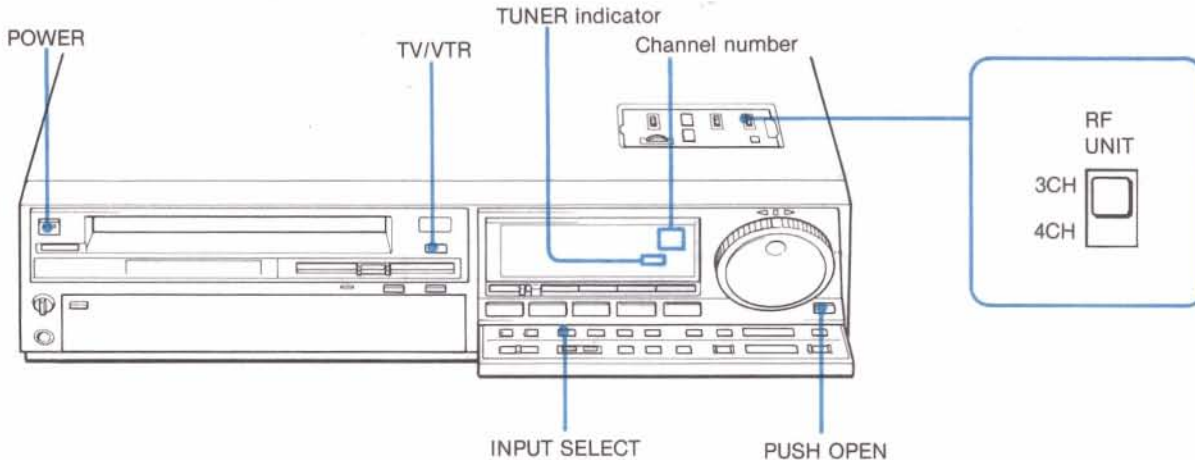
Caution

Do not connect any electric home appliances whose power consumption exceeds 200 watts, such as an electric iron or fan, to this outlet.

ADJUSTING THE TV

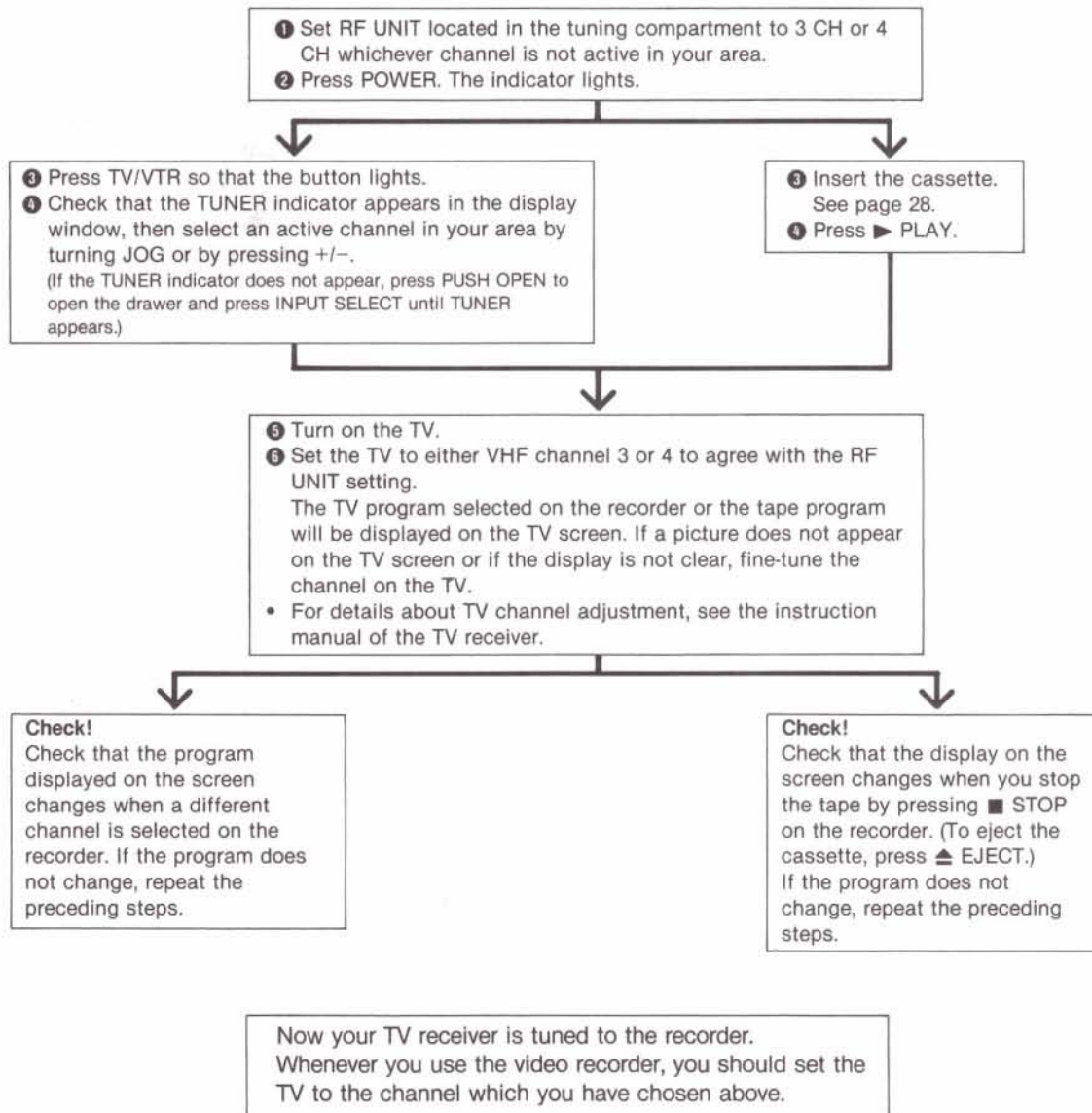
Your TV receiver must be adjusted to receive the signal from your recorder. If you connect a color monitor or a TV

equipped with video/audio input jacks, it does not need adjusting.



If you do not have a recorded video cassette tape

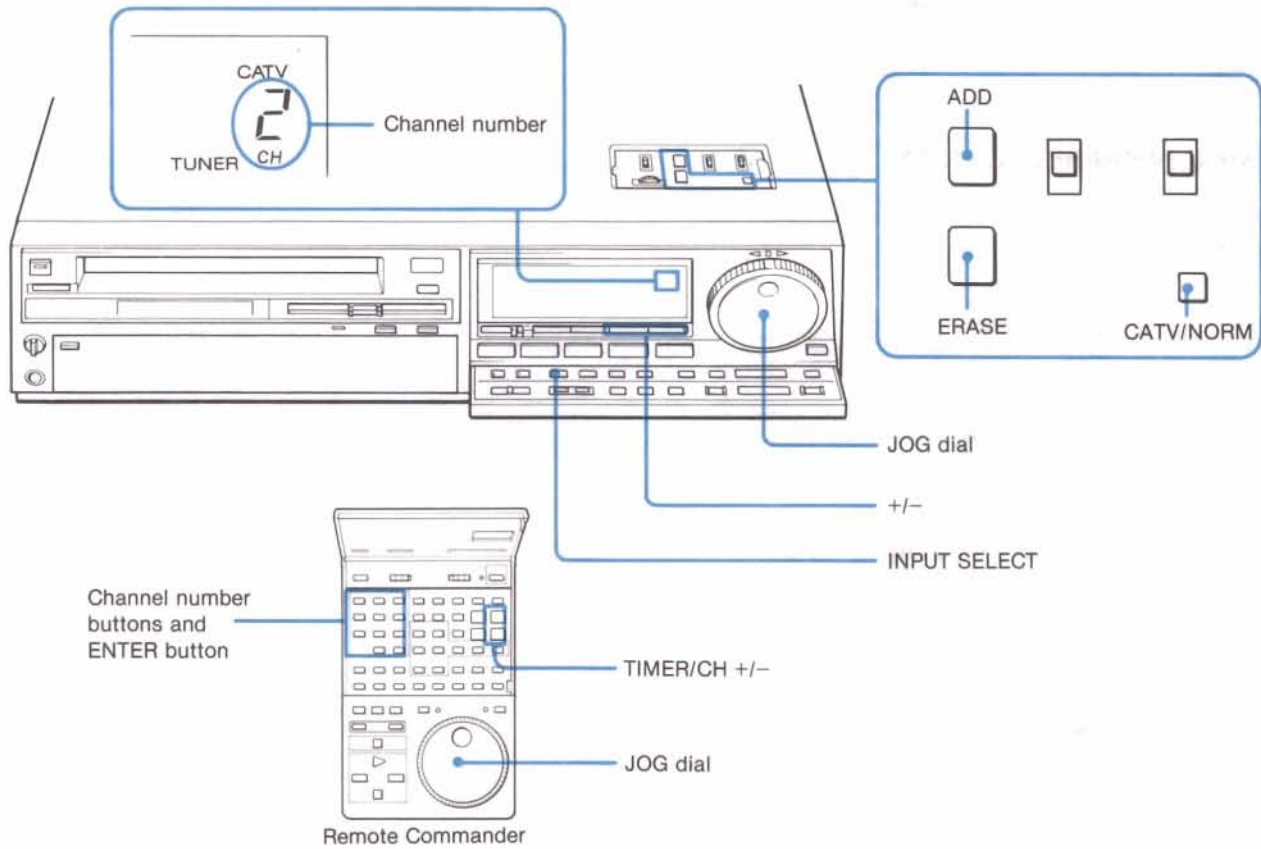
If you have a recorded video cassette tape



PRESETTING THE ACTIVE CHANNELS IN YOUR AREA

Your recorder is capable of receiving VHF channels 2–13, UHF channels 14–69 and cable TV channels 1–125 (A–8 to W+84). See cable TV channel chart on page 26. By adding and erasing channels, you can preset the

recorder so that only the desired channels will appear in sequence when you select a channel later with +/- on the recorder, or TIMER/CH +/- or JOG dial on the Remote Commander.



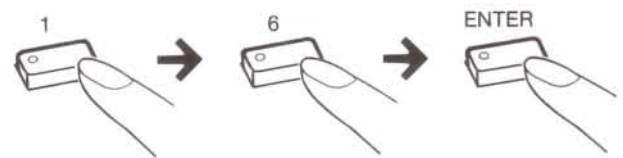
BEFORE PRESETTING

- Turn on the recorder and the TV. Make sure that the TV is set to the correct channel (channel 3 or 4) for the recorder.
- Press INPUT SELECT so that the TUNER indicator and channel number appear in the display window.
- For presetting cable TV channels, press CATV/NORM to display the CATV indicator in the display window. For off-the-air TV channels, press it again to turn off the CATV indicator.

ADDING CHANNELS

- 1 Select the channel to be added with the number buttons and ENTER button on the Commander or JOG dial on the recorder.

Ex. To select channel 16.



- 2 Press ADD. The "--" indication appears momentarily, indicating that the channel has been added.

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

ERASING CHANNELS

- 1 Select the channel to be erased.
- 2 Press ERASE.
The "--" indication appears momentarily, indicating that the channel has been erased.

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

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

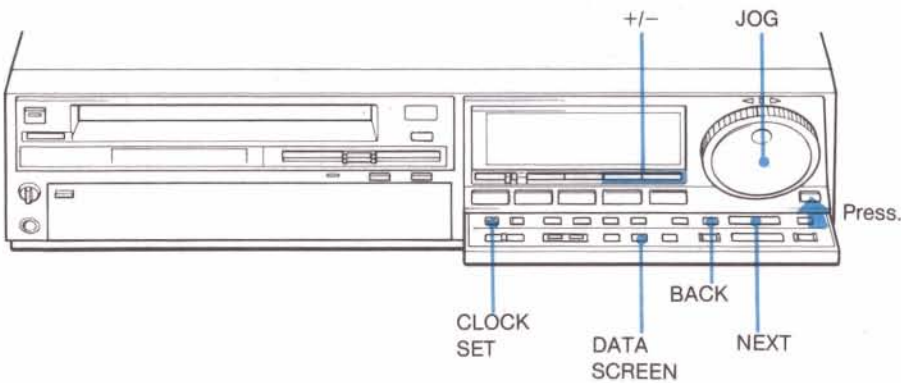
*The designation of the cable TV channels conforms to the EIA/NCTA recommendation.

Note

Pay cable TV systems use scrambled or encoded signals and require special converters (decoders) in addition to the normal cable connection.

DATE AND CLOCK SETTING

When you connect the AC power cord to a wall outlet, the clock indicates "Su AM 12:00" and it will blink to show that the clock is ready to be set.



JOG dial

Turn clockwise to advance the digits, and counterclockwise to reverse them.

+/- buttons

Press "+" to advance the digits, and "-" to reverse them. If the button is kept depressed, the digits will advance or reverse continuously.

To turn on and off the data screen display, press DATA SCREEN.

Example: to set the date/clock to 3:30 p.m., September 21, 1986

<p>1 Press CLOCK SET.</p>	<p>Display window</p>	<p>Data screen</p>
<p>2 Set the year by turning the JOG dial or pressing +/- until "86" appears. Then press NEXT.</p> <p>00 = 2000</p>		
<p>3 Set month, day, hour and minute in sequence. First adjust the blinking item by turning the JOG dial or pressing +/-, and then press NEXT.</p> <p>AM12:00 = midnight PM12:00 = noon</p>		
<p>4 For accurate setting, after adjusting the minute digit, press NEXT at the same time as an announced time signal. The clock will now start and the dots of the colon will alternately blink every 30 seconds.</p>		

To readjust the previously set item during clock setting
Press BACK. The previously set item will blink and can be readjusted. Press BACK repeatedly until the desired item blinks.

To readjust the date or clock after the setting has been completed
Press CLOCK SET. The hour digits will blink. To change the year, month or day, press BACK. Readjustment procedure is the same as above.

The day of the week is automatically set when the year, month and day are registered.

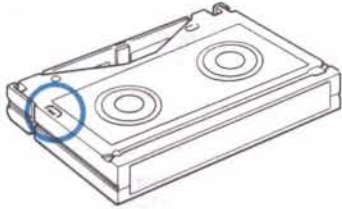
HANDLING THE VIDEO CASSETTES

Safety tab

The safety tab on the rear of the cassette should not be removed for recording. When a new recording is made on a pre-recorded cassette, the previous recording will be erased automatically.

To avoid erasing a recording, break off the safety tab using a screwdriver or similar object.

If you cover the opening with a piece of plastic tape, where the safety tab has been removed, you can re-record on the cassette.



When the inserted cassette has its safety tab removed

- If you activate ● REC, QUICK TIMER or TIMER REC, the ☐☐ indication will blink and the cassette will be automatically ejected.
- If you activate VIDEO or AUDIO INSERT, the ☐☐ indication will blink and the unit will not enter insert mode. The cassette will not be ejected automatically.

Recording time available in each mode

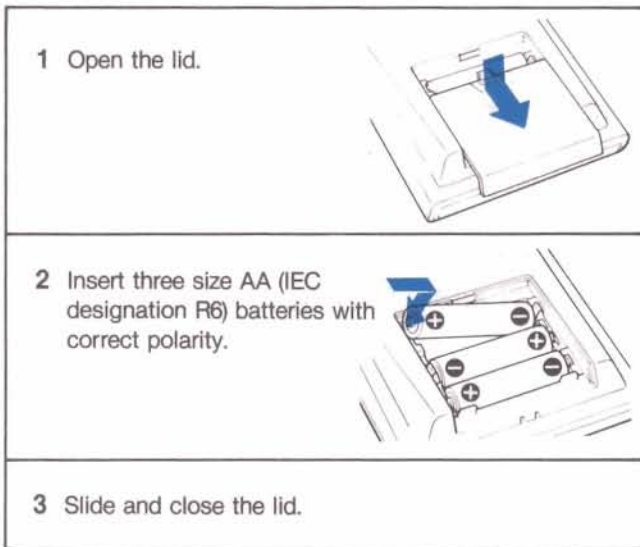
By selecting the recording speed, **Ⓜ**I s **Ⓜ**II or **Ⓜ**III, with the REC MODE button, you can decide the recording time.

Cassette used	Ⓜ I s mode	Ⓜ II mode	Ⓜ III mode
L-125	15 min.	30 min.	45 min.
L-250	30 min.	1 hr	1 hr. 30 min.
L-500	1 hr.	2 hr.	3 hr.
L-750	1 hr. 30 min.	3 hr.	4 hr. 30 min.
L-830	1 hr. 40 min.	3 hr. 20 min.	5 hr.

The playback speed is automatically set.

REMOTE CONTROL OPERATION

BATTERY INSERTION

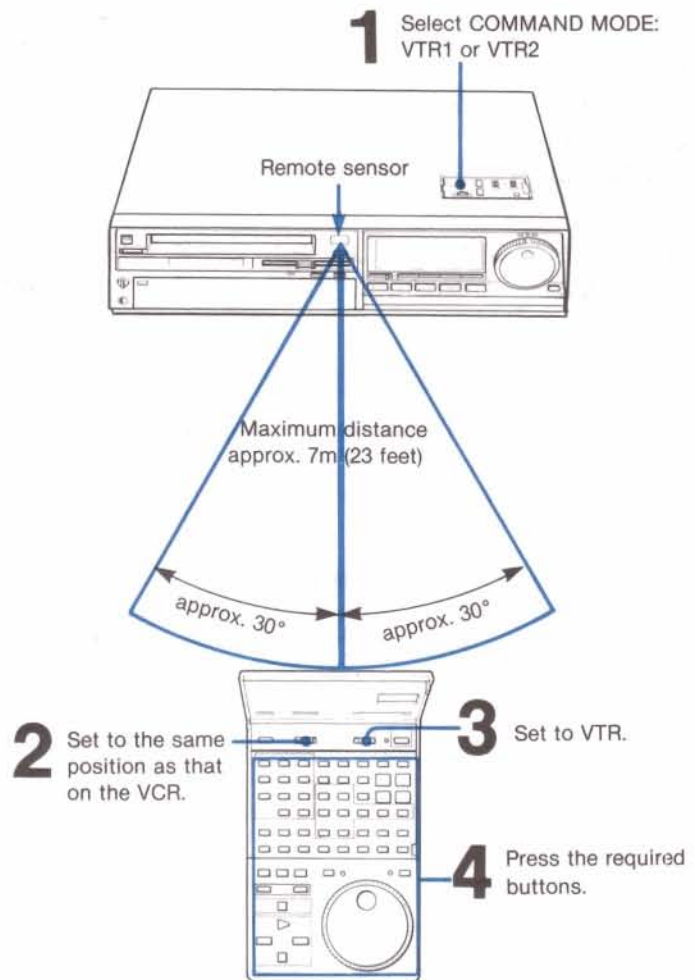


Battery life

In normal operation, batteries will last for three months. When the batteries are exhausted, the JOG dial and SHUTTLE ring on the Commander will not function, and then 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.

OPERATION



FOR OWNERS OF OTHER SONY VIDEO EQUIPMENT OR TV

To remotely control the equipment without the command mode selector

Set the command mode selector on the Remote Commander as follows:

VTR1: for Sony BetaMax infrared remote control VCRs

VTR2: for Sony 8 mm format VCRs

For Sony remote control TVs, either position will do.

To avoid having the SL-HF1000 and the other equipment functioning simultaneously

Set the COMMAND MODE selector of the SL-HF1000 to a different command mode position from the command mode of the other equipment. Simply by switching the command mode selector on the Remote Commander, you can control two VCRs separately.

To control Sony remote control TVs

The buttons marked with an orange dot on the RMT-148 can be used to operate certain Sony remote control TVs. To operate a TV, set the remote control TV/VTR selector on the RMT-148 to TV. The functions of the buttons are limited by the functions on the TV.

POWER: Press to turn the power on and off.

MUTING: Press to mute the sound. Press again to restore the sound.

TV/VTR: Press to select the input mode.

VOL +/-: Press "+" for more volume, and "-" for less volume.

TIMER/CH +/- and JOG: Select the channel.

DATA SCREEN: Press to retain or extinguish the on-screen display.

Number buttons and ENTER: Select the channel.

RECORDING TV PROGRAMS (Beta hi-fi recording)

Make sure that you have finished all the connections and adjustments on pages 16 through 29.

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

- Turn on the TV and select the channel for the recorder or select the input for the recorder.
- Check the positions of the selectors.

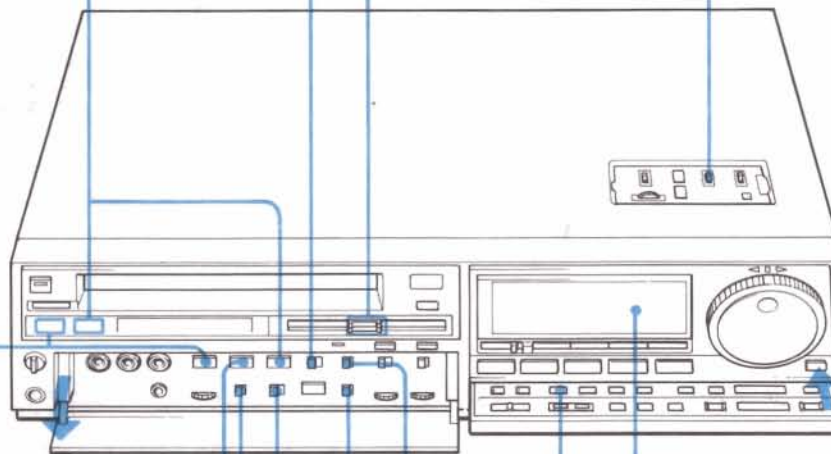
SUPER BETA → ON (i.e. SuperBeta lights)

BETA HI-FI → ON (i.e. Beta hi-fi lights)

MPX FILTER
→ Either ON or OFF

REC LEVEL → 5

AUTO STEREO → ON



Prees to open.

