

**SONY**<sup>®</sup>

3-750-822-21 (1)

Video Cassette Recorder <sup>Beta</sup> **B**

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# SL-390

## Operating Instructions

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

## Owner's Record

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

Model No. SL-390      Serial No. \_\_\_\_\_



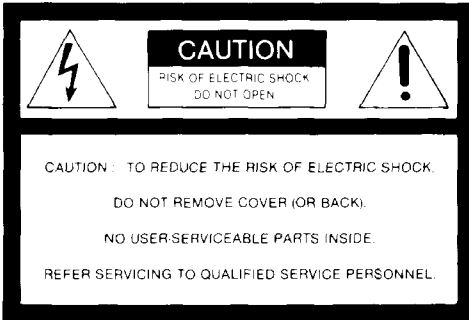
## *Super* Betamax

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

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

# 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.

## For the customers in Canada

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

## INFORMATION

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

### Reorient the receiving antenna

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

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

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

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

## For the customers in Canada

This apparatus complies with the Class B limits for radio noise emissions set out in Radio Interference Regulations.

### Note to CATV system installer:

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.

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# Precautions

## On safety

- This unit operates only on 120 V AC, 60 Hz.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- One blade of the plug is wider than the other for the purpose of safety and it will fit into the power outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

## On installation

- Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation slots.
- Do not install the unit near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- The unit is designed for operation in a horizontal position. Do not install it in an inclined position.
- Keep the unit and cassette tapes away from equipment with strong magnets, as for example microwave ovens or large loudspeakers.
- Do not place any heavy object on the unit.
- Do not install the unit near an AM receiver, since noise may be heard when listening to AM programs.

## On operation

- When the unit is not in use, turn the power off to conserve energy and to extend its life.
- Remove and store video cassettes after recording or playback.
- Store the cassettes in their cases and keep them in an upright position to prevent intrusion of dust and uneven winding.

## On cleaning

Clean the cabinet, panel and controls with a dry, soft cloth or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzine, which might damage the finish.

## On repacking

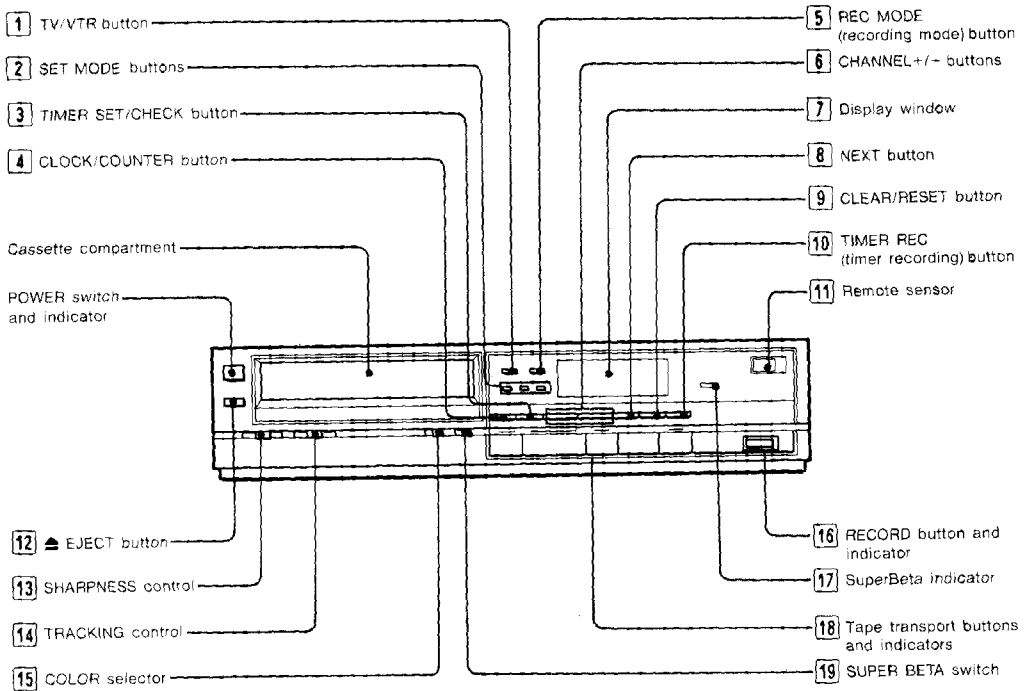
Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit to another location, repack it as illustrated on the carton.

