

SONY[®]

3-769-772-22 (1)

STEREO VIDEO CASSETTE RECORDER **Beta** **B**

SL-HF360

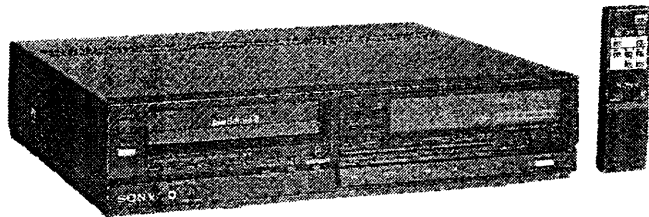
OPERATING INSTRUCTIONS

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

OWNER'S RECORD

The model number is located at the rear and the serial number on the top. 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-HF360 Serial No. _____



Super Beta hi-fi

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

It is compatible with the **BII** and **BIII** type recording and playback formats and will play back tapes recorded in the **BIS** format.

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PREPARATIONS

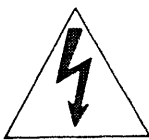
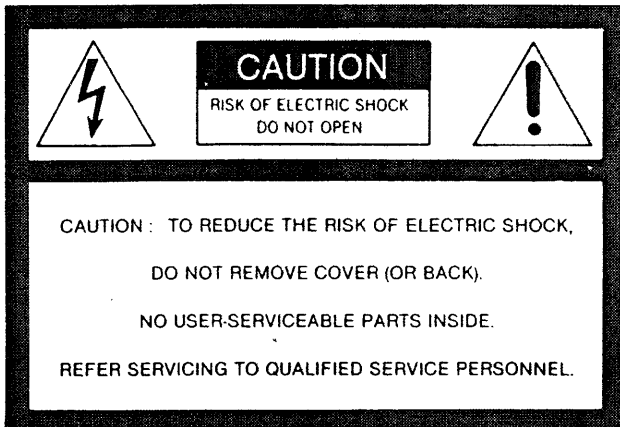
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GENERAL

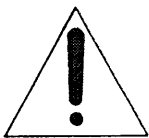
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WARNING

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



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



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

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

INFORMATION

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

Reorient the receiving antenna

Relocate the equipment with respect to the receiver
Move the equipment away from the receiver

Plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

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

"How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

PRECAUTIONS

On safety

- This unit operates only on 120 V AC, 60 Hz.
- 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.
- Do not install the unit near an AM receiver, since a noise may be heard when listening to the AM program.

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 the 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

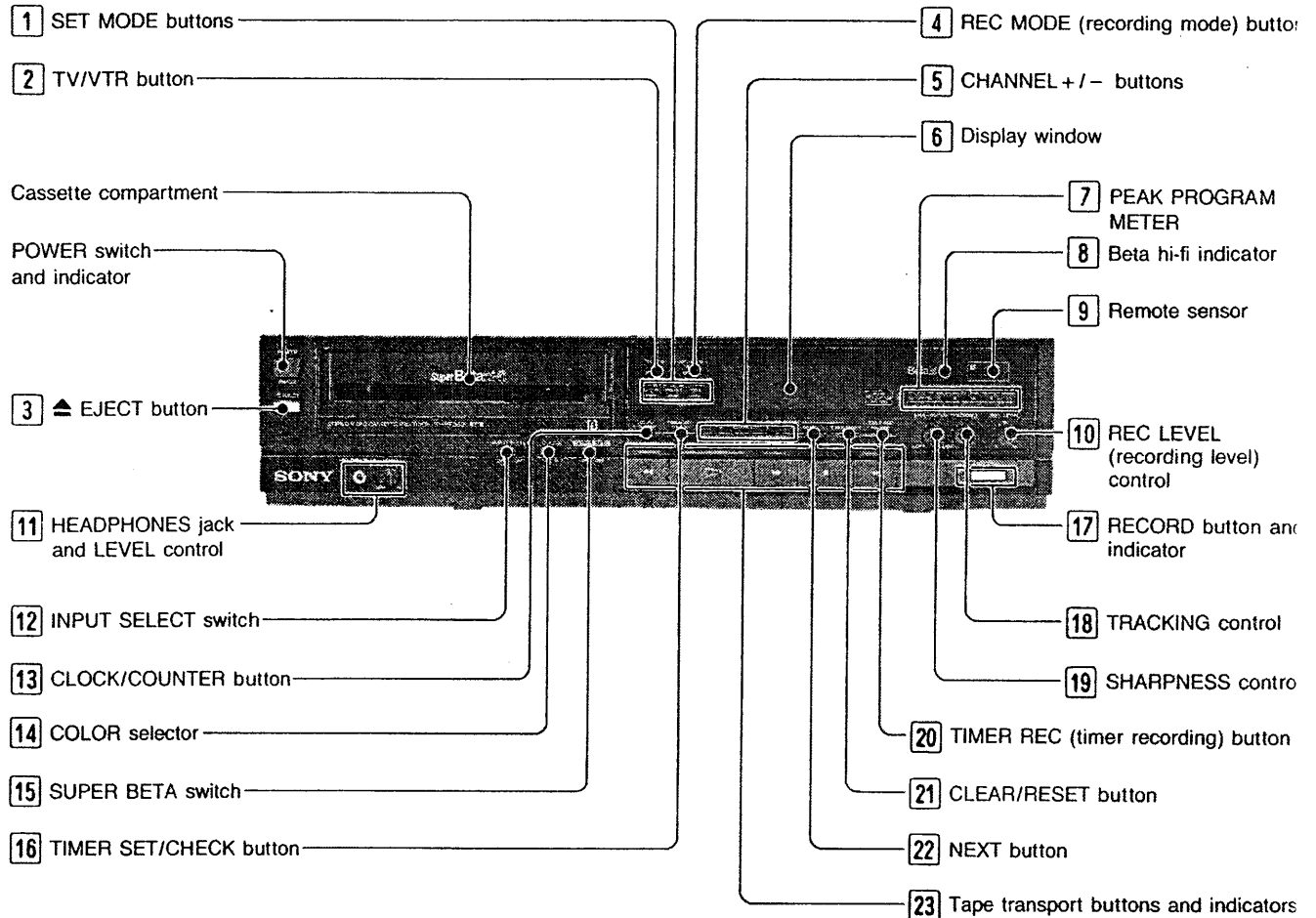
Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit to another location, repack it as illustrated on the carton.

If you have any questions about this unit, contact your Sony service facility.

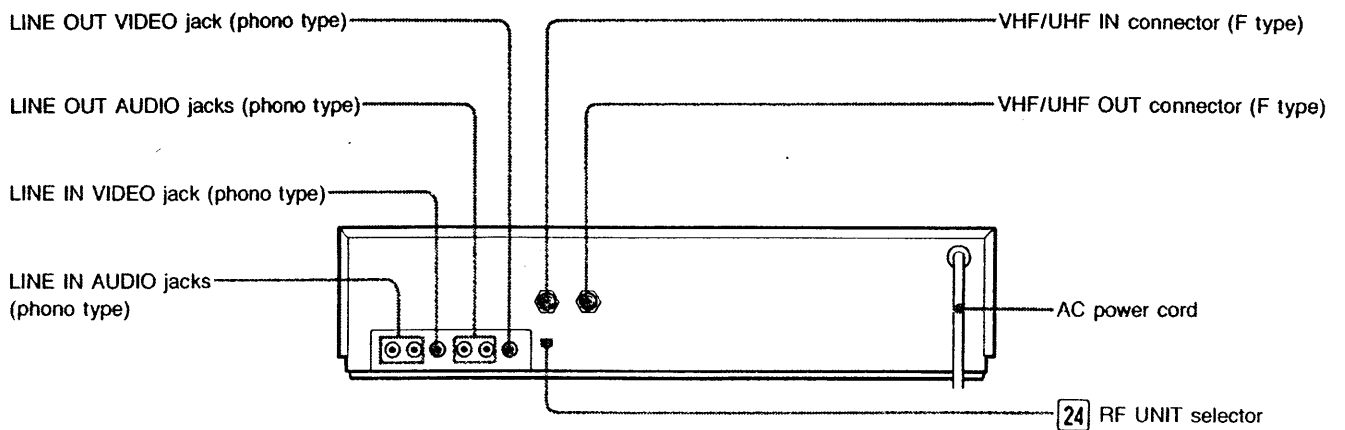
LOCATION AND FUNCTION OF CONTROLS

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

Front



Rear



1 SET MODE buttons

CLOCK: Press to start the setting of the current time.
PRESET: Press to start the presetting of TV channels.
FINE: Press to start the fine-tuning of a TV channel.
Press the same button again to cancel the setting mode.

2 TV/VTR button

Press to watch the program selected on the recorder.
The VTR indicator appears in the display window.
(The VTR indicator appears automatically when ►PLAY is pressed.)
To watch a different TV program while recording another, press this button again. The VTR indicator disappears.

3 EJECT button

Press to eject the cassette.

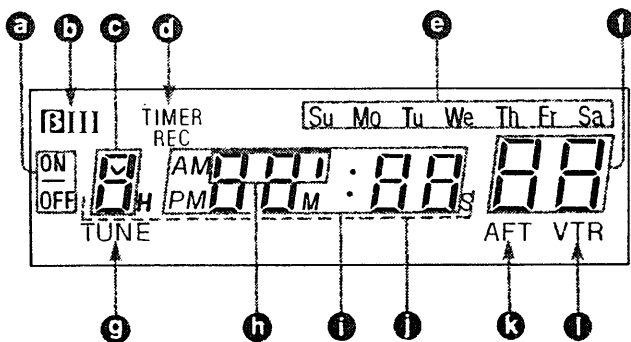
4 REC MODE button

Press to select the recording speed, **II** or **III**.

5 CHANNEL +/- buttons

Press to select the channels, to set the clock or timer, or to preset channels.