EDIT → OFF (i.e. EDIT is off)

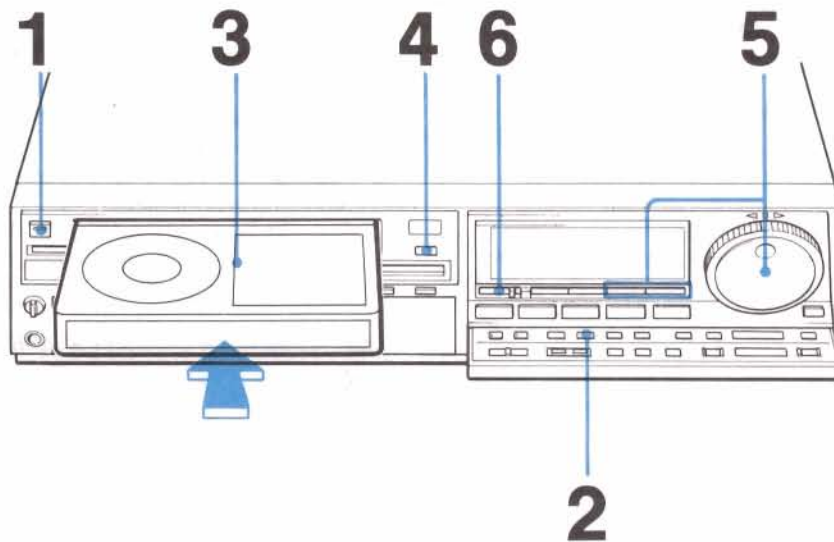
SHB → ON
(for SHB recording only)

INPUT SELECT
→ TUNER (i.e. TUNER appears)

BLACK SCREEN → OFF

AUDIO MONITOR
→ BETA HI-FI

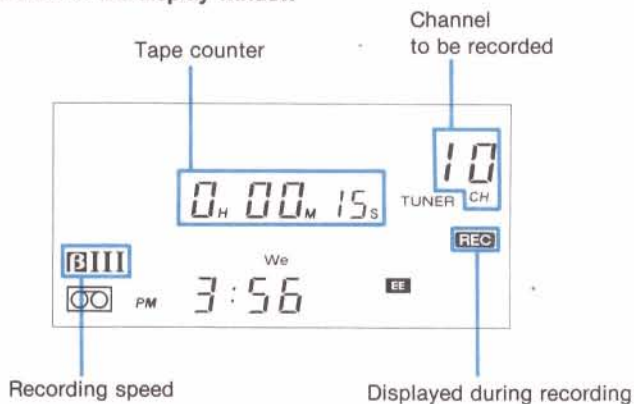
NORMAL AUDIO → MAIN



- 1** Turn on the power.
- 2** Select the recording speed, **II**, **III** or **III**, with REC MODE.
- 3** Insert a cassette.

- 4** Press TV/VTR so that the button lights (VTR mode).
- 5** Select the channel to be recorded with JOG or +/-.
- 6** Slide ● REC to the right. Recording will begin.

Check in the display window



With JOG on the recorder all the channels are received. With JOG on the Remote Commander preset channels are received.

To stop recording, press ■ STOP.

When the tape reaches its end, it will be rewound to the beginning.

To eject the cassette, press ▲ EJECT.

The ▲ EJECT button functions even when the power is turned off.

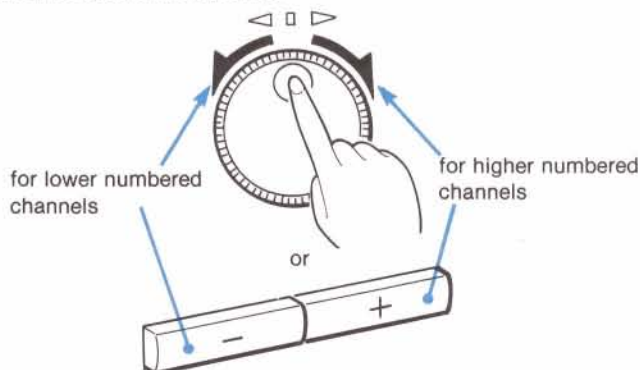
To turn off the power, press POWER.

To stop the tape momentarily

Press III/▶ PAUSE/STILL. The TV program can still be seen on the TV, but the picture will not be recorded.

To resume recording, press III/▶ PAUSE/STILL again. To protect the video heads and the tape, the pause mode will be automatically released after about 8 minutes and **recording will stop.**

How to select the channel



Note

The power can be automatically turned on by inserting a cassette without pressing POWER.

In case you want to record a tape which is to be played back on another recorder from the very beginning of the tape, run the tape for about 15 seconds before starting recording. Otherwise you may miss the starting point during playback on the other machine.

NOTE

SUPER BETA BUTTON

For recording

- Set to ON to make high picture quality recordings.
- Set to OFF if you intend to play back the tape on a non-SuperBeta VCR. A tape recorded with the SUPER BETA button set to ON may cause some over-modulation noise when played back on a non-SuperBeta VCR.

For playback

- Normally set to the position in which the tape was recorded.
- Set to ON if the tape was recorded in the **Hi** mode.
- Set to OFF if the tape was recorded in the **Lo** mode, or if the tape was recorded on a non-SuperBeta VCR.

Hi SHB (**Hi** SUPER HI-BAND) SWITCH

This switch is effective only for recording in **Hi** mode.

Hi recording produces a high-quality picture as in SuperBeta recording regardless of the SUPER BETA switch position.

- To obtain a better quality picture in **Hi** recording, set the **Hi** SHB switch to ON. A 6.0 MHz super hi-band recording will be made.
- If you intend to play back the tape on another VCR without the **Hi** SHB switch, keep the switch at OFF.

To assure the high quality of the super hi-band recording, use of high-quality tapes such as Sony PRO-X type is recommended.

TO START RECORDING FROM A PARTICULAR POINT

You can decide the starting point for recording while watching the picture.

- 1 Play back the tape and locate the point where you wish to start recording on the tape.
- 2 Press **PAUSE/STILL** to stop the tape where you wish to start recording.
- 3 Slide **REC** to the right. The recorder will enter recording pause mode.
- 4 Press **PAUSE/STILL** at the desired point to release the pause mode. Recording will begin.

TO STAND BY CORRECTLY AT THE DESIRED POINT

- 1 Set the VCR to recording pause mode.
- 2 Press **PLAY**. The VCR will enter playback pause mode.
- 3 Locate the desired point where you wish to start recording by turning the JOG dial. (See page 36)
- 4 Slide **REC** to the right. The VCR will enter recording pause mode.
- 5 Press **PAUSE/STILL** at the desired point. Recording will begin.

TO RECORD MULTICHANNEL TV SOUND (MTS) BROADCASTS (STEREOCASTS)

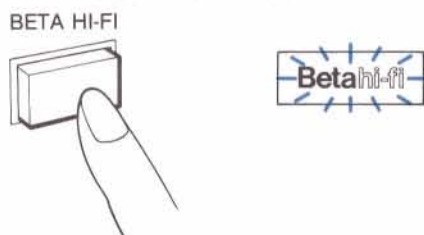
In the years to come, an increasing number of programs will be broadcast in stereo. Called Multichannel TV Sound or MTS, the new technology will greatly enhance TV viewing by bringing you programs with high fidelity stereo sound.

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 any other sound track.

- Make sure AUTO STEREO in the tuning compartment is set to ON.
- The recording procedure is the same as usual.

To record a stereo broadcast

Make sure that the Beta hi-fi indicator lights. If not, press BETA HI-FI inside the front panel.



To record a SAP (Second Audio Program) broadcast

Set NORMAL AUDIO inside the front panel to SAP. The SAP indicator will appear in the display window.



If recording is made when there is a SAP broadcast, the SAP sound will be recorded on the conventional audio track while the MAIN sound is recorded on the video track in Beta hi-fi. To listen to the SAP sound, set AUDIO MONITOR BETA HI-FI/MIX/NORM to NORM.

To record a MAIN broadcast only

Set NORMAL AUDIO to MAIN. The MAIN sound will be recorded on the video track and the conventional audio track.

Note

When a SAP sound is not be recorded, be sure to set NORMAL AUDIO to MAIN. If it is set to SAP and there is no SAP broadcast, no sound is recorded on the conventional audio track.

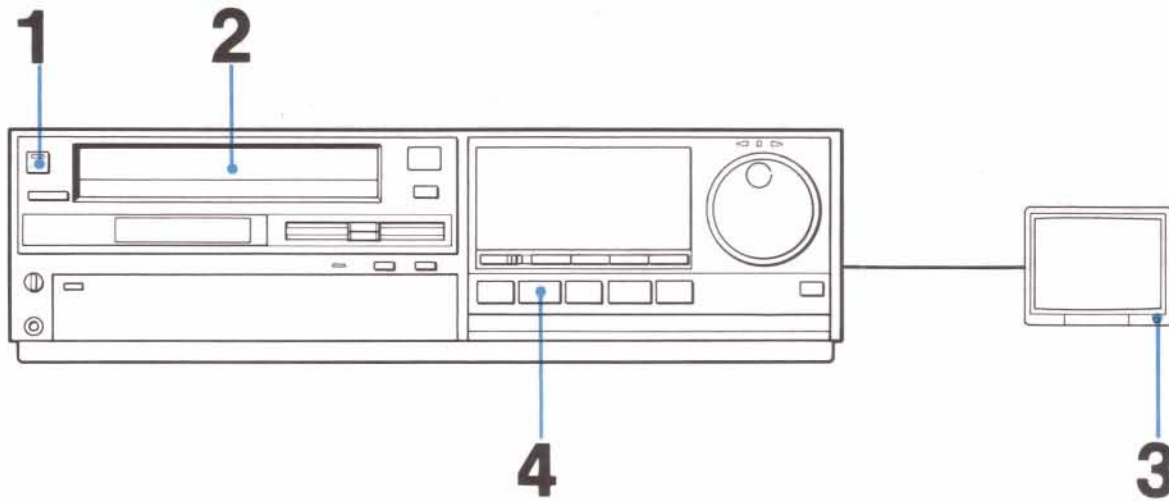
TO VIEW ONE TV PROGRAM WHILE RECORDING ANOTHER

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

*If your TV is equipped with a TV/VTR input selector, simply set the selector to "TV" and select the desired channel on the TV.

PLAYBACK

OPERATION



1 Turn on the power.

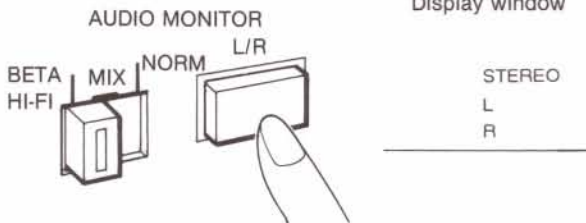
2 Insert a cassette.

3 Turn on the TV and select the channel for the recorder or select the input for the recorder.

4 Press ► PLAY.

TO SELECT THE MONITOR SOUND

Inside the front panel



Playback of Beta hi-fi stereo sound programs

Set AUDIO MONITOR to BETA HI-FI or MIX.

When the recorder is connected to a Component TV, a stereo system or stereo headphones, you can enjoy stereo sound reproduction.

When a conventional (monaural) TV is connected, the sound of the left and right channels are mixed so that monaural sound comes from the TV speaker.

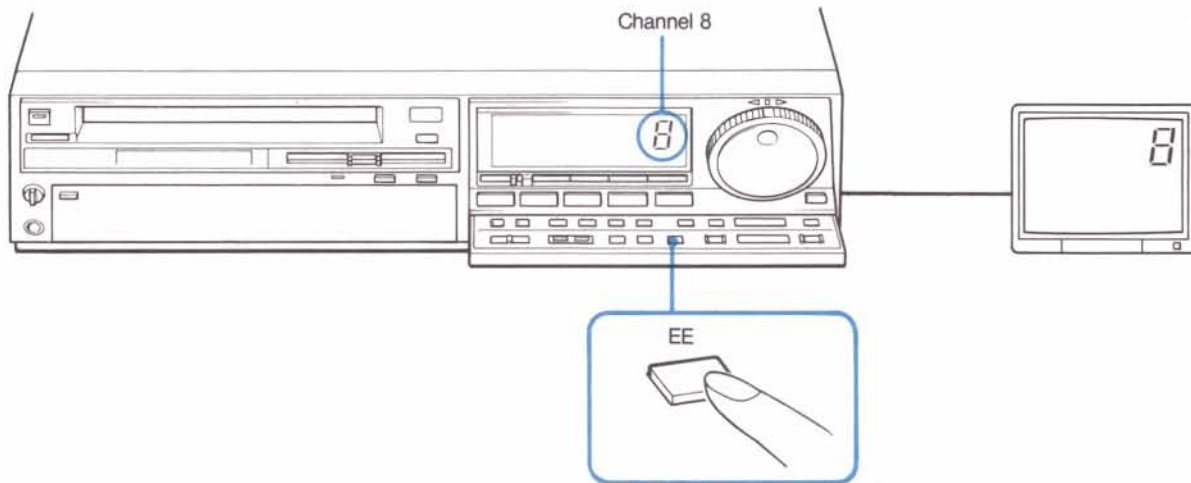
To select the left or right channel of stereo programs

Select the desired channel by pressing AUDIO MONITOR L/R. Each time the button is pressed, the indicator of the selected channel, STEREO, L (left) or R (right) will appear in the display window.

Playback of SAP sound

To listen to the SAP sound that was recorded with NORMAL AUDIO set to SAP, set AUDIO MONITOR to NORM (for the SAP sound only) or MIX (for both the SAP and MAIN sounds).

TO VIEW A TV PROGRAM DURING PLAYBACK



During playback, press EE inside the drawer or on the Remote Commander. The EE indicator will appear in the display window. While the button is kept pressed, the

program of the TV channel selected is seen on the monitor screen.

Release the button to view the playback picture.

WHEN YOU PLAY BACK A TAPE RECORDED ON ANOTHER VCR

- If the VCR on which the tape was recorded is not equipped with the Beta hi-fi system, this recorder will play back the tape in the conventional way automatically. The Beta hi-fi indicator does not light.
- If streaks or snow appears, adjust NORMAL TRACKING for the best possible picture. Return the control to the center position after viewing that tape.
- To get a sharp picture, turn SHARPNESS toward SHARP.

Inside the front panel



AUTO PLAY

—To play back a tape from the beginning of the tape after rewinding

Press ► PLAY keeping ◀◀ REW depressed, or press AUTO PB on the Remote Commander. After the tape is completely rewound, it will be automatically played back.

Notes

- If you are playing back a tape that was recorded on another VCR, noise (if any) in the picture may be eliminated by setting SUPER BETA to OFF. Normally, keep this switch at ON.
- To change to channel 3 or 2 on your TV from the channel on which you have been viewing something from the video recorder, be sure to press TV/VTR first and then change to channel 3 or 2 is set on your TV. If TV/VTR is pressed after channel 3 or 2 is set on your TV, you might not get a picture. In this case, change your TV channel to another channel and then come back to channel 3 or 2.

VARIOUS PLAYBACK MODES

Use the buttons on the recorder or on the Remote Commander.

BETASCAN

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

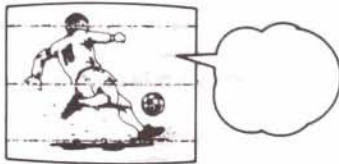
Keep pressing ►► FF or ◀◀ REW during playback. When you release the button, the normal playback will be resumed.

BETA SKIPSCAN

—Viewing the picture momentarily during fast-forward or rewind

Keep pressing ►► FF or ◀◀ REW during fast-forward or rewind mode. When you release the button, the fast-forward or rewind mode will be resumed.

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



FREEZE PICTURE (playback pause)

Press ■/▶ PAUSE/STILL during playback. The sound is muted.

Press ■/▶ PAUSE/STILL again or press ▶ PLAY to resume normal playback.

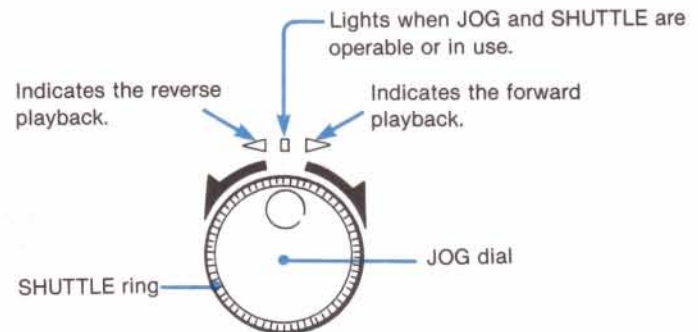
To protect the video heads and the tape, the pause mode will be automatically released after about 8 minutes and playback will be resumed.

TO OBTAIN BETTER PLAYBACK PICTURE

—in variable playback modes

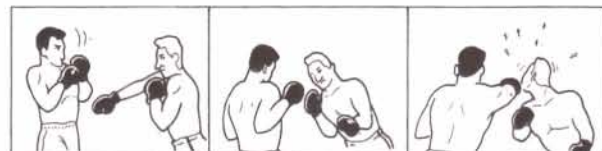
- **If the freeze picture appears to shake...**
Turn STILL ADJ in the tuning compartment until the picture stabilizes.
As long as the same TV or color monitor is used, readjustment should not be necessary.
- **If streaks or noise bands appear in freeze, stop-action advance, or 1/10 or 1/5 speed picture...**
Set to 1/10 or 1/5 speed picture mode and adjust SLOW TRACKING inside the front panel.
- **If streaks or noise bands appear in normal (x1) or double speed (x2) picture...**
Adjust NORMAL TRACKING inside the front panel.

VARIOUS SPEED PLAYBACK USING THE JOG DIAL AND SHUTTLE RING



Using the JOG dial

- 1 Play back a tape and stop the playback by pressing ■/▶ PAUSE/STILL.
- 2 Turn the JOG dial.
The tape will be played back at the speed at which you are turning the dial (1/10, 1/5 or normal speed). Turn it clockwise for forward playback, or counterclockwise for reverse playback.



- 3 When you stop turning the JOG dial, the picture will freeze again.

Using the SHUTTLE ring

- 1 Play back a tape and stop the playback by pressing **II/PAUSE/STILL**.
- 2 Turn the SHUTTLE ring and hold it at the position where the desired playback speed is obtained. You can select 1/10, 1/5, normal, double or continuous Betascan speed. Turn it clockwise for forward playback, or counterclockwise for reverse playback.



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

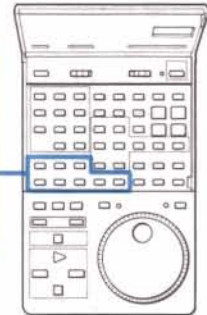
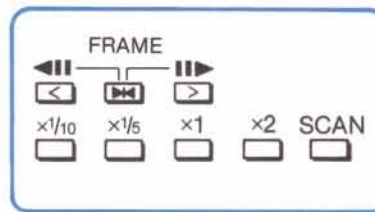
To use the JOG dial and SHUTTLE ring on the Remote Commander

Before operating JOG or SHUTTLE, press the JOGSHUTTLE function button on the Commander so that the associated indicator lights. The VCR will enter playback pause mode.

If JOG and SHUTTLE on the Commander are not used for more than one minute, their function will be released automatically in order to prevent undue battery wear. To use JOG and SHUTTLE again, press the JOGSHUTTLE function button once more.

- JOG and SHUTTLE on the Commander will function in freeze picture and various speed playback modes.
- Use of 1/10 speed playback is not possible with SHUTTLE on the Commander.

VARIOUS PLAYBACK MODES USING THE REMOTE COMMANDER



Stop-action advance picture

Press **FRAME** **III>** (forward) or **<III** (reverse) in freeze picture mode.

Press **▶** **PLAY** to resume normal playback.

Variable speed playback

Press the desired speed button during playback or in freeze picture mode. The sound is muted (except in $\times 1$ and $\times 2$ forward picture).

- IIII**: freeze picture
- $\times 1/10$: slow motion picture at 1/10 normal speed
- $\times 1/5$: slow motion picture at 1/5 normal speed
- $\times 1$: normal speed picture
- $\times 2$: double speed picture*
- SCAN**: continuous Betascan picture

*The $\times 2$ button will not function for tapes recorded in the **IBI** or **IBI** s mode, though " $\times 2$ " appears on the monitor screen when the button is pressed.

To reverse the direction of the variable speed playback, press **<III**. To resume forward playback, press **III>**.

To change the playback speed, simply press the desired speed button.

To resume normal playback press **▶** **PLAY**.

USE OF THE TAPE COUNTER

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

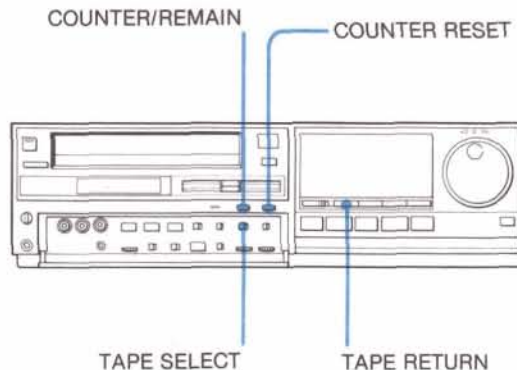
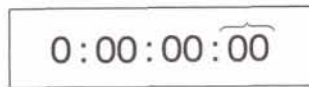
To display the counter on the TV screen, press DATA SCREEN inside the drawer.