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

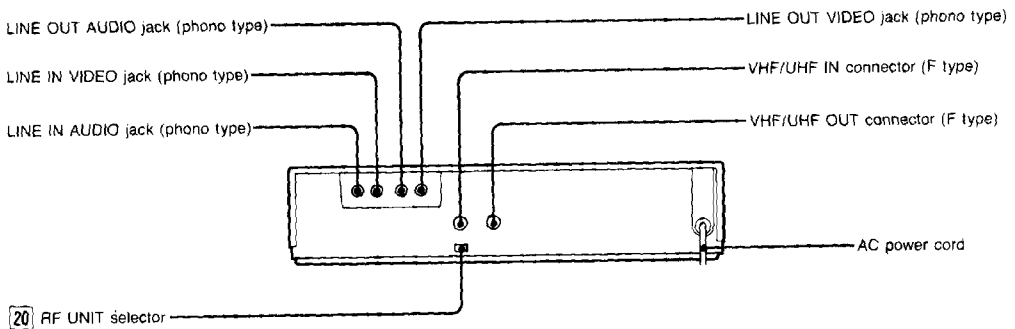
# Location and Function of Controls

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

## Front



## Rear



**1 TV/VTR button**

Press this button to watch the program selected on the recorder. The VTR indicator will appear in the display window. (The VTR indicator will appear automatically when ► PLAY is pressed.)

To watch one TV program while recording another, press this button again. The VTR indicator will disappear.

**2 SET MODE buttons**

**CLOCK:** Press to start setting the current time.

**PRESET:** Press to start presetting TV channels.

**FINE:** Press to start fine-tuning a TV channel.

Press the same button again to cancel the setting mode.

**3 TIMER SET/CHECK button**

Press to start setting or checking the timer program.

**4 CLOCK/COUNTER button**

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

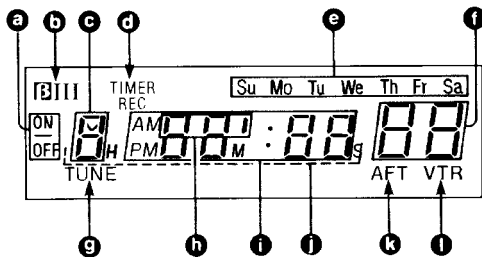
**5 REC MODE button** 

Selects the recording speed.

**6 CHANNEL + / - buttons**

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

**7 Display window**



**a** Timer turn-on and turn-off setting indicators

**b** Tape speed indicator

**c** Tuning band indicator

**d** TIMER REC (timer recording) indicator

**e** Day-of-the-week indicators

**f** Channel number

**g** TUNE indicator

**h** Channel scanning indicator

**i** Clock, timer turn-on time or timer turn-off time

**j** Tape counter

**k** AFT (Automatic Fine Tuning) indicator

**l** VTR indicator

**8 NEXT button**

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

**9 CLEAR/RESET button**

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

**10 TIMER REC button**

Press to activate timer recording.

**11 Remote sensor**

Detects the signals transmitted from the Remote Commander.

**12 EJECT button**

Press this button to eject the cassette.

**13 SHARPNESS control**

Adjust the sharpness of the picture if necessary.

**14 TRACKING control**

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

**15 COLOR selector**

Adjust the color intensity of the playback picture.

**16 RECORD button and indicator**

Press this button to start recording.

**17 SuperBeta indicator**

Lights when the SUPER BETA switch is set to ON.

**18 Tape transport buttons and indicators**

◀◀ REW (rewind), ► PLAY, ►► FF (fast forward), ■ STOP, ■ PAUSE

**19 SUPER BETA switch**

Refer to page 8.

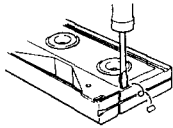
**20 RF UNIT selector** 

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

# Handling the Video Cassettes

## To avoid erasing a recording

Break off the safety tab on the rear of the cassette.



## To re-record the cassette

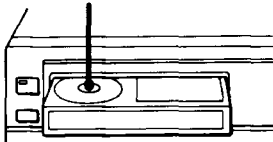
If the safety tab has been removed, re-cover the opening with a piece of cellophane tape.

If you activate RECORD or TIMER REC when the inserted cassette has had its safety tab removed, the cassette will be automatically ejected.

