

SONY®

VIDEO CASSETTE RECORDER 

SL-2700/2700B

OPERATING INSTRUCTIONS

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

This instruction manual covers the SL-2700 (silver finish) and SL-2700B (black finish). These models differ only in finish. The photos in this manual are of SL-2700.

OWNER'S RECORD

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

Model No. _____ Serial No. _____

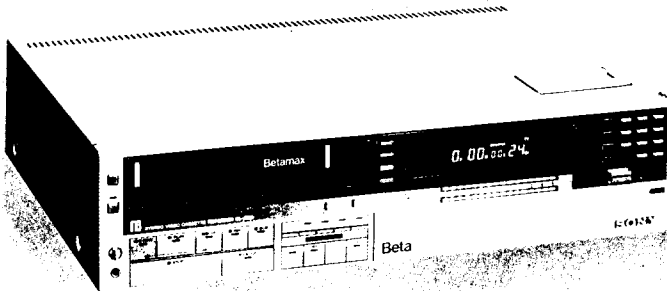






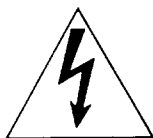
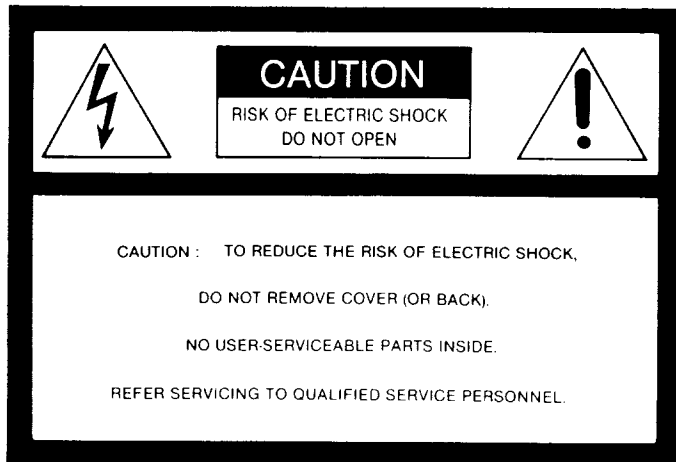
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This unit can be used with any video cassette tapes having the mark . It is compatible with the  and  type recording and playback formats, and will play back tapes recorded in the  format.

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.

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 this equipment with respect to the receiver
- move this equipment away from the receiver
- plug the ac power adaptor into a different outlet so that adaptor 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

- Operate the unit only on 120 V ac.
- 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.
- This unit is equipped with a polarized AC power cord plug (one blade of the plug is wider than the other), which will fit into the power outlet only one way. Should you be unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact your dealer for assistance. Do not defeat the safety purpose of the polarized plug.
- 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.

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 benzine, 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.

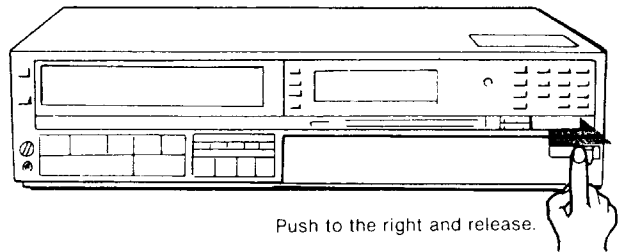
CAUTION

Your Betamax SL-2700/2700B Video Cassette Recorder has been manufactured and supplied to you only for the purpose of enhancing your lawful enjoyment of television and hi-fi audio programming, not for the purpose of inducing or contributing to any illegal activity. The Betamax SL-2700/2700B is technically capable of receiving/recording audio visual programming from a total of 107 television channels (viz, VHF Channels 2 - 13, UHF Channels 14 - 83, and cable t.v. Mid-Band Channels A-2, A-1, A through I and Super-Band Channels J through W) as well as non-transmitted programming (e.g. from your own video camera); and this operating instructions manual informs you how to utilize this capability. However, there may be some such programming which the Betamax SL-2700/2700B is technically capable of receiving/recording and whose reception/recording falls within the scope of instructions in this manual, but which may not be received/recorded lawfully — for example, cable programming for which the subscription fee has not been paid, copyrighted programming whose recording is not authorized under the law, etc. Use of the Betamax SL-2700/2700B with your cable television system may require authorization from the system operator. Sony Corporation and its distributors of Betamax cannot, and do not, represent or warrant that every technical use which can be made of Betamax is a lawful use. The U.S. law regarding home video tape recording ultimately will be resolved by the Courts and Congress. As a Betamax user, it is your sole responsibility to be certain that the use made of this Betamax does not violate the law.

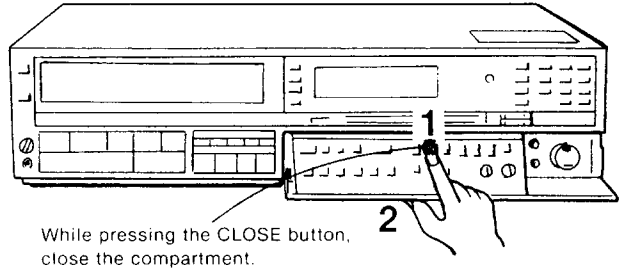
If you have any questions about this unit, contact your Sony service facility.

TO OPEN/CLOSE THE FRONT COMPARTMENT

To open

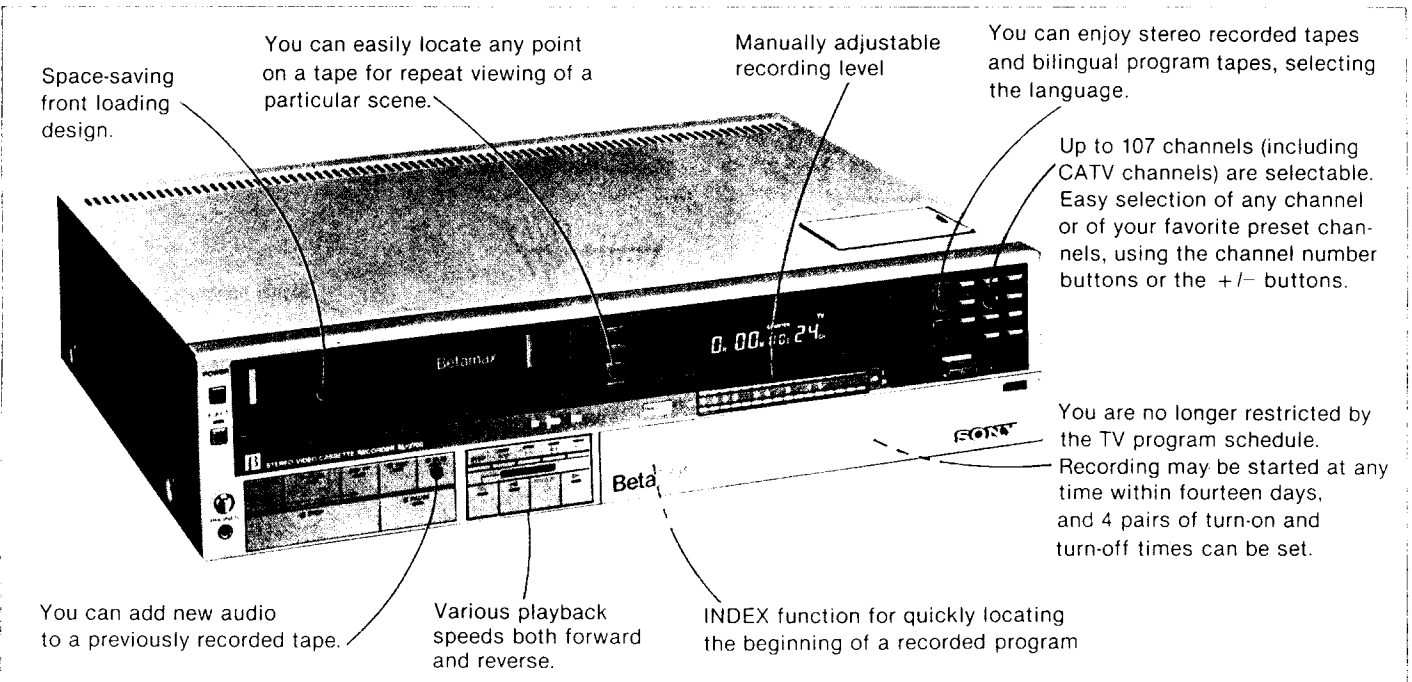


To close



YOUR NEW FULL-FEATURE BETA HI-FI VIDEO CASSETTE RECORDER

High quality sound reproduction with low noise, minimum wow and flutter, wide dynamic range and flat frequency response is possible thanks to the Beta hi-fi recording system.



CONNECTIONS

Before making connections

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

ANTENNA/CABLE CONNECTION

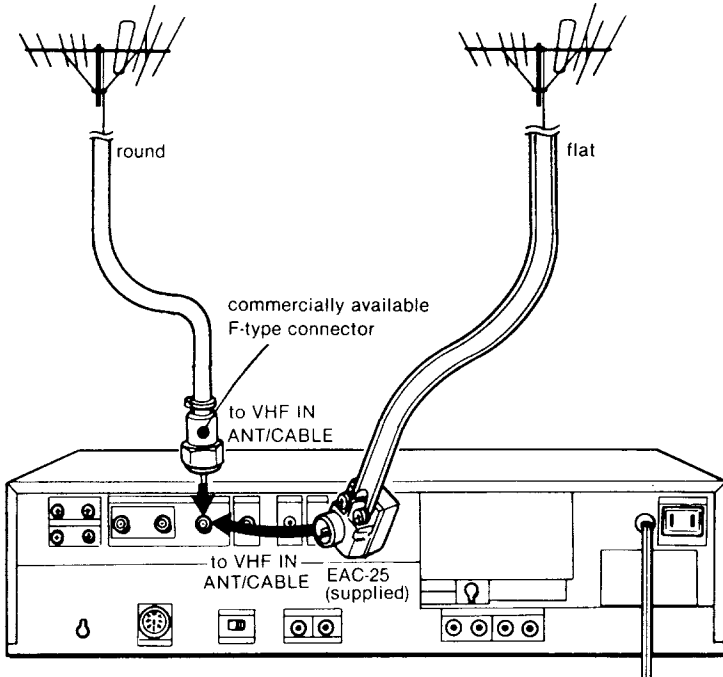
ANTENNA CONNECTION

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

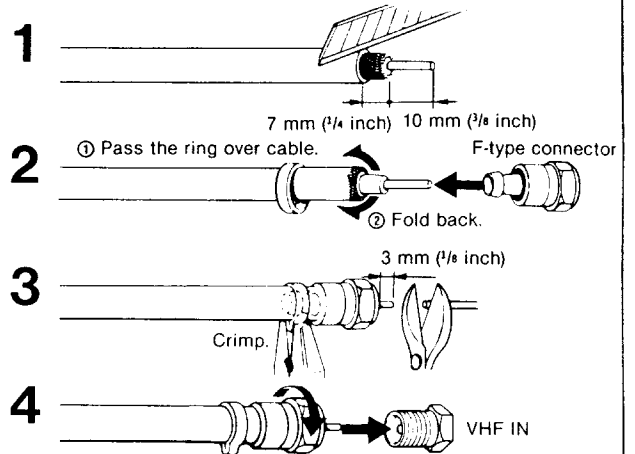
VHF antenna

If the cable is a round
75-ohm coaxial cable

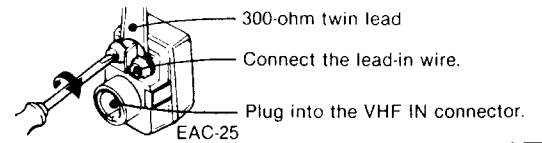
If the cable is a flat
300-ohm twin lead



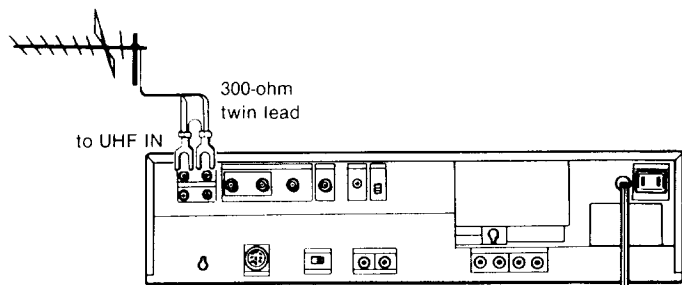
How to attach an F-type connector



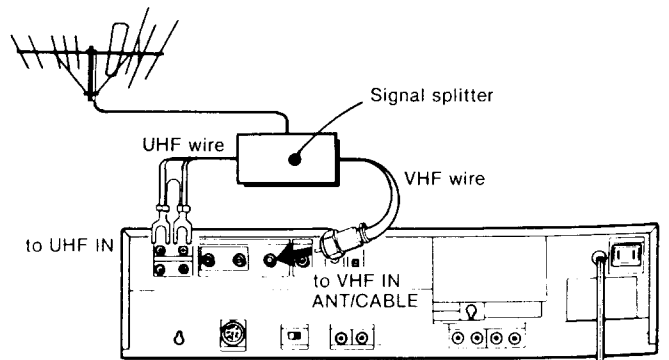
How to attach an EAC-25 external antenna connector



UHF antenna



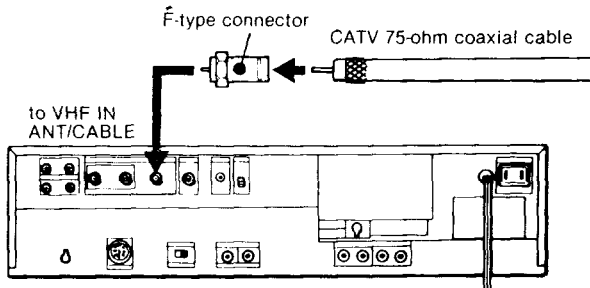
Combination VHF/UHF antenna



Most combination antennas are equipped with a signal splitter. If you need a splitter or a complete antenna system, see your Sony dealer or a qualified technician.

CONNECTING THE TV RECEIVER

CATV CABLE CONNECTION



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

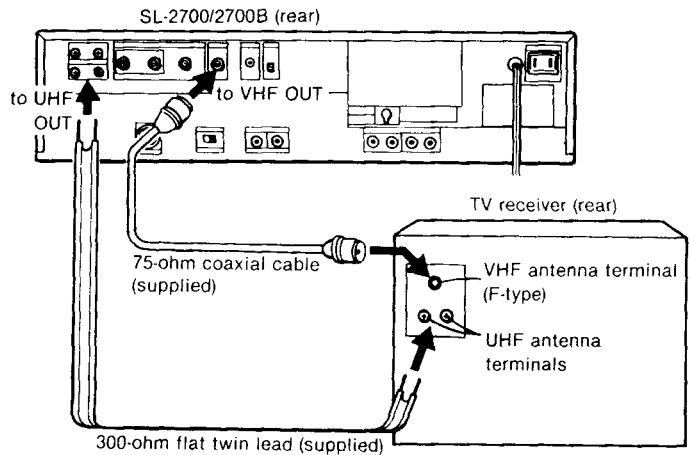
Note to CATV system installer in the U.S.A. :

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

Connecting a conventional TV receiver

Once the connections shown below 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.

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



Caution

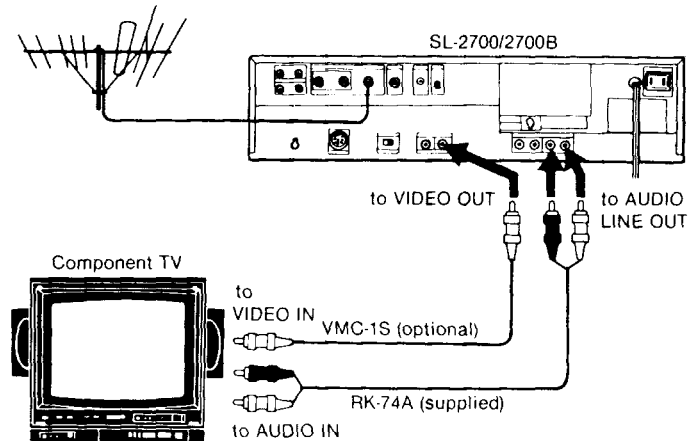
Connections between the recorder VHF OUT connector and the antenna terminals of a TV receiver should be made only as shown in these instructions. Failure to do so may result in operation that violates the regulations of the Federal Communications Commission regarding the use and operation of rf devices.

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.

Connecting a color monitor

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

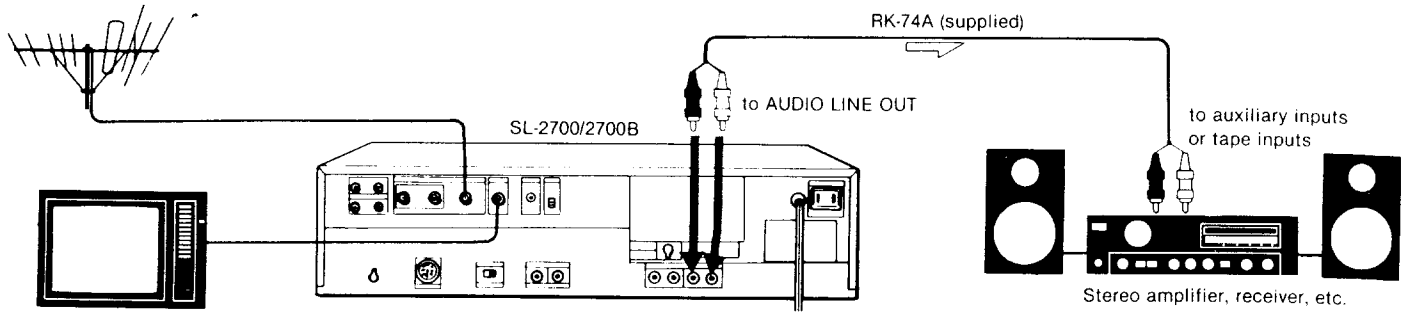
When a component TV is combined with the speaker system as illustrated, you can enjoy tapes recorded with Beta hi-fi stereo.