6 Display window



- a** Timer turn-on and turn-off setting indicators
- b** Tape speed indicator
- c** Tuning band indicator
- d** **TIMER REC** (timer recording) indicator
- e** Day-of-the-week indicators
- f** Channel number
- g** **TUNE** indicator
- h** Channel scanning indicator
- i** Clock, timer turn-on time or timer turn-off time
- j** Tape counter
- k** **AFT** (Automatic Fine Tuning) indicator
- l** **VTR** indicator

7 PEAK PROGRAM METER

Shows the peak input level of the right and left channels during Beta hi-fi recording.

8 Beta hi-fi indicator

Lights when the unit is turned on. When playing back a monaural tape, the indicator goes off.

9 Remote sensor

Detects the signals transmitted from the Remote Commander.

10 REC LEVEL (recording level) control

Adjust the recording level during Beta hi-fi recording. Normally keep this control at the center detent position **5**.

11 HEADPHONES jack and LEVEL control

Connect stereo headphones (with a stereo miniplug) to the HEADPHONES jack. The volume can be adjusted with the LEVEL control.

12 INPUT SELECT switch

Select the program to be recorded.
TUNER: For recording TV programs
LINE: For recording signals from the LINE IN VIDEO/AUDIO jacks

13 CLOCK/COUNTER button

Press to select the clock display or the tape counter display.

14 COLOR selector

Adjust the color intensity of the playback picture.

15 SUPER BETA switch

Normally keep this switch at ON.

16 TIMER SET/CHECK button

Press to start the setting or checking of the timer program.

17 RECORD button and indicator

Press to start recording.

18 TRACKING control

Adjust this control to obtain the best possible picture if streaks or snow appears during playback.

19 SHARPNESS control

Adjust the sharpness of the picture if necessary.

20 TIMER REC button

Press to activate the timer recording.

21 CLEAR/RESET button

Press to reset the tape counter to "0H00M00S" and also to clear the timer setting or an unused channel.

22 NEXT button

Press to advance to the next item to be set during clock setting, timer setting or channel presetting.

23 Tape transport buttons and indicators

◀◀ **REW** (rewind), ▶ **PLAY**, ▶▶ **FF** (fast-forward), ■ **STOP**, || **PAUSE**

24 RF UNIT selector

Select the channel for the VCR program and the output from the VHF/UHF OUT connector. Set the selector to 3 CH or 4 CH whichever is not active in your area.

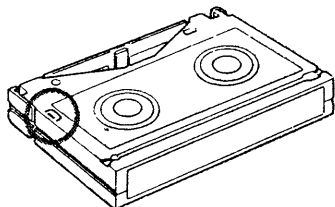
HANDLING THE VIDEO CASSETTES

To prevent accidental eraser

The safety tab at 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.

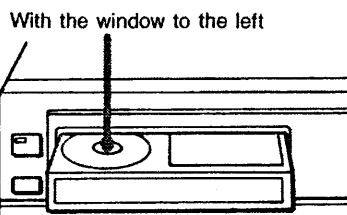


When the inserted cassette has its safety tab removed

If you activate RECORD or TIMER REC, the cassette will be automatically ejected.

To insert the cassette

Insert the cassette with the side that has the window up (you can see the tape through the window).



Recording time available in each mode

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

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

The playback speed is automatically set regardless of the REC MODE button.

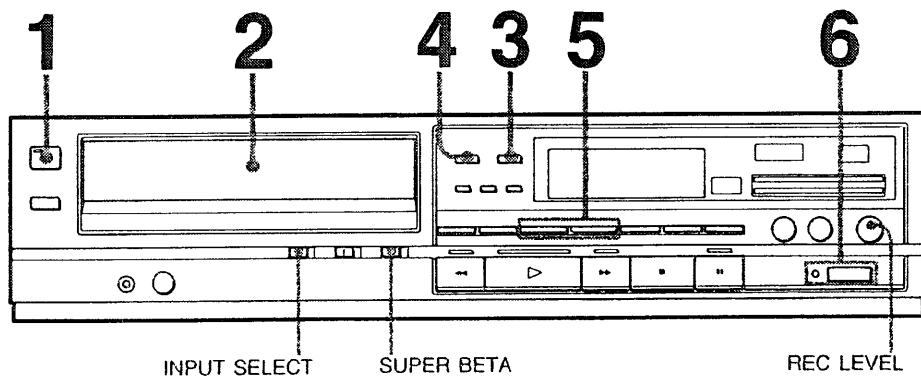
Caution

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.

OPERATION

Numbers in the illustration show the sequence of operation.



Preparation

- Turn on the TV and select the channel for the recorder or select the input for the recorder.
- Check the position of the selectors.
INPUT SELECT to TUNER
SUPER BETA to ON
REC LEVEL to 5

- 1 Press POWER.
The power indicator will light up.
- 2 Insert a cassette.
- 3 Select the recording tape speed, **II** or **III**, with REC MODE.
The length of recording time differs for each mode. Refer to the chart on page 6.
- 4 Press TV/VTR so that the VTR indicator appears.
- 5 Select the channel to be recorded with CHANNEL + / -.
- 6 Press RECORD. The RECORD indicator will light and recording will begin.

To stop recording, press ■ STOP.

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

To eject the cassette, press ▲ EJECT.

To turn off the power, press POWER.

Note

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

To stop the tape momentarily during recording

Press || PAUSE. The indicator above the button lights. The TV program can still be seen on the TV, but the picture will not be recorded. To resume recording, press || PAUSE again.

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

Note

Multichannel TV sound (MTS) broadcasts cannot be recorded with this recorder.

RECORDING TV PROGRAMS

Notice

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 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.

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

ABOUT THE SUPER BETA SYSTEM

Normally, keep this switch at the "ON" position to obtain high picture quality recordings and playback. Tapes recorded in other non-SuperBeta VCRs can be played on SuperBeta VCRs.

Tapes recorded in SuperBeta can be played on other non-SuperBeta VCRs. However, some over-modulation noise may appear in the picture during playback. If you intend to play back on other non-SuperBeta VCRs, then set the SUPER BETA switch to "OFF" position when making your recordings.

TO RECORD ONE TV PROGRAM WHILE VIEWING ANOTHER

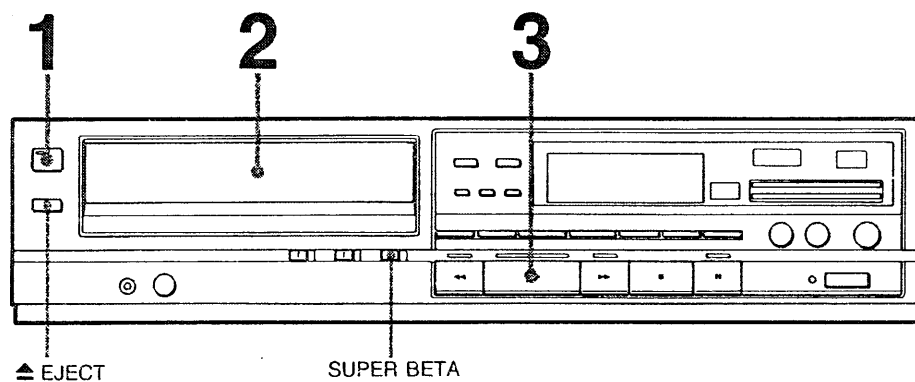
You can record a TV program selected on the recorder while viewing another TV program on your TV.

- 1 To start recording the TV program, follow the procedure in "Recording TV programs".
- 2 Press TV/VTR so that the VTR indicator disappears.
- 3 Select the channel you want to view on the TV.

PLAYBACK

OPERATION

Numbers in the illustration show the sequence of operation.



Preparation

- Turn on the TV and select the channel for the recorder or select the input for the recorder.
- Set the SUPER BETA switch as follows:
 - ON: for a tape recorded with this switch ON.
 - OFF: for a tape recorded with this switch OFF or a tape recorded with another VCR which is not equipped with SuperBeta system.

1 Press POWER.

The power indicator will light up.

2 Insert a cassette.

3 Press ► PLAY.

During playback, the recorded speed mode is automatically selected and the selected speed indicator appears in the window.

To stop playing, press ■ STOP.
(Or press ▲ EJECT to take the cassette out.)

To rewind the tape, press ◀◀ REW.

To advance the tape rapidly, press ▶▶ FF.

When playing back a cassette with its safety tab removed, simply insert the cassette without pressing POWER. The power will be automatically turned on and playback will begin.

Notes

- This recorder will automatically play back the sound on the video track for Beta hi-fi recorded tape, or the sound on the conventional audio track for non-Beta hi-fi recorded tape. Therefore, the sound recorded on the conventional audio track cannot be played back for Beta hi-fi recorded tape.
- Noise may appear in the portions of the playback picture where consecutive recording was made.

PICTURE ADJUSTMENTS

COLOR selector

Normally set to 1. For more color intensity, set to 2 or 3.

SHARPNESS control

Normally set to the center detent position. Turn it toward SHARP for a sharp picture, or toward SOFT for a soft picture.

TRACKING control

If streaks or snow appear during playback of a tape recorded on another recorder, adjust it for the best possible picture. Return to the center detent position after playing back that particular tape.

PLAYBACK

FREEZE PICTURE

— To stop the picture for a moment

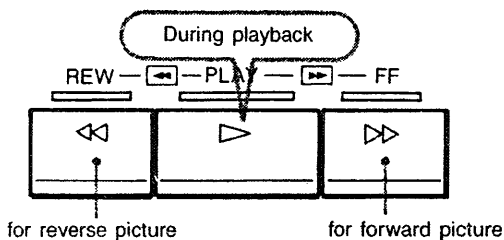
Press **|| PAUSE** during playback. A freeze picture will be seen on the screen. To resume playback, press **|| PAUSE** again or press **▶ PLAY**.