## On loading

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

With the window to the left



## Recording time available in each mode

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

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

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

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## Caution

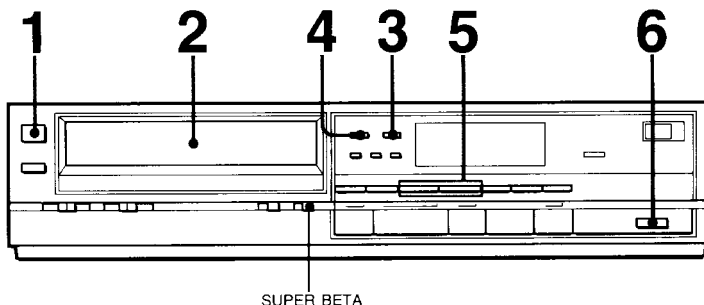
Television programs, films, video tapes and other materials may be copyrighted.

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

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

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Numbers in the illustration show the sequence of operation.



#### Before you begin

- Turn on the TV and select the channel for the recorder.
- Make sure that the SUPER BETA switch is set to ON.
- Make sure that nothing is connected to the LINE IN VIDEO and AUDIO jacks at the rear.

#### Operation

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

**To stop recording, press ■ STOP.**

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

**To eject the cassette, press ▲ EJECT.**

**To turn off the power, press POWER.**

#### Note

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

**To stop the tape momentarily during recording**

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

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

### Recording One TV Program While Viewing Another

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

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

#### Notice

If you select channel 2 or 3 on the TV immediately after changing from watching the video recorder picture, the picture of the channel might not appear on the TV screen. In this case, first change to a different channel on the TV and then select channel 2 or 3 again.

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

#### NOTE

##### ABOUT THE SUPER BETA SYSTEM

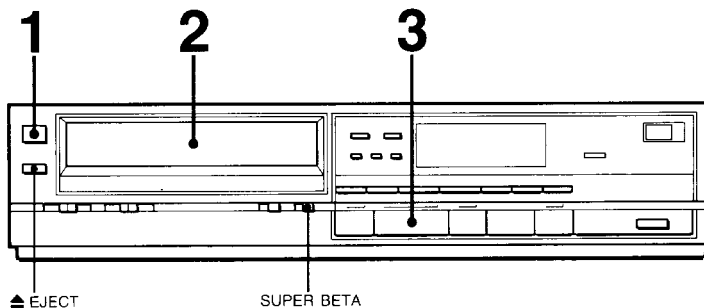
Normally, keep this switch in the "ON" position to obtain high picture quality recording and playback.

Tapes recorded on other non-SuperBeta VCRs can be played on SuperBeta VCRs.

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



Numbers in the illustration show the sequence of operation.



### Before you begin

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

### Operation

- 1 Press POWER.  
The power indicator will light up.
- 2 Insert a cassette.
- 3 Press ► PLAY.

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

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

To rewind the tape, press ◀◀ REW.

To advance the tape rapidly, press ▶▶ FF.

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

## Picture Adjustments

### COLOR selector

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

### SHARPNESS control

Normally set to the center position. Slide it toward SHARP for a sharper picture, or toward SOFT for a softer picture.

### TRACKING control

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

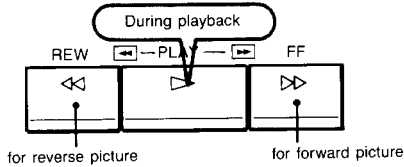
### Freeze Picture

Press **II PAUSE** during playback. A freeze picture will be seen on the screen. To resume playback, press **II PAUSE** again or press **▶ PLAY**. To protect the video heads and the tape, the pause mode will be automatically released after about 8 minutes and playback will resume.

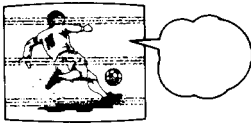
### Betascan

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

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



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



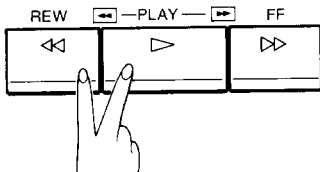
#### Note

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

### Auto Play

#### — To start playback from the beginning of the tape

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



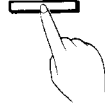
## Use of the Tape Counter

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

### To Index the Tape Contents

Before starting recording or playback, press **CLEAR/RESET** to set the counter to "0H00M00S". By noting the counter reading at the desired point, you can easily find that point later by referring to the counter. Use the label on the cassette to list the programs and their counter readings.