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

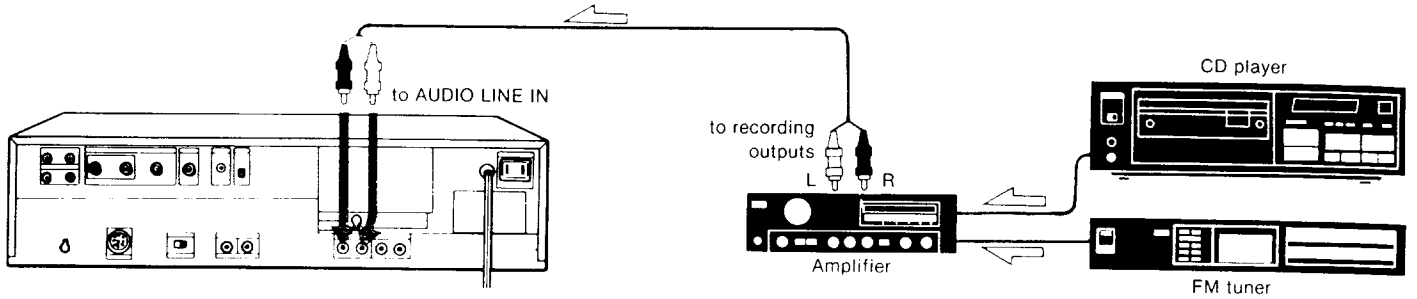
CONNECTION TO AN AUDIO SYSTEM

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

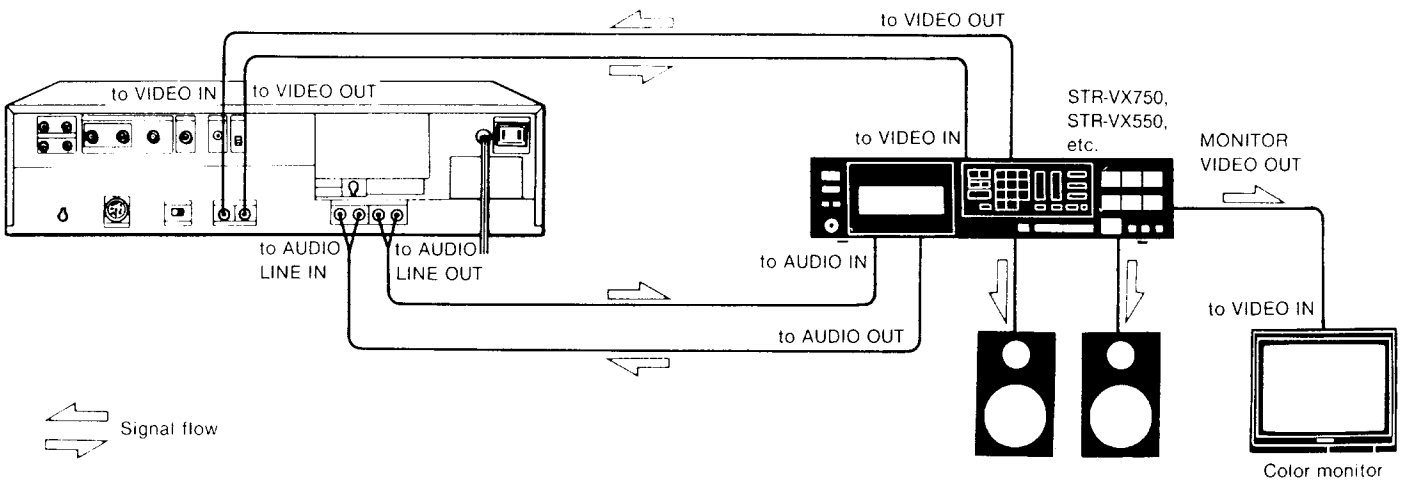


To record audio signals from your audio system

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



Connection to the receiver equipped with the VIDEO connectors (available in the U.S.A. and Canada)

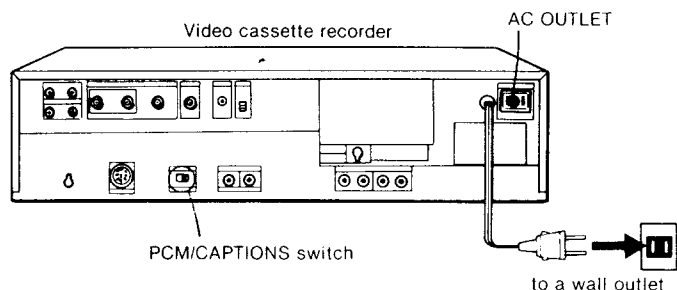


For details, see the instruction manual of the receiver.

Notes

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

POWER CONNECTION



CAUTION:

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

AC OUTLET

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

Caution

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

For customers who want to record or play back captioned programs

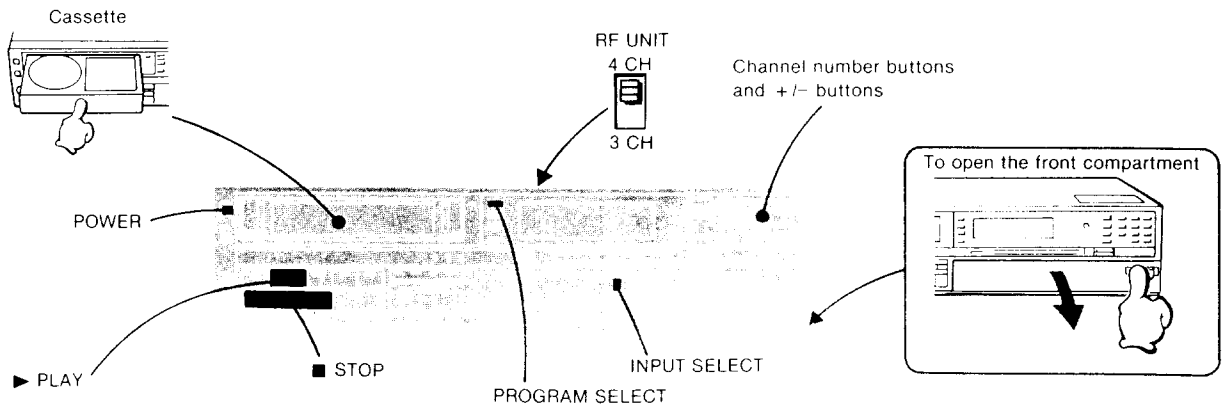
Remove the cover of the PCM/CAPTIONS switch at the rear and set the switch to the left position.

If the switch remains in the right position, closed captions will not be recorded or played back.

ADJUSTMENT

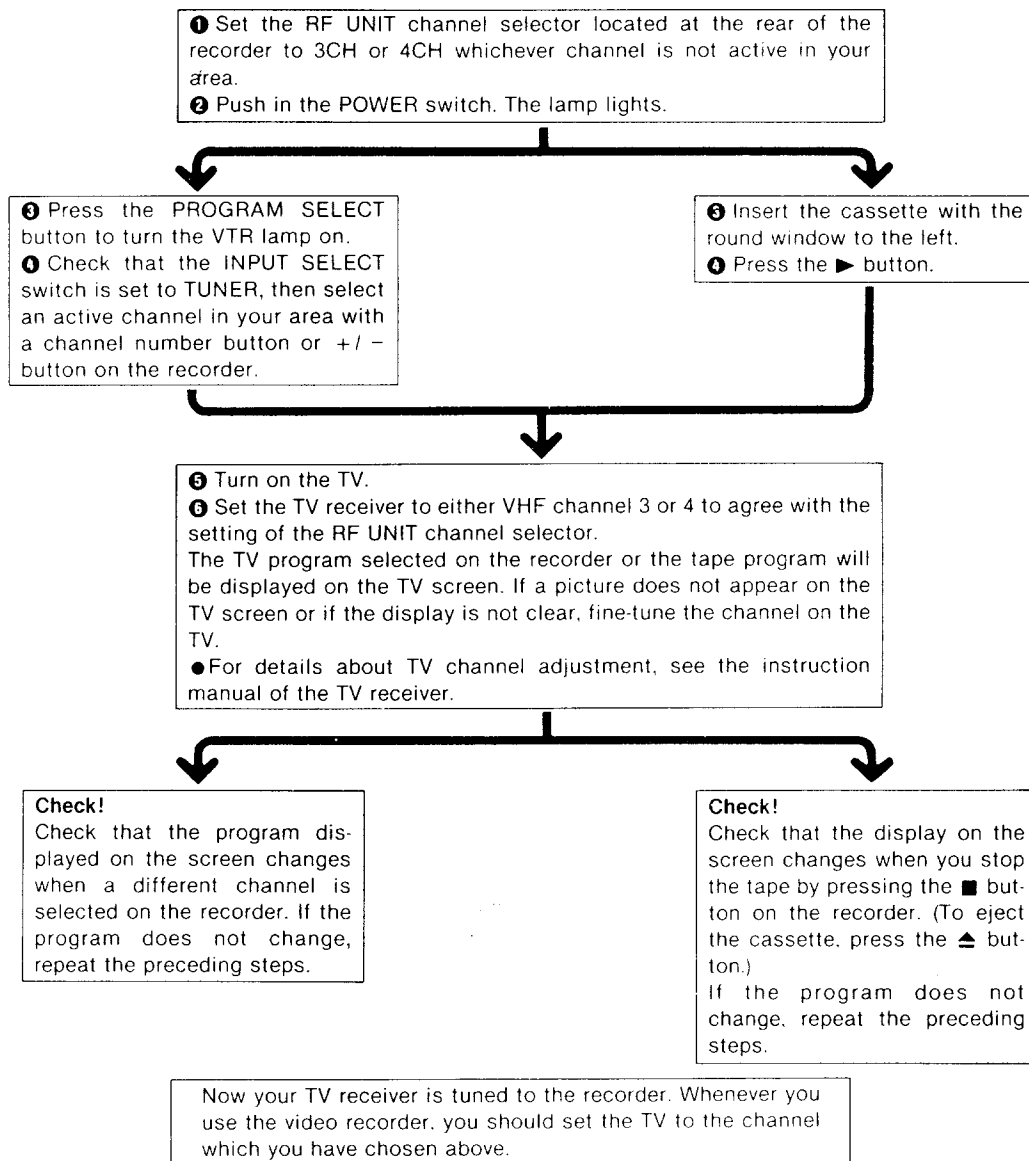
ADJUSTING THE TV

Your TV receiver must be adjusted to receive the signal from your recorder. If you connect a color monitor, it does not need adjusting.



If you do not have a recorded video cassette tape

If you have a recorded video cassette tape

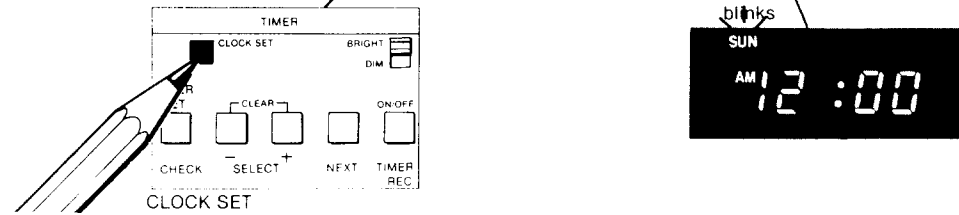


SETTING THE CLOCK

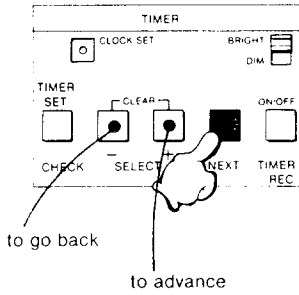
Example : To set the clock to 7 : 30 p.m. Monday.

The clock can be set as long as the power cord is connected to the ac outlet.

1 Press CLOCK SET.



2 Press +/- buttons to adjust the blinking indication and press NEXT.



1 Set the day of the week.



2 Press NEXT.



3 Set the hour digit and press NEXT. and set the minute digits.



AM 12:00 ... midnight
PM 12:00 ... noon

4 With the time signal press NEXT.



The clock now starts operating, showing the correct time.

The upper dot blinks during the first half and the lower during the second half of each minute.

Note

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

When you hold a button down, the segments will be advanced continuously until the button is released.



When you press and immediately release a button, the segment will be advanced by one.



Brightness of the time display

To reduce the brightness of the time display, set the brightness switch to DIM.

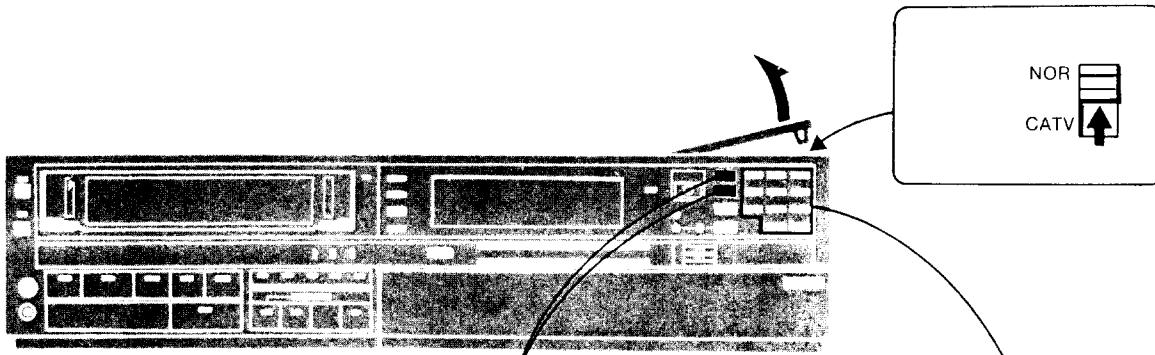


Brightness switch

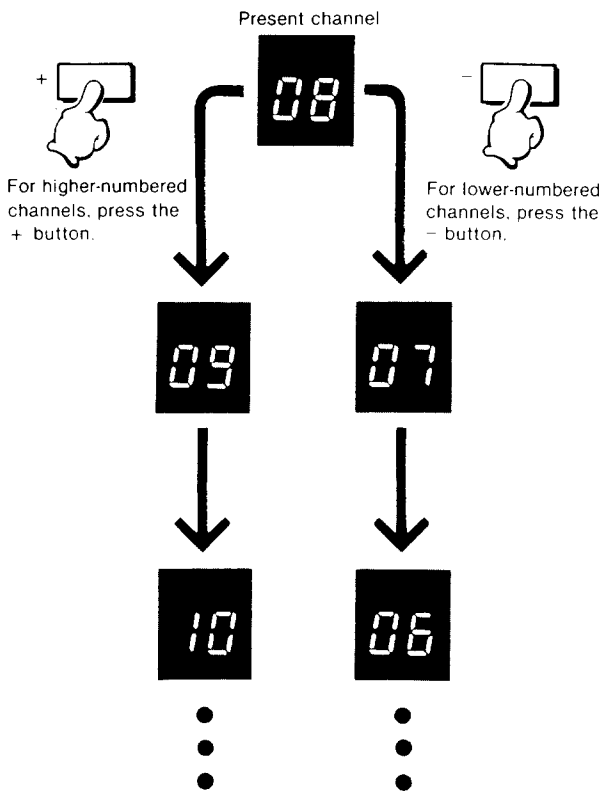
BRIGHT 
DIM

HOW TO SELECT TV CHANNELS

You can select the desired channel by pressing the appropriate channel number buttons, or by scanning higher or lower among the prememorized channels with the CHANNEL +/- buttons. This recorder is preset at the factory to receive VHF channels 2 through 13 with the +/- buttons. To add UHF channels or CATV channels, or to erase inactive channels see page 12.



Using the +/- buttons



Using the channel number buttons

For channels 2 through 9, press the 0 button first.

ex. 1: To select VHF channel 7



ex. 2: To select UHF channel 25



If you select an incorrect tens-digit, or forget to first press 0 for channels 2 through 9, wait about two seconds so that the previous number display is recalled, or press the CLEAR button.

TO SELECT CATV CHANNELS

Set the NOR/CATV select switch to CATV. This recorder receives midband channels A-1, A-2, A through I and super-band channels J through W.

Channel A-2 can be tuned in by selecting number 00 on this recorder, channel A-1 by selecting number 01, channel A by selecting number 14, and so on, as follows:

| | | | | | | | | | | | | | | |
|----------------------------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|
| Number on this recorder | 00 | 01 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | |
| Corresponding CATV channel | A-2 | A-1 | A | B | C | D | E | F | G | H | I | | | |
| | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |
| | J | K | L | M | N | O | P | Q | R | S | T | U | V | W |

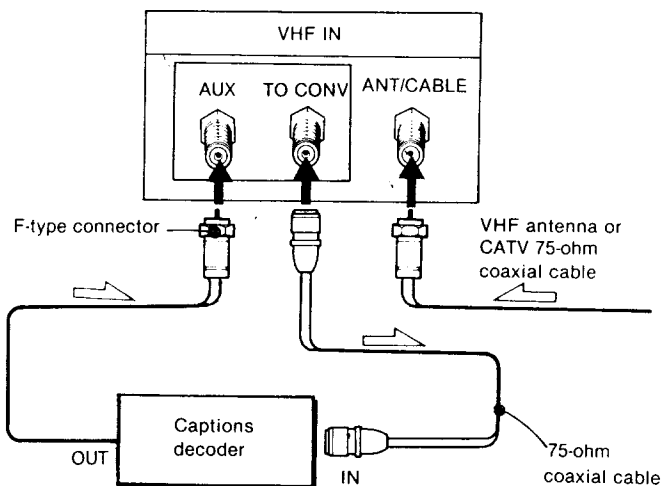
Most CATV systems use letters to designate channels but some use numbers. To tune in a numbered channel, select the same number on the recorder.

Consult your local cable TV company or your nearest Sony dealer to find out which of these channels are receivable and which type of cable system is used in your area.

PROGRAMMABLE ANTENNA SWITCH

You can preset this video cassette recorder to switch from direct reception from the VHF IN ANT/CABLE terminal to reception looped through an optional captions decoder by using the AUX button on the front control panel or on your Remote Commander.

CONNECTING A CAPTIONS DECODER FOR RECORDING CAPTIONED PROGRAMS

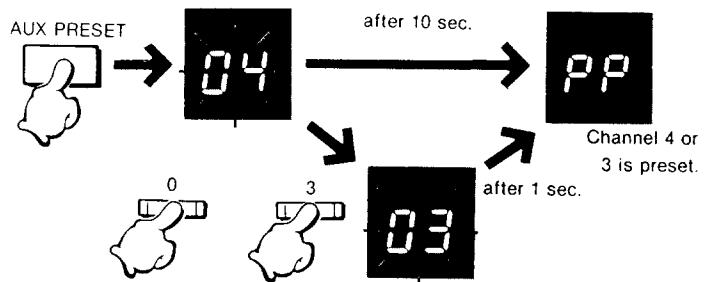


TO PRESET THE OUTPUT CHANNEL OF THE CAPTIONS DECODER

To receive captioned programs from the decoder connected to the VHF IN AUX terminal, select the output channel number of the decoder, channel 3 or channel 4.

Press the AUX PRESET button in the channel compartment.

Channel number "04" will blink in the display. If the output channel of the decoder is channel 3, press the channel number buttons 0 and 3 so that "03" blinks in the display.