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

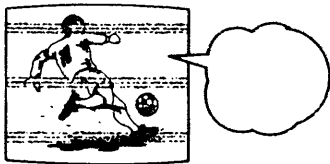
BETASCAN

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

During playback, keep **▶▶ FF** pressed for a fast-speed forward picture, or keep **◀◀ REW** pressed for a fast-speed reverse picture. To resume playback, release the button.



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



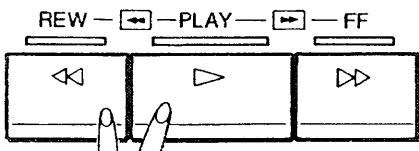
Note

The freeze picture and Betascan pictures are difficult to see in the **ⓑIS** and **ⓑII** modes. The appearance of these noisy pictures in the **ⓑIS** and **ⓑII** modes does not indicate a recorder failure.

AUTO PLAY

— To start playback from the beginning of the tape after rewinding

In stop mode, keeping **◀◀ REW** pressed, press **▶ PLAY**. After the tape is completely rewound, it will be automatically played back.



USE OF THE TAPE COUNTER

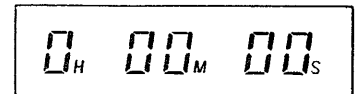
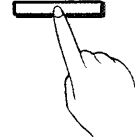
The tape counter indicates the approximate running time of the tape and the relative position of programs on the tape. To display the tape counter, press **CLOCK/COUNTER** when the current time is displayed.

TO INDEX THE TAPE CONTENTS

Before starting recording or playback, press **CLEAR/RESET** to set the counter to "0H00M00S".

By noting the counter reading at the desired point, you can easily find that point later by referring to the counter. Use the label on the cassette to list the programs and their counter readings.

CLEAR/RESET



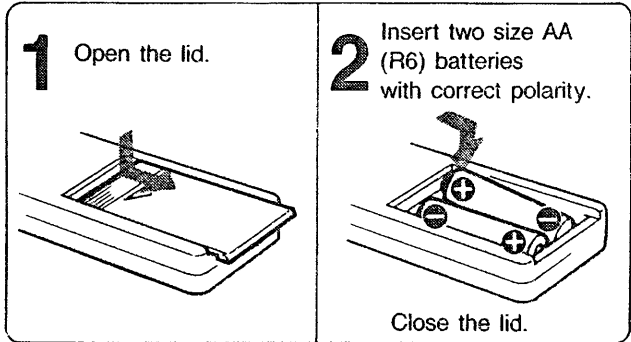
Notes

- 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 in the cassette compartment.
- The counter will not advance during any portion of a tape that is blank or unrecorded. So the counter can be used to find unrecorded sections on a tape.

REMOTE CONTROL OPERATION

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

BATTERY INSERTION

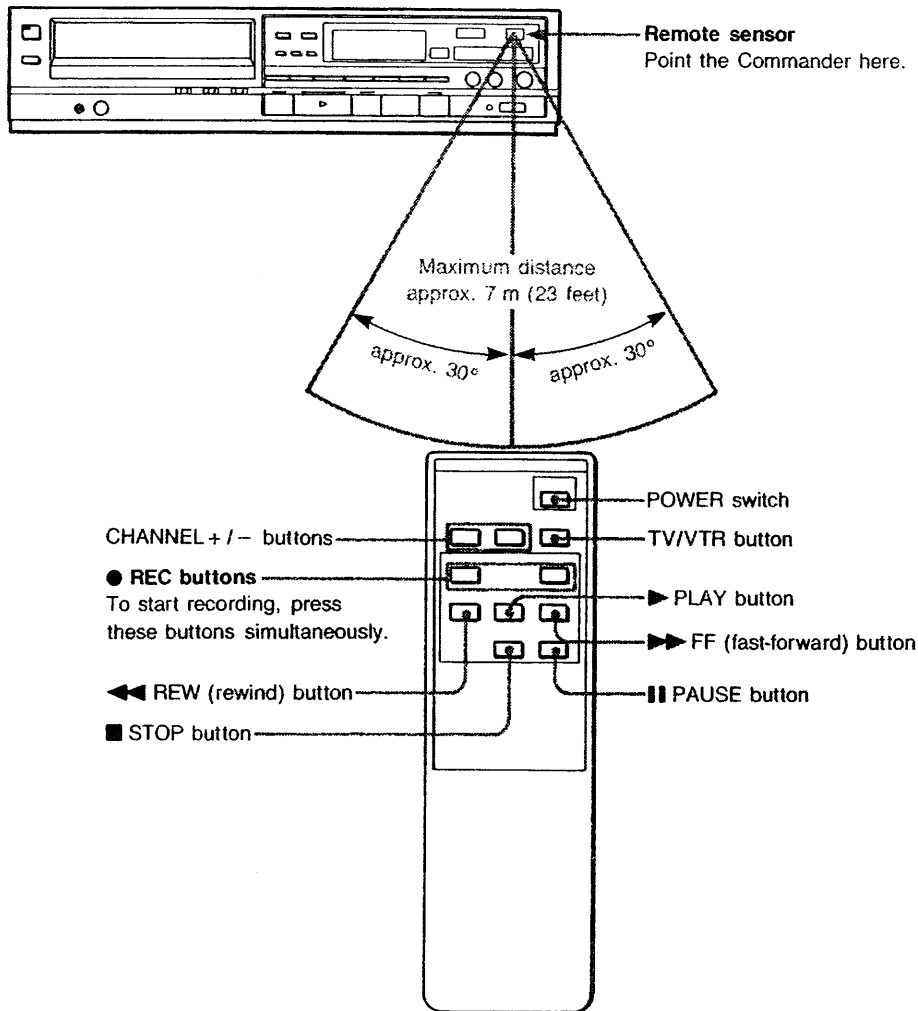


Battery life

In normal operation, batteries will last for about six months. If the operating range of the Remote Commander becomes noticeably short, replace the batteries with new ones.

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



The buttons on the Commander except the ● REC buttons will function the same as the buttons on the recorder with

(The auto play cannot be activated with ◀◀ REW and ▶▶ PLAY buttons on the Commander.)

TIMER-ACTIVATED RECORDING

One recording can be preset to be made for any day or every day within seven days.

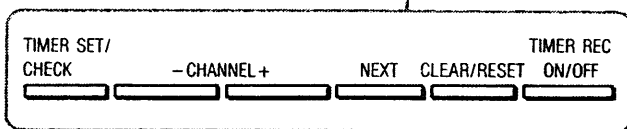
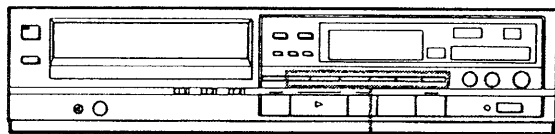
The clock time must first be set to the correct current time. To set the clock, see page 25.

BEFORE SETTING THE TIMER

- Make sure the cassette tape is long enough to record programs.
- Be sure the safety tab has not been removed. — If removed, the cassette will be automatically ejected when TIMER REC is pressed.
- Press POWER to turn the power on.
- Be sure a cassette is inserted in the compartment.
- Select the recording tape speed. Check the **B II** or **B III** indicator in the window.
- Set SUPER BETA to CN.
- Set INPUT SELECT to TUNER.

SETTING THE TIMER

Suppose you want to make a recording of channel 6 from 7:10 to 11:15 on Friday evening.



CHANNEL +/- buttons

To set the day of the week, the time and the channel, press the + button to advance, and the - button to reverse.

NEXT button

Every time you press the NEXT button, the item to be preset will blink and you will be setting the item.

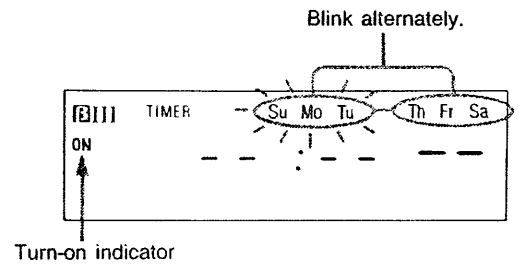
Day indication

By pressing the + button, the day indication changes as follows:

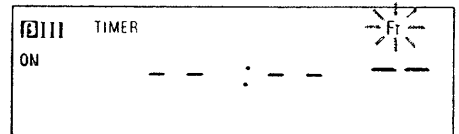
Ex. Today is Friday.

Su Mo Tu We Th Fr Sa → Fr → Sa → ... → Th
(every day) (today) (tomorrow)

- 1 Press TIMER SET/CHECK.



- 2 Set the day with the + or - button.

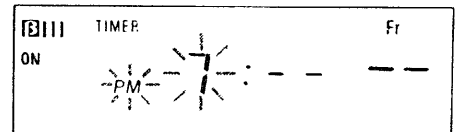


- 3 Press NEXT and set the turn-on hour with the + or - button.

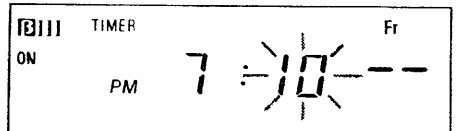
Make sure that AM or PM is properly set.

AM 12:00 = midnight

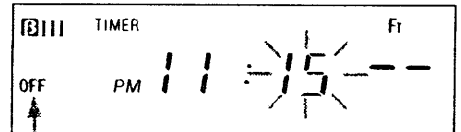
PM 12:00 = noon



- 4 Press NEXT and set the minute with the + or - button.

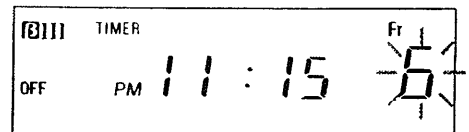


- 5 Press NEXT and set the turn-off time as in steps 3 and 4.



Turn-off indicator

- 6 Press NEXT and set the channel to be recorded with the + or - button.