Display window



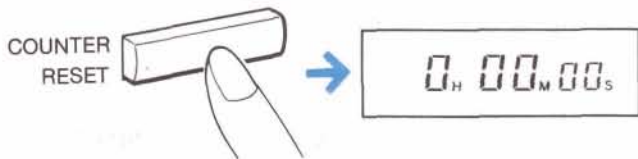
Data screen

Frame digits



TO INDEX THE TAPE CONTENTS

Before starting recording or playback, press COUNTER RESET to set the counter to zero. 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 advance during any portion of a tape that is blank or unrecorded.
- The counter reading will not exactly correspond to the position of the tape after the tape has been stopped or run repeatedly in fast-forward or rewind mode.

TO DETERMINE THE REMAINING RECORDING OR PLAYBACK TIME

- 1 Set TAPE SELECT (REMAIN) inside the front panel according to the length of the tape being used.
 L500: for L-500 cassettes
 L750: for L-750 cassettes
 L830: for L-830 cassettes
 For L-125 and L-250 cassettes, any position will do.



- 2 During recording or playback, press COUNTER/REMAIN. The unit will calculate the remaining recording or playback time, and then the remaining time will be displayed.



During calculation (15 seconds max.)

The remaining time will decrease as the recording or playback goes on.

To display the normal tape counter, press COUNTER/REMAIN again.

Notes

- The remaining time will be changed to “-H--M” when the unit is set to fast-forward, rewind or Betascan mode, or when the SHUTTLE ring is operated.
- The remaining time will be changed to “-H--M” if a blank portion of the tape (with no CTL signal recorded) is played back or the recorded tape speed is changed.
- The remaining time counter will not advance in stop, freeze picture, stop-action advance picture or slow picture mode, or when the JOG dial is operated.

Notes on the accuracy of the remaining time counter

The accuracy of the remaining time counter will vary depending on the type of the tape being used.

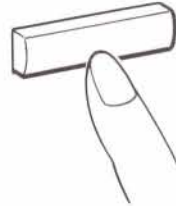
- For commercially available recorded tapes, the counter will not indicate the exactly same time as the recorded time labeled on the tape.
- For damaged tapes and nonstandard tapes, the accuracy will be degraded.
- At the beginning of a tape, especially when the tape has just been rewind, the remaining time will be calculated greater than the actual time (by several minutes max.).

TAPE RETURN/TAPE RETURN PLAY

—To stop the tape at a particular point or play back from a particular point

- 1 During recording or playback, press COUNTER RESET at the point you want to locate later.
- 2 When recording or playback is finished, stop the tape and press TAPE RETURN.
The tape will be rewound or advanced close to the counter zero point.

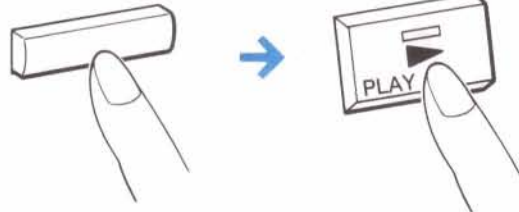
TAPE RETURN



To start playback automatically from the counter zero point

Press ► PLAY after pressing TAPE RETURN. The indicator on ► PLAY will blink.

TAPE RETURN



Note

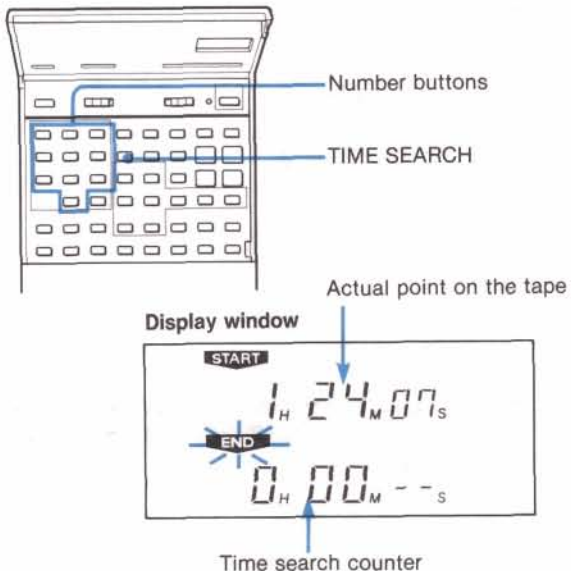
The tape return and tape return play cannot be activated when the counter reading is within $\pm 0:00M10s$.

TIME SEARCH

The tape can be advanced rapidly or rewound for the required length of time. This function is useful for verifying the picture on the specified point of the tape.

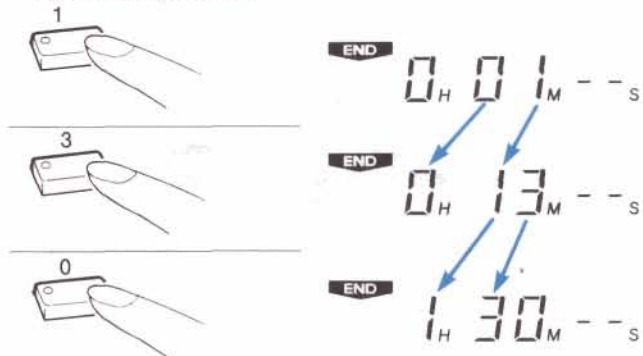
To set the length of time, use the Remote Commander.

- 1 Stop the tape.
- 2 Press TIME SEARCH on the Commander.



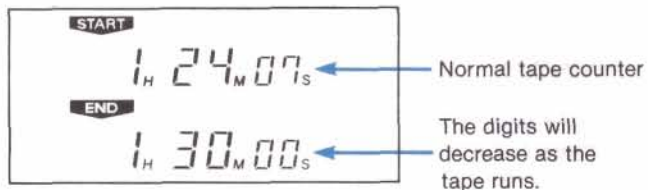
- 3 Set the time (hour and minutes) for which you want to advance or rewind the tape by pressing the number buttons on the Commander.

Ex. 1 hour 30 minutes



If an incorrect digit is input, press "0" twice and then press the correct number button.

- 4 Press ►► FF or ◀◀ REW.



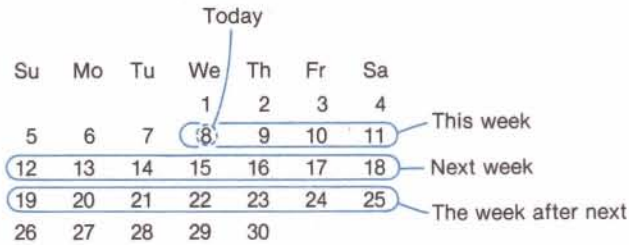
The tape will stop automatically at the time search counter zero point.

To start playback automatically from the assigned point
Press ► PLAY after pressing ►► FF or ◀◀ REW. The indicator on ► PLAY will blink.

To cancel the time search operation
Press TIME SEARCH again.

TIMER-ACTIVATED RECORDING

Eight recordings can be preset to be made between today and Saturday of the week after next.



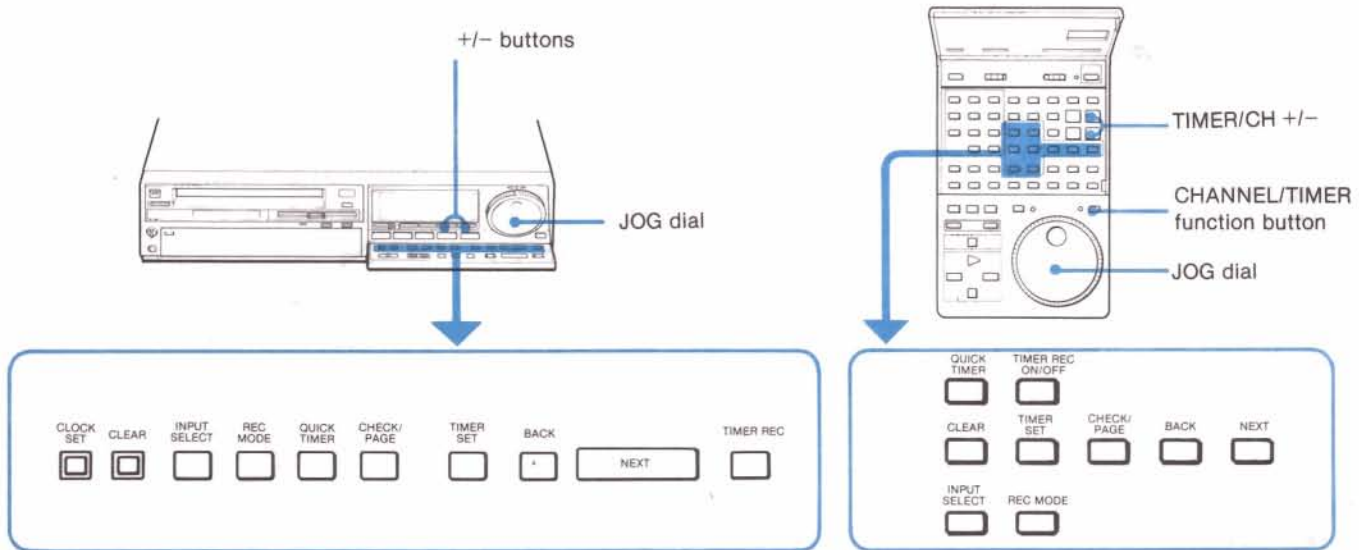
The date and clock must be set correctly. For the setting, see page 27.

Check before setting the timer

- Make sure the cassette tape is long enough to record all the programs.
- Be sure the safety tab of the cassette has not been removed.
- Set the selectors and controls as in "Before recording" on page 30.

Buttons for timer setting

You can use the buttons and JOG dial either on the recorder or on the Remote Commander.



Channel/timer +/- buttons (or TIMER/CH +/- buttons on the Commander)

To set the week and day, the turn-on and turn-off times and the channel, press "+" to advance, and "-" to reverse.

JOG dial

To set the week and day, the turn-on and turn-off times and the channel, turn clockwise to advance, and counterclockwise to reverse.

When using the JOG dial on the Commander, first press the CHANNEL/TIMER function button.

NEXT button

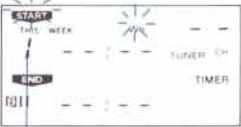





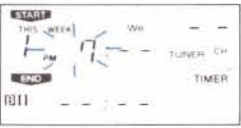
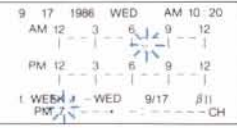

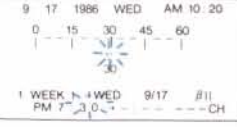



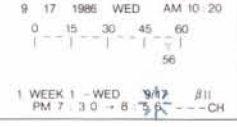

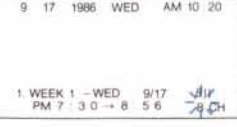


Every time you press the NEXT button, the item to be set will blink.

BACK button

To change the item previously set, press this button until the desired item blinks.

To obtain the data screen display, press DATA SCREEN inside the drawer or on the Commander.

Suppose you want to make a recording of channel 8 from 7:30 P.M. to 8:56 P.M. today (Wednesday, September 17)

Operation	Display window	Data screen
<p>1 Press TIMER SET.</p>	 <p>Timer program number</p>	<p>Current date and time</p>  <p>Timer program number</p>
<p>2 Select REC MODE.</p>	 <p>Recording tape speed</p>	 <p>Recording tape speed</p>
<p>3 Set the week and day with +/- or JOG. (See "To set the week and day" on page 43.) Then press NEXT.</p>		
<p>4 Set the turn-on hour with +/- or JOG. AM 12:00=midnight PM 12:00=noon Then press NEXT.</p>		
<p>5 Set the minute with +/- or JOG. Then press NEXT.</p>		
<p>6 Set the turn-off hour with +/- or JOG. Then press NEXT.</p>		
<p>7 Set the minute with +/- or JOG. Then press NEXT.</p>		
<p>8 Set the channel to be recorded with +/- or JOG. Then press NEXT.</p>		
<p>To preset another program, repeat steps 1 to 8. Up to 8 programs can be preset.</p>		
<p>9 Press TIMER REC. The power will be turned off and the recorder will enter the standby mode.</p>	<p>Preset turn-on time of program 1</p>  <p>Current time</p>	

Recording will start at the preset time and will automatically stop when the recording is completed. The memory of the program will be erased if it is for only one day and the timer program numbers will advance one by one.

NOTICE:

ONCE THE **TIMER** INDICATOR HAS BEEN DISPLAYED, only the functions of CHECK/PAGE and TIMER REC can be activated. For the usual manual operations, press TIMER REC again so that the indicator goes off, and then turn on the power.

Notes

- Timer recordings of the signals input from the LINE 1 IN or LINE 2 IN jacks can be made. Select the L1 or L2 LINE input with the INPUT SELECT button and skip step 8.
- Timer setting can be made during playback, if the recording tape speed for timer programs is the same as that of the on-going playback. The other tape speeds cannot be preset.

To set the week and day

The week and day indications change in the direction of the arrow, starting from today, when you press “+” or turn JOG clockwise; and in the reverse direction when you press “-” or turn JOG counterclockwise.

The day(s) you want the recording(s) made	Display window	Data screen
At the same time every day from Monday to Saturday	EVERY WEEK Mo Tu We Th Fr Sa	MON-SAT
At the same time every day from Monday to Friday	EVERY WEEK Mo Tu We Th Fr	MON-FRI
At the same time on the same day every week	EVERY WEEK Su →...→ Fr → Sa	EVERY-SUN →...→ SAT
At the same time every day	Su Mo Tu We Th Fr Sa	EVERY-DAY
Only one day	THIS WEEK We → Th →...→ Sa (today)	WEEK 1 WED → THU →...→ SAT (today)
	NEXT WEEK Su →...→ Sa	WEEK 2 SUN →...→ SAT
	WEEK AFTER NEXT Su →...→ Sa	WEEK 3 SUN →...→ SAT

BEFORE THE TIMER-ACTIVATED RECORDING STARTS

To check the timer settings

Press CHECK/PAGE.

Every time you press CHECK/PAGE, each program will be displayed in the display window.

To change the settings

- 1 Press TIMER REC. The **TIMER** indicator goes off.
- 2 Press CHECK/PAGE to select the program to be changed.
- 3 Press TIMER SET.
- 4 Press NEXT until the item to be changed blinks.
- 5 Change the setting with +/- or JOG.
- 6 Press NEXT so that the tape counter and the current time appear in the display window.
- 7 Press TIMER REC again to reactivate the timer.

To erase the memory of a particular program

- 1 Press TIMER REC. The **TIMER** indicator goes off.
- 2 Press CHECK/PAGE 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 again to reactivate the timer.

DURING RECORDING

To stop during the timer recording

Press TIMER REC. The recording will stop and the power will be turned off.

When the tape ends during timer recording

The tape stops but the tape will not be rewind.

The **STOP** and **PAUSE/STILL** buttons do not function during a timer recording.

SPECIFIC NOTES ON TIMER-ACTIVATED RECORDINGS

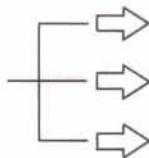
Troubles when TIMER REC is pressed

The cassette will be ejected automatically.



The cassette inserted has the safety tab removed.

TIMER indicator disappears.



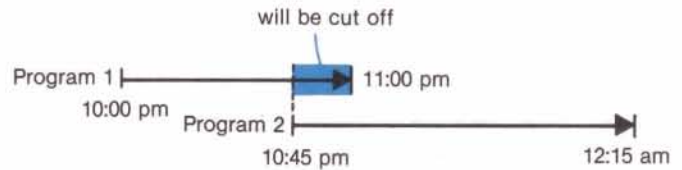
No cassette is inserted.

The tape is at its end.

The turn-on time has been set before the current time.

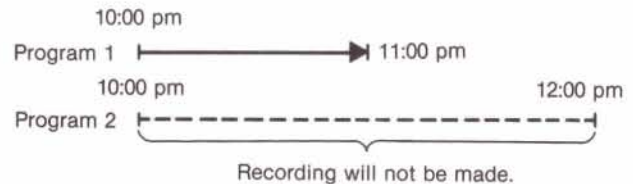
When the presets of your timer-activated recordings overlap

The recording of program 2 will begin before program 1 is finished.



If the turn-on time of two programs are the same

The recording of the program having the lower program number will be made. The memory of the program having the higher number will be cleared.



If the turn-on time of one program is the same as the turn-off time of another program

When a timer recording starts, the unit is set to recording pause mode 6 seconds before the preset turn-on time. The pause mode is released exactly at the preset turn-on time and recording starts approximately 1 second after. Therefore, the end of the first program will not be recorded for 6 seconds. Both recordings, however, will be made smoothly.

If a power interruption occurs before a timer recording

The clock will stop and "AM 12:00" will blink. This means that the memory of the timer programs has been completely erased. Reset the clock and timer programs.

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

If the power was interrupted during a timer recording 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

Use this function to begin recording a program immediately. You can start timer recording just by pressing QUICK TIMER.

The recording duration can be set for up to 5 hours by 30 minutes. You can also use this function to stop the non-timer recording by presetting the recording duration. Before operating, set the clock.



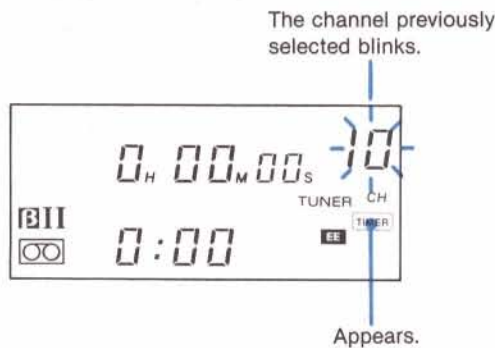
- 3 Press QUICK TIMER so that the recording starts. Now decide the recording duration.



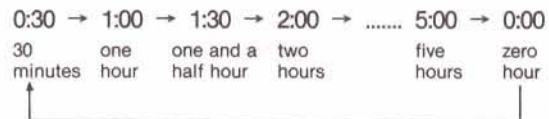
TO USE QUICK TIMER FROM THE TAPE STOP MODE

Make sure that the cassette is inserted.

- 1 Press QUICK TIMER.
The power will be turned on, if it was turned off.



Every time you press QUICK TIMER, the recording duration indication changes as follows:



When the recording starts, the duration indication decreases minute by minute to 0:00 and the power will be turned off automatically about 30 seconds after the recording has finished.

TO USE QUICK TIMER WHILE RECORDING

By pressing QUICK TIMER, you can set the duration so that the recording stops and the power turns off after the preset duration.

Once the quick timer recording has started

- Only the following function buttons can be activated:
- QUICK TIMER..... to change recording duration
- TIMER REC..... to interrupt quick timer recording
- PAUSE/STILL to stop quick timer recording momentarily
- CHECK/PAGE to check timer programs preset
- COUNTER RESET to reset the tape counter to zero
- INDEX MARK..... to record an index signal

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

- 2 Choose the channel to be recorded with JOG or +/-.

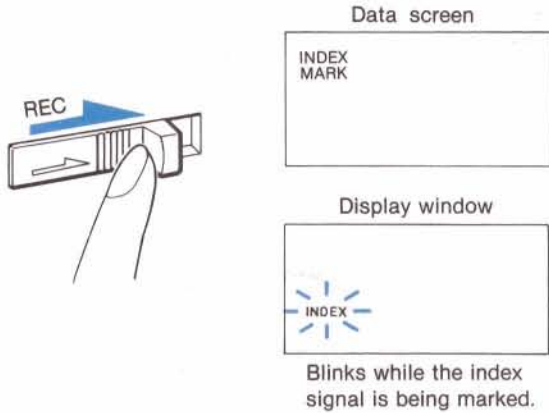
INDEX FUNCTION

The desired program can be easily located by the index signal marked on the tape.

TO MARK INDEX SIGNALS

An index signal is automatically marked on the tape when

- REC is slid to the right or when a timer recording starts.

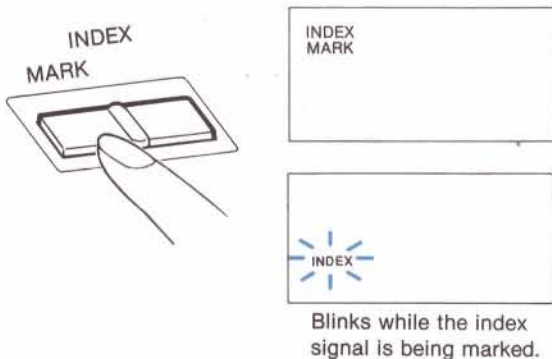


Notes

- Index signals will not be marked on the tape when the recording is started by releasing the recording pause or playback pause mode.
- The index function operates also with the index signals marked using the index function of other recorders.

Index signals can be marked at any desired point on the tape during recording, timer recording or normal playback.

At the point where an index signal is to be marked, press INDEX MARK.



Notes

- The sound recorded on the conventional audio track will be muted while the index signal is being marked during playback, but the recording will not be affected.
- Index signals can be marked on cassette tapes without a safety tab (including commercially available prerecorded video tapes) during playback.
- An index signal may not be registered immediately before a point on the tape where the recording tape speed (FI I, FI II or FI III) changes.

INDEX SCAN

—To play back the beginning of each program in sequence

- 1 Insert a cassette that has index signals recorded.
- 2 Press INDEX once.



Blink alternately.

- 3 To scan the previous programs, press ◀◀ REW. To scan the programs ahead, press ▶▶ FF. The tape will be rewound or rapidly advanced to the next index signal marked.



Blink simultaneously during scanning.



The tape will be played back for approximately 10 seconds, and then rewind or advanced to the next index signal.