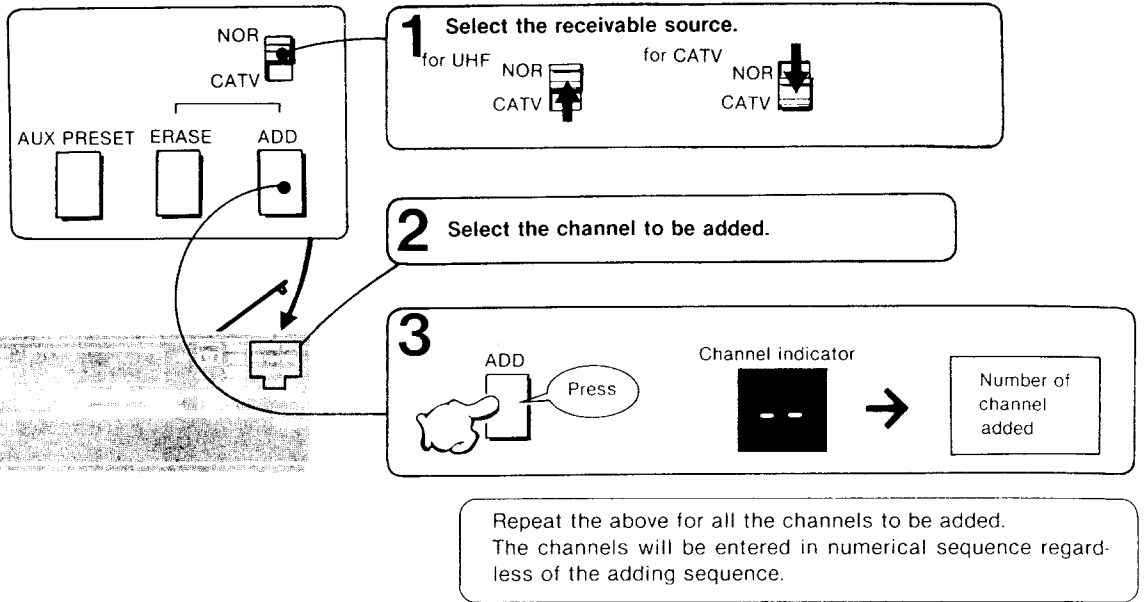
Once you preset, you can receive a captioned program from the AUX terminal by simply pressing the AUX button, whether the NOR/CATV select switch is set to NOR or CATV.

The channel display will show "PP" (preset program).

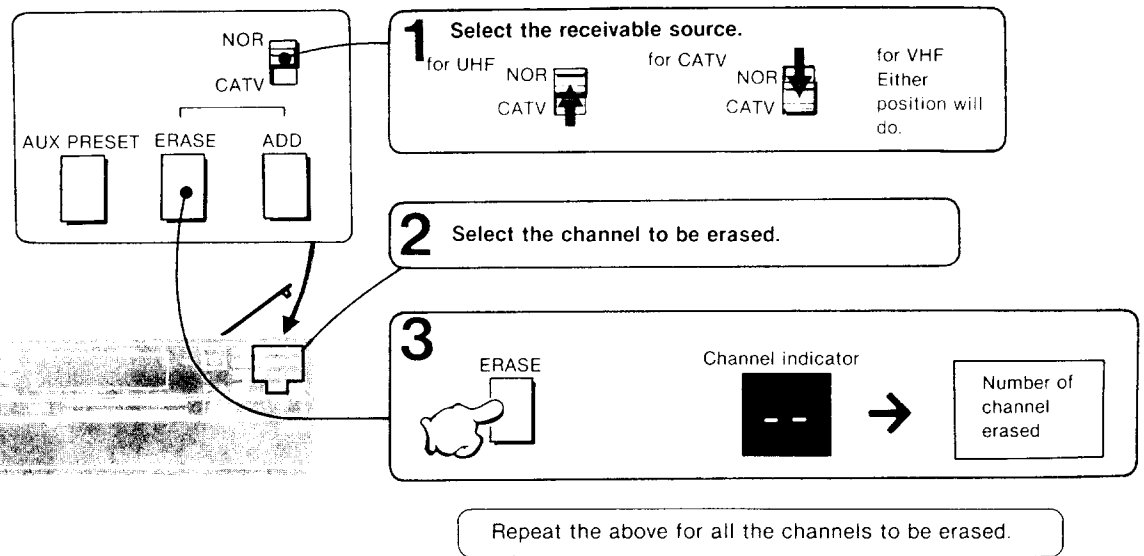


CHANNEL PRESETTING — How to preset channels to be scanned with the +/- buttons on the recorder or the Remote Commander

TO ADD UHF OR CATV CHANNELS



TO ERASE INACTIVE CHANNELS

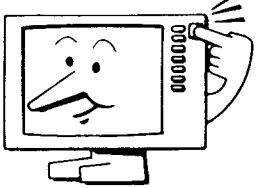


Operating note: It is not possible to erase a UHF channel from the memory and retain the CATV channel of the same number in the memory, or vice versa. If either the UHF channel or the CATV channel of the same number is to be kept in the memory, do not erase the number.


BASIC OPERATIONS

HOW TO RECORD TV PROGRAMS

1 Turn on the TV and select the channel for the video recorder.

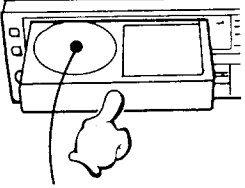


2



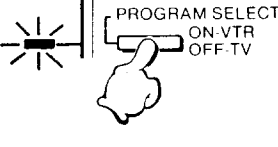
3

Insert a cassette.

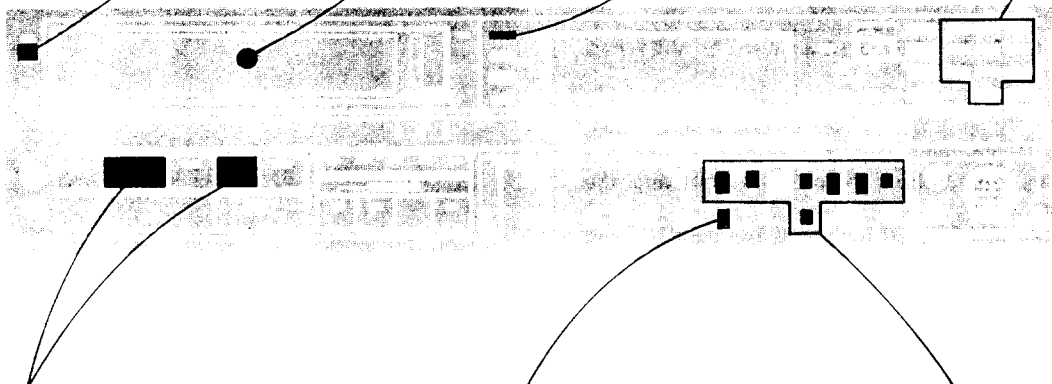


With the round window to the left

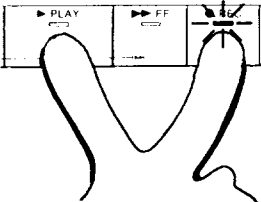
4



5 Select the channel to be recorded with the channel number buttons or the +/- buttons.



6 While holding the ● REC button down, press ► PLAY.

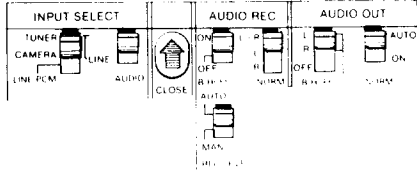


Recording starts.

Select the REC MODE switch according to the length of the program to be recorded.

| Cassette used | II mode | III mode |
|---------------|---------------|---------------|
| 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. |

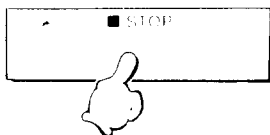
BE SURE TO SET THESE SWITCHES TO THE GREEN POSITION *



* Green position is the standard setting position.

BETA HI-FI RECORDING

To stop recording



To eject the cassette, press the \blacktriangle button.
If the tape reaches the end during recording, the tape will be rewound to the beginning automatically.

To stop the tape momentarily

Press the || button. The lamp on the button will light. The TV program can be seen on the TV, but the picture will not be recorded.
To resume recording, press the button again.
To protect the video heads and the tape, the pause mode will be automatically released after about 8 minutes and recording will resume.

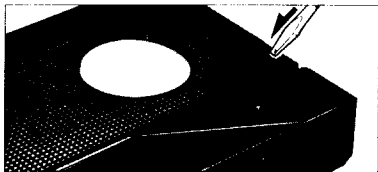
RECORDING ONE TV PROGRAM WHILE VIEWING ANOTHER

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

- 1 Start recording the desired TV program following the procedure above.
- 2 Press the PROGRAM SELECT button so that the VTR lamp goes off.
- 3 Select the channel you want to view on the TV.

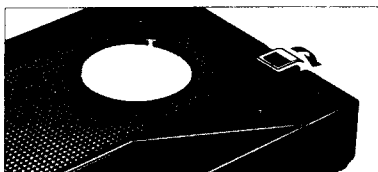
TO KEEP A RECORDED PROGRAM FROM BEING ACCIDENTALLY ERASED

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



To avoid erasing a recording

Break off the safety tab using a screwdriver or similar object.

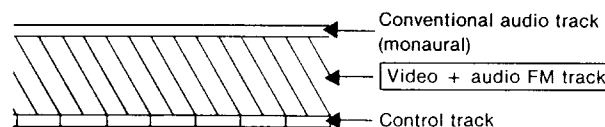


To re-record on a cassette which has had its safety tab removed
Cover the hole with a piece of plastic tape.

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.

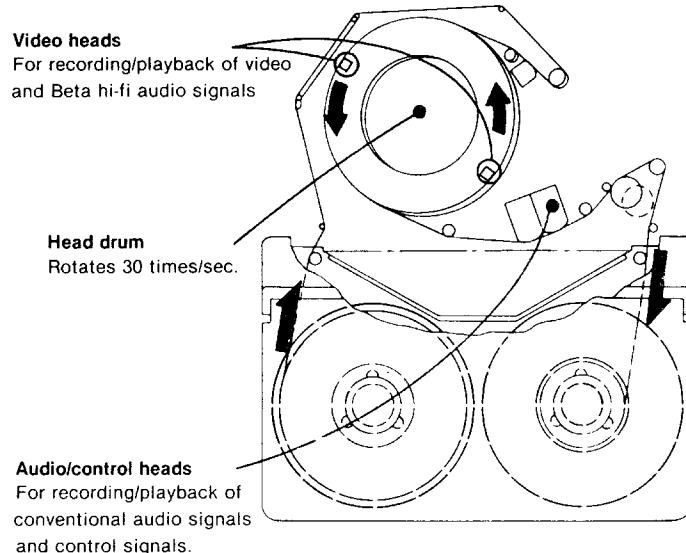
In conventional recording, audio signals are recorded on the audio track and the video signals on the video track. With Beta hi-fi recording, audio signals are frequency-modulated and recorded on the video track with the video signals.

Beta hi-fi recording pattern on the video tape



Because of the frequency-modulated audio signals, audio recording/playback with flat frequency response, wide dynamic range, minimal noise and distortion is achieved. Furthermore, the relative tape speed is far faster than the tape speed in conventional recording, since the Beta hi-fi audio signals are recorded using the 2 rotary video heads.

Wow and flutter are lower than the measurable limit.



With the B HI-FI switch ON, the recorder records audio signals on video track (Beta hi-fi recording) and on the conventional audio track at the same time, so that the tapes can be played back on the video cassette recorders without Beta hi-fi system.

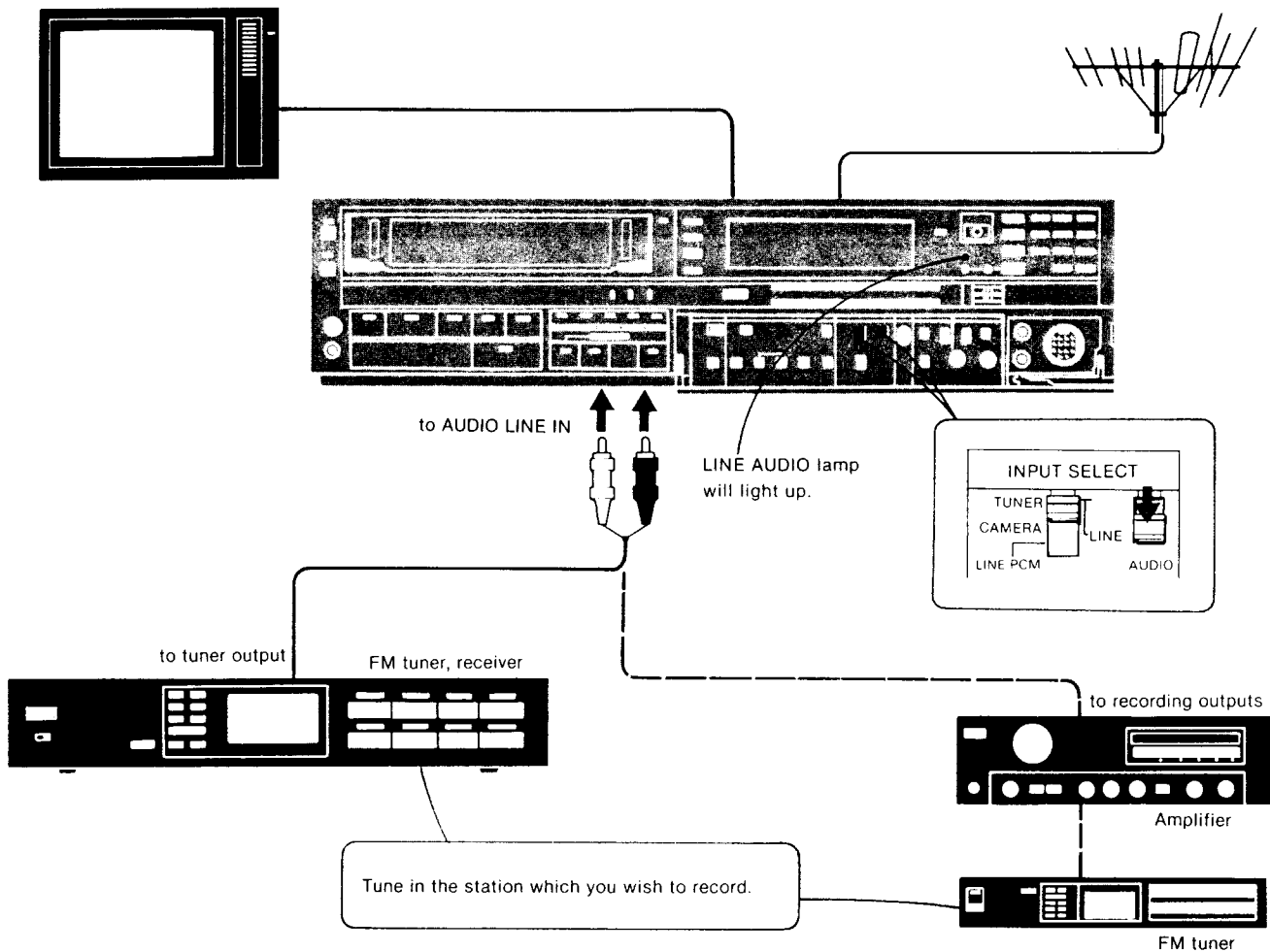
When playing back a tape recorded on a video cassette recorder not equipped with the Beta hi-fi system, the audio head activates and the audio is played back conventionally.

With Beta hi-fi recording, 2 channel audio signals can be recorded. Recording from the AUDIO LINE IN jacks or MIC jacks results in dynamic stereo sound.

Recording on the conventional audio track is monaural.

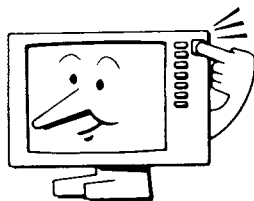
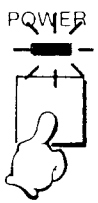
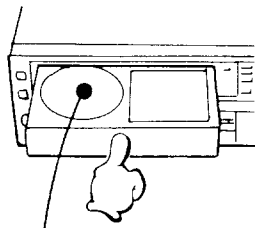
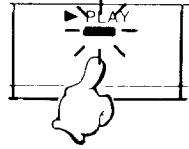
FM SIMULCAST RECORDING

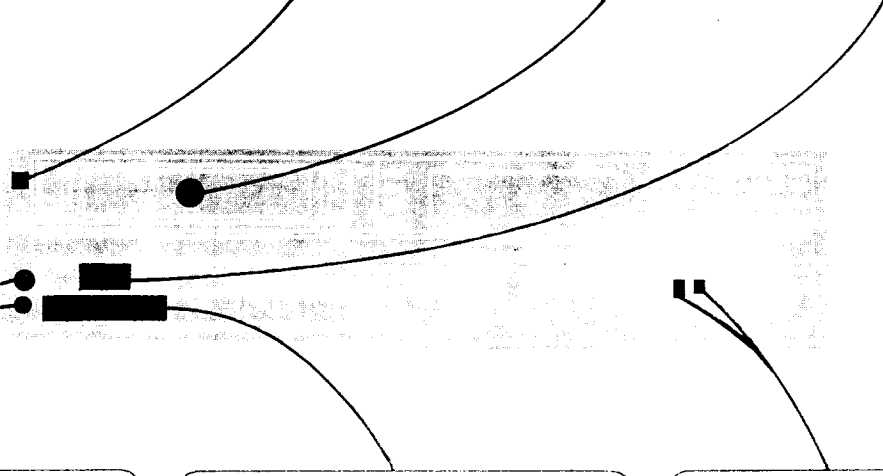
By connecting an FM tuner to the AUDIO LINE IN jacks besides TV antenna connection, you can record the FM simulcast TV programs (stereo sound transmitted from an FM radio station) while recording the TV program pictures (video signals) from the TV antenna inputs.



Note
Be sure to return the AUDIO switch to the upper position after recording FM simulcast TV programs. Sound cannot be recorded when recording normal TV programs if the switch is at the LINE position.

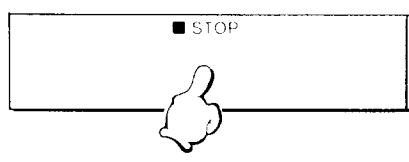
HOW TO PLAY BACK A TAPE

| | | | |
|---|---|--|---|
| <p>1 Turn on the TV and select the channel for the video recorder.</p>  | <p>2</p>  | <p>3 Insert a cassette.</p>  <p>With the round window to the left</p> | <p>4</p>  <p>Playback will begin.</p> |
|---|---|--|---|



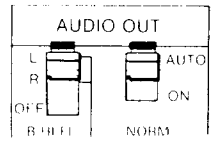
To monitor with the headphones
Connect headphones here. Volume is adjustable with the PHONES control.

To stop playing



The program selected by the INPUT SELECT switch will appear on the TV screen. If the tape reaches the end during playback, the tape will be rewound to the beginning automatically.