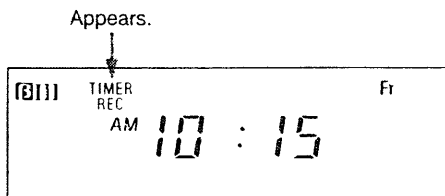


- 7 Press NEXT.

The turn-on time and turn-off time will be displayed for 3 seconds respectively and the current time will reappear.

8 Press **TIMER REC.**

The power will be turned off and the recorder will be in the standby mode.



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

When the recording is finished, the programming (except the everyday setting) will be eliminated.

NOTICE:

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

BEFORE THE TIMER-ACTIVATED RECORDING STARTS

To check the timer settings

When the **TIMER REC** indicator is displayed, press **TIMER SET/CHECK**. The preset turn-on time and turn-off time will be displayed for 3 seconds respectively and the current time will reappear.

To change the settings

- 1 Press **TIMER REC**. The **TIMER REC** indicator turns off.
- 2 Press **TIMER SET/CHECK**.
- 3 Press **NEXT** enough times until the item to be changed blinks.
- 4 Change the setting with the **+** or **-** button.
- 5 Press **NEXT** so that the current time appears.
- 6 Press **TIMER REC** again to reactivate the timer.

To erase the memory of the timer settings

- 1 Press **TIMER REC**. The **TIMER REC** indicator turns off.
- 2 Press **TIMER SET/CHECK**.
- 3 Press **CLEAR/RESET**. The memory of the settings will be eliminated.

DURING TIMER RECORDING

To stop during a timer recording

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

If the power should be interrupted during timer recording

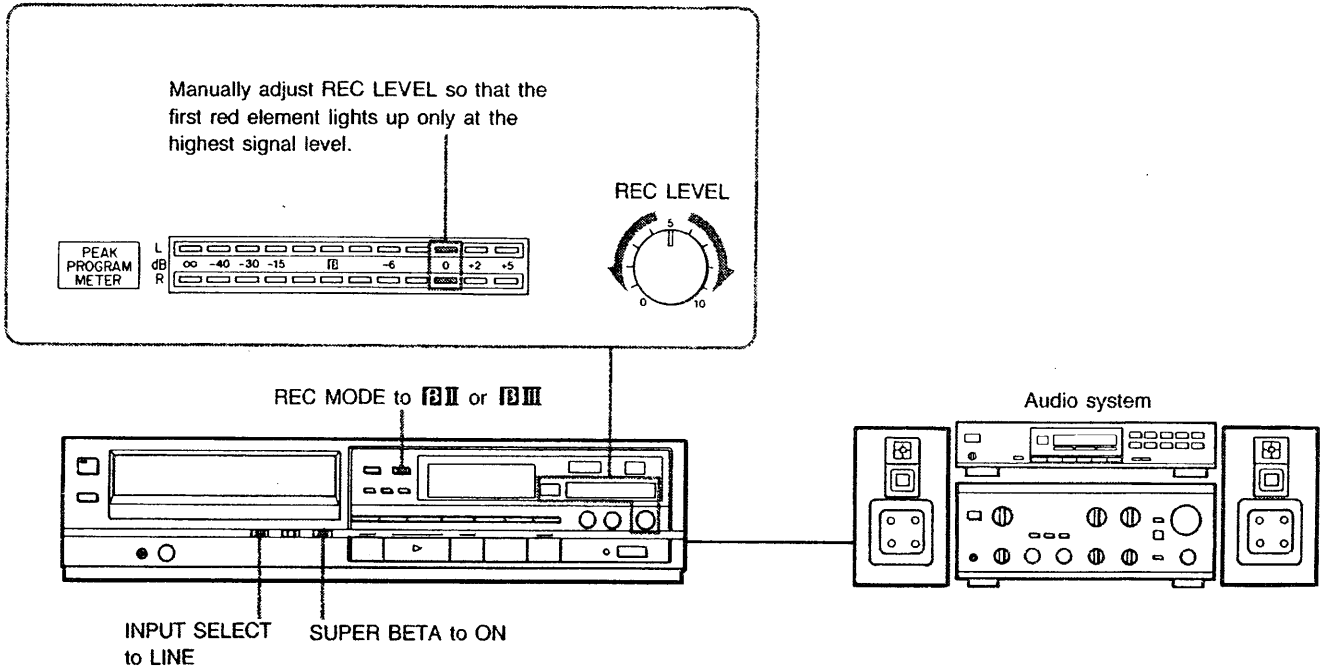
When the recorder is in the standby mode, the timer settings have been erased. Reset the clock and timer settings.

If the power interruption occurs while recording, the recording will then stop.

BETA HI-FI AUDIO RECORDING

RECORDING FROM YOUR AUDIO SYSTEM

To connect the VCR to your audio system, see page 21. Set the selectors and control as shown below. To start recording, insert a cassette and press RECORD.

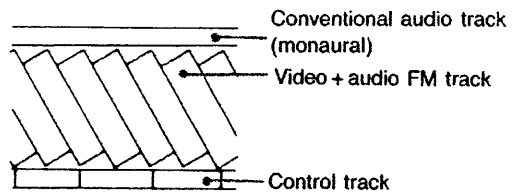


WHAT IS BETA HI-FI RECORDING?

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.

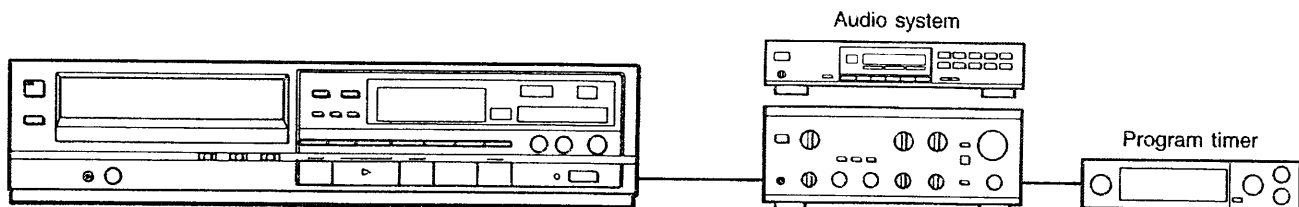
Beta hi-fi recording pattern on the video tape



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.

TIMER-ACTIVATED FM RECORDING

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



The setting of the controls is the same as in "RECORDING FROM YOUR AUDIO SYSTEM". Set the recorder's timer and a program timer to the same turn-on and turn-off times. The settings on the recorder's timer are the same as in "TIMER-ACTIVATED RECORDING" on page 12.

CAMERA RECORDING

When connecting a Sony color video camera, the use of the Sony HVA-220 AC adaptor is required. For details on connections, refer to the instruction manual furnished with the AC adaptor.

Note

The camera must conform to American TV (EIA) standards.

EDITING TAPES

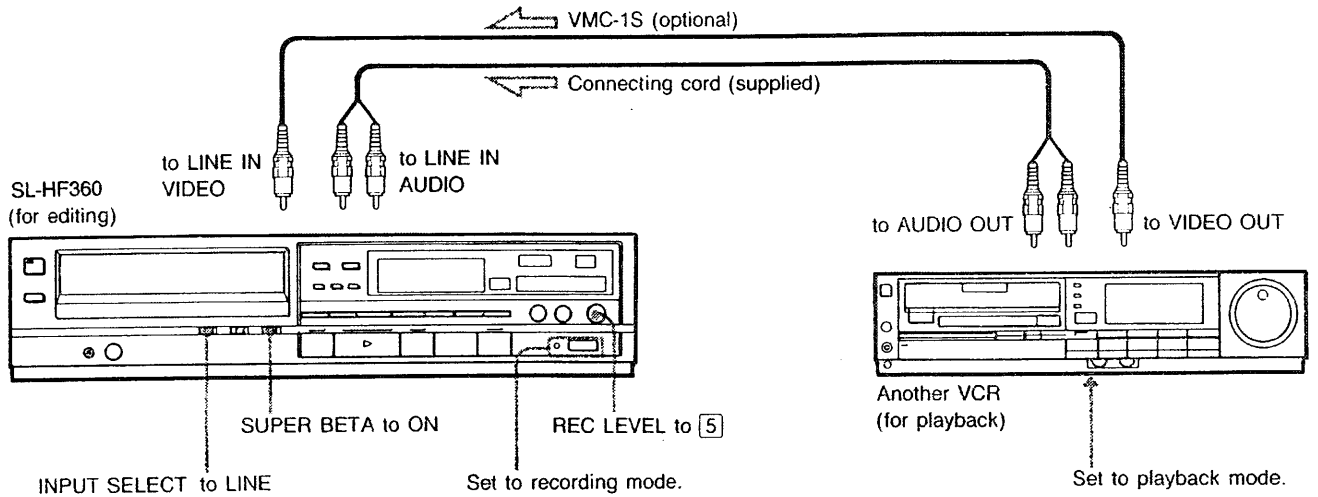
CAUTION

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.