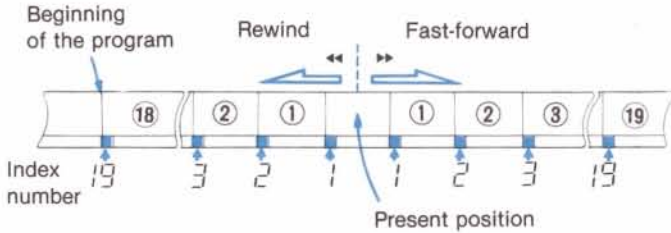
Every time an index signal is detected and playback begins, the displayed index number increases.

- 4 At the desired program, press ▶ PLAY. Normal playback of that program will begin.

INDEX SEARCH

—To locate the desired program

You can locate the desired program and play it back automatically by designating the number of its index signal. Up to the 19th index signal from the present position on the tape can be located.



- 1 Insert a cassette that has index signals marked.
- 2 Press INDEX several times until the index number of the desired program is displayed.
For instance, to locate the second program ahead, two index signals should be detected, so press INDEX until "2" is displayed. On the other hand, to locate the second program behind, three signals should be detected, so press the button until "3" is displayed.



Lights steadily.

- If you enter an incorrect index number, press ■ STOP to reset the display.
- 3 To locate a previous program on the tape, press ◀◀ REW.
To locate a program ahead, press ▶▶ FF.

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

Notes

- The index scan and index search can be activated during playback, as well as from stop mode.
- While the index signals are being scanned or located, the recorder is set to EE mode.
- If the tape is rewound to the beginning during index scan or index search, playback will begin automatically.
- If the tape reaches the end during index scan or index search, the tape will be rewound automatically.

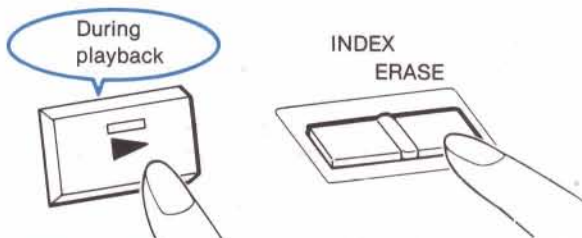
When the desired program cannot be played back with the index function, check the following:

- The nearest index signal may not have been counted. If the point where you pressed ◀◀ REW or ▶▶ FF is fairly close (within 2 minutes of the normal tape-run) to the nearest index signal, that signal will not be counted.
- Is there a space of more than 2 minutes between two index signals? If there is more than one index signal marked within an interval of 2 minutes of the normal tape-run, the mechanism may not function properly.

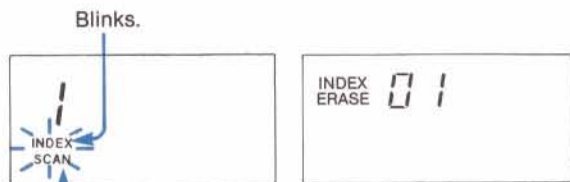
TO ERASE INDEX SIGNALS

Erasing while index scanning—To erase the index signals in sequence

- 1 Stop the tape with ■ STOP.
- 2 Press INDEX once.
- 3 Press ◀◀ REW or ▶▶ FF.
The tape will be rewound or rapidly advanced to the next index signal and playback will begin.
- 4 Within approx. 10 seconds, while the tape is being played back, press INDEX ERASE.



While the index signal is being erased



Lights steadily.

After the erasure, index scan will resume. At each index signal located, press INDEX ERASE.

To stop index scanning, press ■ STOP.

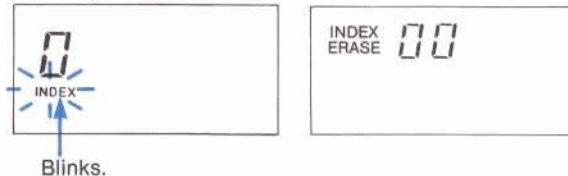
Notes

- Press INDEX ERASE more than 2 seconds after the playback starts.
- The index signals recorded immediately after an unrecorded portion on a tape, or on a portion where the recording tape speed has been changed or two recordings have been made continuously will not be erased.
- If the playback picture is distorted during index erasing, immediately stop the tape with ■ STOP. The index signal at the distortion cannot be erased.

Erasing while index searching—To erase a particular index signal

- 1 Stop the tape with ■ STOP.
- 2 Press the INDEX button several times until the number of the index signal to be erased is displayed.
- 3 Press ◀◀ REW or ▶▶ FF.
- 4 Within approx. 10 seconds, while the tape is being played back, press INDEX ERASE.

While the index signal is being erased.



After the erasure, normal playback will begin.

BETA HI-FI AUDIO RECORDING

RECORDING FROM YOUR AUDIO SYSTEM

To connect the VCR to your audio system, see page 22.
 Set the switches as shown below. To start recording, insert a cassette and slide ● REC to the right.

Manually adjust REC LEVEL so that the first red element lights up only at the highest signal level.

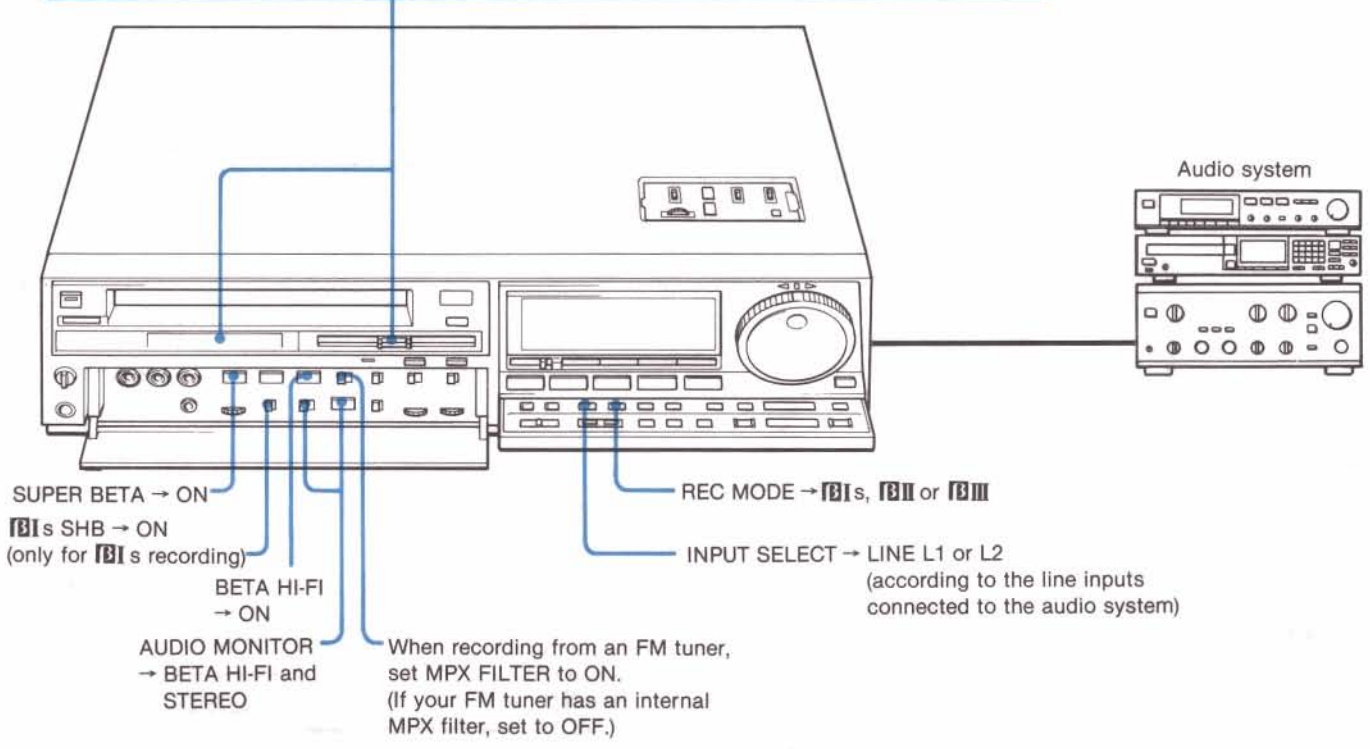
L dB ∞ -40 30 20 10 5 3 1 0 2 +5

R dB ∞ -40 30 20 10 5 3 1 0 2 +5

REC LEVEL 0 1 2 3 4 5 6 7 8 9 10

LEFT

RIGHT



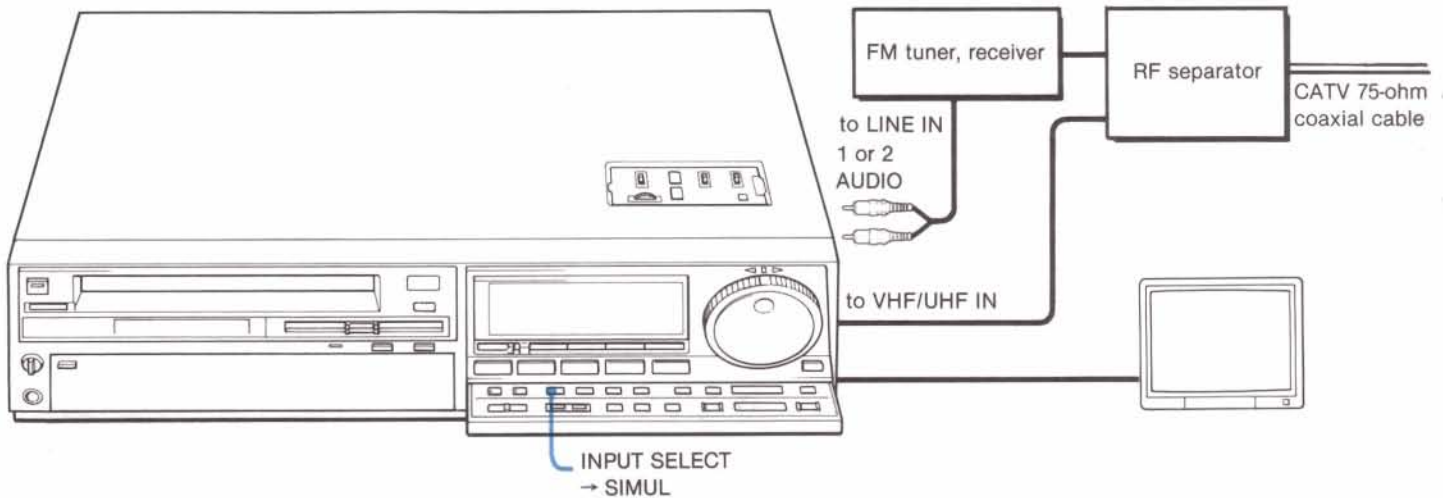
FM SIMULCAST RECORDING

By connecting an FM tuner to the LINE IN 1 or 2 AUDIO jacks besides the CATV cable connection, you can record a cable TV program with stereo sound, such as MTV (music TV), whose audio signals are divided into the FM tuner from the cable.

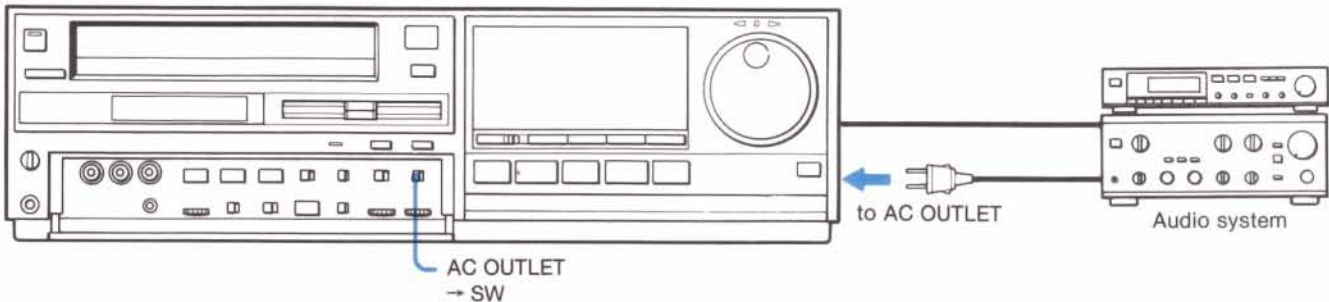
For FM simulcast recording, press INPUT SELECT so that "SIMUL" appears in the display window.

Set the other switches and controls as in "RECORDING FROM YOUR AUDIO SYSTEM" on page 49.

The picture of the cable TV program and the sound from the FM tuner are recorded on the video track. The sound of the cable TV program is recorded on the conventional audio track.



TIMER-ACTIVATED FM RECORDING



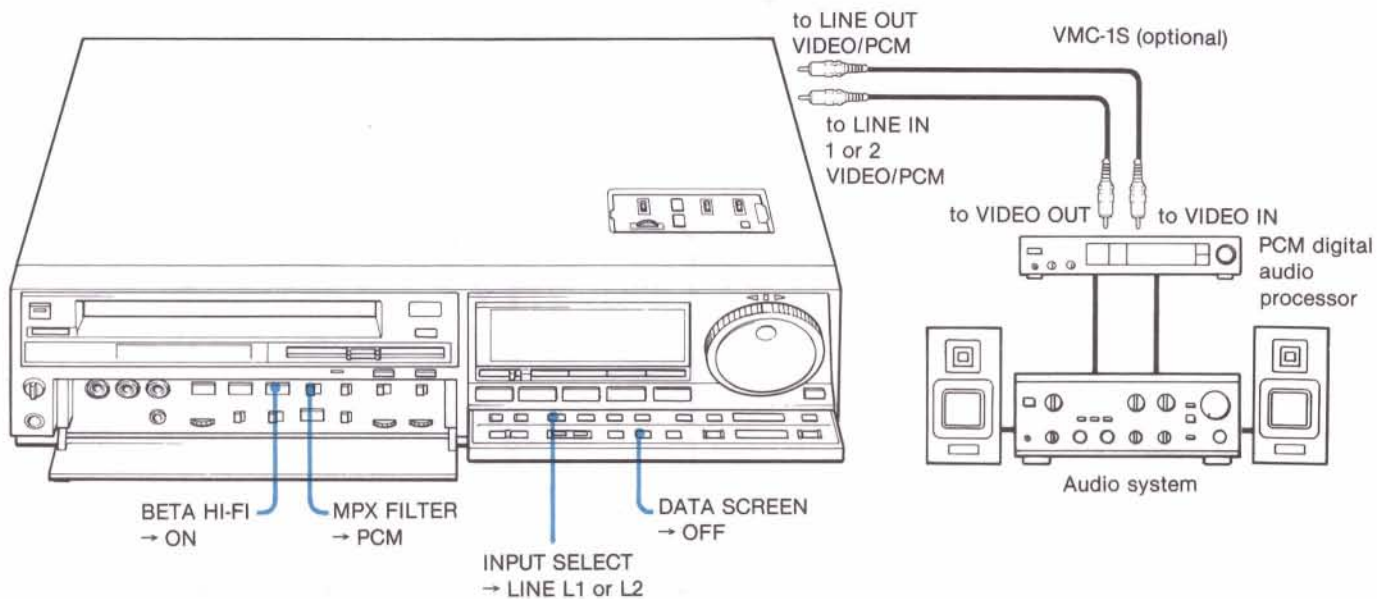
- 1** Connect the audio system to the AC OUTLET on the rear of the recorder.
- 2** Set the AC OUTLET selector to SW.
- 3** Turn on the recorder and the audio system.
- 4** Tune in the desired FM station on the FM tuner.

- 5** Insert a cassette and set the timer on the recorder. See page 42.
The setting of the controls is the same as in "RECORDING FROM YOUR AUDIO SYSTEM" on page 49.

At the preset turn-on time, the recorder and the audio system will be turned on and recording will start.

PCM RECORDING AND PLAYBACK

Connect a PCM digital audio processor as shown below.



For optimum results, use a video cassette with a model number of L-500 or below (L-250, L-125, etc.) and select the tape speed **FI** or **FI**. For details, refer to the instruction manual furnished with the digital audio processor.

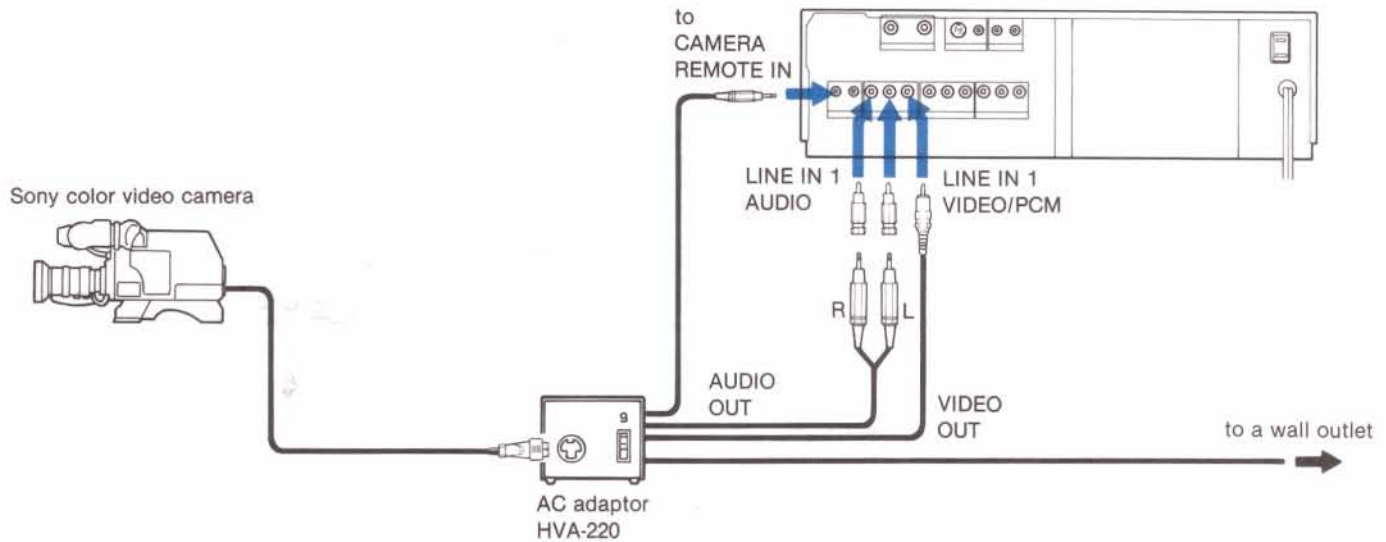
Notes

- If you intend to play back on a VCR with SUPER BETA set to "OFF" or on other non-SuperBeta VCRs, set SUPER BETA to "OFF" when making your PCM recordings. Otherwise, the sound may be muted.
- When MPX FILTER is set to PCM and playback starts, the data screen display will disappear automatically. The display will not appear by setting MPX FILTER to ON or OFF after the playback. To recall it, press DATA SCREEN.

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 INPUT SELECT to LINE L1.

To start recording, slide ● REC 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 ||/▶ PAUSE/STILL on the VCR or on the Remote Commander.

To stop the recording completely, press ■ STOP on the VCR or the Remote Commander.

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 ||/▶ PAUSE/STILL.
- 2 Move the object a little and slide ● REC of the VCR to the right or press ● REC 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.

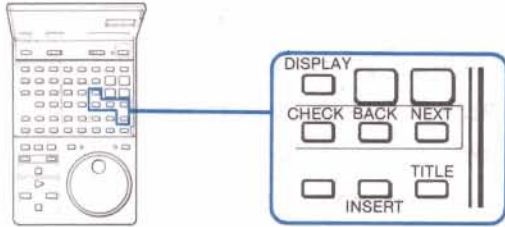
When such recordings are played back continuously, the object will seem as if it is moving.

Notes

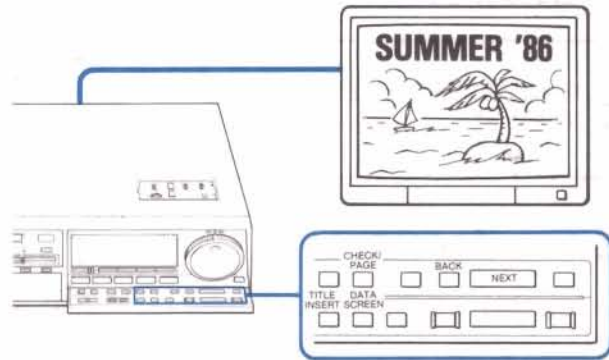
- This function can also be used when recording from the TV.
- The picture may be a little distorted and a noise may be heard when the frame-by-frame recordings are played back continuously.
- If the VCR is kept in the pause mode for more than about 8 minutes, the pause mode will be automatically released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

TITLE RECORDING

You can create up to 8 titles using alphabet, numerals and several symbols, and retain them in the memory. The preset titles can be recorded on a tape or inserted or superimposed while editing the picture.