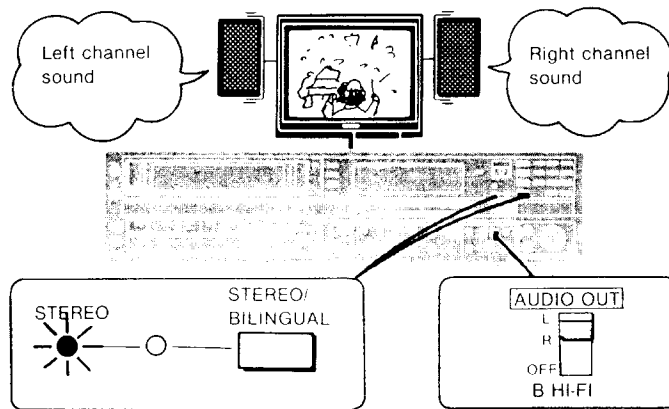
BE SURE TO SET THESE SWITCHES TO THE GREEN POSITION



PLAYBACK OF TAPE RECORDED IN STEREO AND BILINGUAL WITH THE BETA HI-FI SYSTEM

Playback of Beta hi-fi stereo sound programs

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

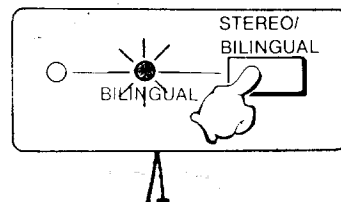


When a conventional TV is connected, the sound of the left and right channels are mixed so that monaural sound comes from the TV speaker.

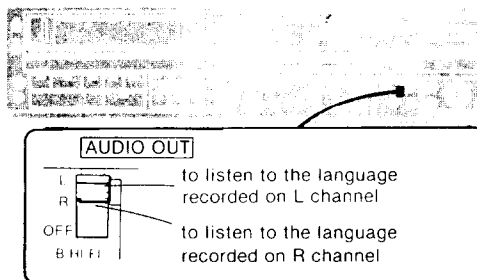
Playback of Beta hi-fi bilingual programs

Press the STEREO/BILINGUAL button so that the BILINGUAL lamp lights.

If you play back a bilingual tape with the STEREO lamp ON, both languages will be heard simultaneously.



Select the language you wish to listen to with the AUDIO OUT/B HI-FI switch.

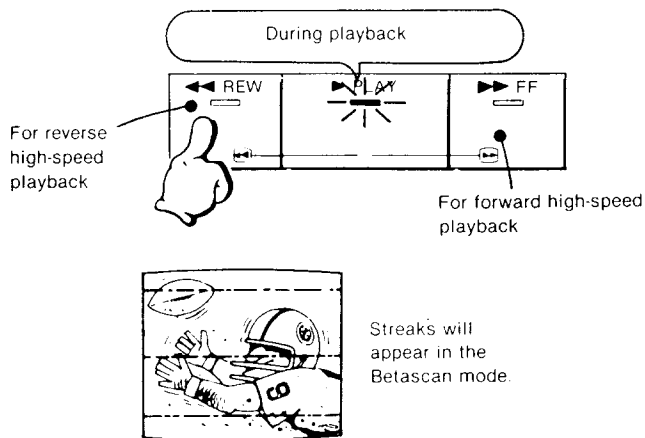


When you eject the cassette or turn the power off, the STEREO/BILINGUAL button returns to STEREO.

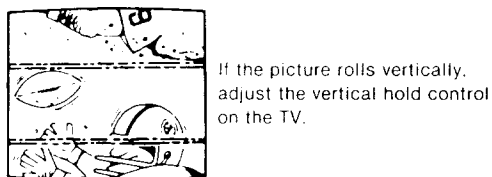
BETASCAN ... To search for a particular point while viewing the picture

Press the ►► FF or ◀◀ REW button during playback.

While the button is depressed, a high-speed playback picture in the forward or reverse direction can be seen.

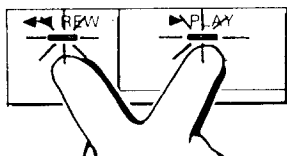


● If you press and release the ►► FF or ◀◀ REW button repeatedly for a short time, the protection circuit may be activated and the tape will stop.



AUTO PLAY ... To play from the beginning of the tape after rewinding

Press the ► PLAY button while holding the ◀◀ REW button depressed. After the tape is completely rewound, it will automatically be played back.



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, the recorder will play back the tape in the conventional way.

● If streaks or snow appear, open the front compartment and adjust the left TRACKING control (NORMAL/FAST PLAY) for the best possible picture.



Return the control to the center position after viewing that tape.

TIMER-ACTIVATED RECORDING

Using the built-in timer, recordings of up to any four programs occurring within the next fourteen days can be made automatically, even when you are not at home.

Check before setting the timer

- Is the clock set to the correct day and correct time? (For the clock setting, see page 9.)
- Is a cassette inserted in the recorder?
- Is the cassette long enough to record the programs? Check the setting of the REC MODE selector.
- Does the cassette have a safety tab on the bottom?
- Are the switches for recording at the green position?



REC MODE selector
Switches for recording

Examples of timer settings

The turn-on day may be a particular day of the week or every day. You need not set the four programs all at one time.

| Program | Day of the week | Recording time | Channel |
|---------|---------------------|-------------------------|---------|
| A | Wednesday this week | 8:00 p.m. - 9:00 p.m. | 6 |
| B | everyday | 8:15 a.m. - 8:25 a.m. | 2 |
| C | Friday this week | 9:00 p.m. - 11:25 p.m. | 8 |
| D | Tuesday next week | 11:15 p.m. - 11:30 p.m. | 10 |

Note: The timer cannot be set during recording.

SETTING THE TIMER

Example: Suppose you want to set the timer to Program C above.



| Button to be pressed | Time display |
|--|--------------|
| <p>1</p> <p>(The timer setting of Program A will be displayed if it has been set.)</p> | |
| <p>2 Select the program.</p> <p>Indication changes in alphabetical order.</p> <p>To go back to the previous indication.</p> | |
| <p>3 Select the turn-on day.</p> <p>Indication changes as follows: every day → SUN → MON → ... → SUN with 2ND WEEK → ... SAT with 2ND WEEK → every day</p> <p>To go back to the previous indication.</p> | |

To record a program at the same time everyday
 Press the NEXT button when all days of week indications are blinking.

If the day you want to record is more than 7 days ahead
 Press the NEXT button when the desired day of week with the "2ND WEEK" indication is blinking.



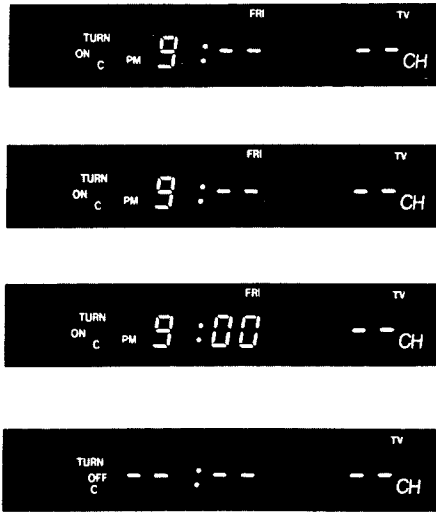
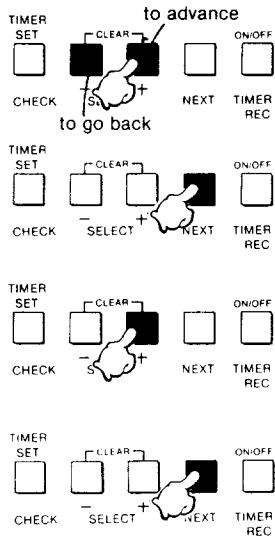
The 2ND WEEK in this case is different from next week on the calendar. The 2ND WEEK is the week which begins exactly seven days from the present day, at the present time.

Suppose you are setting the timer on this day at 10:00 a.m.

| | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|
| SUN | MON | TUE | WED | THU | FRI | SAT |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 | | | |

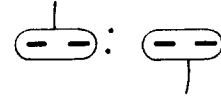
2ND WEEK:
 from 10:01 a.m. on 16th to 10:00 a.m. on 23rd.

4 Set the turn-on time.



To record to the end of the tape
Set the turn-off time to a time after the tape will reach the end or to "--:--".

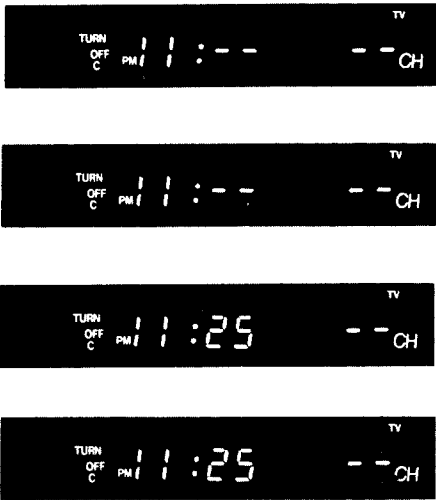
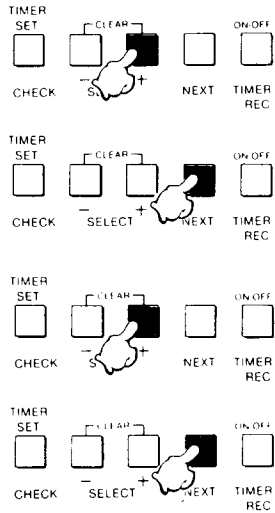
between PM 11 h. and AM 12 h.



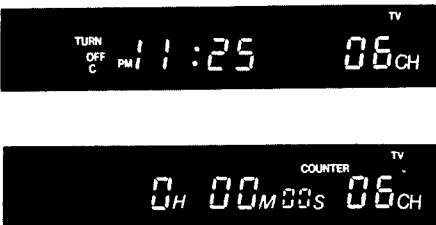
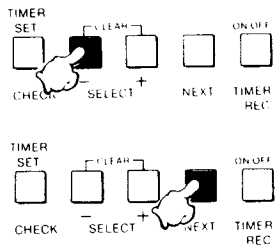
between 59 min. and 0 min.

When the tape reaches the end during the timer recording, the recording stops and the unit will be turned off automatically after about 30 seconds. In this case the tape will not be rewound to the beginning.

5 Set the turn-off time (Within 24 hours from the turn-on time).



6 Select the channel to be recorded.



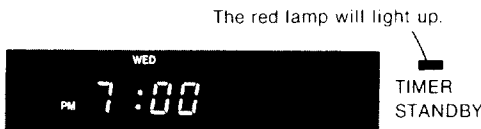
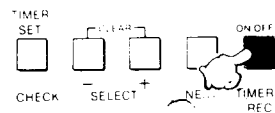
The time counter is displayed.

To select the channel

You can select the channel to be recorded not only with the +/- SELECT button, but also with the channel number buttons or the +/- CHANNEL button.

Now Program C is set. To set Program A, B or D, repeat these steps.

7 After all the timer settings are finished



The red lamp will light up.

ONCE THE TIMER STANDBY LAMP HAS LIT UP, NO FUNCTION OF THE RECORDER CAN BE ACTIVATED, except for checking the timer setting.

At the preset turn-on time, recording will start automatically and will stop at the preset turn-off time.

TO OPERATE THE RECORDER AFTER THE TIMER HAS BEEN SET

Once the TIMER REC button has been pressed, the POWER switch on the recorder will not function.

This is to safeguard the timer recording.

To operate the recorder after the timer has been set, press the TIMER REC button again so that the TIMER STANDBY lamp goes off.

Also to stop the tape during timer recording, press the TIMER REC button so that the TIMER STANDBY lamp goes off.

● The timer settings are kept in the memory even if you disengage the TIMER REC button, so you can easily restore the setting later by pressing the TIMER REC button.

TO CHECK THE TIMER SETTING

Press the TIMER CHECK button. Each time you press the button, the indication will change as follows :

turn-on day and time of Program A → turn-off time →

turn-on day and time of Program B → turn-off time →

turn-on day and time of Program C → turn-off time →

turn-on day and time of Program D → turn-off time →

present time*

The indicator of the channel preset for the recording will light up at the same time the turn-on time of each program is displayed, so that the channel can be checked. During timer recording, however, the channel for other timer programs cannot be checked.

Note: The timer setting cannot be checked during recordings other than a timer recording.

*To obtain a present time during the checking procedure, turn the unit off.

TO CLEAR THE TIMER SETTING

The memory of a timer program will be automatically erased when the recording of that program is finished. A setting for everyday will not be erased, of course.

If you want to skip the timer recording preset for everyday temporarily, press the TIMER REC button so that the TIMER STANDBY lamp goes off. To resume the timer standby mode of that program, press the button again.

If you want to erase the memory of a timer program, proceed as follows :

① Press the TIMER SET button as many times as required until the turn-on time or turn-off time of the program to be erased is displayed.



② Press the NEXT button.



③ Press the + and - SELECT buttons simultaneously. The entire memory of this program will be erased.

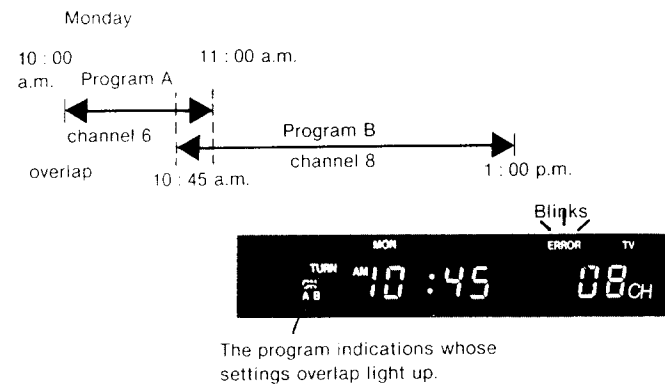


To display a present time, turn the unit off.

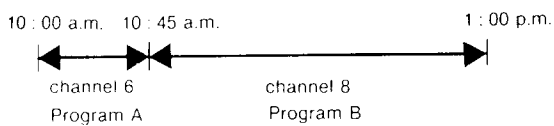
IF THE "ERROR" INDICATOR BLINKS

If the ERROR indicator blinks while the timer is being set
It means that the settings for the programs overlap.
Check the settings and eliminate the overlap.

Setting



Realized recording



If the **TIMER STANDBY** lamp blinks, recording can be made even with the **ERROR** indicator blinking, but the program being recorded will change to the next one when the next turn-on time will come.

If the **ERROR** indicator blinks and the **TIMER STANDBY** lamp does not light when the **TIMER REC** button is pressed



Check the following points :

- Did you insert a cassette into the recorder?
- Does the cassette inserted have a safety tab on the bottom?
- Make sure that the tape is not at its end.

After correcting the above points, press the **NEXT** button, then the **TIMER REC** button again.

Timer-activated recording cannot be activated if the **TIMER STANDBY** lamp does not light.

Notes on the ERROR indicator

The **ERROR** indicator does not light in the following cases, even if settings overlap.

—when the turn-off time of the program whose turn-on time is set earlier than the other one is set to "---:--".

Example :

- Program A : Sun. 7 : 00 p.m. → "---:--" (to tape end)
- Program B : Sun. 8 : 00 p.m. → 9 : 00 p.m.

—when one of the overlapping programs is set for next week and brackets the present time.

Examples :

- Present time : Sun. 3 : 00 p.m.
- Program A : Sun. 2 : 00 p.m. → 4 : 00 p.m.
(The program actually starts next Sunday.)
- Program B : Sun. of the 2nd week 3 : 30 p.m. → 5 : 00 p.m.

The **ERROR** indicator will light up and blink even if one timer program including the present time and another timer program do not actually overlap.

Examples :

- Present time : Sun. 3 : 00 p.m.
- Program A : Sun. 2 : 00 p.m. → 4 : 00 p.m.
(The program will actually start next Sunday.)
- Program B : Sun. 3 : 30 p.m. → 5 : 00 p.m.
(The program will start that day.)

We recommend that you check the preset timer programs whenever you set a new timer program.

WHEN A POWER INTERRUPTION OCCURS

If the clock shows "SUN AM 12 : 00" and does not advance

All the timer settings have been erased. Reset the clock time and the timer settings.

If the clock still shows the correct time

The power has been interrupted for less than 60 minutes and the clock has been powered by the built-in selfcharging battery so that the timer programs were kept in the memory. If the interruption occurs after the recording has begun, recording will be resumed when the power is restored.

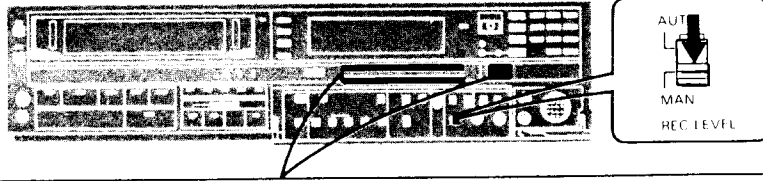
- The built-in battery will be charged automatically when the ac power cord of the recorder is plugged into a wall outlet for at least 40 hours.

ADVANCED OPERATION

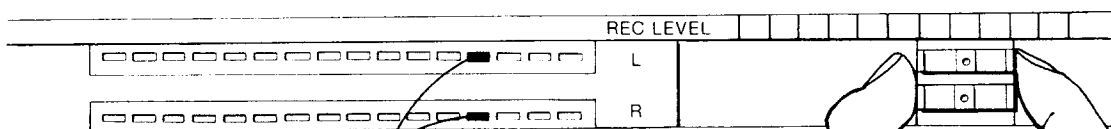
RECORDING LEVEL ADJUSTMENT

When recording with Beta hi-fi, if the REC LEVEL switch is set to MAN, the recording level of each channel can be adjusted separately with the REC LEVEL controls. When you record a sound source which contains low level to high level signals, for example, sounds from microphones or audio equipment, manually adjusting the recording level may result in a better recording.

If the recording level setting is too high, the sound will be distorted, and if the setting is too low, a noisy recording will result. The recording level should be set as high as possible while avoiding distortion.



Adjust the controls while monitoring the input level of the program source to be recorded on the peak level meters.



Adjust so that the meters deflect to the red portion at the highest signal level.

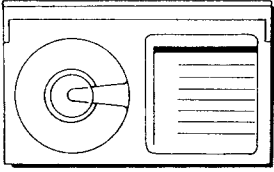
Start recording after adjusting the record level.

USING THE TIME COUNTER

TO INDEX THE WHOLE TAPE

Before recording or playback, set the counter to "0H00M00s" by pressing the COUNTER RESET button.

As the tape runs, the figures of the counter change. Note the numbers and the program being recorded or played back. Any point of the tape can thus be readily located later by referring to these numbers.



Write the counter readings you want to remember on the label of the cassette.

The counter reading is automatically reset to zero,

- when the power is turned off.
- when a cassette is ejected and inserted again.

The time counter does not operate with brand-new tapes.

The time counter counts the CTL signals during playback or fast winding. These signals are recorded on the tape at the same time the video signals are recorded.

Because brand-new tapes have no CTL signals recorded on them, the time counter cannot operate with these tapes.

Because of the difference between the reference frequency of the time counter and the clock, the time counter indication is 3 to 4 seconds an hour behind the actual tape running time.

When fast winding the tape, the counter may count a number of seconds fewer.