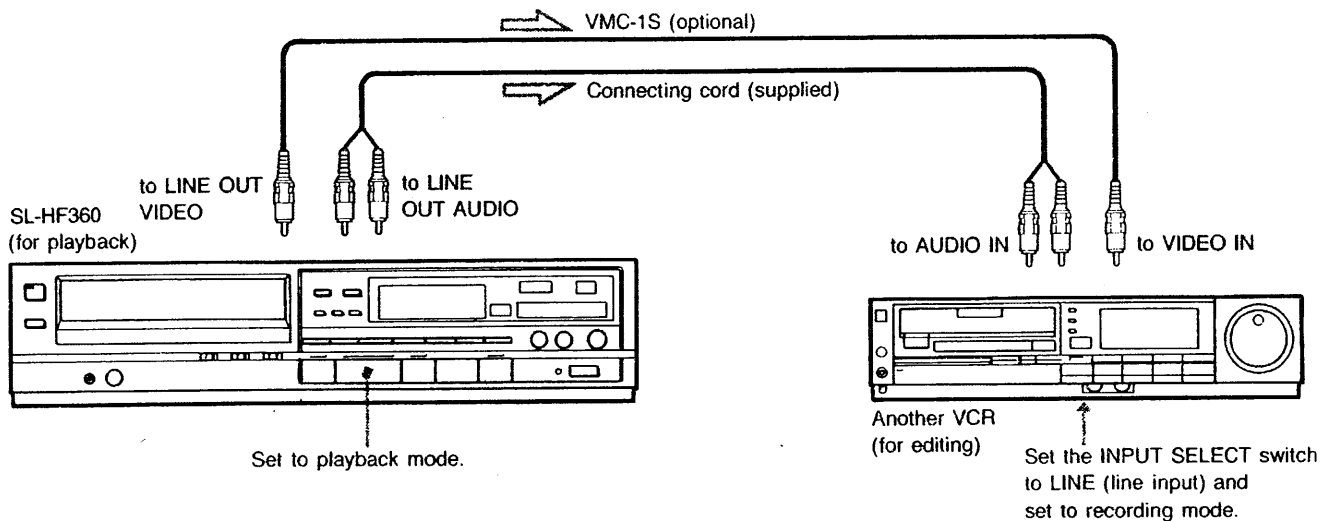
Note

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 ANOTHER VCR TO THIS VCR

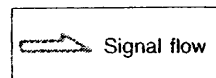


TO EDIT A HOME MOVIE TAPE FROM THIS VCR TO ANOTHER VCR



Note

When editing a stereo tape recorded on an other non-Beta hi-fi VCR, use the SL-HF360 for editing and the other for playback.



PREPARATIONS

ANTENNA/CABLE AND TV CONNECTION

Before making connections

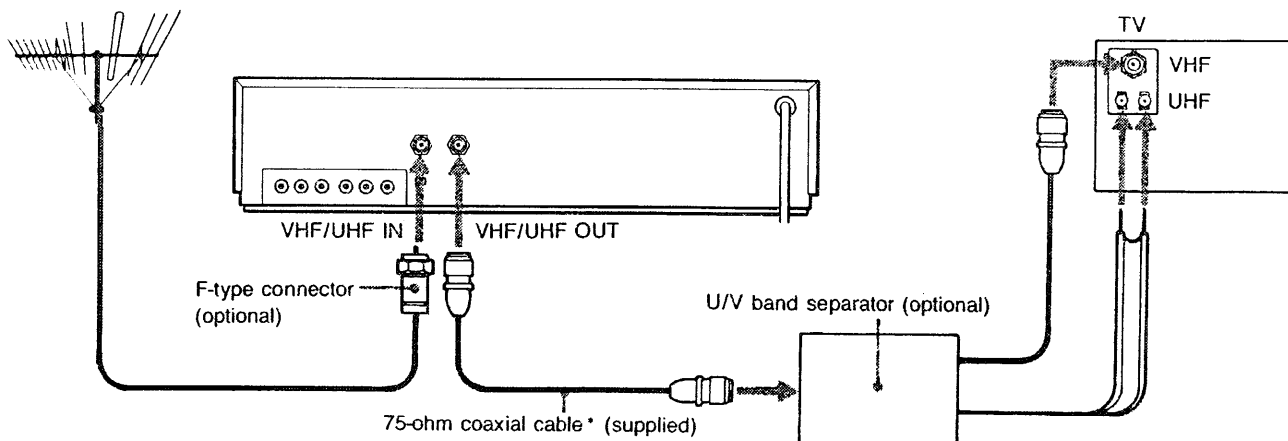
- Turn off the TV.
- Make the connections firmly. Loose connections may cause a distorted picture.
- Do not connect the AC power cord to a wall outlet until all the connections of the video cassette recorder and the TV have been completed.

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.



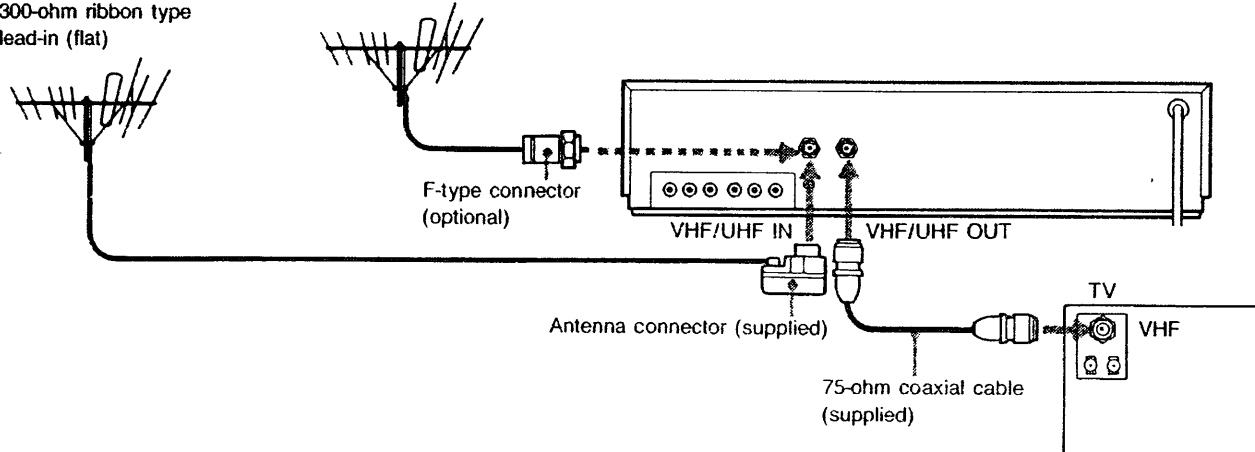
If you need a separator or a complete antenna system, see your Sony dealer or a qualified technician.

* 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

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

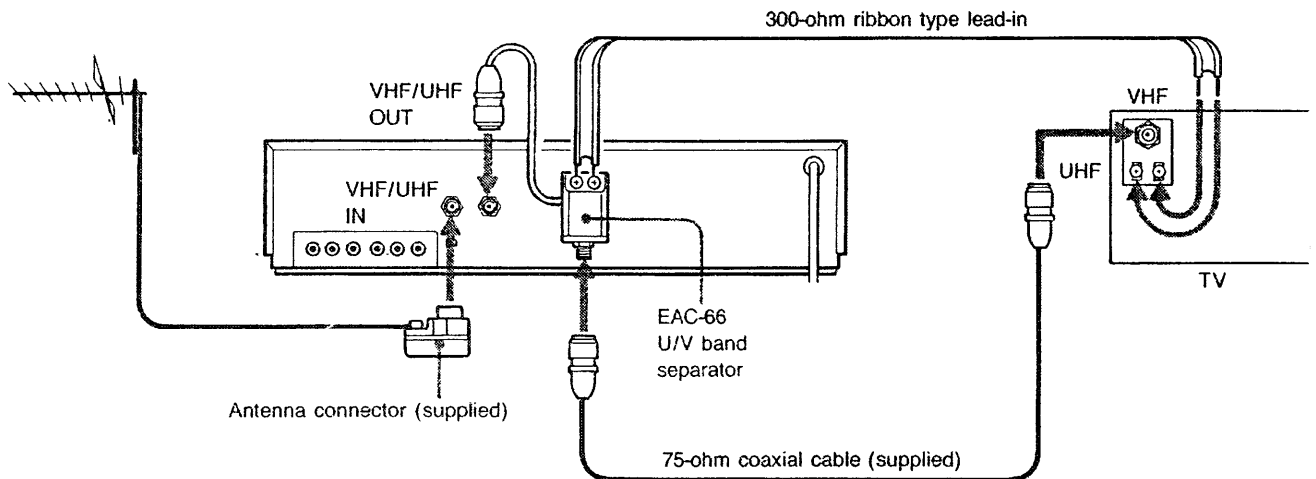
When the cable is a 75-ohm coaxial type (round)



ANTENNA/CABLE AND TV CONNECTION

UHF antenna

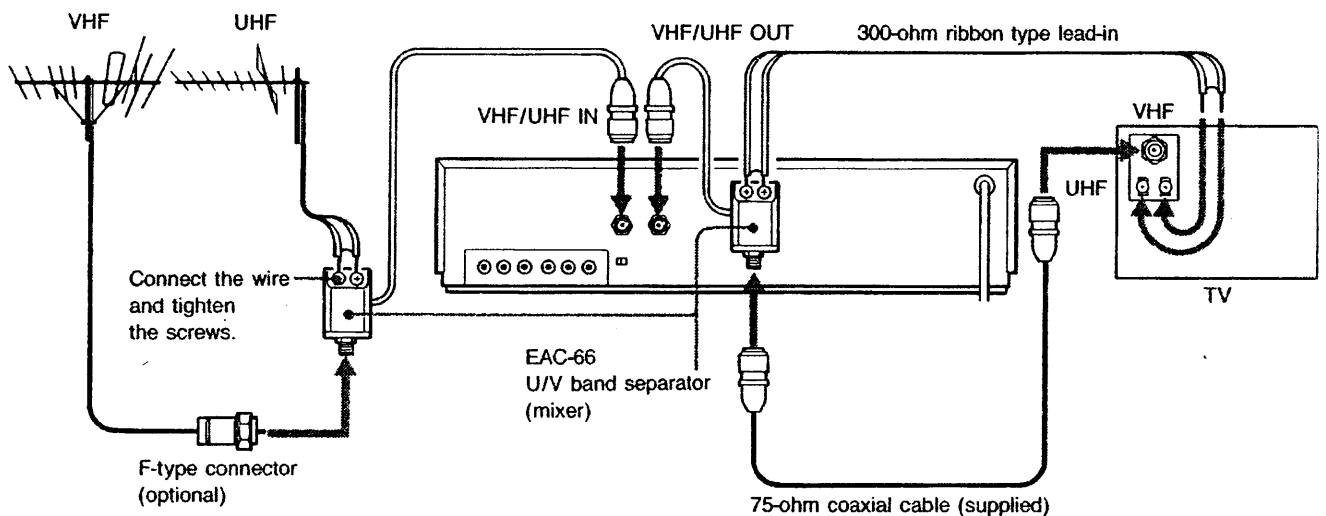
- 1 Attach an optional EAC-66 U/V band separator to the VHF/UHF OUT connector of the recorder.
- 2 Connect to the VHF and UHF antenna terminals of the TV.