Example of a title

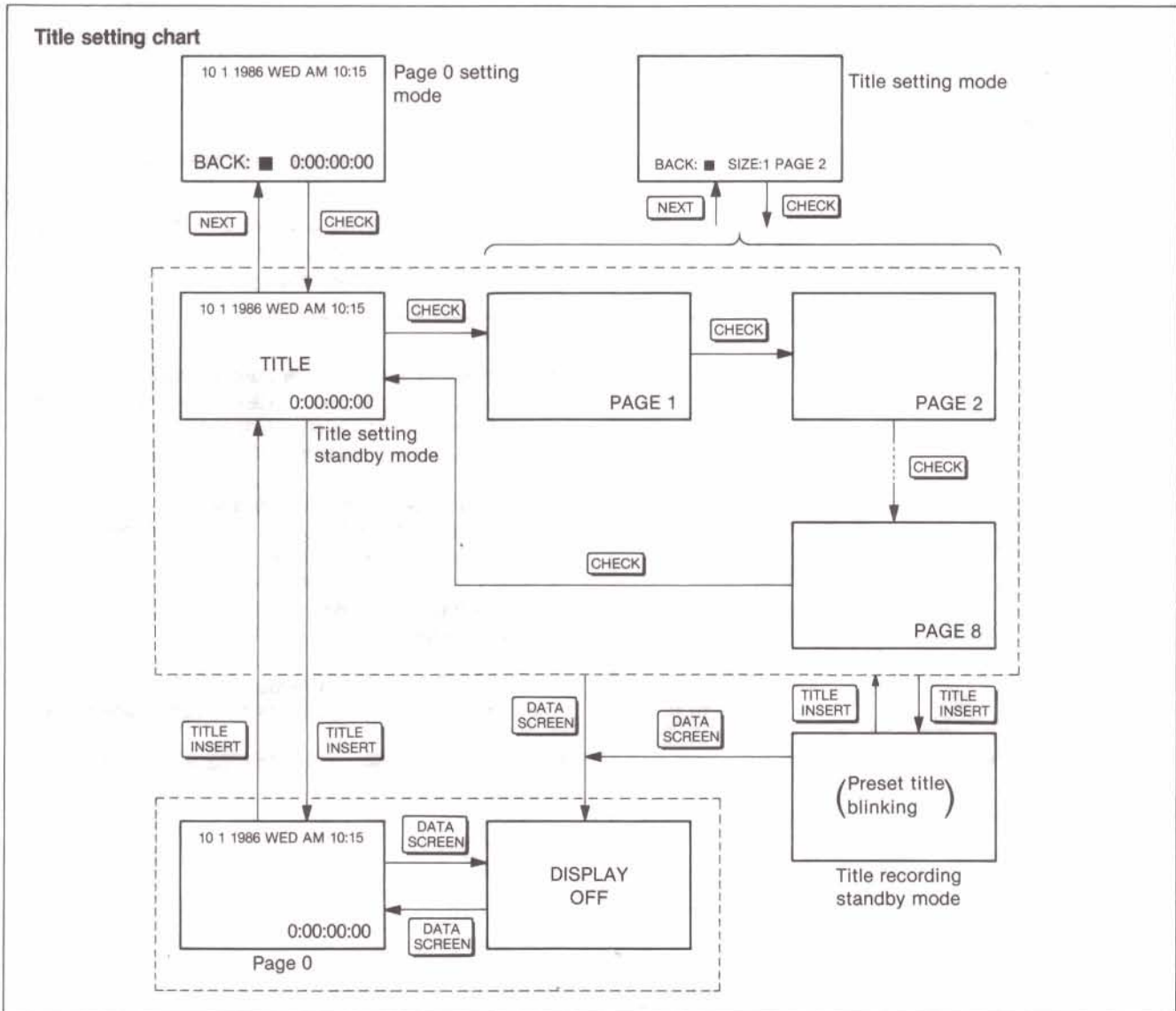


The buttons for title recording are marked with a yellow line.

SELECTION OF A TITLE PAGE

In the VCR memory, there are page 0 (normal data screen display) and title pages 1 through 8. On each title page, you can create a desired title.

- 1 Press DATA SCREEN. Page 0 will appear.
- 2 Press TITLE INSERT. Page 0 will be set to title setting mode.
- 3 Press CHECK/PAGE. Each time the button is pressed, the title page changes by one.

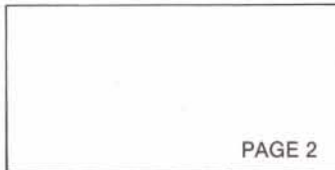


SETTING A TITLE

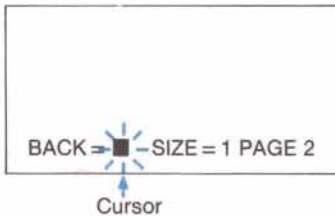
- 1** Press DATA SCREEN if the data screen display is turned off.

- 2** Press TITLE INSERT.

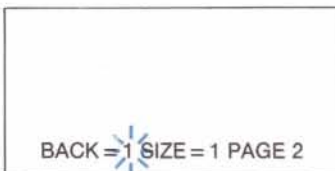
- 3** Press CHECK/PAGE until the desired page appears.



- 4** Press NEXT.
The cursor will blink on the screen.

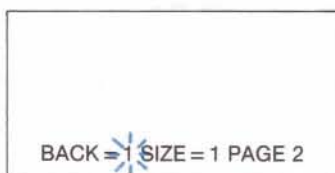


- 5** Select the background of characters by turning JOG.



BACK = 1	White character with black outline	
BACK = 2	White character with black background	

Then press NEXT.

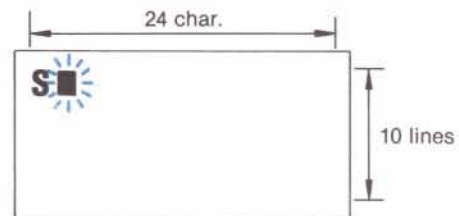


- 6** Select the character size by turning JOG.

SIZE = 1	normal size (24 char. × 10 lines)
SIZE = 2	2 × (12 char. × 5 lines)
SIZE = 3	3 × (8 char. × 3 lines)
SIZE = 4	4 × (6 char. × 2 lines)

Then press NEXT.

- 7** Set the characters one by one with JOG and NEXT.
(See "Usable characters" on page 55.)
Keep NEXT pressed to move the cursor continuously.



To create a title on another page, repeat steps 3 to 7.

- 8** After setting titles, press CHECK/PAGE so that the title created blinks or press DATA SCREEN to turn off the data screen display.

To change a preset character during setting

- 1 Press BACK to go back or NEXT to advance the cursor to the position of the character to be changed.
- 2 Set a new character with JOG and press NEXT.

To erase a preset character during setting

- 1 Move the cursor to the position of the character to be erased with BACK or NEXT.
- 2 Press CLEAR to erase the character.
Keeping CLEAR pressed will erase the characters continuously.

To set a title on the black screen

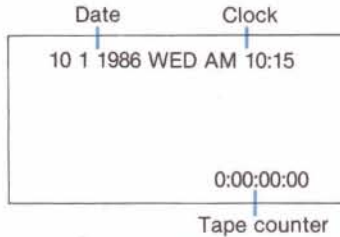
Before step 1 above, set BLACK SCREEN inside the front panel to ON.

After setting the title, be sure to reset the switch to OFF.

SETTING PAGE 0

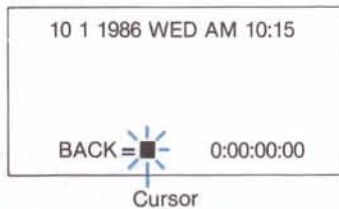
The display on page 0 can also be recorded or inserted onto a tape. You can set only the desired items to be displayed.

- 1** Press DATA SCREEN. Page 0 will appear.



- 2** Press TITLE INSERT. Page 0 will be set to title setting standby mode (The word "TITLE" appears).

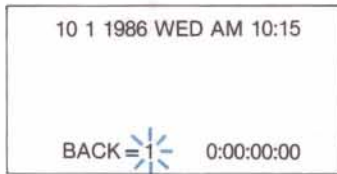
- 3** Press NEXT. The cursor will blink on the screen.



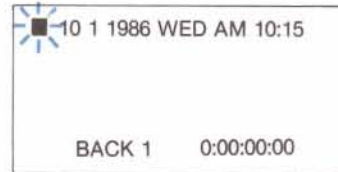
- 4** Select the background of characters by turning JOG.

BACK = 1	White character with black outline
BACK = 2	White character with black background

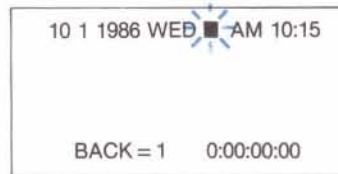
Then press NEXT.



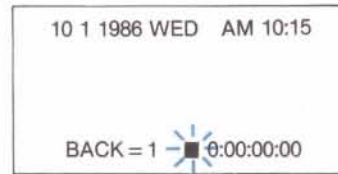
- 5** Select if the date is to be displayed or not. By turning JOG, the date disappears and appears on the screen. Then press NEXT.



- 6** Select if the clock is to be displayed or not by turning JOG. Then press NEXT.



- 7** Select if the tape counter is to be displayed or not by turning JOG. Then press NEXT.



After setting, press DATA SCREEN to turn off the data screen display.

Usable characters

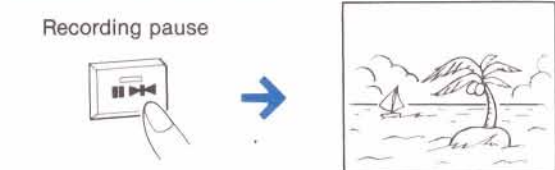
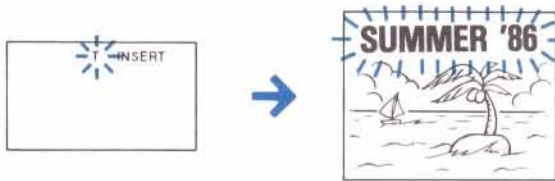
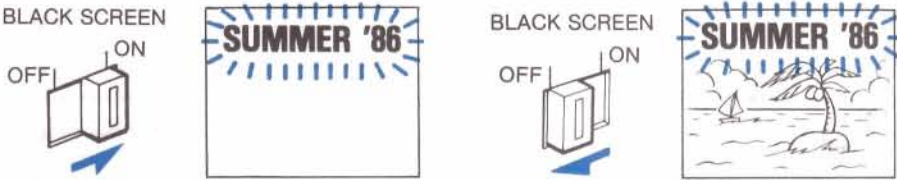
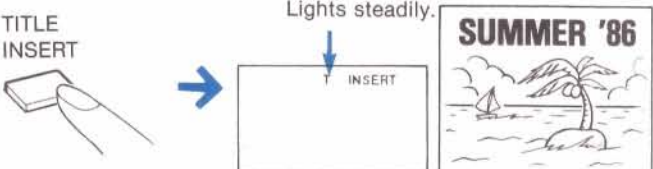

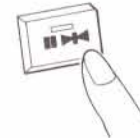


Blank □ A B C D E F G H I J K L M N O P Q R S T U
 V W X Y Z : ◀ Blank ▶ ? | || ||] [○ * ' → || □ .
 + | ↑ β Space 0 1 2 3 4 5 6 7 8 9 : X , - . /

When you turn JOG clockwise, the characters change from left to right in the order above, and by turning counterclockwise, in the reverse direction. The letter A appears first. To select a letter of the alphabet, turn JOG clockwise. To select a numeral, turn it counterclockwise.

	BACK = 1	BACK = 2
Blank	S□ON	S ON
Space	S□ON	S ON
Full	S□ON	S□ON

TO RECORD THE TITLE

The title can be recorded with the black background or together with the picture. When recording with the picture, prepare the video recording source. (For connections, see page 61.)

<p>1 Locate the point on the tape where you want to start recording the title and set the recorder in recording pause mode.</p>	<p>Recording pause</p> 
<p>2 Display the desired title page by pressing TITLE INSERT and CHECK/PAGE. See page 53. The title will blink (title recording standby mode).</p>	
<p>3 To record the title with black background, set BLACK SCREEN inside the front panel to ON. To record the title together with the picture, keep it at OFF.</p>	
<p>4 Press TITLE INSERT. Blinking of the title will stop.</p>	
<p>5 Press  PAUSE/STILL to release recording pause mode. Recording will begin.</p>	
<p>6 To stop recording the title, press  PAUSE/STILL.</p>	
<p>7 Reset BLACK SCREEN to OFF if it is set to ON.</p>	
<p>8 Press DATA SCREEN to turn off the data screen display.</p>	
<p>9 Press  PAUSE/STILL to resume picture recording.</p>	

Notes

- After recording the title, be sure to reset BLACK SCREEN to OFF. If it is set to ON, only the black screen will be recorded.
- A noisy recording will result if BLACK SCREEN is set to ON and OFF without pressing **||/▶◀** PAUSE/STILL. Use **||/▶◀** PAUSE/STILL as described.
- The frame digits of the tape counter recorded may not be displayed correctly.

To record two or more titles successively

After step 6 above, proceed as follows:

- 6 Press TITLE INSERT. The title will blink.
- 7 Press CHECK/PAGE to display the desired title.
- 8 Press TITLE INSERT to stop blinking of the title.
- 9 Press **||/▶◀** PAUSE/STILL to resume recording.

To change to the next title, press **||/▶◀** PAUSE/STILL and repeat steps 6 through 9.

Instant title recording

- 1 Display the title on the screen and keep the title blinking.
- 2 Slide ● REC to the right to start picture recording.
- 3 At the point where you want to superimpose the title, press TITLE INSERT.
The title will be recorded together with the picture.
- 4 To stop recording the title, press DATA SCREEN or TITLE INSERT again.
The picture recording will continue.

TAPE EDITING

To edit a home movie tape, you need two video cassette recorders.

If your other VCR is a Sony VCR equipped with control terminals, see page 59 for further systematic operations.

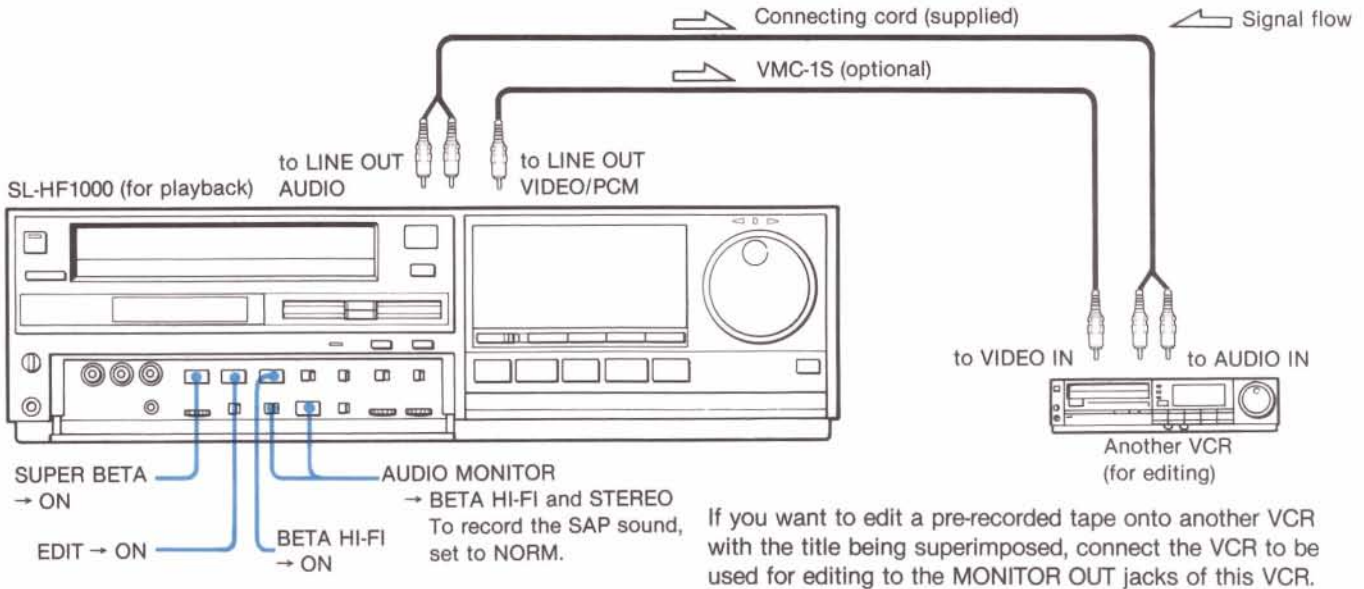
CAUTION

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.

Note

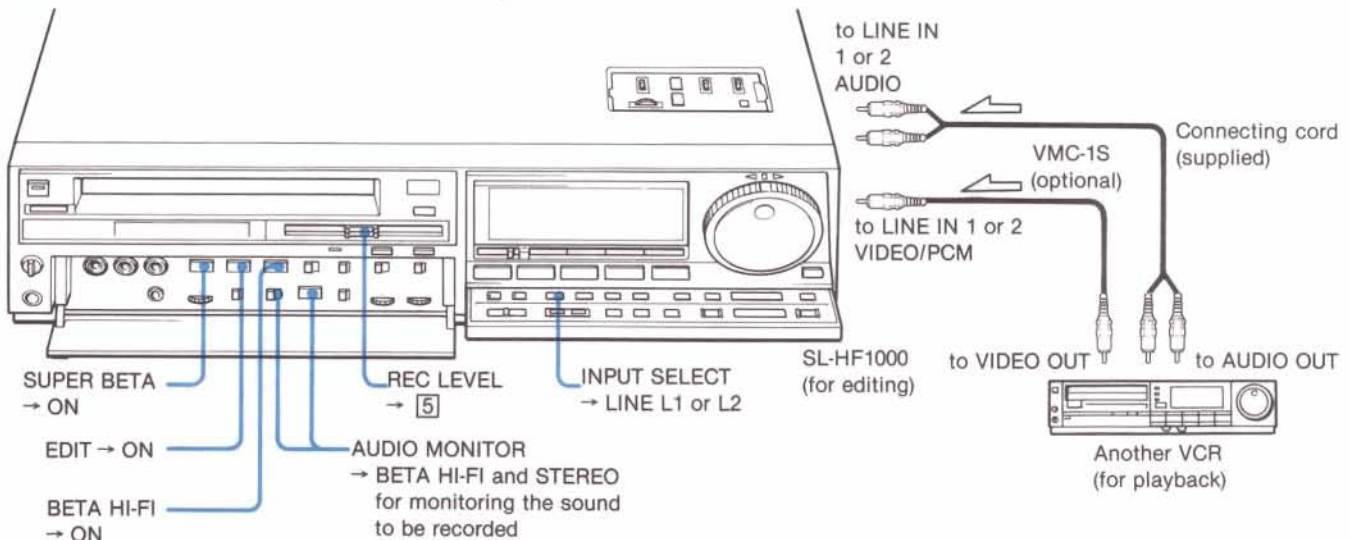
Avoid repetition of editing tapes, as the picture and tone quality will be impaired noticeably for newly edited tapes.

TO EDIT A HOME MOVIE TAPE FROM THE SL-HF1000 TO ANOTHER VCR



TO EDIT A HOME MOVIE TAPE FROM ANOTHER VCR TO THE SL-HF1000

This unit's flying erase head allows continuous recordings without disturbance. When editing with another Betamax VCR, use this unit for editing and the other VCR for playback.

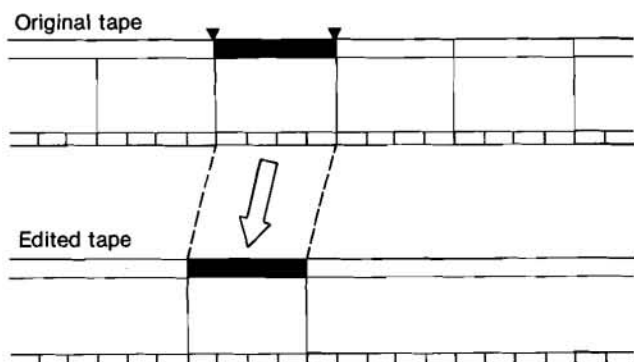


VARIOUS TAPE EDITING MODES

This VCR is equipped with various functions for easy and highly-accurate tape editing. If another Sony VCR with intercomponent control terminals is used with this VCR, further editing facilities are available.

	Use	Equipment to be used with	Page
MANUAL AUDIO/VIDEO/TITLE INSERT EDITING	<ul style="list-style-type: none"> To add music or narration onto a prerecorded tape. To replace part of a prerecorded tape with a new picture and sound. To insert the title created with this VCR onto a prerecorded tape 	Insert source player (video camera, another VCR, tape recorder, microphone, etc.)	60
AUTOMATIC AUDIO/VIDEO INSERT EDITING	To insert a new scene onto a prerecorded tape	Another SL-HF1000	65
AUTOMATIC ASSEMBLE EDITING	To record up to 8 scenes on a tape successively	Sony VCR with control terminals	68
PRE-ROLL EDITING	For automatic insert and assemble editings with high accuracy	Another SL-HF1000	73

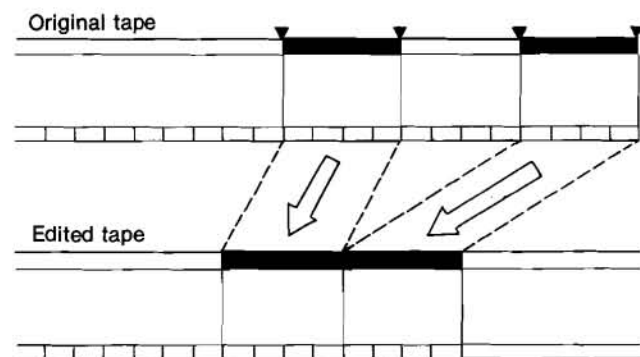
Insert editing



Notes in the recording at the editing points

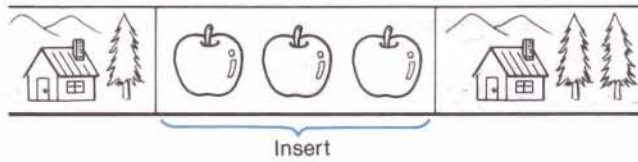
- If editing is made from a tape with **ⓂI**, **ⓂII** and **ⓂIII** recordings mixed, the picture and sound may be distorted at the starting and ending points of editing.
- At the starting and ending points, recording on the conventional audio track will be muted by a few seconds.
- A noise may be heard at the starting and ending points of the editing made when an edited tape is being played back.