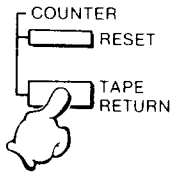
TO RETURN TO A PRE-REGISTERED POINT—TAPE RETURN

During recording or playback, press the COUNTER RESET button at the point you later want to locate.

When the recording or playback is finished, stop the tape by pressing the ■ STOP button, then press the TAPE RETURN button. The tape will rewind or advance to the point where the COUNTER RESET button was pressed.



When the counter reading has a minus sign



The tape rewinds.



Stops.

The tape advances.



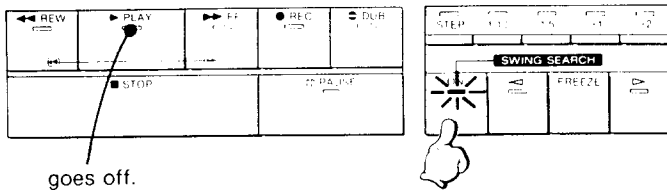
Stops.

- The tape may stop a number of seconds before or after 0H00M00s.

TO OBTAIN VARIABLE SPEED PLAYBACK PICTURES—"SWING SEARCH"

With this video cassette recorder, you can obtain a freeze, a slow motion, a double speed, a step-by-step or a reverse playback picture as well as a normal speed playback picture.

Press **SWING SEARCH—ON** during playback.



goes off.

The recorder is set into the Swing Search mode.

For example ...

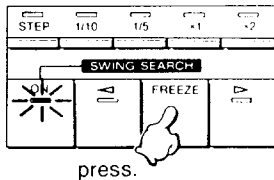
- To closely inspect a particular frame → FREEZE PICTURE
- To study your golf or tennis form → STEP-BY-STEP PICTURE
- To watch a football play slowly unfold → SLOW-MOTION PICTURE
- To quickly review a program → DOUBLE-SPEED PICTURE

To resume normal playback, press the **▶ PLAY** button.

- During forward $\times 2$ and $\times 1$ playback, the Beta hi-fi audio can be monitored. In the other Swing Search modes, the audio cannot be monitored.
- Tapes recorded in the **[B]** mode cannot be played back in the Swing Search mode.
- Pressing the **▶▶ FF** or **◀◀ REW** button during the Swing Search mode permits Betascan operation.

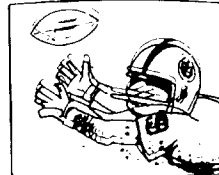
FREEZE PICTURE

When you first press the **SWING SEARCH—ON** button, a freeze picture can be obtained. If **<** or **>** button lights,



press.

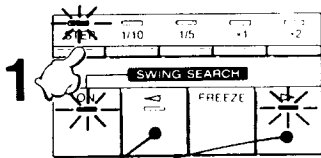
If a vertical jitter appears in the freeze, step-by-step or slow motion picture.



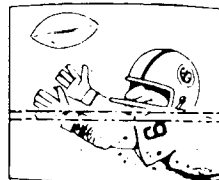
Obtain a freeze picture and adjust the TV **VERT LOCK** control at the rear of the recorder for the best possible picture. Then return the recorder to the previous mode.

- Once you adjust this control, you do not have to adjust it again unless you change the connected TV receiver.

STEP-BY-STEP PLAYBACK



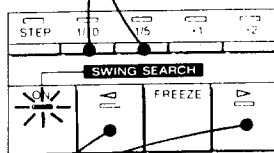
- 1 Press **>** for forward playback and **<** for reverse playback. When you release the button, the picture returns to the freeze picture. Repeatedly press and release the button. Keep the **>** or **<** button depressed for continuous step-by-step playback.



To remove the noise band in the freeze, step-by-step or slow motion picture.

SLOW MOTION

- 1 Press $\frac{1}{5}$ for $\frac{1}{5}$ slow motion or to playback more slowly, press $\frac{1}{10}$.



- 2 Press **>** for forward playback and **<** for reverse playback.

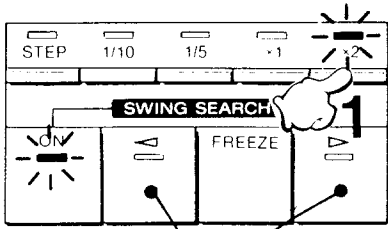


TRACKING

Obtain a slow motion picture and adjust the control. Return the recorder to the previous mode or continue in slow motion.

- Return the control to its original (dotted) position after the playback.

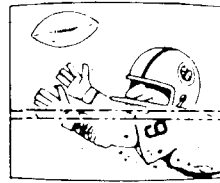
DOUBLE SPEED PICTURE



2

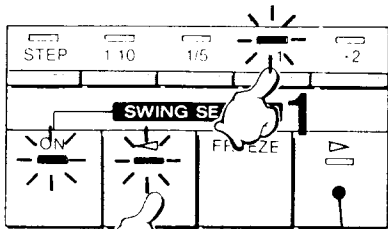
Press \triangleright for forward playback and \triangleleft for reverse playback.
 ● Double speed sound can be monitored during forward playback.

To remove the noise band in the reverse normal speed or the forward double speed picture



If no sound is heard in the forward double speed playback.

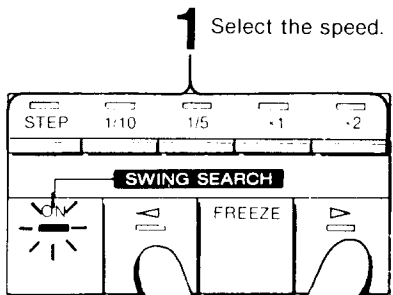
REVERSE PLAYBACK



2

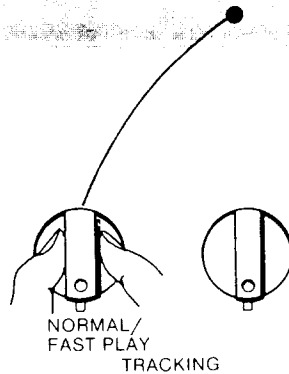
To resume the forward playback press. Sound can be heard during forward playback.

BACK AND FORTH PLAYBACK



1 Select the speed.

2 Press and release alternately.



Turn to adjust.

● The noise band in the reverse double speed picture cannot be removed.

Return the control to its original (dotted) position after the reverse normal speed or the forward double speed viewing.

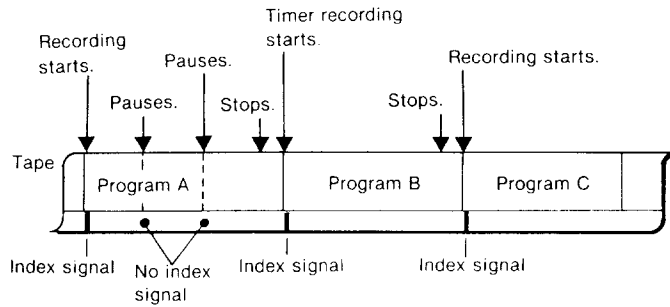
INDEX FUNCTION

To play from the start of a desired program

The index function locates the program selection you desire and plays back the selection automatically.

The index function operates by ...

detecting the index signals which are automatically recorded on the tape when the ● REC button is pressed or when timer recording begins.



How to actuate the mechanism ... There are two ways.

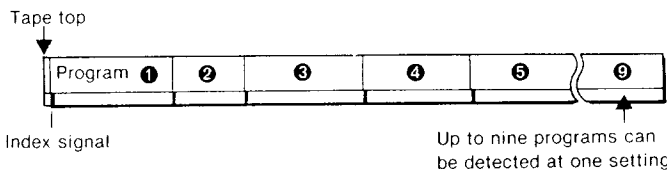
Method 1

You number each program on the tape from the beginning in sequence and find your desired program by designating the number.

Method 2

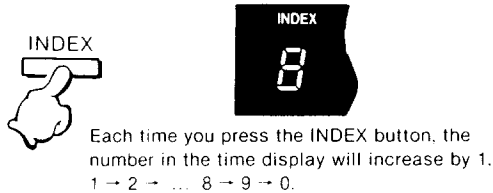
You number each program on the tape from the present position in sequence and find your program by designating the number.

Method 1

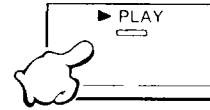


Operation

- 1 Turn on the recorder and insert a recorded cassette.
- 2 Press the INDEX button so that the number of your desired program appears on the left of the time display.

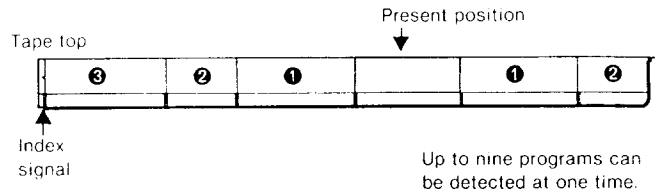


- 3 Press the ► PLAY button.



The tape will be rewound to the beginning and will run in the fast forward mode to the start point of your desired program. Then playback of the program will start automatically. During the fast forward operation, the figure number increases by one when an index signal is detected. When the figure becomes the one that you have selected, the playback starts.

Method 2



Operation

- 1 Stop the tape by pressing the ■ STOP button.
- 2 Press the INDEX button so that the number of your desired program appears on the left of the time counter. Count how many index signals separate the beginning of the program you want to play from the program you are listening to and press the INDEX button that many times. For instance, to locate the second program ahead, two index signals will have to be detected, but to locate the second program back, three index signals will have to be detected.
- 3 When locating the program ahead, press the ►► FF button. When locating the program back, such as in case of above example, press the ◀◀ REW button. The fast forward or rewind operation starts and the playback will begin from the top of your desired program.

● The index function operates with any tape recorded on a machine with an index function, such as the Sony SL-2500.

Note

The index mechanism functions only in the stop mode.

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

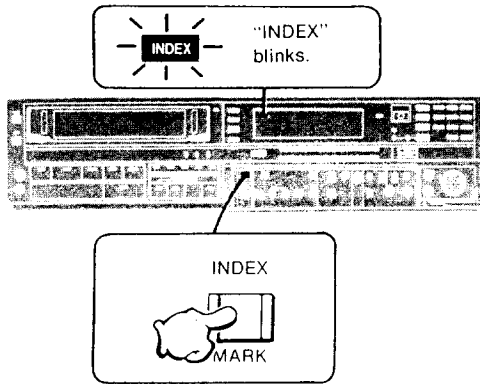
- Is there a blank space of over one minute at the very beginning of the tape? If so, the first program will be counted as program number two.
- Is there a program of less than one minute? Such a program will not be counted as one program.
- Have you performed the index operation within one minute before or after an index signal? In this case, the first index signal to be detected cannot be counted.

To insert an index signal on a recorded tape

The index signal is automatically recorded on the tape when the ● REC button is pressed or when timer recording begins.

If two programs have been recorded without interruption, no index signal will be recorded between the programs so the beginning of the second program cannot be located. In this case, you can insert an index signal on the tape manually.

- 1 Play the tape back.
- 2 At the point where an index signal is to be recorded, press the INDEX/MARK button in the front compartment.

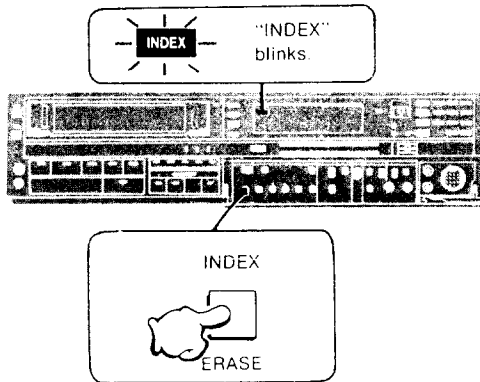


An index signal will be recorded when the button is pressed. The playback sound will be muted for about 10 seconds after the index signal has been recorded but the recording will not be affected.

Note: Do not attempt to insert an index signal less than 10 seconds before the tape speed (● II or ● III) has been changed. In such a case the index signal may not be registered.

To erase an index signal

- 1 Stop the tape by pressing the ■ STOP button.
- 2 Count the number of index signals from the top of the tape to the signal you want to erase and set that number on the left side of the time display with the INDEX button.
- 3 Press the INDEX/ERASE button.



The tape will be rewound or advanced rapidly to the index signal to be erased and playback will begin. The index signal will be erased and the tape will stop after about one minute. During erasing, the sound will be muted but the recording will not be affected.

To prevent accidental erasure of the index signal

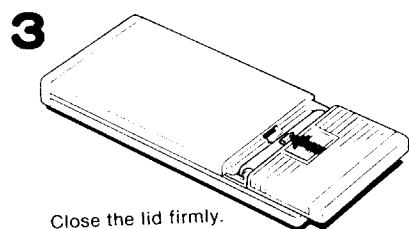
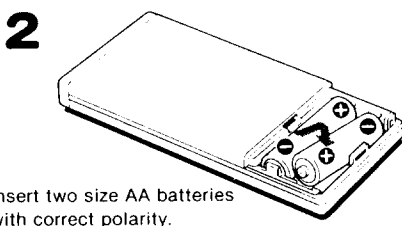
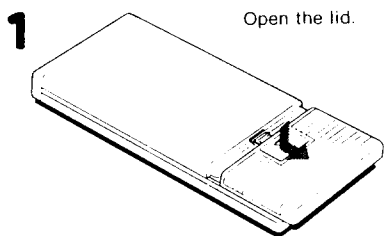
Locate the position of the index signal to be erased by the method 1 index function, make sure that the position is the right place and then proceed with the above operations.

Note: Index signals recorded on another video cassette recorder may not be erased.

REMOTE CONTROL OPERATION

You can control almost all the functions of the SL-2700/2700B video cassette recorder from your armchair using the supplied Remote Commander.

BATTERY INSERTION

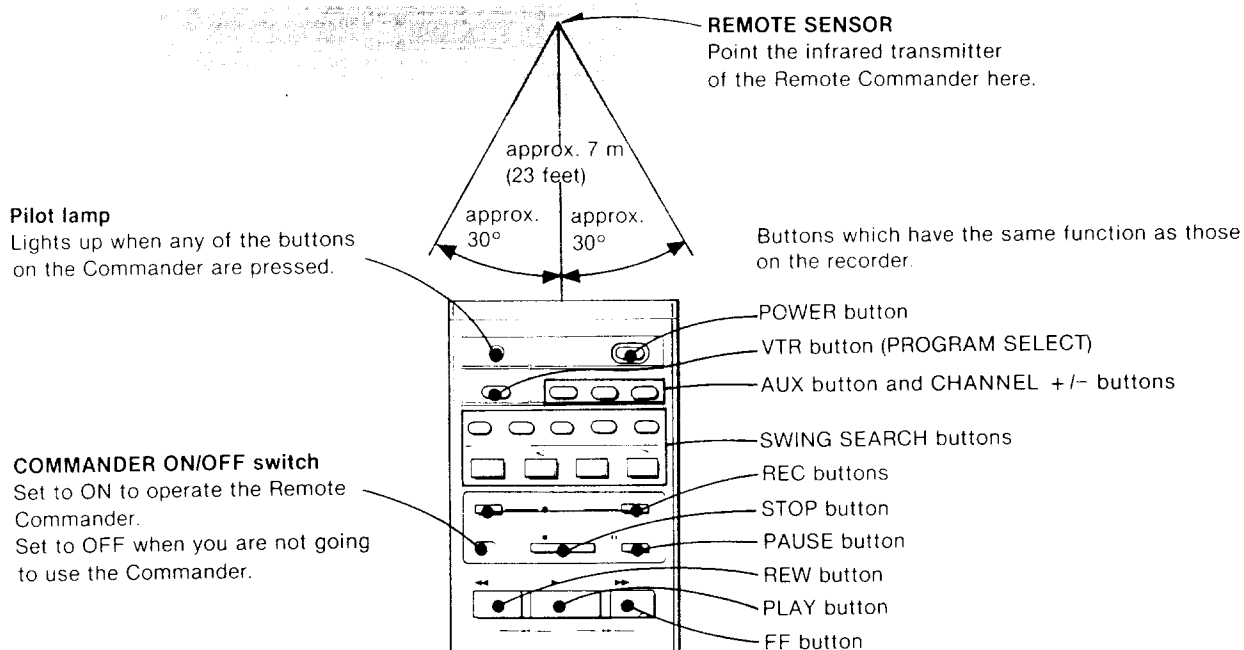


Battery life

In normal operation, batteries will last for about six months. If the range of the Remote Commander becomes noticeably shorter, replace the batteries with new ones. When the batteries are exhausted, the pilot lamp 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.

HOW TO USE THE REMOTE COMMANDER



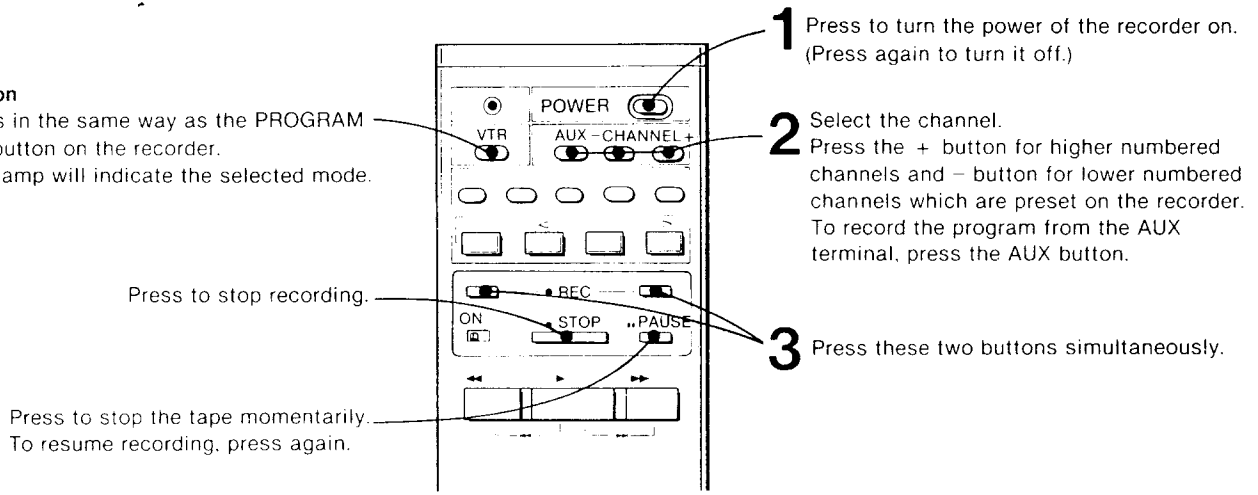
Notes

- There should be no obstacles between the Remote Commander and the REMOTE SENSOR of the recorder.
- The shorter the distance between the Remote Commander and the recorder, the wider the angle within which the recorder can be controlled.
- Avoid dropping foreign objects into the case, particularly when replacing batteries.
- Keep the Commander away from extremely hot or humid places.
- Avoid mechanical shock to the Commander.
- This Remote Commander can be used only with the SL-2700/2700B.