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. Connect 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.



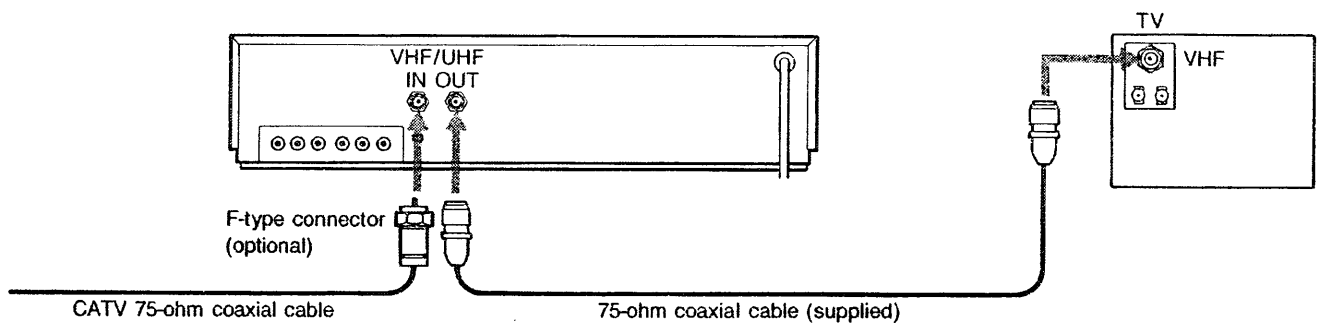
Caution

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.

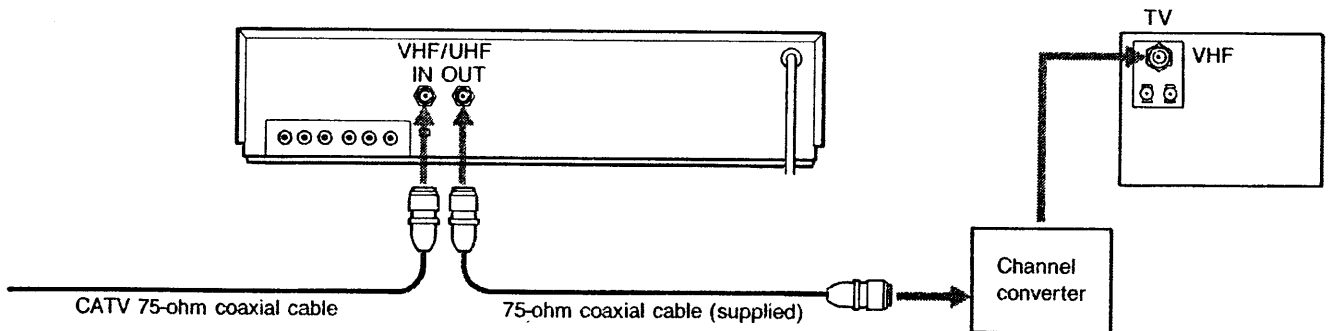
CATV cable

We recommend that you 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.

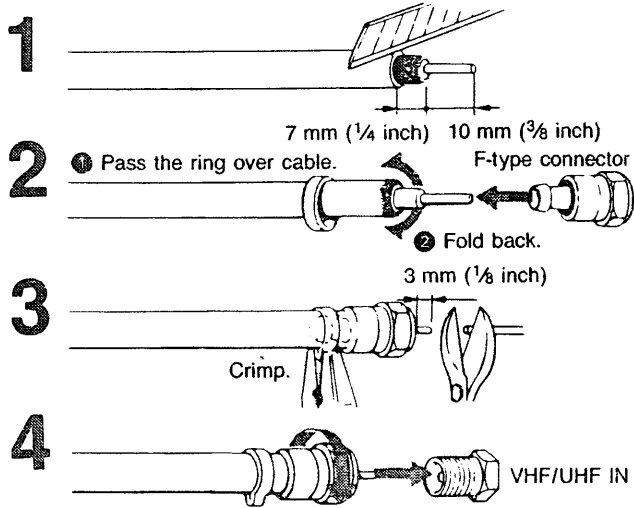


Note to CATV system installer :

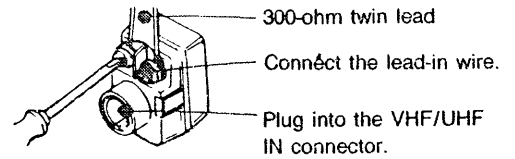
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

ANTENNA/CABLE AND TV CONNECTION

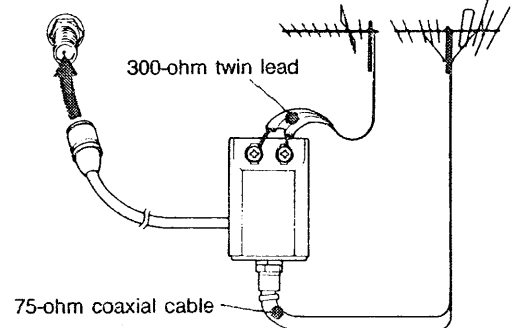
How to attach an F-type connector



How to attach an external antenna connector



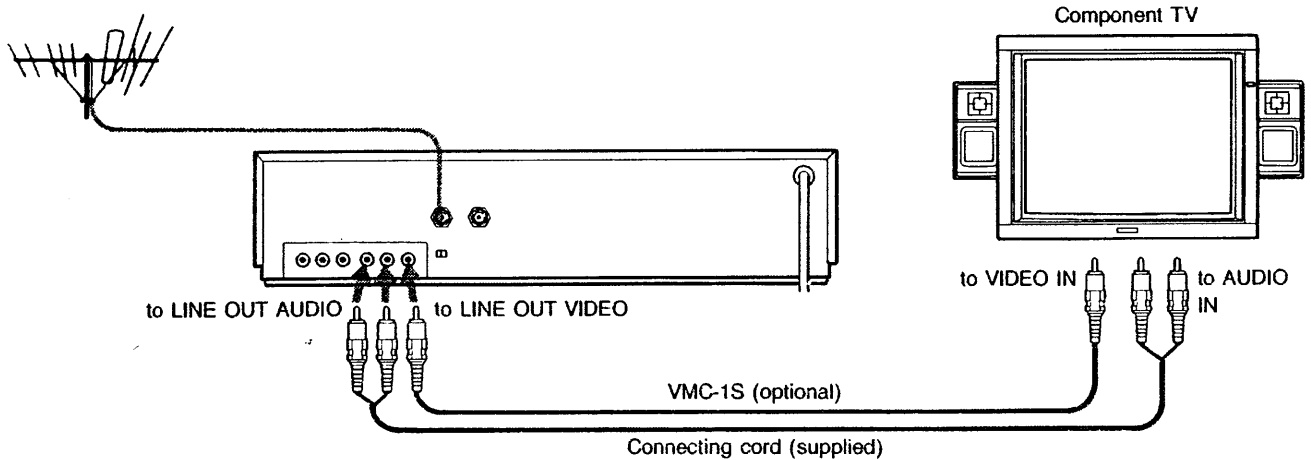
How to attach an EAC-66 U/V band separator (mixer)



COLOR MONITOR CONNECTION

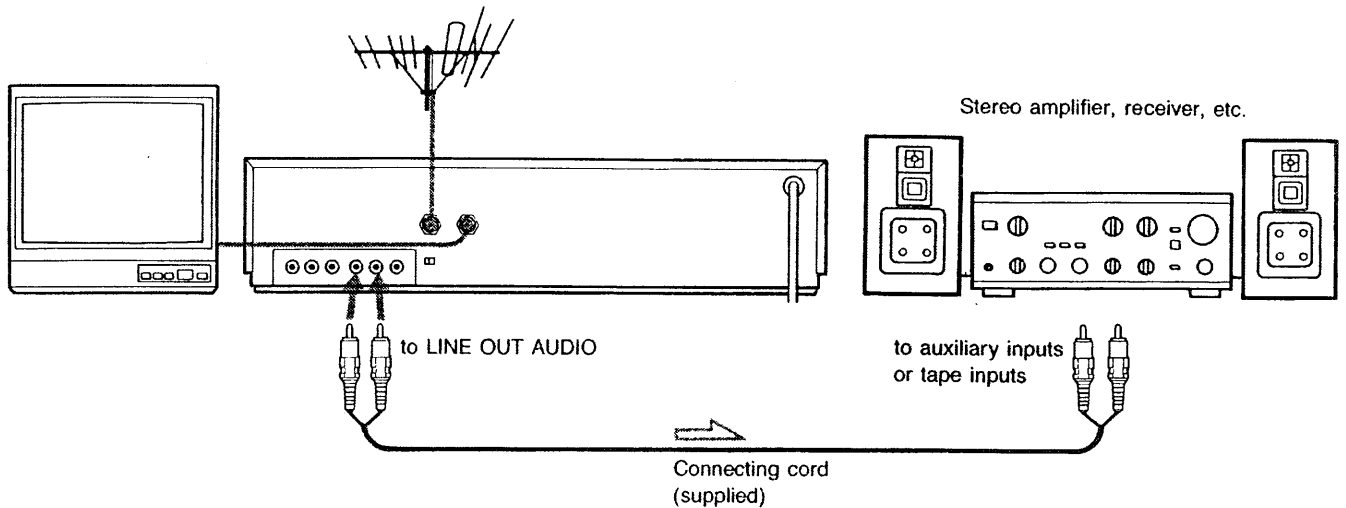
To obtain a better-quality picture, connect a color monitor, such as the Sony Profeel Trinitron Component TV. When a component TV is combined with the speaker system as illustrated, you can enjoy tapes recorded with Beta hi-fi stereo.