Assemble editing



MANUAL INSERT EDITING

You can easily insert (re-record) new sound, picture and title onto a pre-recorded tape.



Audio insert: Inserting new sound (monaural) on the conventional audio track (The original picture and Beta hi-fi sound on the video track will remain)

Video insert: Inserting new picture and/or Beta hi-fi sound on the video track (The original sound on the conventional audio track will remain)

Audio and video insert: Inserting new sound and picture onto both the video and conventional audio tracks

Title insert: Inserting the title created with this VCR and new picture (and Beta hi-fi sound) on the video track (The original picture will be erased.)

<p>Audio insert</p>	<p>Conventional audio track</p> <p>Newly inserted monaural sound</p> <p>Video track</p>
<p>Video insert</p>	<p>Newly inserted picture and/or Beta hi-fi sound</p>
<p>Audio and video insert</p>	<p>Newly inserted monaural sound</p> <p>Newly inserted picture and/or Beta hi-fi sound</p>
<p>Title insert</p>	<p>Inserted title and picture (and sound)</p>

To monitor the sound during insertion or after the insertion

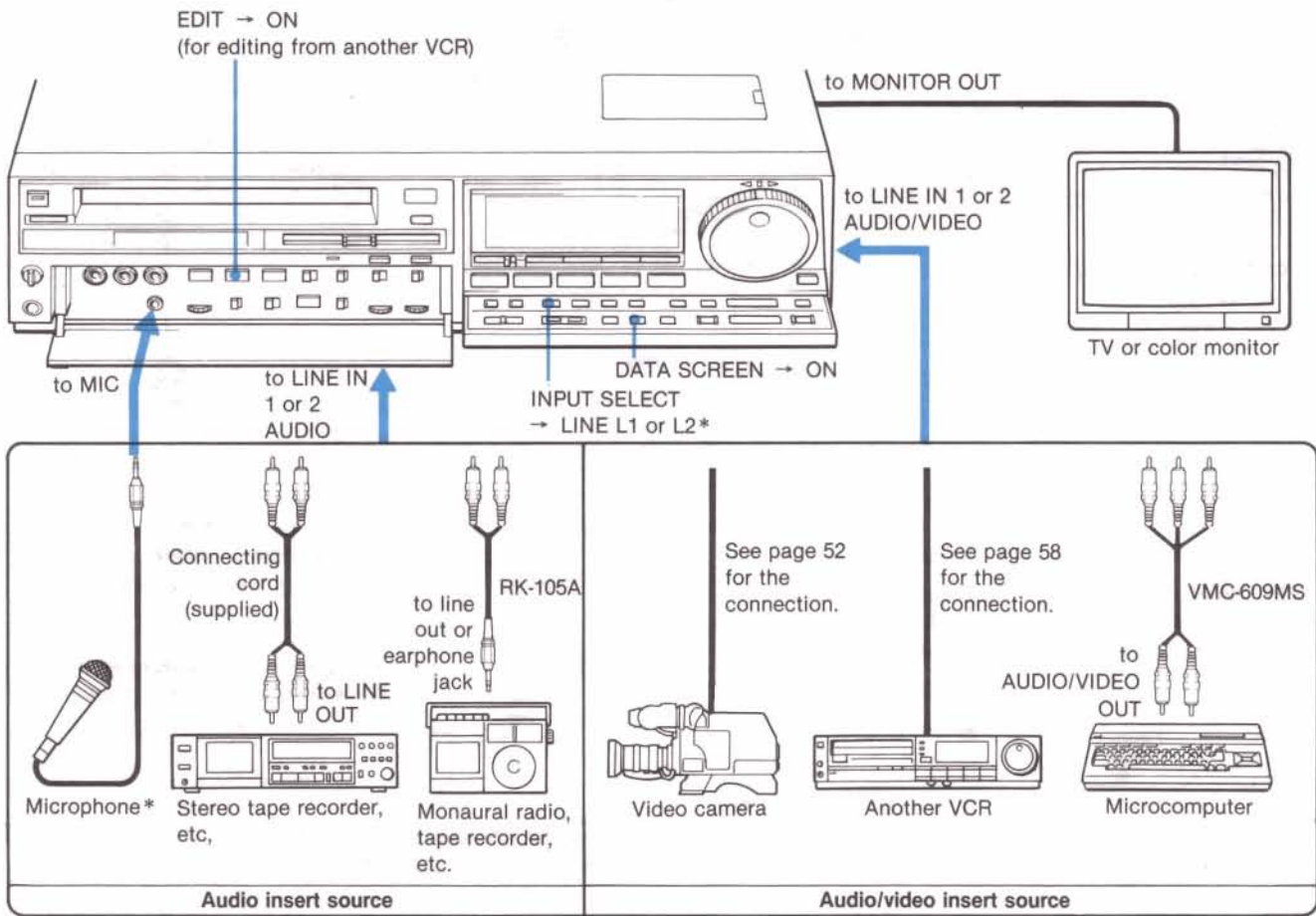
Select the sound you want to listen to by setting the AUDIO MONITOR BETA HI-FI/MIX/NORM selector.

NORM: for the sound on the conventional audio track only

MIX: for the sounds on the video and conventional audio tracks

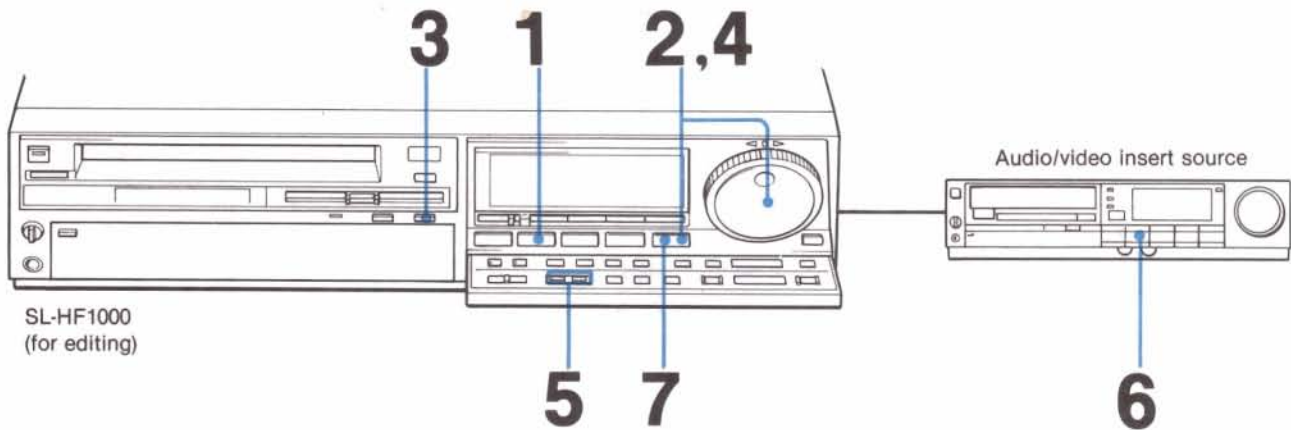
BETA HI-FI: for the sound on the video track only

CONNECTION AND PREPARATION



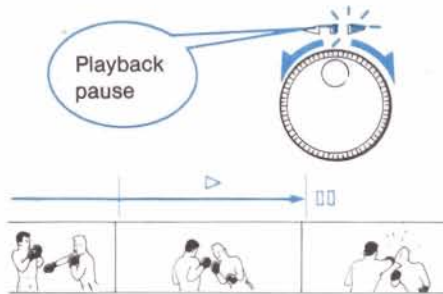
* For inserting the sound from a microphone, set INPUT SELECT to any position. When a microphone is connected to the MIC jack, the sound from it will always be recorded on the conventional audio track.

AUDIO/VIDEO INSERT OPERATION

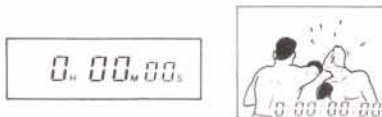


1 Play back the tape on which you want to make insertion.

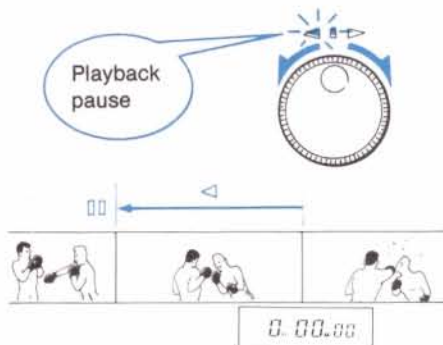
2 Locate the point where you want to stop the insertion, and set the unit to playback pause mode. For accurate searching, use JOG/SHUTTLE.



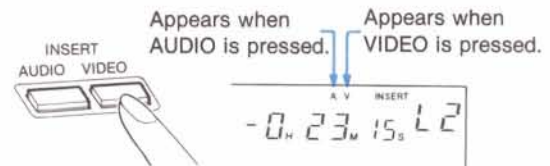
3 Press COUNTER RESET. The ending point is registered as counter zero.



4 Locate the point where you want to start the insertion, and set the unit to playback pause mode.



5 Press INSERT.
For "audio insert", press AUDIO INSERT.
For "video insert", press VIDEO INSERT.
For "audio and video insert", press both AUDIO and VIDEO INSERT.



When VIDEO INSERT is pressed, the unit will be set to EE mode and the picture of the insert source will appear on the TV screen.

6 Start playing the insert source.

7 Press **||/▶** PAUSE/STILL. The insertion will start.

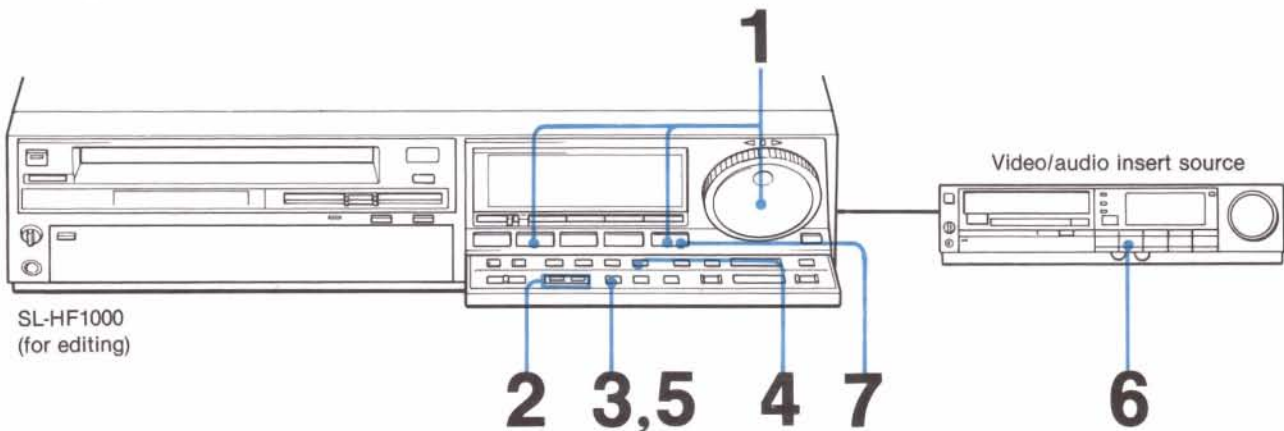
At the counter zero point, the insertion will stop. The SL-HF1000 will be set to stop mode.

To stop insertion momentarily, press **||/▶** PAUSE/STILL. To resume it, press the same button again.

To stop the on-going insertion, press **■** STOP.

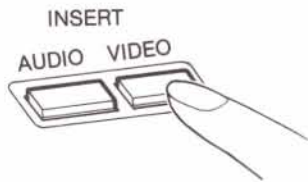
TITLE INSERT OPERATION

For creating the title, see page 54.

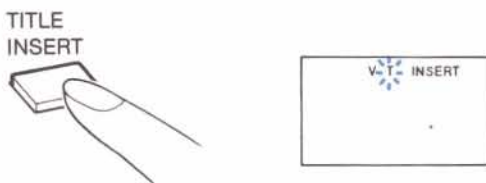


1 Locate the ending point and then the starting point of the insertion and set the unit to playback pause mode. Follow steps 1 through 4 of "AUDIO/VIDEO INSERT OPERATION".

2 Press VIDEO INSERT (and AUDIO INSERT if required).

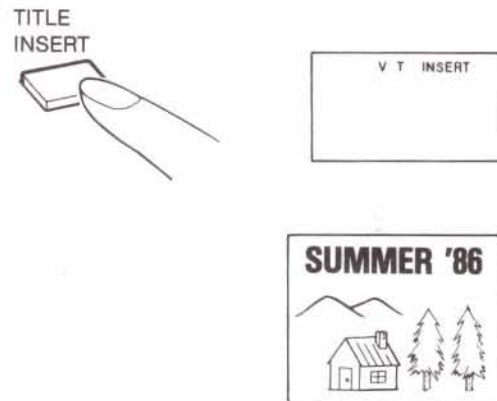


3 Press TITLE INSERT.



4 Press CHECK/PAGE to display the title to be inserted.
The title will blink.

5 Press TITLE INSERT to stop blinking the title.



6 Start playing the insert source.

7 Press PAUSE/STILL. The title will be inserted onto the picture.

At the counter zero point, the insertion will stop and the unit will be set to stop mode.

To turn off the title, press DATA SCREEN.

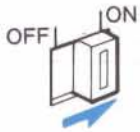
To reset to normal data screen display, press DATA SCREEN again.

To insert the title with black background

After displaying the desired title on the screen (step 4 above), set BLACK SCREEN inside the front panel to ON. Then press TITLE INSERT and **||/▶◀** PAUSE/STILL to start insertion.

After the insertion, be sure to reset BLACK SCREEN to OFF.


BLACK SCREEN



To superimpose the title on the prerecorded picture

Play back the prerecorded tape on the connected VCR and insert the title while editing the picture onto a new tape on this VCR.

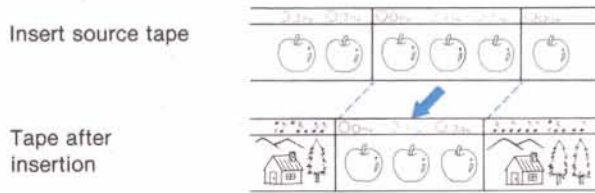
Notes on insertion

- If the safety tab of the cassette has been removed, the  indicator will blink in the display window when the INSERT button is pressed.
- If BLACK SCREEN is set to ON and OFF when the unit is not set to playback pause mode, a noisy recording will result. Be sure to use **||/▶◀** PAUSE/STILL as described above.

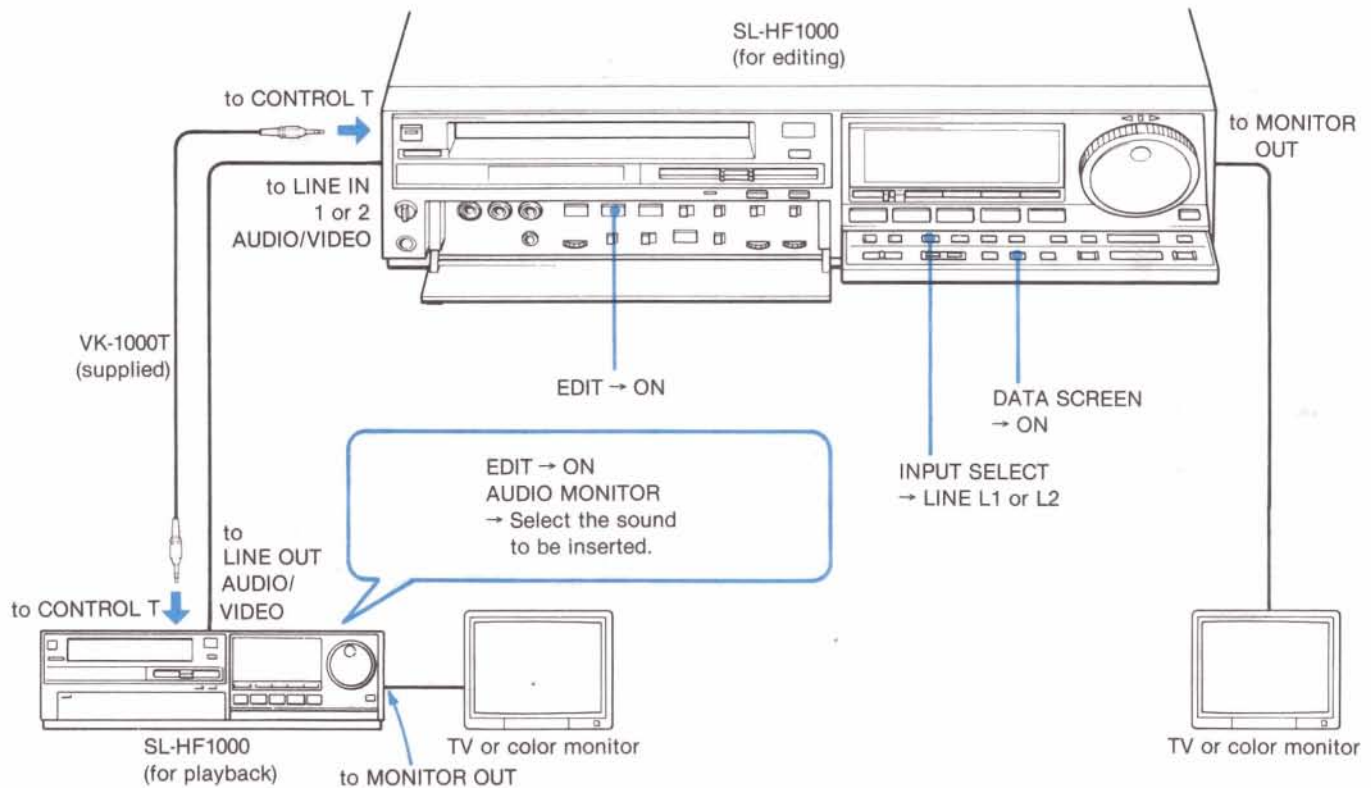
AUTOMATIC INSERT EDITING

By connecting another SL-HF1000, audio/video insert can be made, by activating playback start/stop on one VCR in synchronization with recording start/stop on the other VCR.

“Audio insert”, “video insert”, or “audio and video insert” can be made with this operation. (See page 60 for insert modes.)



CONNECTION AND PREPARATION



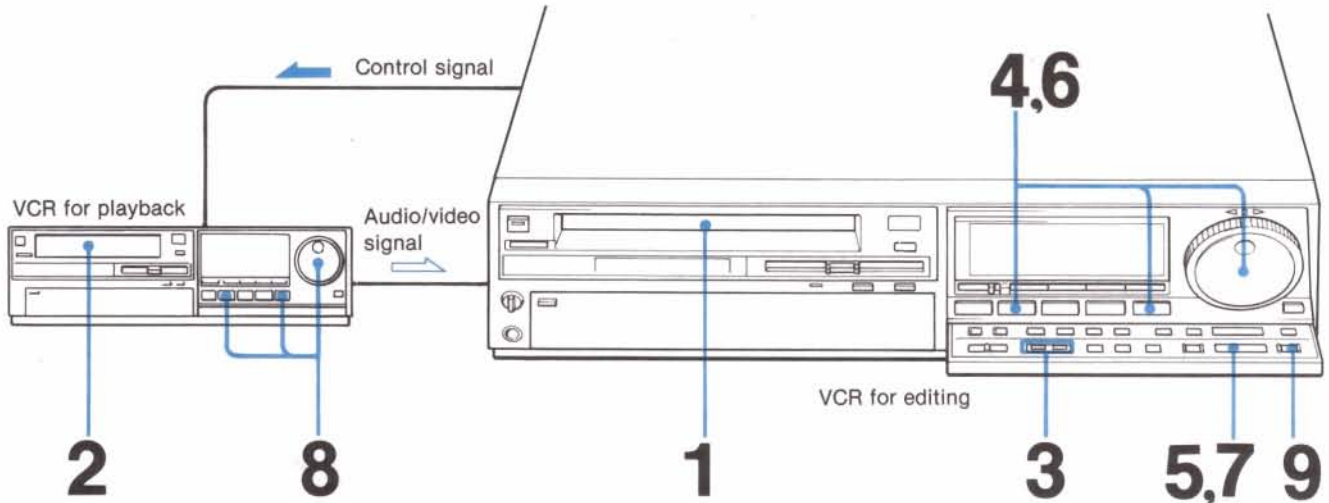
When a TV or color monitor is not connected to the SL-HF1000 for playback

Press EE on the SL-HF1000 for editing to view the picture being played back.

Before operating

- Play back the tape on which insertion will be made and adjust the tracking at the portions on the tape near the starting and ending points of insertion on the VCR for editing.
- For pre-roll operation, control signals should have been recorded for at least 15 seconds before the insertion starting points on both tapes. If required, record the control signal before insert operation.

OPERATION



1 Insert a cassette on which you want to make insertion into the VCR for editing.

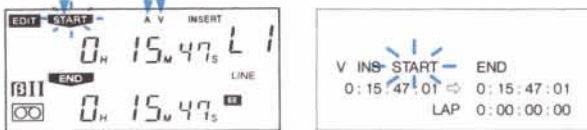
2 Insert the insert source cassette into the VCR for playback.

3 Press INSERT.
 For "audio insert", press AUDIO.
 For "video insert", press VIDEO.
 For "audio and video insert", press both AUDIO and VIDEO INSERT.

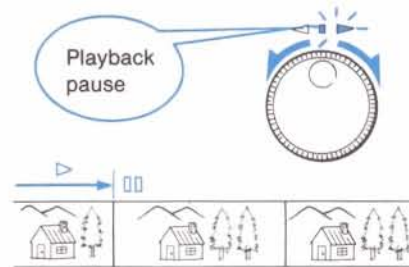
INSERT
 AUDIO VIDEO



Blinks. — Appears when AUDIO is pressed.
 — Appears when VIDEO is pressed.