Recording

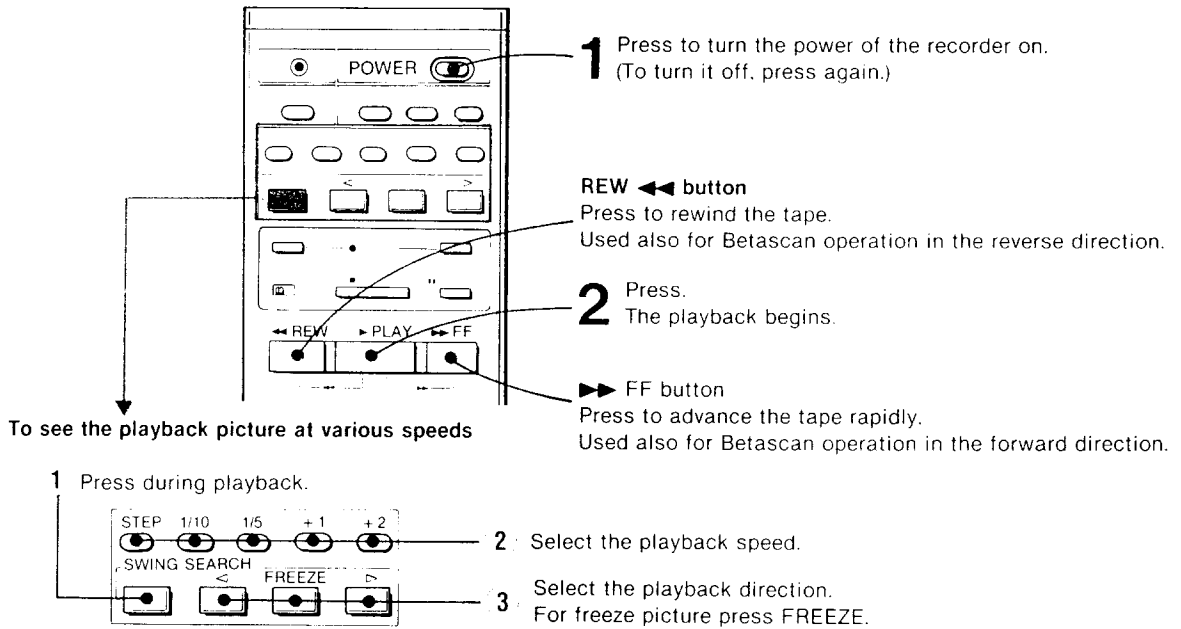
VTR button

Functions in the same way as the PROGRAM SELECT button on the recorder. The VTR lamp will indicate the selected mode.



● This recorder is preset at the factory to receive VHF channels 2 through 13 with the CHANNEL buttons on the Remote Commander. To add UHF channels or CATV channels, or to erase inactive channels see page 12.

Playback



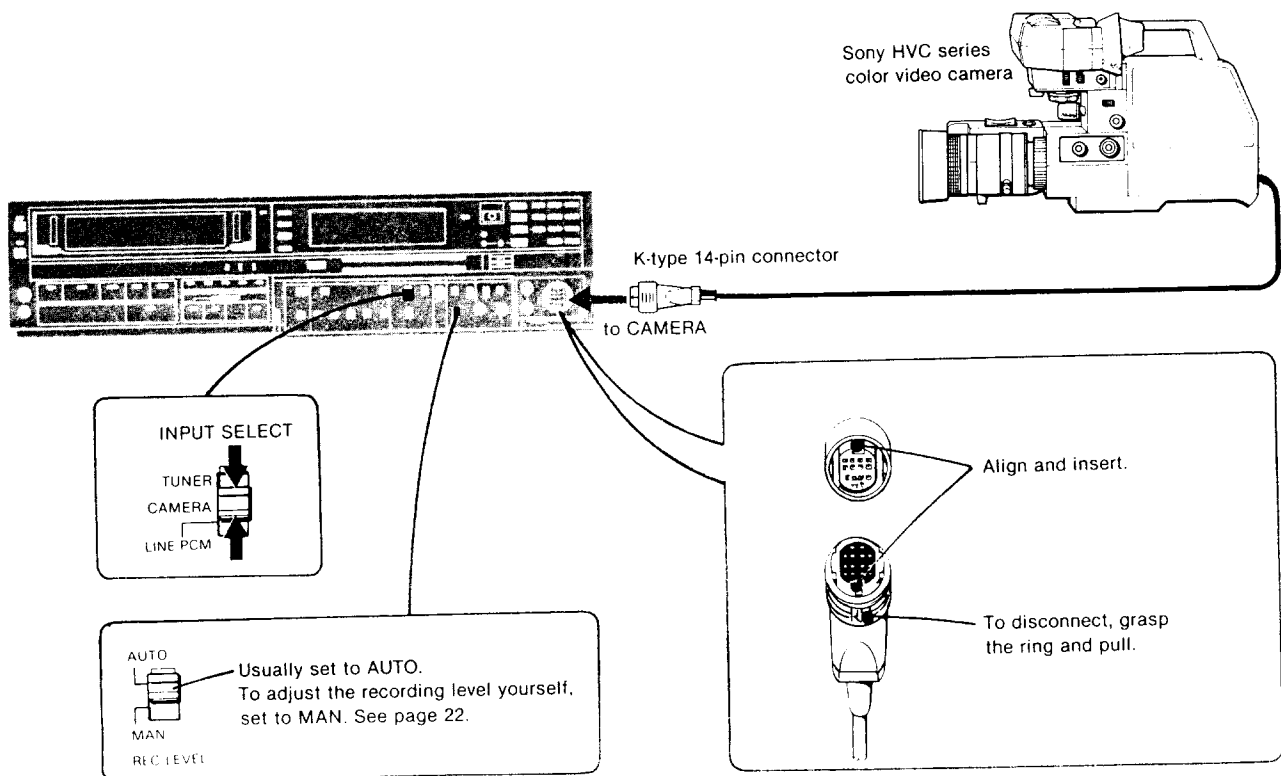
The Swing Search operations are the same as those with the buttons on the recorder. To resume normal playback, press the ▶ PLAY button.

CAMERA RECORDING ... To produce your own programs

CONNECTIONS

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

Connect a power source first, then make the camera connection.



To connect a camera which is not equipped with a K-type 14-pin connector

Use an ac adaptor. Connect the video output of the ac adaptor to the VIDEO/PCM IN jack of the recorder and the audio output of the ac adaptor to the AUDIO IN jack or the MIC jack of the recorder depending on the audio output level of the ac adaptor. Set the INPUT SELECT switch to LINE/PCM.

Note :

If you want to use a camera not recommended in this manual, make sure that the power requirement of the camera is DC 12 V and power consumption is under 10 W. Otherwise, the video cassette recorder will be damaged.

TO RECORD THE SOUND FROM EXTERNAL MICROPHONES

Plug a microphone (or microphones) into the MIC jack(s). When microphones are connected to both L and R MIC jacks, the sound from the camera is disconnected. When a microphone is connected to the L MIC jack, the sound from the camera is recorded on the R channel ; when it is connected to the R MIC jack, the sound from the camera is recorded on the L channel.

Do not move the INPUT SELECT switch during recording or playback when using a Sony HVC-2000 or HVC-2200 video camera. If you do, the recorder will be set into the pause mode. When the recorder stops, turn the power off and turn it on again.

OPERATING PROCEDURE

1 Turn on the power and insert a cassette.

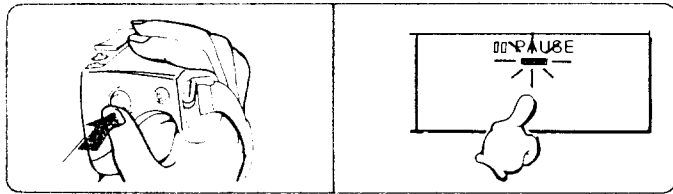
2 Make necessary adjustments on the camera.
For details, refer to the camera's instruction manual.

3 While holding ● REC pressed, press ► PLAY.
The recorder will be set into the recording pause mode.

4 Press the tape run/stop button on the camera.
Recording will begin.

To momentarily stop the recording

Press the tape run/stop button on the camera or the PAUSE button on the recorder. To restart the recording, press the same button again.



Automatic release: to protect the video heads and the tape, the pause mode will be automatically released after about 8 minutes. The recorder will revert to the record mode.

TO MONITOR THE PICTURE BEING RECORDED WITH A CAMERA

Turn on the TV, select the channel for the video recorder and press the PROGRAM SELECT button on the recorder to light up the VTR lamp.

RECORDING REVIEW

When a camera having a recording review function, such as the HVC-2200*, HVC-2400, HVC-2500, HVC-2800, is used

Press the recording review button in the recording pause mode. The last few seconds of recorded scene will be played back immediately so that you can check whether the recording has been made correctly.

The recorder will then enter the recording pause mode at the point where the recording review button was pressed. To continue recording, press the tape run/stop button on the camera.

***For customers who have a HVC-2200 camera**

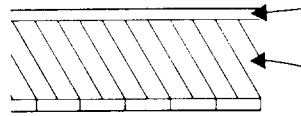
The small projection located near the zoom button is a recording review button. If this button is covered with a plastic cap, carefully peel off the cover over the button with a screwdriver or similar object.

Caution:

Make sure that the plastic cap has not already been removed, and inadvertently attempt to pry up the button itself.

DUBBING AUDIO

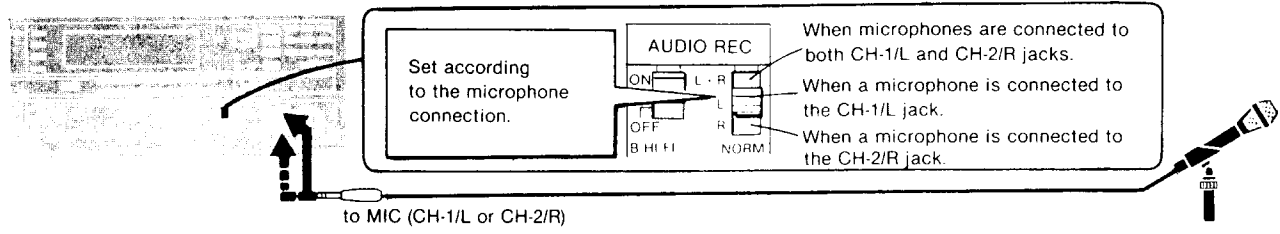
You can record additional music or commentary on any recorded tape.
 The new sound is recorded on the conventional audio track so the Beta hi-fi recording and the picture remain unchanged.



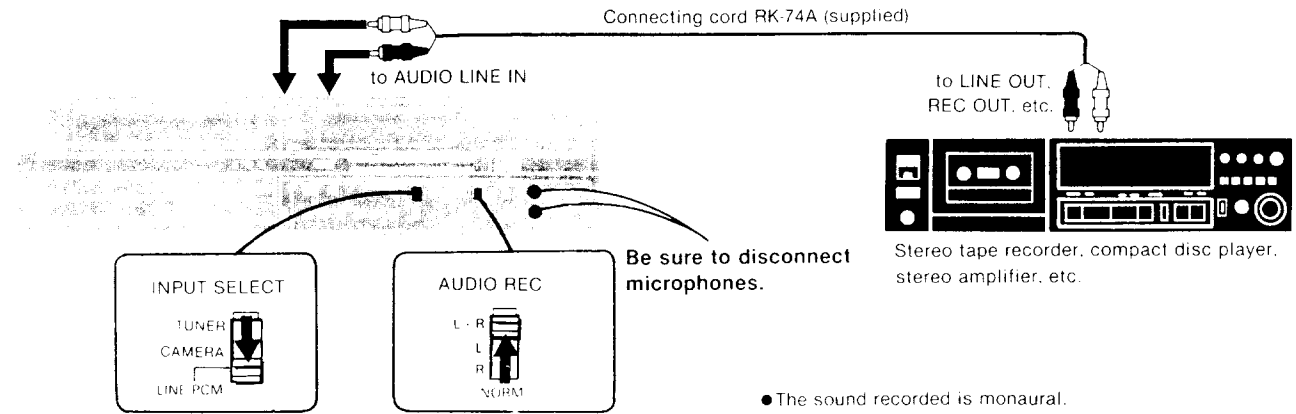
Conventional audio track : previously recorded sound will be erased and new sound will be recorded.
 Video/audio FM track : Previously recorded picture and Beta hi-fi recording will remain.

CONNECTIONS

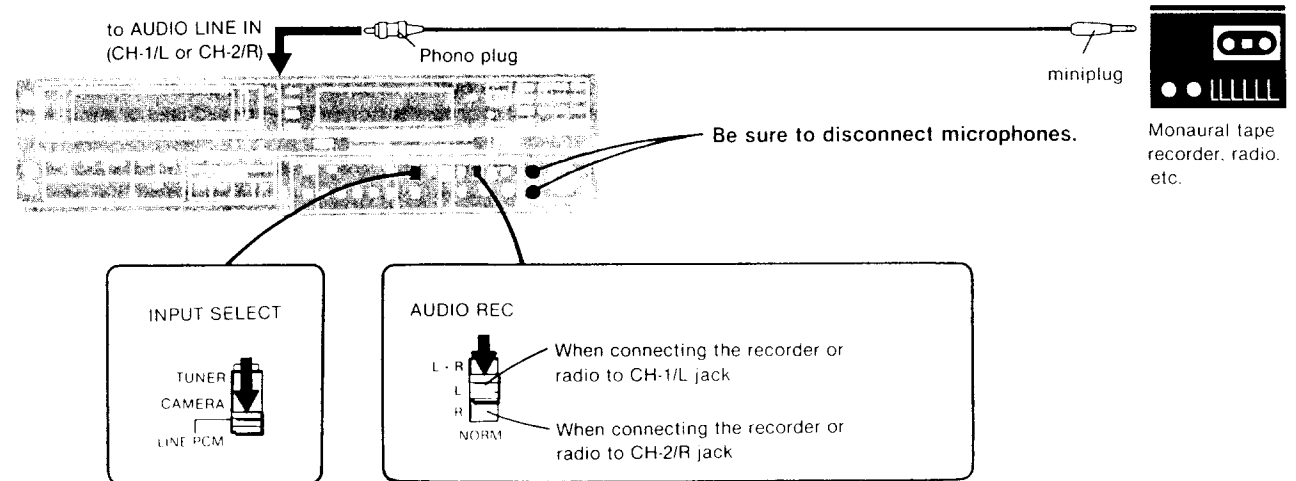
1 To record microphone sound



2 To record from an audio equipment

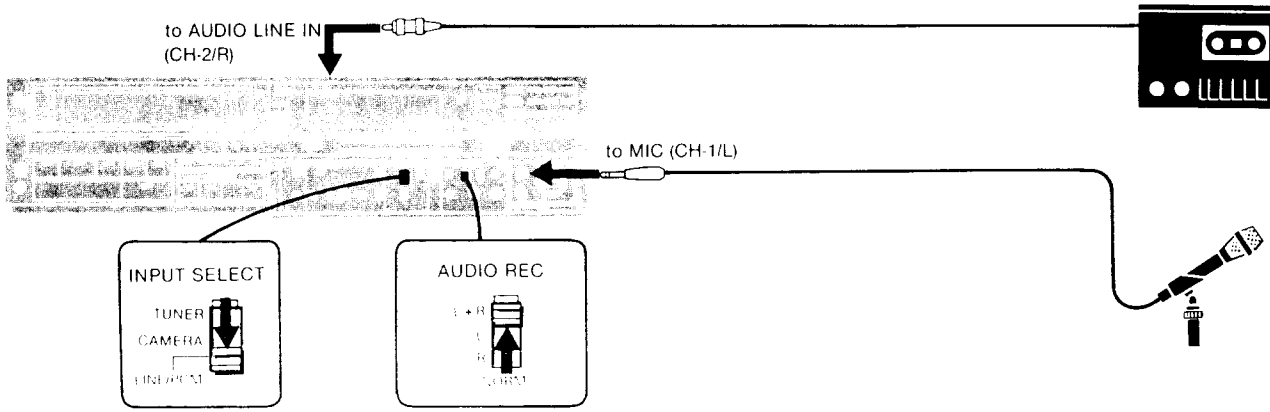


3 To record from a monaural tape recorder or radio

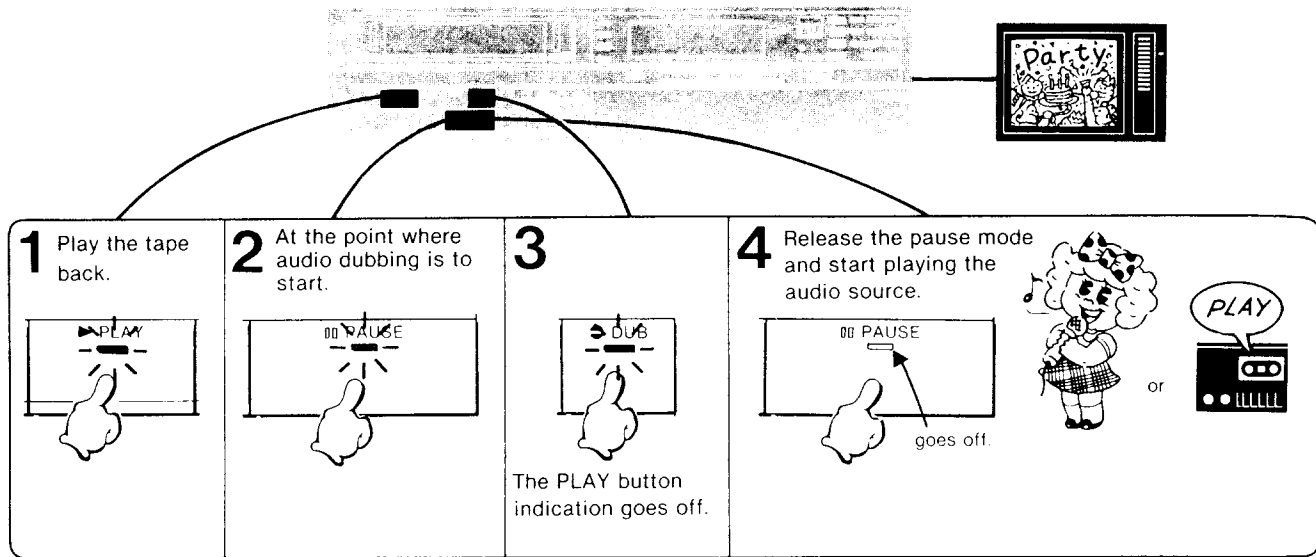


4 To record mixed sound of music and commentary

Example :



HOW TO DUB



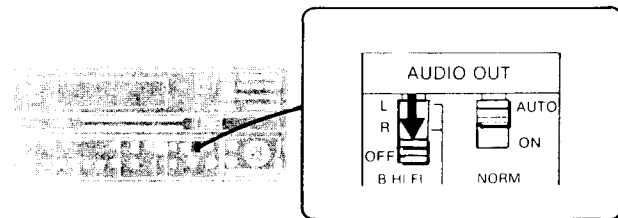
To stop the tape momentarily during dubbing, press the **|| PAUSE** button.