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 17 and 18. For details on the connection of the TV tuner and the monitor, refer to the instruction manual of the TV tuner.

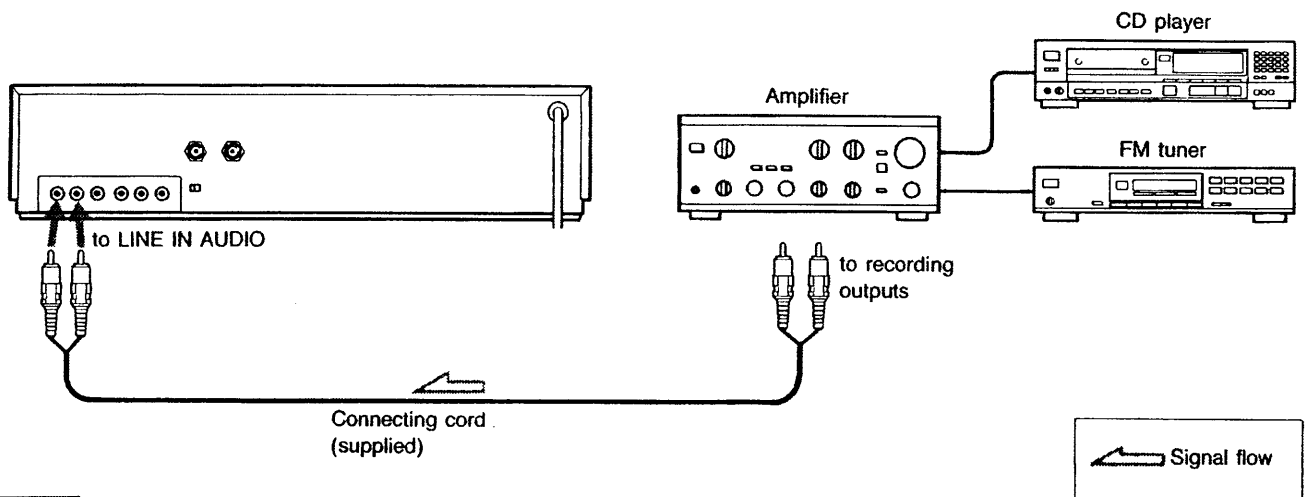


CONNECTING AN AUDIO SYSTEM

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.



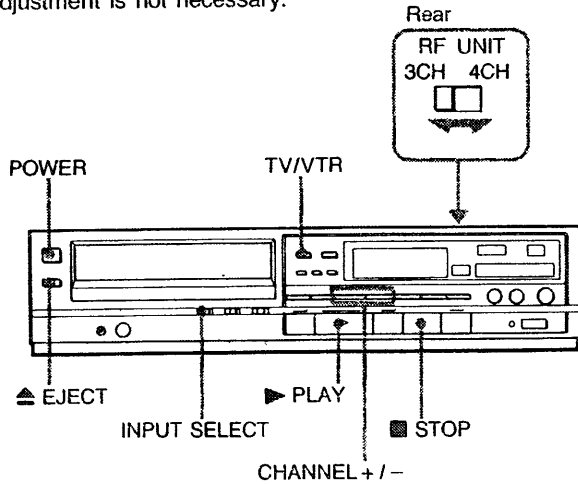
Notes

- 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.

ADJUSTING THE TV

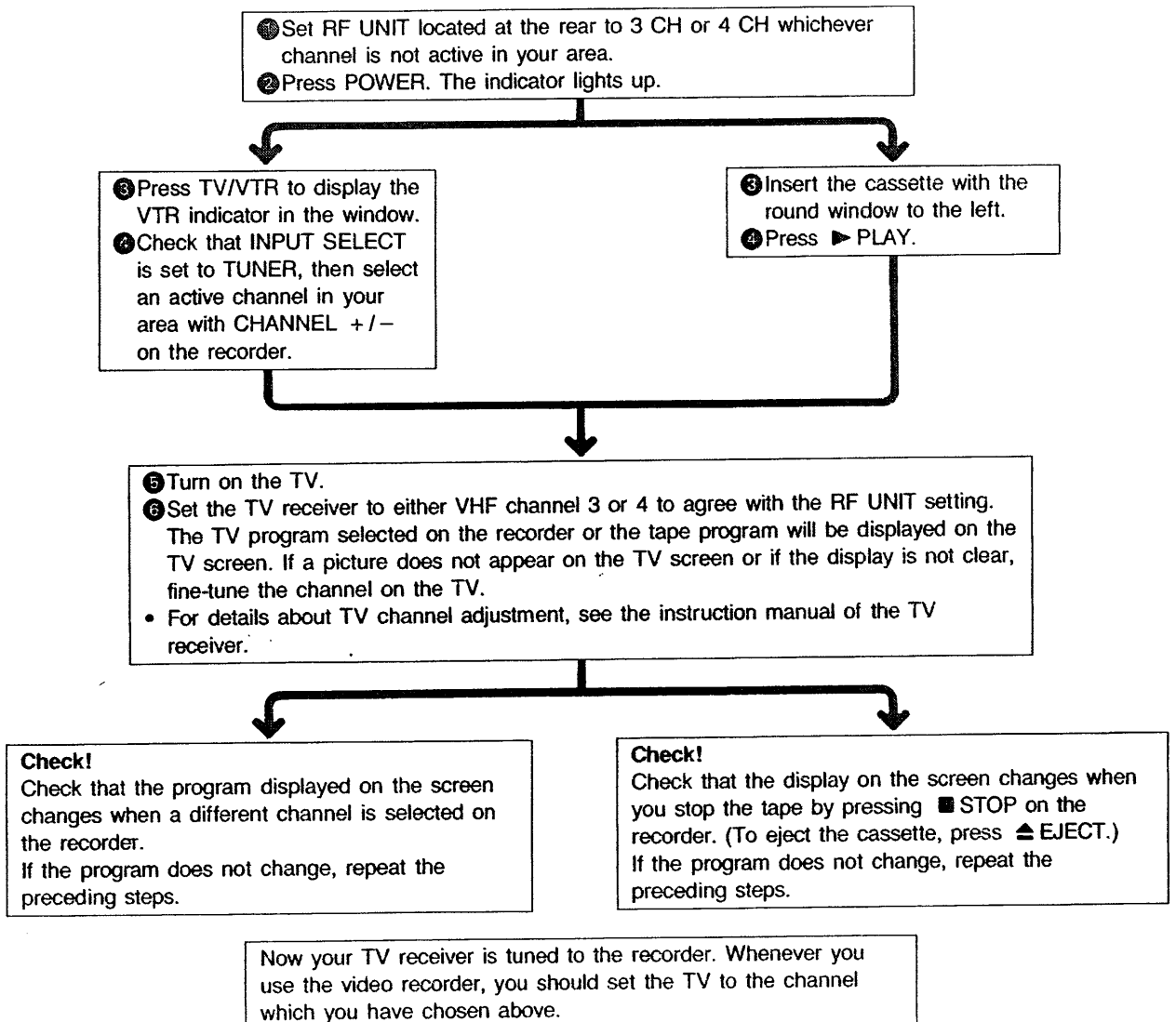
Adjust your TV receiver to receive the signal from your recorder.

When you have connected a color monitor, the following adjustment is not necessary.



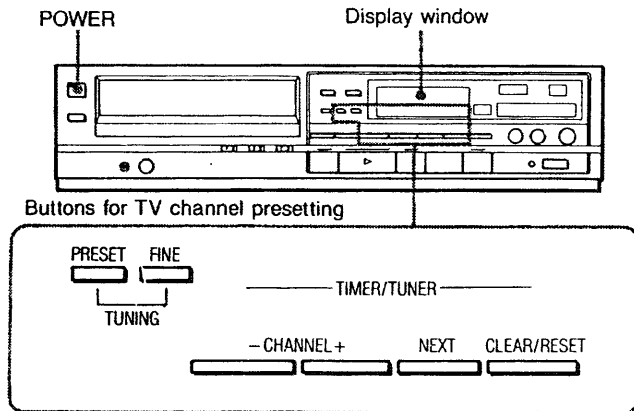
If you do not have a recorded video cassette tape

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 14–36 (A to W) and 66–125 (A-5 to A-1 and W+30 to W+84). See cable TV channel chart on page 24. You can preset 14 channels so that only the desired channels will appear in sequence when you select a channel later on.



BEFORE PRESETTING

- Turn on the recorder and TV.
- Make sure that the TV is set to the correct channel (channel 3 or 4) for the recorder.
- Set INPUT SELECT to TUNER.

PRESETTING CHANNELS

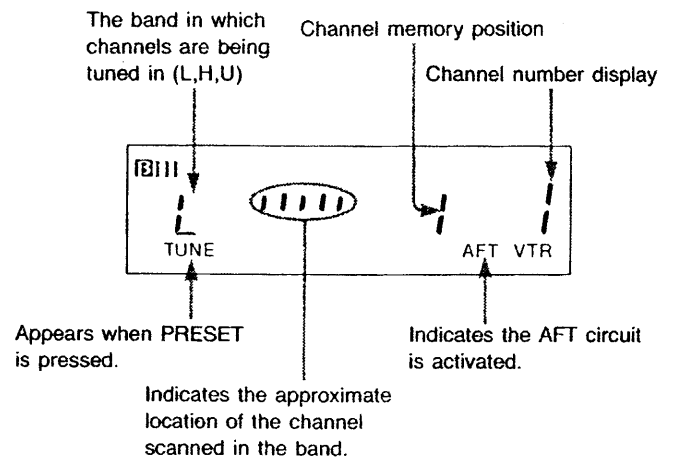
- 1 Press PRESET.
The channel memory position will blink.
- 2 Select a channel memory position with CHANNEL + / - for the desired channel to be tuned in.
- 3 Press NEXT.
The band indicator and the channel scanning indicator will blink.
- 4 Tune in the desired channel.
Press CHANNEL + to tune in a higher-numbered channel, or - to tune in a lower-numbered channel.