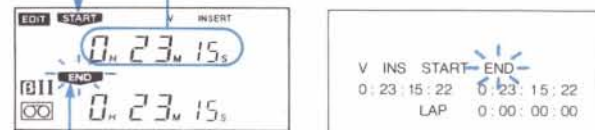
4 On the VCR for editing, locate the point on the tape where you want to start the insertion, and set the VCR to playback pause mode.
 For accurate searching, use JOG/SHUTTLE.



5 Press EDIT MARK.

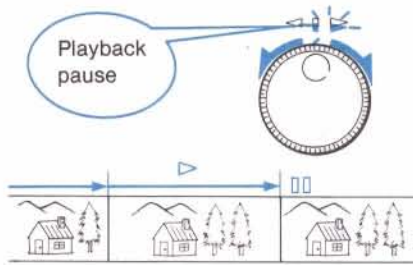


Lights. — The starting point is now memorized.



Blinks.

6 Locate the point on the tape where you want to stop the insertion, and set the VCR for editing to playback pause mode.



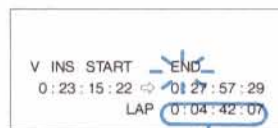
7 Press EDIT MARK.



The ending point is now memorized.



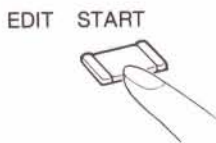
Lights.



Shows the duration of the insertion to be made.

8 On the VCR for playback, locate the starting point of the scene to be inserted, and set the VCR to playback pause mode.

9 Press EDIT START on the VCR for editing. Insertion will start.



At the preset ending point, the insertion will stop automatically. Both VCRs will be set to playback pause mode.

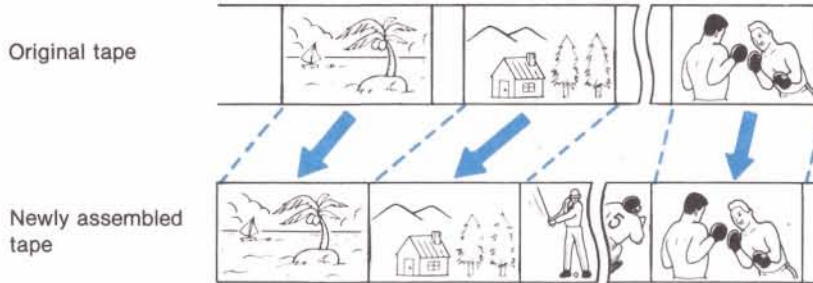
To stop the on-going insertion, press ■ STOP on the VCR for editing.

Notes

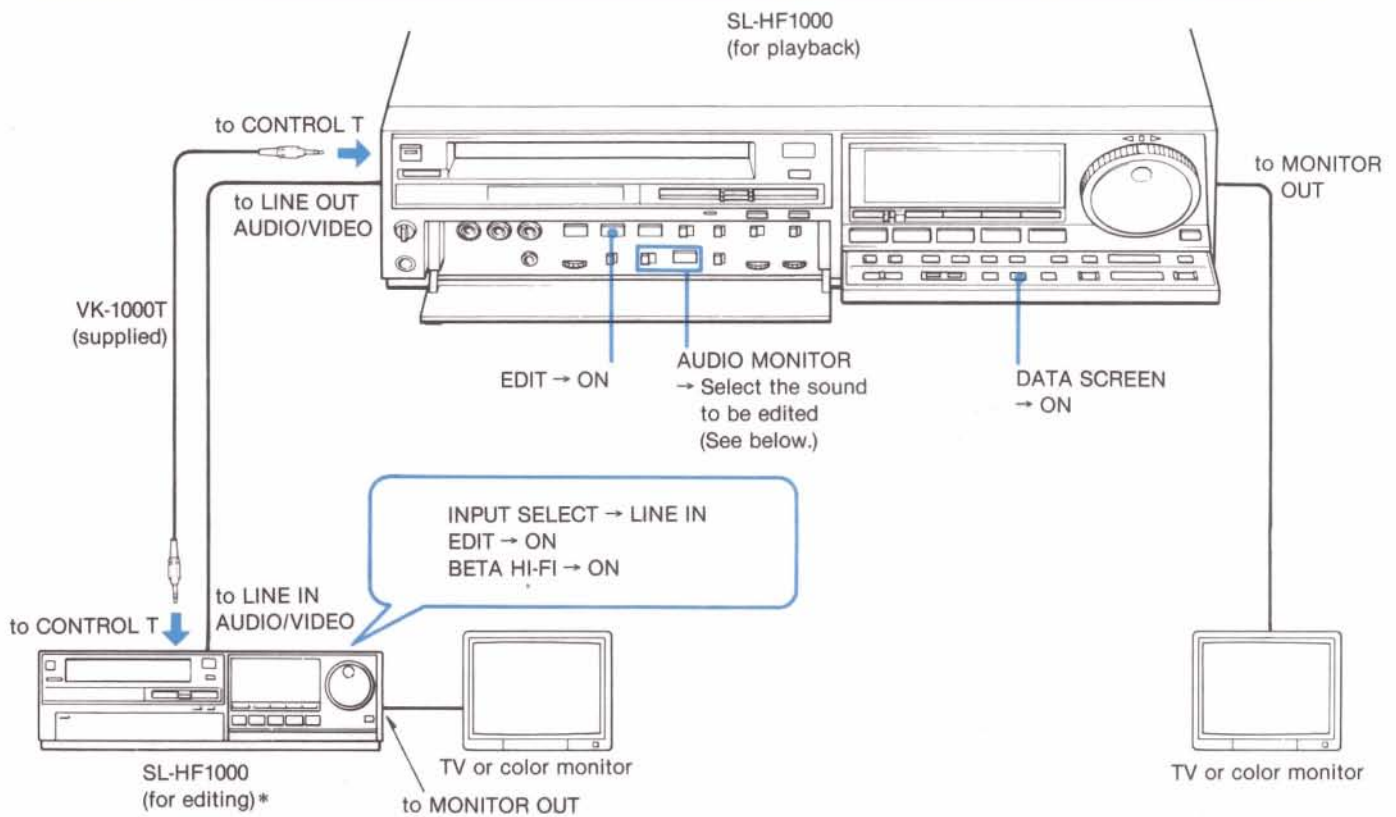
- When insertion is made onto an unrecorded portion of a tape, the slow motion playback picture may be noisy at the ending point of the insertion.
- If there is an unrecorded portion between the starting and ending points, insertion will stop earlier than the preset ending point by the amount of the unrecorded portion.

AUTOMATIC ASSEMBLE EDITING

By connecting another Sony VCR equipped with control terminals, up to 8 desired scenes of the original tape can be "assembled" (recorded) onto another tape successsibly. Simply press one button to start the assemble editing. Recording start/stop on the other VCR is activated automatically, synchronized with playback start/stop on the SL-HF1000.



CONNECTION AND PREPARATION



* When using another Sony VCR model, connect the CONTROL S OUT or CAMERA REMOTE OUT (EDIT) jack on the SL-HF1000 to the CONTROL S IN or CAMERA REMOTE IN jack on the other VCR. Use the SL-HF1000 for playback. Automatic assemble editing will be carried out with this connection, but pre-roll will not operate.

Before operating

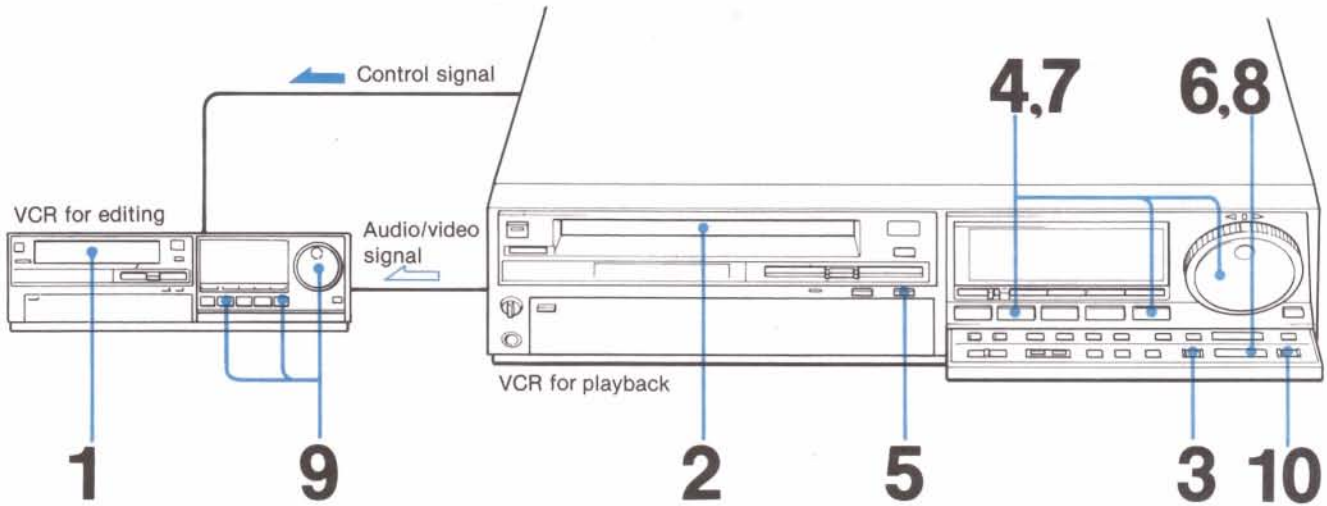
For pre-roll operation, control signals should have been recorded for at least 15 seconds before the starting points of the automatic assemble editing on both tapes. If required, record the control signal before operating the automatic assemble editing.

To select the sound to be edited

The AUDIO MONITOR BETA HI-FI/MIX/NORM and L/R selectors select the sound to be output from the LINE OUT and MONITOR OUT AUDIO jacks.

Set the selectors according to the sound of the original tape which you want to record onto a new tape.

Sound to be edited	AUDIO MONITOR	
	BETA HI-FI/ MIX/NORM	L/R
Beta hi-fi recorded stereo sound on the video track	BETA HI-FI	Select STEREO, L (left) or R (right) channel
Monastral sound on the conventional audio track	NORM	
Both sounds	MIX	Select STEREO, L or R of the Beta hi-fi sound



1 Insert a cassette on which you want to record edited scenes into the VCR for editing.

2 Insert the original cassette (edit source cassette) into the VCR for playback.

3 Press EDIT ASSEMBLE.

ASSEMBLE EDIT

Scene number
Blinks. Appears.

4 On the VCR for playback, locate the starting point of scene 1 observing the playback picture, and set the VCR to playback pause mode. For accurate searching, use JOG/SHUTTLE.

• When AUDIO MONITOR is set to NORM, the sound recorded on the conventional audio track will be heard while JOG/SHUTTLE is being turned.

5 Press COUNTER RESET.

The starting point of scene 1 is registered as counter zero.

6 Press EDIT MARK.

The starting point is now memorized.

Lights.

Blinks.

7 Locate the ending point of scene 1 and set the VCR for playback to playback pause mode.

8 Press EDIT MARK.



Lights.



The ending point is now memorized.

after a second



Scene 2

For other scenes, repeat steps 4, 6, 7 and 8 to set the starting and ending points in the memory. Up to 8 scenes can be preset.

Ex. When 6 scenes have been preset



Scenes preset

Shows the total duration of all the preset scenes.

9 On the VCR for editing, locate the point on the tape where you want to start editing and set the VCR to playback pause mode (or recording pause mode when the VCR for editing is not SL-HF1000).

- When editing from the beginning of the tape, set the starting point where the tape has advanced for 10 seconds or more from the beginning.

10 Press EDIT START on the VCR for playback. Automatic assemble editing will start. The scenes will be edited automatically in the preset order.

EDIT START



When all the scenes have been edited, both VCRs will be set to playback pause mode.

To stop the automatic assemble editing momentarily, press **PAUSE/STILL**. To resume the editing, press **EDIT START**.

To change the previously preset items during presetting, press **BACK** until the desired item blinks, and then locate the correct point and press **EDIT MARK**.

To cancel the automatic assemble editing mode, press **EDIT ASSEMBLE**. The memory of the preset scenes will be erased.

Note

Automatic assemble editing is not possible for the two scenes between which searching time takes more than 8 minutes.

FOR ACCURATE PRESETTING OF EDITING POINTS

- The preset starting and ending points may shift slightly after the tape has been advanced rapidly, stopped and rewound repeatedly for locating those points.

To minimize the shift, proceed as follows:

- 1 Before presetting the starting point of scene 1, press **COUNTER RESET** to register that point as counter zero.
 - 2 Preset all the required scenes.
 - 3 Locate the starting point of scene 1 again, accurately to the extent of a frame, by observing the playback picture.
 - 4 Press **COUNTER RESET**.
 - 5 Press **EDIT START** to start the automatic assemble editing.
- If you stop the tape with **STOP** when presetting an editing point, the editing point will be shifted. To correct the shift, locate the starting point of scene 1 again and press **COUNTER RESET**.

AFTER PRESETTING THE EDITING POINTS

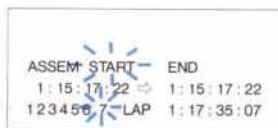
—before pressing EDIT START

To check the preset editing points

Press CHECK/PAGE.

Every time CHECK/PAGE is pressed, the starting and ending points of each scene will be displayed and the scene number will blink.

CHECK/PAGE



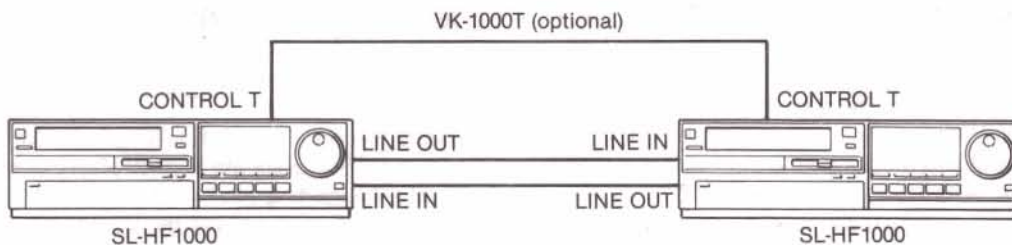
To change the editing points

- 1 Press CHECK/PAGE repeatedly until the desired scene number blinks.
- 2 Press EDIT ASSEMBLY.
The START indicator will blink.
- 3 Locate the new starting point using JOG/SHUTTLE, while observing the playback picture, and set the unit to playback pause mode.
(If the starting point is not to be changed, skip this step.)
- 4 Press EDIT MARK.
The END indicator will blink.
- 5 Locate the new ending point using JOG/SHUTTLE and set the unit to playback pause mode.
(If the ending point is not to be changed, skip this step.)
- 6 Press EDIT MARK.

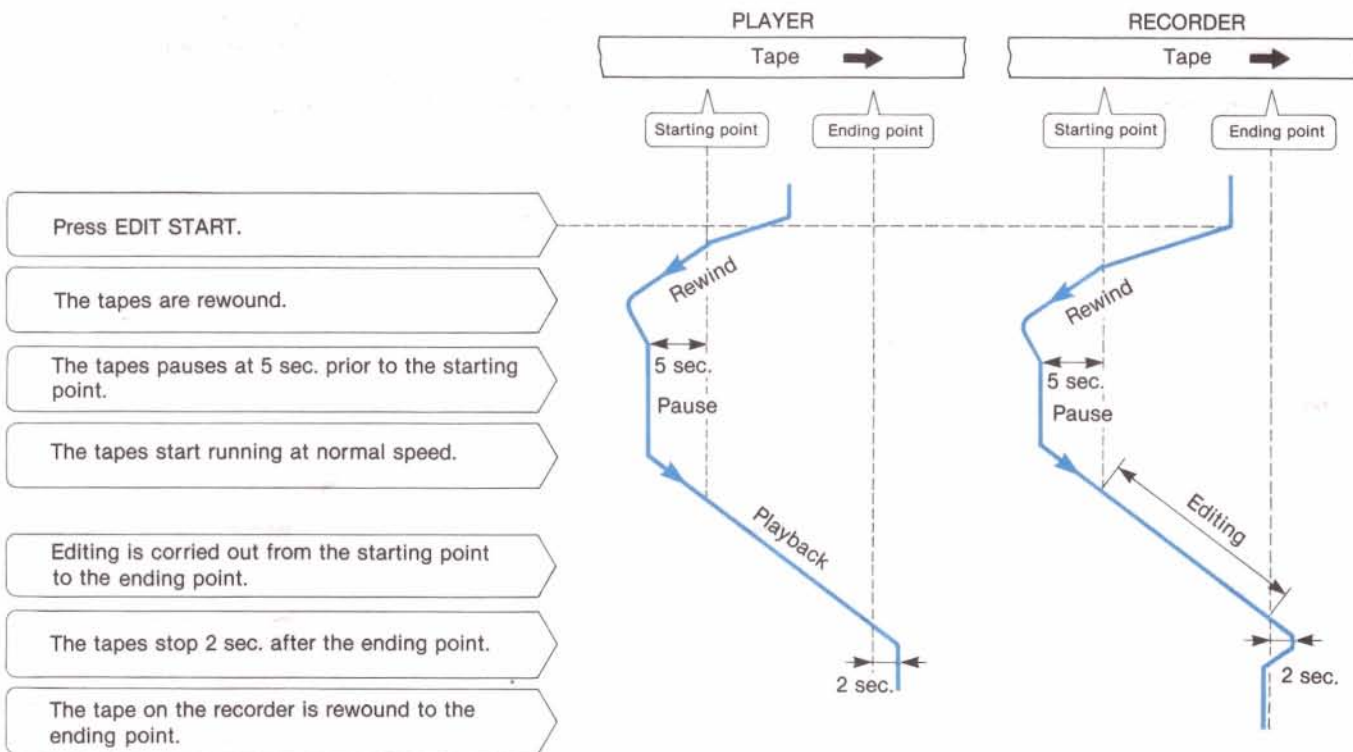
PRE-ROLL EDITING

“Pre-roll” is to run the original tape and a tape to be edited for several seconds before the preset editing starting point. During this period of pre-roll, two VCRs are fully controlled for synchronized operations, thus making possible highly accurate editing with a maximum error of 3 frames per scene.

Pre-roll operation is carried out in automatic insert editing and automatic assemble editing, only when two SL-HF1000 are used and the CONTROL T jacks are connected.



OPERATION CHART OF PRE-ROLL EDITING



Note
For pre-roll operation, control signals should have been recorded for at least 15 seconds before the editing starting points on both tapes. When using an unrecorded tape for editing, record the control signal before editing, simply by setting the VCR to recording mode without connecting video/audio signals.

Note on tape transport after the ending point
In automatic assemble editing, recording continues for two seconds after the editing ending point. Then, the tape will be rewound to the ending point and will pause.
On the other hand, in automatic insert editing, recording stops at the editing ending point. Then the tape will be played back for two seconds, rewound to the ending point, and will pause.
For this reason, if the automatic assemble editing is carried out on part of a pre-recorded tape, the part of the tape immediately after the newly inserted scene will be erased and the picture will be distorted. Use insert editing to insert a scene between recordings.

SIMPLE EDITING

You can simply start and stop editing without marking the editing points. Use two SL-HF1000s and connect the CONTROL T jacks.

For the connection, see page 65.

SIMPLE ASSEMBLE EDITING

- 1 Press EDIT ASSEMBLE on the playback VCR.
- 2 Locate the starting point of the scene on the playback VCR and set the VCR to playback pause mode.
- 3 Locate the point at which editing is to start on the editing VCR and set the VCR to playback pause mode.
- 4 Press EDIT START on the playback VCR. Assemble editing will start.
- 5 On the playback VCR, decide the ending point by observing the picture on the monitor screen and press **||/▶ PAUSE/STILL**.

The playback VCR will be set to playback pause mode in 2 seconds.

The editing VCR rewinds the tape to the ending point and then is set to playback pause mode.

To edit another scene, press EDIT ASSEMBLE to release assemble editing mode and press it again.

SIMPLE INSERT EDITING

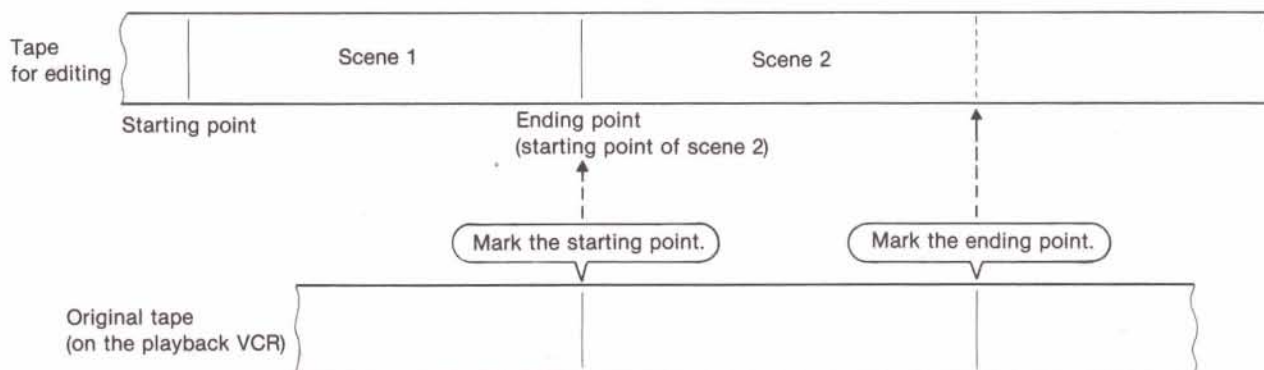
- 1 Press VIDEO and/or AUDIO INSERT button on the editing VCR.
- 2 Locate the point at which editing is to start on the editing VCR and set the VCR to playback pause mode.
- 3 Locate the starting point of the scene to be inserted on the playback VCR and set the VCR to playback pause mode.
- 4 Press EDIT START on the editing VCR. Insert editing will start.
- 5 On the editing VCR, decide the ending point by observing the picture on the monitor screen and press **||/▶ PAUSE/STILL**.