To stop dubbing, press the **■ STOP** button. Reset the switches in the front compartment to the green position and unplug the microphone.

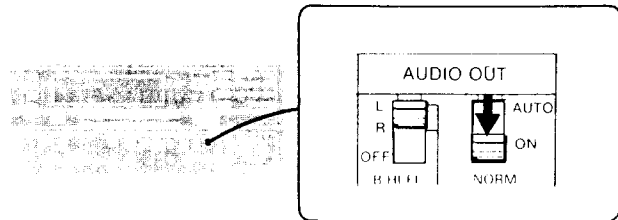
To record from the beginning of the tape, while pressing the **● DUB** button, press the **▶ PLAY** button. Audio dubbing will start immediately.

TO MONITOR THE SOUND

To only monitor the sound being dubbed or the already dubbed sound



To simultaneously monitor both the sound being dubbed or the already dubbed sound and the previously recorded Beta hi-fi sound



TO START RECORDING FROM A PARTICULAR POINT

You can decide the starting point for recording while watching the playback picture or by searching for the point using the Betascan and Swing Search-functions.

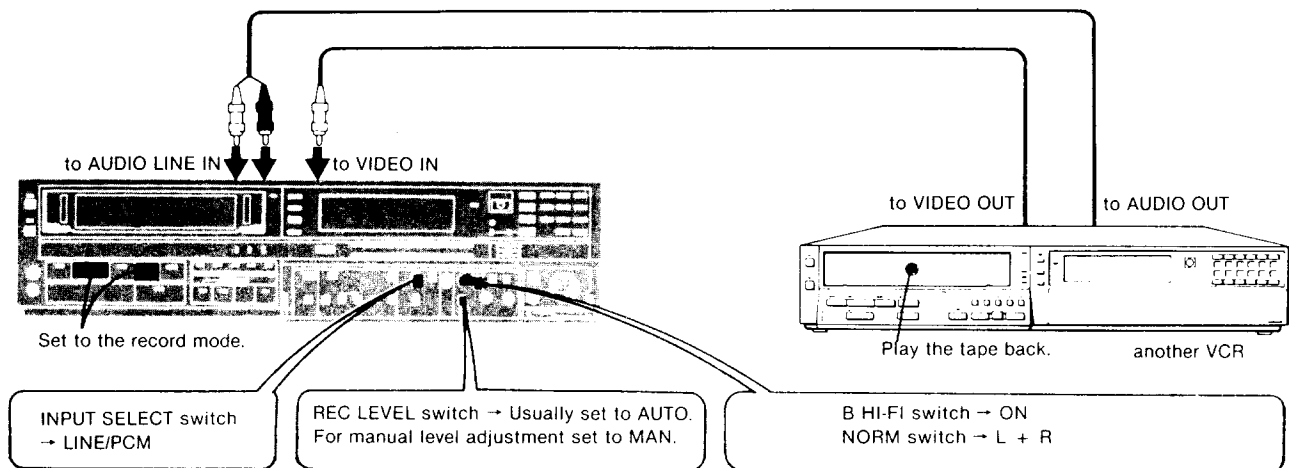
- 1 Search for the point where you wish to start recording on the tape by playing back the tape or using the Betascan or the Swing Search function.
- 2 Press the **|| PAUSE** button to stop the tape where you wish to start recording.
- 3 Press the **● REC** button. The recorder will enter the record pause mode and the picture selected by the INPUT SELECT switch will appear on the monitor screen.
- 4 Press the **|| PAUSE** button to release the pause mode. Recording starts.

● At the starting point of recording, the picture may be distorted or streaks may appear but these are not problem.

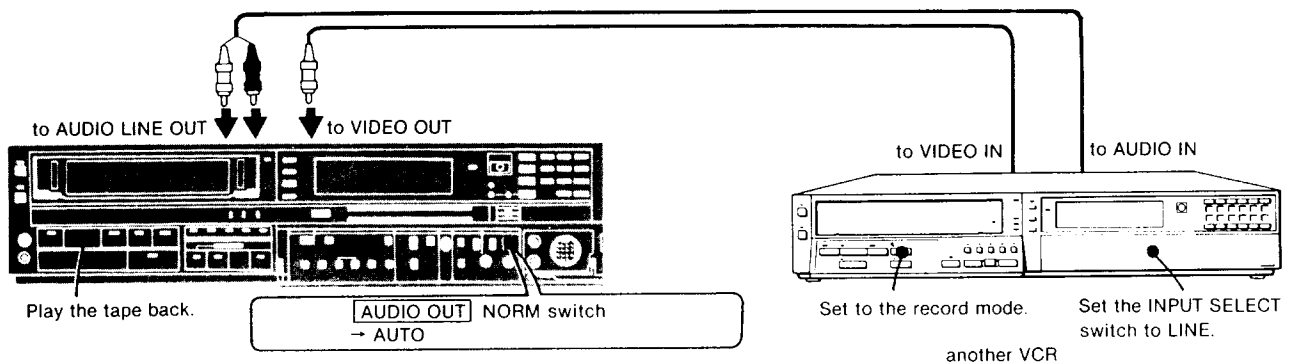
TAPE EDITING

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

To edit a home movie tape by recording from another VCR



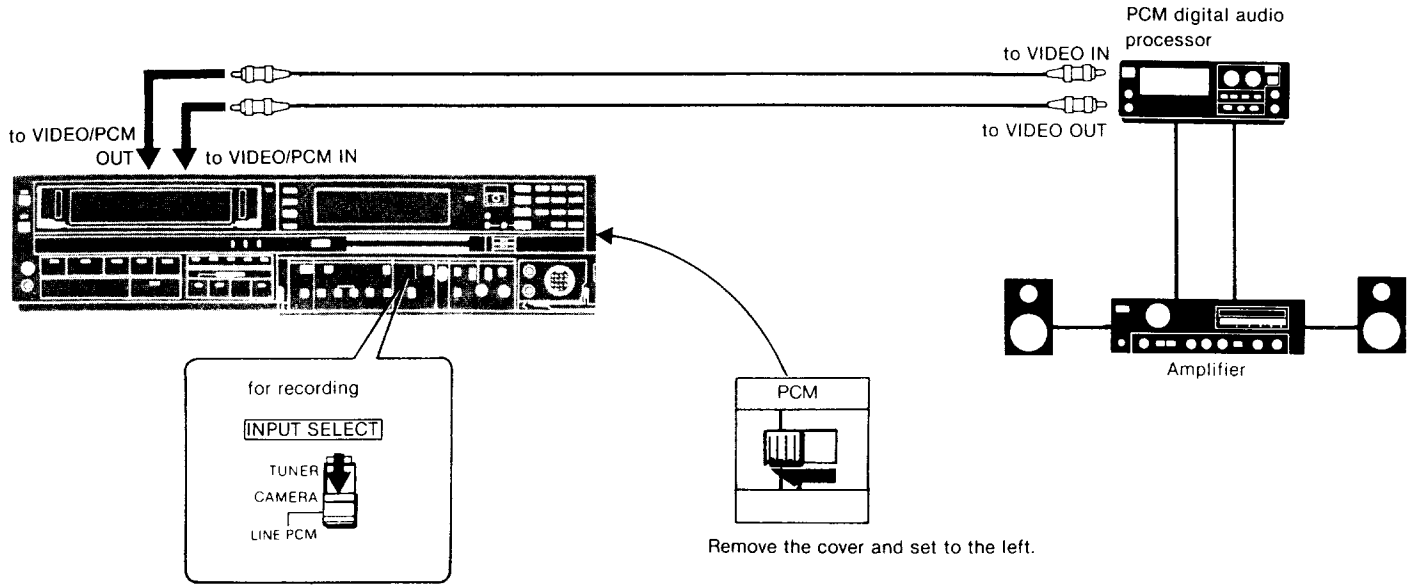
To transfer a home movie recording from the SL-2700/2700B to another VCR



● When transferring a bilingual program, press the STEREO/BILINGUAL button so that the BILINGUAL lamp lights and then select the language to transfer with the AUDIO OUT/B HI-FI switch.

PCM RECORDING AND PLAYBACK

For PCM recording and playback connect an PCM digital audio processor as shown.

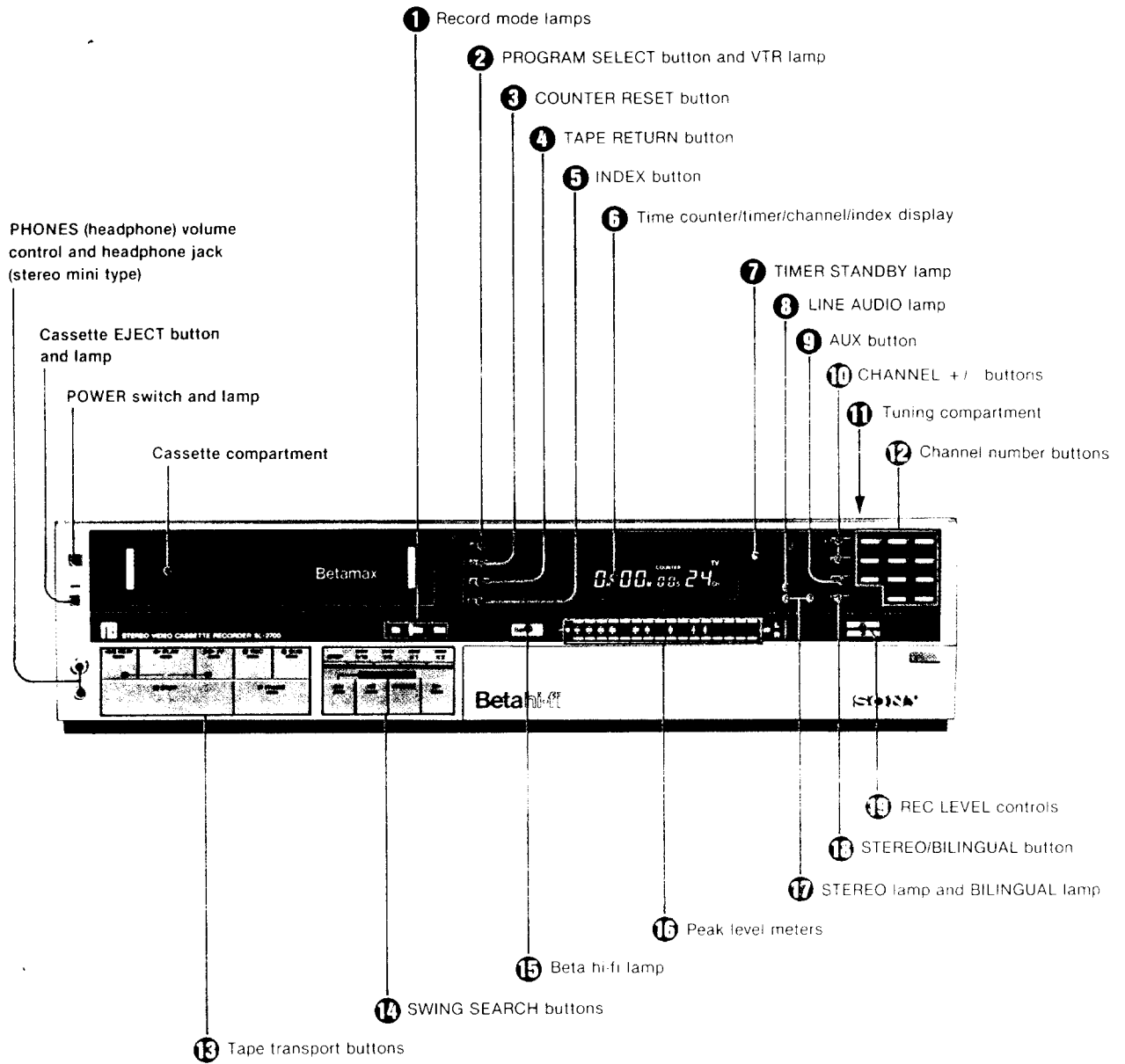


● For optimum results, use a video cassette with a model number L-500 or less (L-250, L-125, etc.) and set the REC MODE selector to **II**.

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

● After PCM recording/playback return the PCM switch to the right and put the cover on again.

FUNCTION OF PARTS AND CONTROLS



① Record mode lamps

ⓑ or ⓑ lights according to the position of the record mode selector during recording.

When playing back, the record mode is automatically detected and the corresponding lamp will light.

② PROGRAM SELECT button and VTR lamp

To view a TV program selected by a channel select button on the recorder or to monitor the picture being recorded press to set the button to ON-VTR, so that the VTR lamp lights up.

The recorder is automatically set in this mode when the PLAY button is pressed.

To view a TV program in the usual manner, press this button so that the lamp goes off (OFF-TV). When the recorder is turned off, the recorder is automatically set in this mode.

③ COUNTER RESET button

Press to reset the time counter to "0H00M00s".

④ TAPE RETURN button

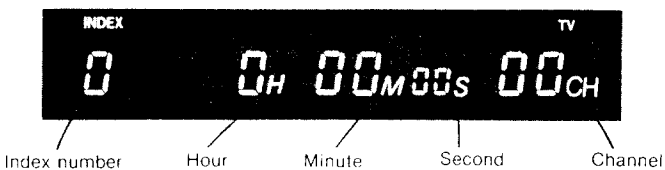
Press this button in the stop mode to return the tape to the "0H00M00s" point on the time counter.

⑤ INDEX button

Press to activate the index function and to set the number of the recorded program you want to view. The selected number will be displayed.

⑥ Time counter/timer/channel/index display

When the recorder is turned on, this shows the tape running time at the normal playback speed, the channel number, and the index number.



When the recorder is turned off the display shows the current time and during the timer setting it shows the timer program.

⑦ TIMER STANDBY lamp

Lights up when the recorder is set in the timer standby mode.

⑧ LINE AUDIO lamp

Lights up when the AUDIO switch in the front compartment is set to LINE.

⑨ AUX button

Press to select the program from the VHF IN/AUX terminal. "PP" appears in the channel display.

⑩ CHANNEL +/- buttons

Press the + or - button to scan the prememorized channels higher or lower.

⑪ Tuning compartment

NOR (normal)/CATV select switch: Set to NOR to view normal TV programs and to CATV to view CATV programs.

ADD button: Press to add desired channels when presetting channels.

ERASE button: Press to erase inactive channels.

AUX PRESET button: To preset the output channel number of the captions decoder press this button.

⑫ Channel number buttons

Press to directly select the desired channels by pressing the appropriate buttons. For channels 2 through 9, press the 0 button first.

When you select an incorrect tens-digit or forget to first press 0 for channels 2 through 9, press the CLEAR button. The display will show " ".

⑬ Tape transport buttons

◀◀REW (rewind) button: Pressing this button during playback enables you to see a high-speed playback in reverse (Betascan).

▶▶PLAY button: When the ◀◀REW button is pressed at the same time as this button, the tape will automatically play back after it has been completely rewound.

▶▶FF (fast-forward) button: Pressing this button during playback lets you see high-speed playback (Betascan).

●REC (record) button: To start recording, press the ▶▶PLAY button while pressing this button.

●DUB (audio dub) button: Press during playback pause mode to record music or commentary onto any recorded video tape.

■STOP button: Press to stop the tape.

||PAUSE button: Press to stop the tape for a moment during recording or playback. Press again to release the pause mode.

⑭ SWING SEARCH buttons

STEP, 1/10, 1/5, X1, X2 buttons: Select one of these playback speeds. SWING SEARCH—ON button: Press during playback to activate the Swing Search function.

◀ (reverse), FREEZE, ▶ (forward) buttons: Select one of these types of playback.

⑮ Beta hi-fi lamp

Lights up while recording with the B HI-FI switch ON or while playing back a tape recorded on the B HI-FI system.

⑯ Peak level meters

Show the peak input level of each channel during recording and the recorded levels during playback.

⑰ STEREO lamp and BILINGUAL lamp

When playing back, the lamps light according to the setting of the STEREO/BILINGUAL button.

⑱ STEREO/BILINGUAL button

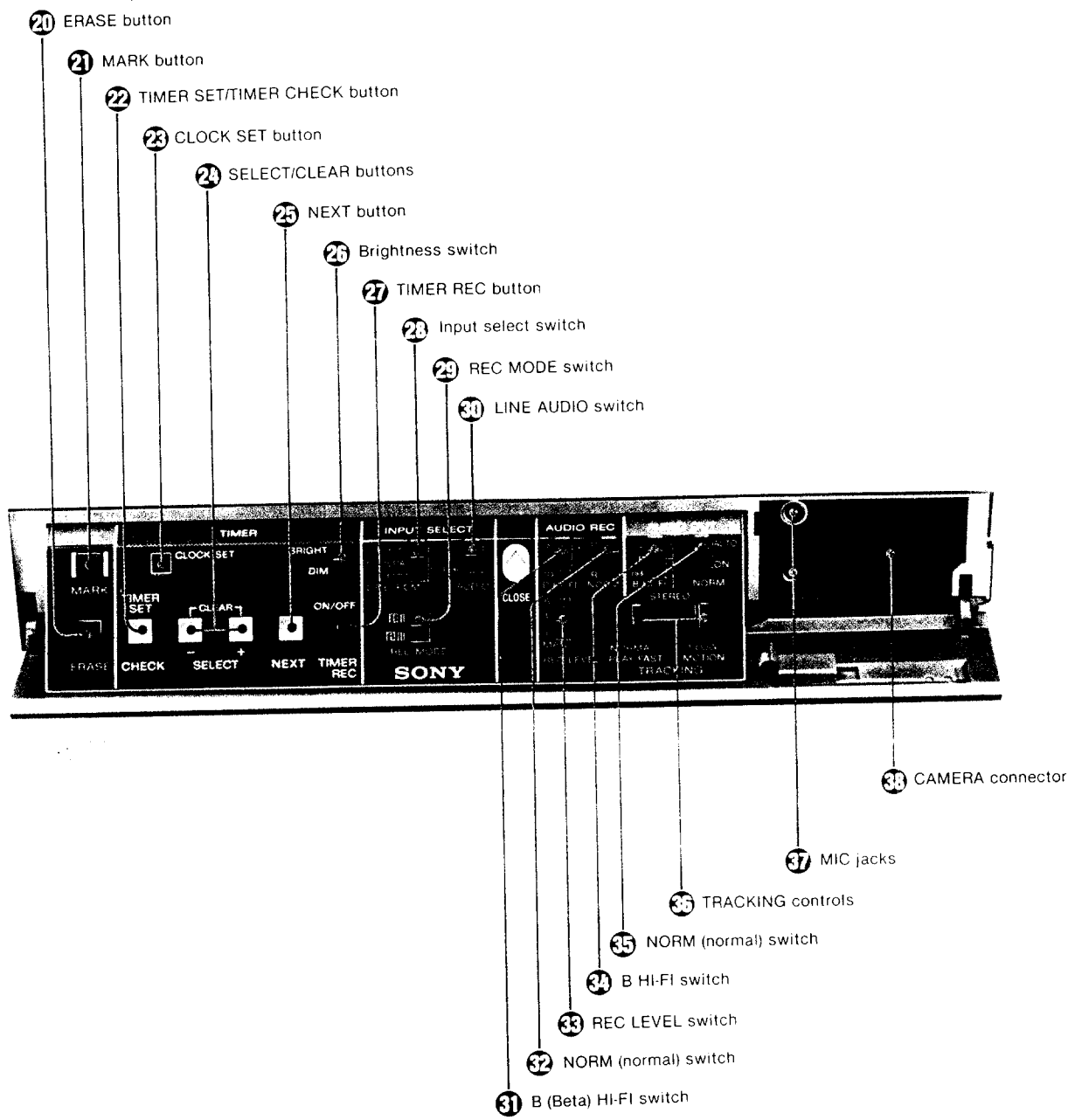
Press so that the BILINGUAL lamp lights to playback a tape on which a bilingual program is recorded. For other tapes, set this button to STEREO so that the STEREO lamp lights.