If the first channel appearing on the screen is not the one you wish, repeat pressing CHANNEL + or - until the desired channel appears.

- 5 Press NEXT.
The channel number display will blink.
- 6 Change the channel number display to identify the channel being received.
Press CHANNEL + for a higher number, or - for a lower number.
- 7 Press NEXT.
The current time will reappear.

Repeat steps 1 to 7 for other channel memory positions to be preset.

Check in the window during presetting



PRESETTING THE ACTIVE CHANNELS IN YOUR AREA

TO CANCEL AN UNUSED CHANNEL

- 1 Press PRESET.
The channel memory position will blink.
- 2 Select the channel to be cancelled with CHANNEL + or -.
- 3 Press CLEAR/RESET.
The channel number display will be changed to "--".

Then the cancelled channel will be skipped when CHANNEL + / - is pressed.

TO FINE-TUNE A WEAK STATION

When the picture of a particular channel is not acceptable, fine-tune the channel as follows.

- 1 Press FINE.
The band indicator and the channel scanning indicator will blink.
- 2 Keep CHANNEL + or - pressed until the picture becomes clearer.
The AFT indicator goes off.
- 3 Press NEXT.
The current time will reappear.

AFT (Automatic Fine Tuning) circuit

When a channel is preset, the AFT circuit will automatically lock in to maintain a sharp picture. When the channel is once fine-tuned, the AFT is deactivated and the AFT indicator goes off. To reactivate the AFT on that channel, repeat the channel presetting procedure on page 23.

CHANNEL ALLOCATION CHART

Frequency (MHz)	50	100	150	200	250	300	400	500	600	700	800
VHF/UHF channels	VHF 2-6	95-99, 14	VHF 7-13						UHF 14-69		
CATV channels		15-22		23-36				66-94	100-125		
Band indicator		L		H					U		

When CHANNEL + is pressed, the above channels will be scanned from the lowest frequency to the highest in sequence. By pressing CHANNEL -, the channels will be scanned reversely.

CABLE TV CHANNEL CHART*

Cable TV systems use letters or numbers to designate channels as in the following chart.

CATV channels in numbers	95	96	97	98	99	14			
CATV channels in letters	A-5	A-4	A-3	A-2	A-1	A			
15	16	17	18	19	20	21	22	23	24
B	C	D	E	F	G	H	I	J	K
25	26	27	28	29	30	31	32	33	34
L	M	N	O	P	Q	R	S	T	U
35	36	66	.....	.....	.....	.....	94	100	101
V	W	W+30	.....	.....	.....	.....	W+58	W+59	W+60
102	.....	.....	123	124	125				
W+61	.....	.....	W+82	W+83	W+84				

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

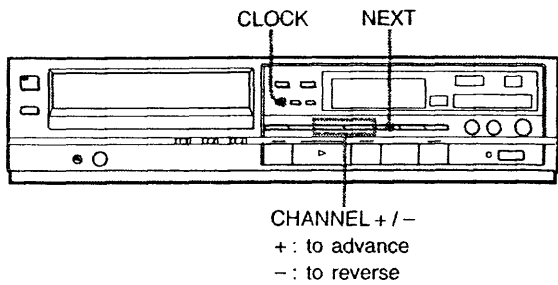
* The designation of the cable TV channels conforms to the EIA/NCTA recommendation.

Note

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

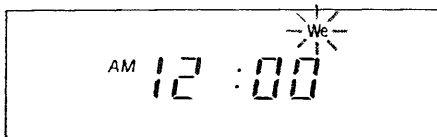
SETTING THE CLOCK

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.

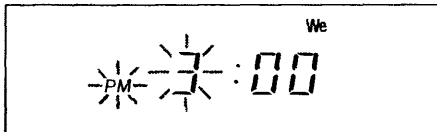


Example: to set for Wednesday afternoon 3:56

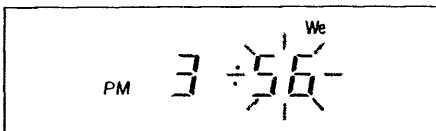
- 1 Press **CLOCK**.
Set the day with the + or - button until "We" (for Wednesday) appears.



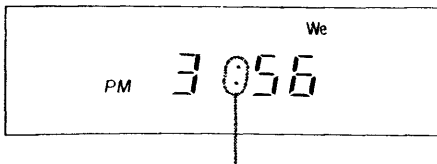
- 2 Press **NEXT**.
Set the hour with the + or - button until "PM 3:00" appears.
AM 12:00 = midnight
PM 12:00 = noon



- 3 Press **NEXT**.
Set the minute with the + or - button until "PM 3:56" appears.



- 4 Press **NEXT**.
(For accurate setting, press NEXT at the same time with an announced time signal.)
The clock will now show the current time.



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

CHANNEL +/- buttons

The + and - buttons can be used in two ways:

When you keep a button pressed, the digits will advance continuously until the button is released.



When you press and immediately release a button, the digits will advance by one.



GENERAL 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 standards, NTSC color
Channel coverage	VHF channels 2-13 UHF channels 14-69 Cable TV channels 14-36, 66-125
VHF output signal	Channel 3 or 4 (selectable) 75 ohms, unbalanced
Antenna	75-ohms external antenna terminal for VHF/UHF
Wow and flutter	Less than 0.005% (Beta hi-fi)
Dynamic range	More than 80 dBs (Beta hi-fi)

Video

Input	LINE IN VIDEO: phono jack (1) 1.0 V (p-p), 75 ohms, unbalanced, sync negative
Output	LINE OUT VIDEO: phono jack (1) 1.0 V (p-p), 75 ohms, unbalanced, sync negative

Audio

Input	LINE IN AUDIO: phono jack (2) More than 47 kilohms, -10 dBs (0 dBs = 0.775 Vrms)
Output	LINE OUT AUDIO: phono jack (2) Less than 10 kilohms, -10 dBs (47 kilohms load), unbalanced
Frequency response	HEADPHONES: Stereo minijack (1) Ⓜ : 50-10,000 Hz Ⓜ : 50-7,000 Hz

Tape transport

Tape speed	Ⓜ : 4.0 cm/sec. (playback only) Ⓜ : 2.0 cm/sec. Ⓜ : 1.33 cm/sec.
Maximum recording time	Ⓜ : 3 hours 20 min. Ⓜ : 5 hours (with Sony L-830 cassette)
Fast-forward time	Approx. 5½ min. (L-500)
Rewind time	Approx. 4 min. (L-500)

Timer

Clock	Synchronized with the power frequency
Time indication	12-hour cycle
Timer setting	Only for recording 1 event/7 days or every day

General

Power requirements	120 V AC, 60 Hz
Power consumption	33 W
Operating temperature	5°C to 40°C (41°F to 104°F)
Storage temperature	-20°C to +60°C (-4°F to +140°F)
Dimensions	Approx. 430 x 95 x 371 mm (w/h/d) (17 x 3¾ x 14⅝ inches) incl. projecting parts and controls
Weight	Approx. 7 kg (15 lb 7 oz)

Remote Commander RMT-156

Remote control system	Infrared control
Command mode	VTR-1
Power requirements	3 V DC, 2 size AA batteries (R6)
Dimensions	Approx. 45 x 18 x 150 mm (w/h/d) (1 13/16 x 23/32 x 6 inches) including projecting parts and controls
Weight	Approx. 90 g (3.2 oz) with batteries

Accessories supplied

Remote Commander RMT-156 with 2 size AA batteries (R6)
External antenna connector (300-ohm to 75-ohm matching transformer) (1)
75-ohm coaxial cable with F-type connectors (1)
Connecting cord (1)

Optional accessories

Betamax video cassette tape
Video head cleaning cassette L-25CL

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
GENERAL	The POWER switch does not function.	TIMER REC is pressed. Check in the window.
	Clock display blinks, showing 12:00 a.m.	The power has been interrupted. Reset the clock and the timer settings.
	Cassette cannot be inserted.	<ul style="list-style-type: none"> • A cassette is already in the compartment. • The cassette is wrong side up.
	The VCR program is not displayed on the TV screen.	<ul style="list-style-type: none"> • Connections are incorrect. • The video channel on the TV receiver is not correctly adjusted. • TV/VTR is set to TV. (No VTR indicator in the window.)
RECORDING	Recording cannot be made.	<ul style="list-style-type: none"> • No cassette has been inserted. • The safety tab has been removed from the cassette. • The tape is at its end.
	TV recording has not been made correctly.	<ul style="list-style-type: none"> • The antenna is not correctly connected. • The INPUT SELECT switch is set to LINE. • The tape is at its end.
	The cassette is ejected when RECORD or TIMER REC is pressed.	The safety tab has been removed from the cassette.
	Timer recording has not been made correctly.	<ul style="list-style-type: none"> • There has been a power interruption. • The clock time is not set correctly. • The turn-on and turn-off times have not been set properly. • The tape is at its end. • TIMER REC has not been pressed.
	Sound drop-outs of a Beta hi-fi recording.	The tape is defective. Use a new video cassette tape.
PLAYBACK	Streaks or snow on the playback picture	A tape recorded on another recorder is being played back. Adjust TRACKING until you get the best possible picture. Allow a second or two for the new settings to take effect. When playback of this particular cassette is finished, return the control to its center detent position.
	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 cleaning cassette is not available in your area, have the heads cleaned at the nearest Sony facility.