The editing VCR plays the tape back for 2 seconds, rewinds the tape to the ending point, and is set to playback pause mode.

The playback VCR will be set to playback pause mode in 2 seconds.

CONTINUOUS EDITING (BUTT EDIT)

When editing of one scene is finished, the tape on the editing VCR is set at the ending point of the previous editing. Therefore, you should only mark the starting point (and the editing point) of the next scene to be edited on the playback VCR and press EDIT START. This method of editing is called "Butt Edit".



TAPE EDITING TECHNIQUES

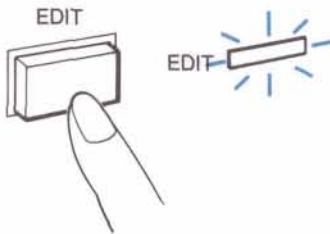
Tape editing is a simple process that can add much enjoyment to viewing of recorded tapes. Through editing, you can transfer just the sections of previously recorded tapes you want to keep to another tape, add scenes, change the order of playback, and otherwise create a final video tape with just the contents you want. While the arrangement of VCRs and connections for editing is previously shown, 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 press the VCR's EDIT button to turn on the EDIT indicator.

The EDIT button is located inside the front panel. For normal operation, the EDIT indicator should be off, but when another VCR is connected for tape editing, press EDIT to turn on the indicator.



Generally, for accurate playback of a tape's recorded signals on a TV or monitor, the VCR electrically rectifies the signal. When the EDIT button is set to off, 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 press the EDIT button to turn on the EDIT indicator, 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 button engaged, editing faults such as color shift can be reduced.

The SL-HF1000's EDIT button, 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.



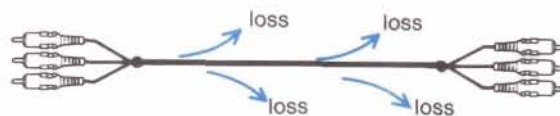
Also, if the video head becomes soiled with dust or magnetic particles, the S/N (signal-to-noise) ratio will drop and picture and sound quality will be reduced. Since the head can be dirty even if it looks clean, it should be cleaned once every two or three months if the VCR is used frequently, using 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 NORMAL control. Use the TRACKING SLOW control for adjustment when playback is slower than normal (1/5 or slower), 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 or PRO-X type, is used, color loss will be reduced along with editing marks in the edited tape.

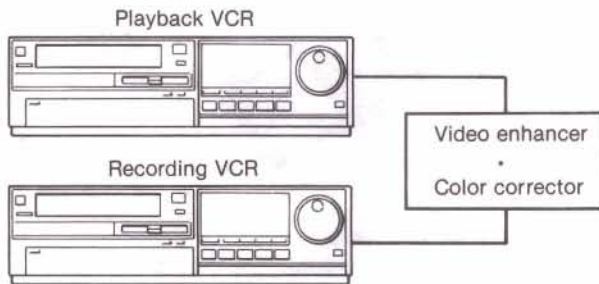


High grade (HG) type

PRO-X 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.



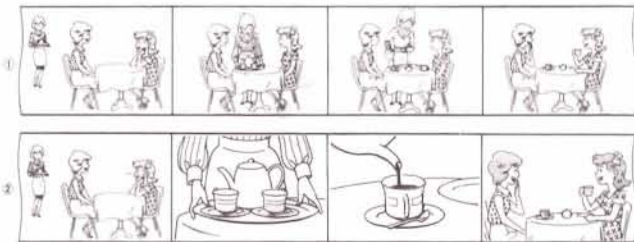
Sony Video Color Corrector XV-5000W

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

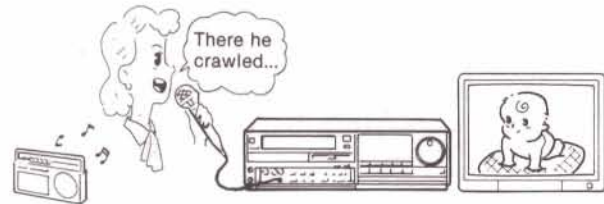
Most of us have special feelings for certain scenes, especially favorite scenes that we have taken ourselves, and are very reluctant to leave them out of the final edited tape. But however 'beautiful' a scene may be, if it is too long, or is out of context with the previous and following scenes, it will 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.

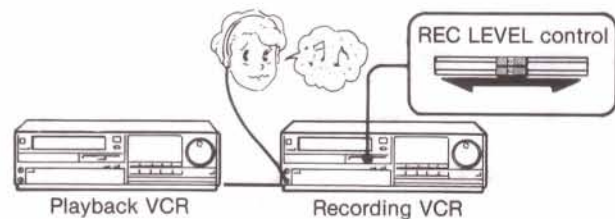
ADDING A SOUND TRACK

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-HF1000'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.

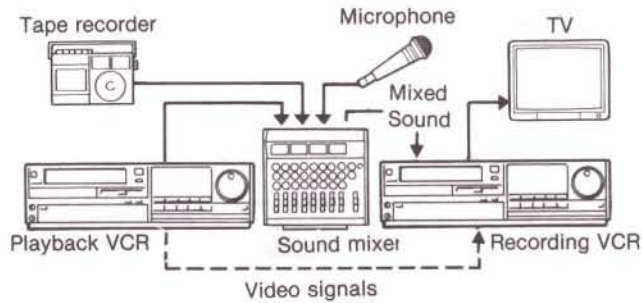


Use the REC (recording) LEVEL control to balance live recordings

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-HF1000 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-HF1000'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!

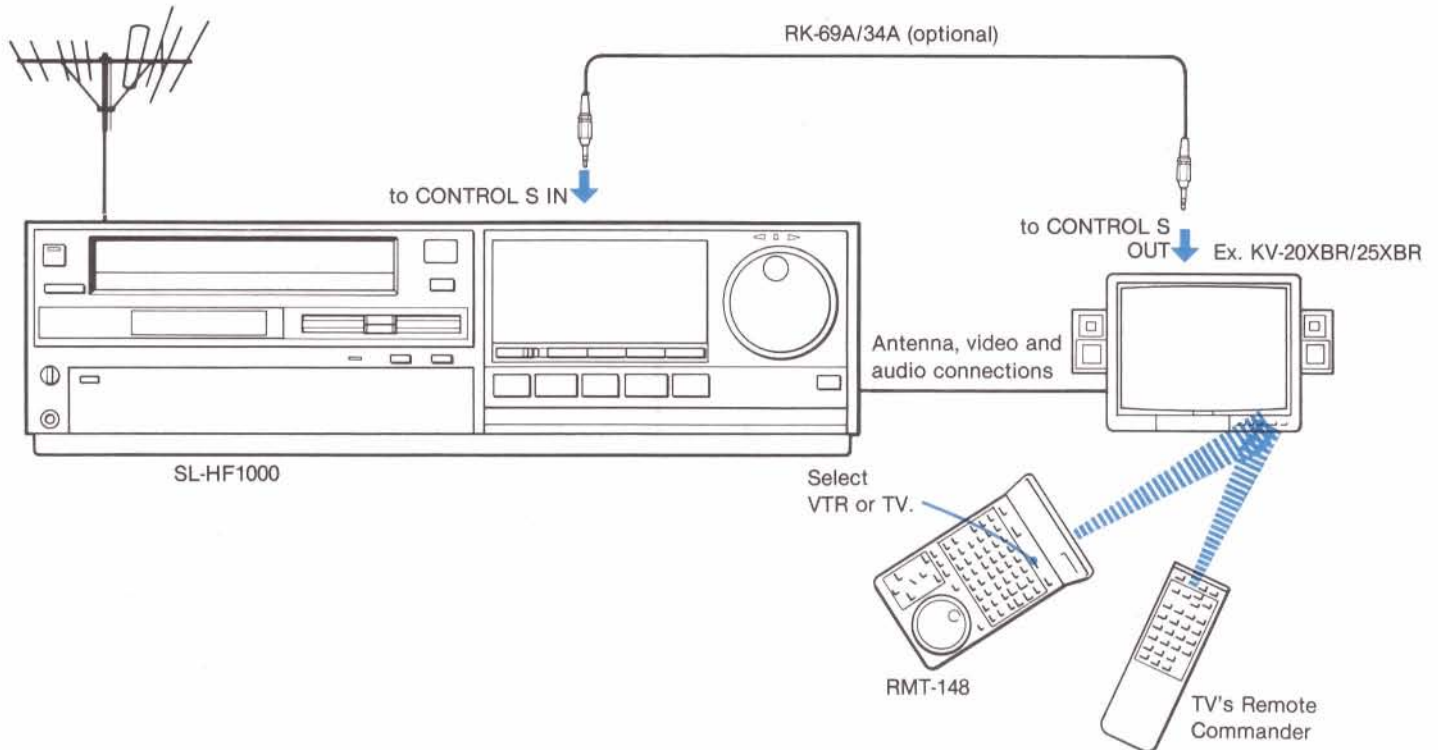
USING THE SONY CONTROL SYSTEM

Besides the automatic insert and assemble editing operations, Sony control system allow other intercomponent controls of Sony equipment possible.

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 S OUT jack, you can operate the SL-HF1000 by remote control through the TV or TV tuner. This

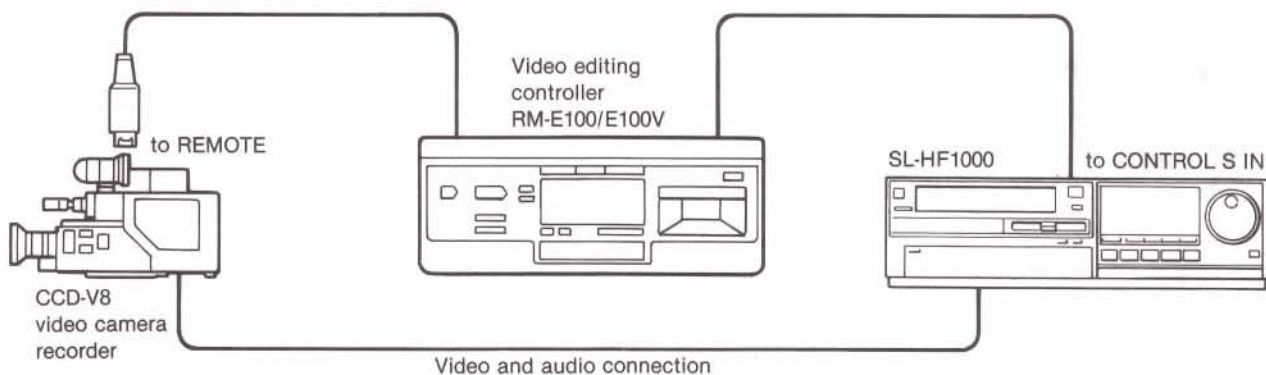
is especially handy for operating the VCR by remote control while watching TV when the two are located apart from each other.



EDITING THE RECORDING ON 8MM FORMAT TAPES ONTO BETA TAPES WITH THE 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/E100V video editing controller between the camera recorder and this VCR for easier and much faster tape editing of 8 mm tapes onto Beta format tapes.

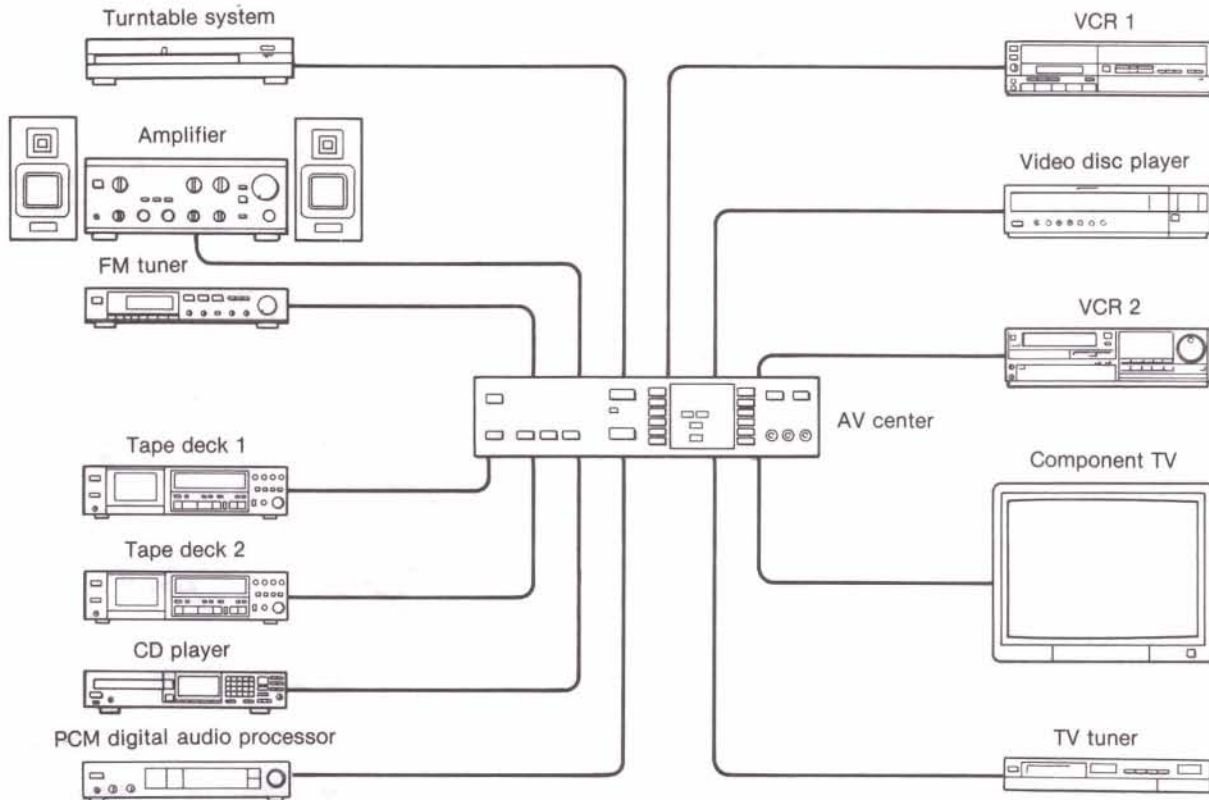
With this controller, you will be able to preset the locations of the scenes you want to record (up to 8) in the controller and with a press of a button, these scenes will be recorded by this VCR automatically in the order preset. For details, refer to the instruction manual of the RM-E100/E100V.



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

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

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 **II**
I / **II** : 4.0 cm/sec. (**I** only for
playback)
II : 2.0 cm/sec.
III : 1.33 cm/sec.

Maximum recording time
I : 1 hour 40 min.
II : 3 hours 20 min.
III : 5 hours
(with Sony L-830 cassette)

Fast-forward and rewind time
Approx. 3½ min. (L-500)

Audio frequency response
Beta hi-fi, MPX FILTER OFF
I, **II**, **III** : 20–20,000 Hz

Wow and flutter Beta hi-fi ON
Less than 0.005% WRMS

Dynamic range Beta hi-fi ON
More than 90 dB

Tuner section

Channel coverage VHF channels 2 to 13
UHF channels 14 to 69
CATV channels 1 to 125

VHF output signal Channel 3 or 4 (selected)
75 ohms, unbalanced

Antenna 75-ohm antenna terminal for
VHF/UHF

Inputs and outputs

Video inputs LINE IN 1, 2 VIDEO/PCM
(phono jack)
1 Vp-p ±0.5 Vp-p, 75 ohms,
unbalanced, sync negative

Video outputs LINE OUT, MONITOR OUT,
VIDEO/PCM (phono jack)
1 Vp-p ±0.5 Vp-p, 75 ohms,
unbalanced, sync negative

Audio inputs LINE IN 1, 2 R-AUDIO-L (phono jack)
–10 dBs (0 dBs = 0.775 Vrms),
more than 47 k ohms

Audio outputs LINE OUT, MONITOR R-AUDIO-L
(phono jack)
–10 dBs (at load impedance
47 k ohms)
Output impedance more than
10 k ohms

CONTROL L 5-pin DIN
CONTROL T Stereo minijack

CONTROL S IN Minijack

CONTROL S OUT Minijack

CAMERA REMOTE IN
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

General

Power requirements 120 V AC ±10%, 60 Hz ±0.5%

Power consumption 55 W

AC outlet Max. 200 W

Operating temperature
5°C to 40°C (41°F to 104°F)

Dimensions Approx. 430 × 125 × 411 mm (w/h/d)
(17 × 5 × 16¼ inches)

incl. projecting parts and controls
Weight Approx. 13.7 kg (30 lb 4 oz) net

Remote Commander RMT-148

Remote control system
Infrared control

Power requirements 4.5 V DC, 3 size AA batteries
(IEC designation R6)

Dimensions Approx. 105 × 40 × 160 mm (w/h/d)
(4¼ × 1½ × 6¼ inches)

incl. projecting parts and controls
Weight Approx. 220 g (8 oz)
not incl. batteries


Accessories supplied

75-ohm coaxial cable with F-type connectors.....(1)
Antenna connector(1)
Connecting cord (2 phono to 2 phono)(1)
Connecting cord VK-1000T (stereo mini to stereo mini)(1)
Remote Commander RMT-148 with three size
AA batteries(1)

Design and specifications subject to change without notice.

TROUBLE CHECKS

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	The POWER switch does not function.	The recorder is in the timer standby mode. Press TIMER REC.
	The power is turned on, but the unit does not operate.	The safety device on the unit has activated. Turn the power off, disconnect the power cord from the wall outlet and leave the unit for more than one minute.
CLOCK AND TIMER	The clock has stopped and "Su AM 12:00" is blinking.	There has been a power interruption. Reset the date, clock time and timer settings.
	Clock setting cannot be made.	The unit is set to title insert mode ("T INSERT" is displayed in the display window.) Press DATA SCREEN.
	Timer setting cannot be made.	<ul style="list-style-type: none"> The date and clock are not set. The timer cannot be set during recording.
TV RECEPTION	TV program is not clearly displayed on the TV screen.	<ul style="list-style-type: none"> The channel for video recorder is not correctly tuned on the TV receiver. The TV signal is weak. Adjust the direction of the antenna. The AC power cord of the recorder is disconnected.
	Stereo programs are heard in monaural.	<ul style="list-style-type: none"> AUTO STEREO is set to OFF. AUDIO MONITOR (STEREO/L/R) is set to L or R.
RECORDING AND PLAYBACK	No picture on the TV screen during recording or playback	The TV's channel is not set to that preset for the video recorder.
	Picture being recorded cannot be monitored on the TV screen.	Press TV/VTR so that the VTR indicator appears in the window.
	Noisy picture	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 playback picture is not clear.	<ul style="list-style-type: none"> Check the SUPER BETA switch. MPX FILTER is set to PCM. Adjust NORMAL or SLOW TRACKING. Adjust SHARPNESS.
	The picture moves vertically in Betascan or Beta Skipscan mode.	Adjust the vertical hold control on the TV or color monitor.
	The picture is distorted in 1/5 or 1/10 speed playback mode.	Set to normal playback mode, press  and × 1/5 or 1/10 again.
	Noise band in the slow motion picture, stop-action advance picture, or freeze picture.	Adjust SLOW TRACKING to move it.
	Distorted or noisy sound	Recording level was not properly adjusted.
	Sound drop-outs of a Beta hi-fi recorded tape	The tape is defective. Use a new video cassette tape.

	Symptom	Possible causes and corrections
RECORDING AND PLAYBACK	SAP sound cannot be recorded.	Set NORMAL AUDIO to SAP. To listen to the SAP, set AUDIO MONITOR (BETA HI-FI/MIX/NORM) to NORM.
	No sound was recorded in the conventional audio track.	NORMAL AUDIO was set to SAP and there was no SAP broadcast.
	SAP sound cannot be played back.	Set AUDIO MONITOR (BETA HI-FI/MIX/NORM) to NORM.
	No sound is heard during playback.	A tape on which no sound is recorded on the conventional audio track is being played back with AUDIO MONITOR set to NORM. Set it to BETA HI-FI.
	Timer recording cannot be made correctly.	<ul style="list-style-type: none"> • The date and clock are not set correctly. • There has been a power interruption. • The cassette inserted has had the safety tab removed or no cassette has been inserted. • The tape is at its end. • Two or more timer settings overlap.
OTHERS	The recorder cannot be remotely controlled.	<ul style="list-style-type: none"> • The remote control TV/VTR selector on the Commander is set to TV. • The command mode selector on the Remote Commander is not set at the same position as that on the VCR. • The batteries are exhausted.
	The tape 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.	The cassette being inserted is reversed.
	The cassette cannot be ejected.	Recording is being done.
	Data screen display does not appear.	<ul style="list-style-type: none"> • MPX FILTER is set to PCM. Set to ON or OFF and press DATA SCREEN. • DATA SCREEN is set to OFF mode. Press it again. • The TV or color monitor is connected to the LINE OUT jacks. Connect it to the MONITOR OUT jacks. • All the items on page 0 are set to turn-off mode. (See page 55.)
	The TV screen is entirely black.	Set BLACK SCREEN to OFF.