⑲ REC LEVEL controls

When recording with the REC LEVEL switch set to MAN, adjust the recording level with these controls so that the level meters deflect to about 0 dB at the highest signal level passages.

When the B HI-FI switch is OFF, these controls do not activate.

Behind front panel



INDEX

Ⓜ ERASE button

From the top of the tape, count off the number of the index signal you want to erase and display the number by pressing the INDEX button. Then press this button.

Ⓜ MARK button

Play the tape and press this button at the point where an index signal is to be inserted.

TIMER

Ⓜ TIMER SET/TIMER CHECK button

Press to set the timer for recording.

To check the contents of a timer program, press this button.

Ⓜ CLOCK SET button

Press to set the clock.

Ⓜ SELECT/CLEAR buttons

Press to set the blinking indication when setting the clock and the timer programs. To erase the contents of a timer program, press these buttons simultaneously.

Ⓜ NEXT button

Press to memorize the item set by the SELECT buttons.

Ⓜ Brightness switch

Select the brightness of the display, BRIGHT or DIM.

Ⓜ TIMER REC button

Press to set the recorder in the timer recording standby mode. The TIMER STANDBY lamp will light up.

INPUT SELECT

Ⓜ Input select switch

TUNER: for TV programs

CAMERA: for camera signals connected to the CAMERA connector.

LINE/PCM: for signals from the VIDEO IN and AUDIO IN jacks.

Ⓜ REC MODE switch

This selects the recording speed. **Ⓜ II** or **Ⓜ III**.

The recording time of any given cassette in the **Ⓜ III** mode is 1.5 times that in the **Ⓜ II** mode.

The playback speed is automatically set regardless of this switch.

Ⓜ AUDIO switch

Usually set this switch to the upper position.

When an FM tuner is connected to record the FM simulcast program, set this switch to LINE.

AUDIO REC

Ⓜ B (Beta) HI-FI switch

ON: Usually set to this position. A program is recorded with the Beta hi-fi system.

OFF: If you wish to record a tape only in the conventional way, set to this position.

Ⓜ NORM (normal) switch

Selects the sound to be recorded on the conventional audio track.

L + R: Usually set to this position.

L: When you dub audio onto a previously recorded tape, set to this position to record the sound connected to the CH-1/L jack.

R: When you dub audio onto a previously recorded tape, set to this position to record the sound connected to the CH-2/R jack.

Ⓜ REC LEVEL switch

AUTO: Recording level is automatically adjusted.

MAN (manual): When you wish to adjust the recording level yourself with the REC LEVEL controls, set to this position.

AUDIO OUT

Ⓜ B HI-FI switch

L: Usually set to this position. When monitoring bilingual programs, the language recorded on the L channel can be heard and when monitoring stereo programs, the sound can be monitored in stereo.

R: To monitor the language recorded on the R channel of a bilingual program, set to this position.

OFF: To monitor the sound recorded on the conventional audio track (for example, while dubbing audio) set to this position.

Ⓜ NORM (normal) switch

AUTO: Usually set to this position. Depending on the tape being played back, Beta hi-fi or normal audio is automatically selected.

ON: To monitor the sound being dubbed onto the conventional audio track together with the previous Beta hi-fi recording, set to this position.

OTHERS

Ⓜ TRACKING controls

To eliminate the streaks or snow for a FREEZE, Step-by-Step or slow motion playback, turn the right control (SLOW MOTION). To eliminate the streaks or snow in a double speed or reverse playback picture, or for playback of a cassette recorded on another video cassette recorder, turn the left control (NORMAL/FAST PLAY).

Return the controls to the center position after viewing the picture.

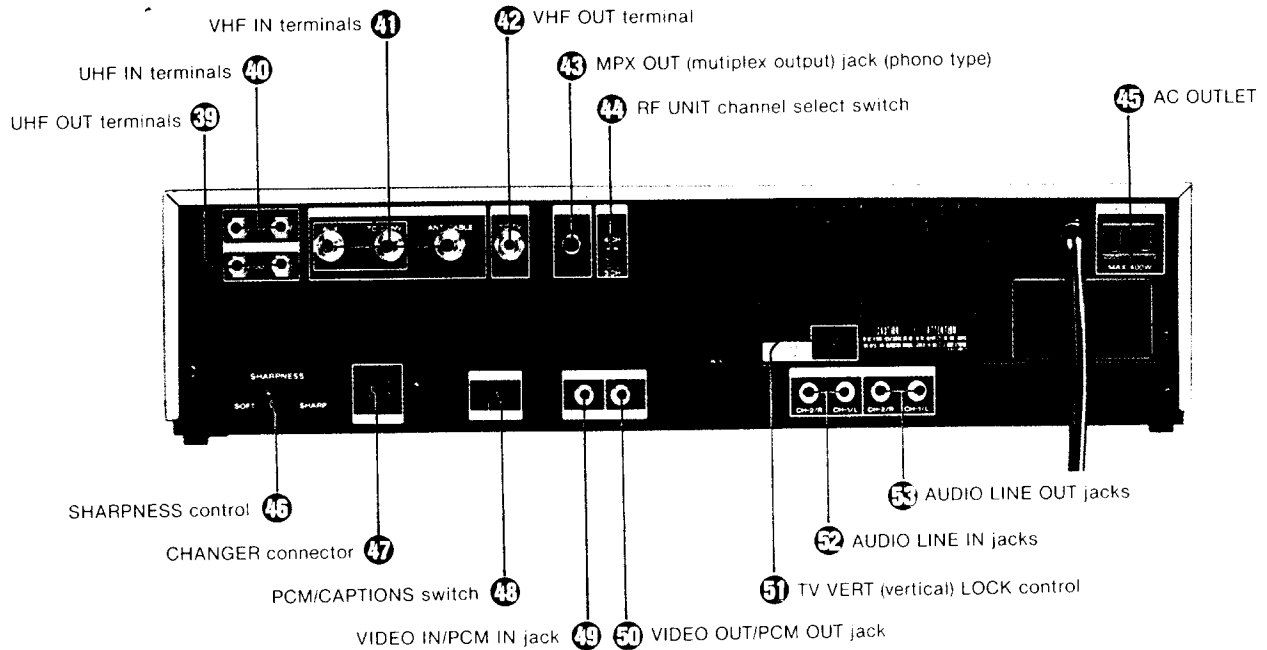
Ⓜ MIC jacks (mini type)

Connect microphones here. If your microphones have phone-type plugs, use plug adapters, such as the Sony PC-IA.

Ⓜ CAMERA connector (14-pin, K-type)

Connect a Sony HVC series video camera here.

Rear panel



39 UHF OUT terminals

Connect to the UHF antenna terminals of the TV receiver to be able to view UHF TV programs even when the recorder is turned off.

40 UHF IN terminals

Connect a UHF TV antenna here.

41 VHF IN terminals

ANT/CABLE: Connect a VHF TV antenna or CATV cable here.
TO CONV: Connect to the input of the captions decoder.
AUX: Connect to the output of the captions decoder.

42 VHF OUT terminal

Connect to the VHF antenna terminal of the TV receiver. The signal of a VCR program converted to channel 3 or 4 and the VHF TV signal will be supplied to the TV receiver.

43 MPX OUT (multiplex output) jack (phono type) *MLV1100*

This allows a special adaptor to be connected for any future multichannel sound (stereo, bilingual, etc.) TV broadcasts.

44 RF UNIT channel select switch

Selects the channel for the VCR program and the output from the VHF OUT connector. Set the switch to 3 CH or 4 CH, whichever is not active in your area.

45 AC OUTLET

This unswitched outlet supplies ac power to video or audio equipment with power consumption under 400 watts.

46 SHARPNESS control

Adjusts the sharpness of the picture in the playback mode.

47 CHANGER connector

Connect an optional AG-500 auto cassette changer.

48 PCM/CAPTIONS switch

Usually set to the right position. For PCM recording and playback using a PCM digital audio processor, or for receiving captioned TV programs, remove the cover and set this switch to the left position.

49 VIDEO IN/PCM IN jack (phono type)

Connect the video output of another video cassette recorder, camera adaptor, etc. For PCM recording, connect an PCM digital audio processor.

50 VIDEO OUT/PCM OUT jack (phono type)

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

51 TV VERT (vertical) LOCK control

If picture rolls vertically during slow speed, step-by-step, or freeze playback mode, adjust this control. Once you adjust this control to your TV, you do not need adjust it any more.

52 AUDIO LINE IN jacks (phono type)

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

53 AUDIO LINE OUT jacks (phono type)

Connect the audio input of a color monitor, TV, another video cassette recorder, or connect to a stereo system.

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 B BIII : 1.33 cm/sec. BII : 2.0 cm/sec. BI : 4.0 cm/sec. (only for playback) |
| Maximum recording time | BIII : 5 hours BII : 3 hours 20 min. (with Sony L-830 cassette) |
| Fast forward and rewind time | Approx. 3½ min. (L-500) |
| Audio frequency response | Beta hi-fi OFF BII : 50 - 10,000 Hz BIII : 50 - 7,000 Hz Beta hi-fi ON BII, BIII : 20 - 20,000 Hz |
| Wow and flutter | Beta hi-fi ON Less than 0.005% WRMS |
| Dynamic range | Beta hi-fi ON More than 80 dB |

Tuner section

| | |
|-------------------|--|
| Channel coverage | VHF channels 2 - 13 UHF channels 14 - 83 CATV mid-band channels A-2, A-1, A through I, super-band channels J through W |
| VHF output signal | Channel 3 or 4 (selectable) 75 ohms, unbalanced |
| Antenna | 75-ohm antenna terminal for VHF IN ANT/CABLE, TO CONV and AUX 300-ohm antenna terminals for UHF |

Inputs and outputs

| | |
|------------------|--|
| Video input | Phono jack (1) 1 V p-p ±0.5 V p-p, 75 ohms, unbalanced, sync negative |
| Video output | Phono jack (1) 1 V p-p ±0.5 V p-p, 75 ohms, unbalanced, sync negative |
| Audio input | Phono jacks (2) -10 dBs (0 dBs = 0.775 V rms), more than 47 k ohms |
| Audio output | Phono jacks (2) -10 dBs (at load impedance 47 k ohms) More than 10 k ohms |
| Camera connector | 14-pin K-type connector (1) Video in : 1 V p-p ±0.5 V p-p 75 ohms, unbalanced, sync negative Video out : 1 V p-p ±0.5 V p-p 75 ohms unbalanced, sync negative Audio in : -20 dBs Audio out : -5 dBs Power supply output : 12 V dc |
| Mircophone input | Minijacks (2) -60 dBs, for low-impedance microphone |
| Headphone jack | Stereo minijack (1) -26 dBs, 8 ohms |

Timer section

| | |
|-----------------|---|
| Clock | Quartz-lock system |
| Time indication | 12-hour cycle |
| Timer setting | Only to start and stop recording 4 programs can be set over 14 days. |
| Power back up | Self-charging battery incorporated Back-up duration : up to 60 minutes at one time (after the battery has been charged at least 40 hours.) |

General

| | |
|-----------------------|--|
| Power requirements | 120 V ac ±10%, 60 Hz ±0.5% (PX model : 50/60 Hz ±0.5%) |
| Power consumption | 38 W (VCR) 58 W (max. with accessories) |
| AC outlet | Unswitched max. 400 W |
| Operating temperature | 5°C to 40°C (41°F to 104°F) |
| Storage temperature | -20°C to +65°C (4°F to +149°F) |
| Dimensions | Approx. 430 × 105 × 355 mm (w/h/d) (17 × 4¼ × 14 inches) incl. projecting parts and controls |
| Weight | Approx. 11.2 kg (24 lb 11 oz) net |

Remote Commander RMT-317

| | |
|-----------------------|--|
| Remote control system | Infrared control |
| Power requirements | 3V dc, 2 size AA batteries (IEC designation R6) |
| Dimensions | Approx. 65 × 18 × 150 mm (w/h/d) (2½ × ¾ × 6 inches) incl. projecting parts and controls |
| Weight | Approx. 140 g (5 oz) incl. batteries |

Accessories supplied


| | |
|---|---|
| Betamax video cassette tape | 1 |
| External antenna connector | |
| EAC-25 (300-ohm to 75-ohm matching transformer) | 1 |
| 75-ohm coaxial cable with F-type connectors (2 m, 6 feet) | 1 |
| 300-ohm twin lead (2 m, 6 feet) | 1 |
| Connecting cord RK-74A | 1 |
| Remote Commander RMT-317 with two size AA batteries | 1 |

Design and specifications subject to change without notice.

TROUBLE CHECKS

If any difficulty should arise during operation, check through this list of symptoms and possible causes. Should the difficulty persist, unplug the unit and contact the dealer from whom this unit was purchased, or a local Sony authorized service facility.

Before going through the check list below, first check to see whether the power cord is connected firmly to a working outlet and whether the POWER switch is turned ON.

| | Symptom | Possible causes and corrections |
|------------------------|---|---|
| POWER | POWER switch does not function. | <ul style="list-style-type: none"> ● The power cord is disconnected. ● The recorder is in the timer standby mode. Press the TIMER REC button so that the TIMER STANDBY lamp goes off. |
| CLOCK AND TIMER | The clock has stopped at "SUN AM 12:00" | <ul style="list-style-type: none"> ● There has been a power interruption. Reset the clock time and timer settings. |
| | Timer setting cannot be made. | <ul style="list-style-type: none"> ● The clock time is 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 on the TV receiver is not correctly tuned. ● The antenna connections are not correct. ● The TV signal is weak. Adjust the direction of the antenna. ● The ac power cord of the recorder is disconnected. |
| RECORDING AND PLAYBACK | No picture on the TV screen during recording or playback. | <ul style="list-style-type: none"> ● The TV's channel is not set to that preset for the video recorder. ● The channel preset for the video recorder has not been fine-tuned. |
| | Picture being recorded cannot be monitored on the TV screen. | <ul style="list-style-type: none"> ● Press the PROGRAM SELECT button so that the VTR lamp lights. |
| | No recording | <ul style="list-style-type: none"> ● The safety tab on the cassette has been removed. |
| | The desired program has not been recorded. | <ul style="list-style-type: none"> ● The INPUT SELECT switch has not been set correctly. ● When camera recording, the tape run/stop button on the camera has not been operated correctly. |
| | The displayed picture on the TV screen is not clear. | <ul style="list-style-type: none"> ● The CAPTIONS/PCM switch is set to the left. ● The SHARPNESS control is not properly adjusted. |
| | Streaks or snow on the picture | <ul style="list-style-type: none"> ● The cassette being played has been recorded on another video recorder. Adjust the NORMAL/FAST PLAY TRACKING control. |
| | Noisy picture  | <ul style="list-style-type: none"> ● The video heads may be contaminated. Clean the heads using the Sony L-25CL video head cleaning cassette. For details on cleaning, refer to the instructions furnished with the cleaning cassette. If the L-25CL cleaning cassette is not available in your area, have the heads cleaned at the nearest Sony service facility. |
| | Distorted or noisy sound | <ul style="list-style-type: none"> ● Recording level was not properly adjusted when recording with the REC LEVEL switch at MAN. |
| | Sound drop-outs of a Beta hi-fi recorded tape | <ul style="list-style-type: none"> ● The tape is defective. Use a new video cassette tape. |
| | Timer recording cannot be made correctly. | <ul style="list-style-type: none"> ● The clock time is not set correctly. ● The turn-on day and the turn-on time have not been set correctly. ● The TIMER REC button has not been pressed. ● There has been a power interruption. ● The cassette inserted has had the tab removed or no cassette has been inserted. ● The INPUT SELECT switch is not set to TUNER. ● Two or more timer settings overlap. |

| | Symptom | Possible causes and corrections |
|--|---|---|
| REMOTE CONTROL | The recorder cannot be remotely controlled. | <ul style="list-style-type: none"> ● The remote control unit is not pointed to the detector on the recorder. ● The remote control unit is too far away from the recorder. ● There is an obstacle between the remote control unit and the recorder. ● The batteries are exhausted. |
| OTHERS | The time counter does not operate even if the tape moves. | <ul style="list-style-type: none"> ● The tape is brand-new. ● It will not operate with the unrecorded portion of a tape. |
| | The function buttons cannot be activated. | <ul style="list-style-type: none"> ● The tape is at either end of its travel. |
| | Cassette cannot be inserted. | <ul style="list-style-type: none"> ● The recorder is turned off. ● The cassette being inserted is reversed. ● Another cassette has already been inserted. |
| | The cassette cannot be ejected. | <ul style="list-style-type: none"> ● The recorder is turned off. ● The tape is moving. |
| | Audio dubbing cannot be made. | <ul style="list-style-type: none"> ● The cassette inserted has had its safety tab removed. ● The tape to be dubbed is blank. ● When the AUDIO IN jack is used, nothing should be connected to the MIC jack and the INPUT SELECT switch should be set to LINE/PCM. |
| | The tape stops suddenly during operation. | <ul style="list-style-type: none"> ● The safety device which protects the video cassette tape and recorder has activated. Reactivate the previous tape transport mode. |
| | The function buttons cannot be activated with the EJECT lamp lit, immediately after the cassette has been inserted into the recorder. | <ul style="list-style-type: none"> ● The safety device has activated. Press the EJECT button to remove the cassette and re-insert the cassette. |
| | When playing back the stereo recorded tape, the sound cannot be heard in stereo. | <ul style="list-style-type: none"> ● If the BILINGUAL lamp is lit, press the STEREO/BILINGUAL button so that the STEREO lamp lights. |
| When playing back the bilingual program, both languages are heard. | <ul style="list-style-type: none"> ● Press the STEREO/BILINGUAL button so that the BILINGUAL lamp lights. | |