CLEAR/RESET



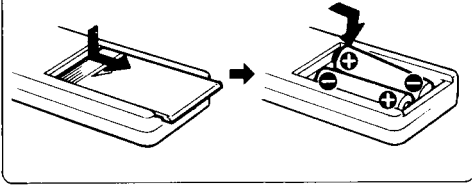
#### Notes

- The counter reading is automatically reset to zero when a cassette is newly inserted.
- The counter reading will be retained in the memory even after the power is turned off, as long as the cassette is in the cassette compartment.
- The counter will not advance during any portion of a tape that is blank or unrecorded. So the counter can be used to find unrecorded sections on a tape.

# Remote Control Operation

## Battery Insertion

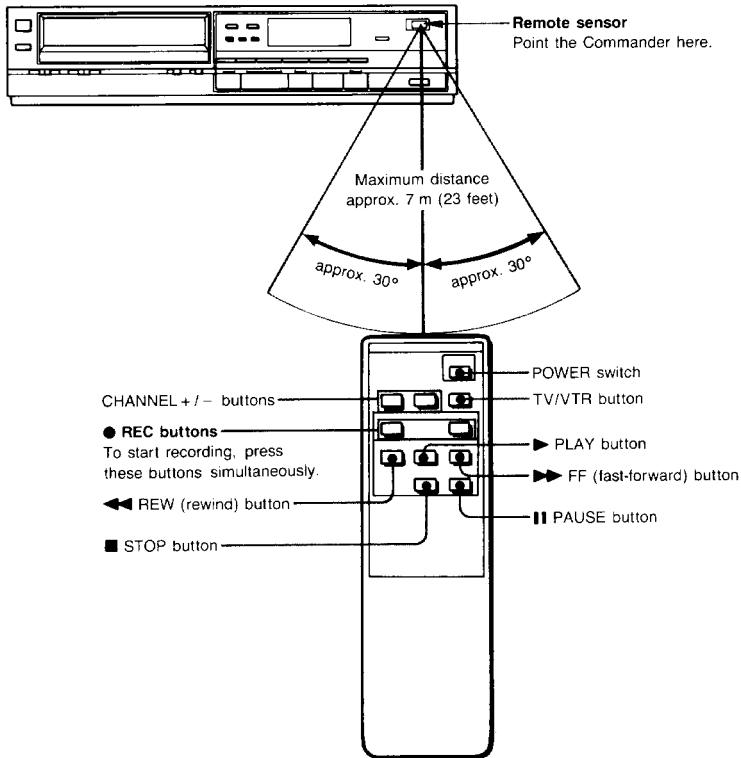
Insert two size AA (R6) batteries with the polarity lined up correctly.



## Battery life

With normal operation, batteries will last for about six months.

## Operation



The buttons on the Commander, except the ● REC buttons, will function the same as the buttons on the recorder with the same name or mark.

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

# Timer-activated Recording

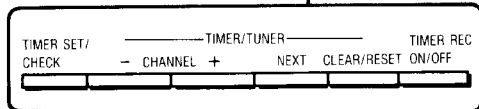
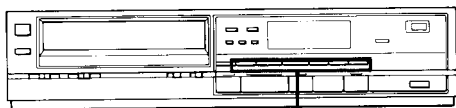
One recording can be preset to be made on any day or every day within seven days.

The clock time must first be set to the correct current time. To set the clock, see page 22.

## Before Setting the Timer

- Make sure the cassette tape is long enough to record the program.
- Be sure the safety tab has not been removed. — If removed, the cassette will be automatically ejected when TIMER REC is pressed.
- Press POWER to turn the power on.
- Be sure a cassette has been inserted in the compartment.
- Select the recording tape speed. Check the **II** or **III** indicator in the window.
- Set SUPER BETA to ON.
- Make sure that nothing is connected to the LINE IN VIDEO and AUDIO jacks at the rear.

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



### CHANNEL +/- buttons

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

### NEXT button

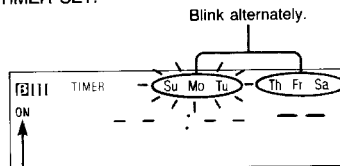
Every time you press the NEXT button, the item to be preset will blink and you will be setting that item.

### Day indication

By pressing the + button, the day indication will change as follows:  
Ex. Today is Friday.

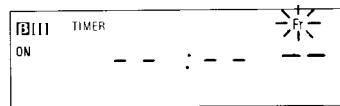
Su Mo Tu We Th Fr Sa → Fr → Sa → ... → Th  
(every day) (today) (tomorrow)

- 1 Press TIMER SET.



Turn-on indicator

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

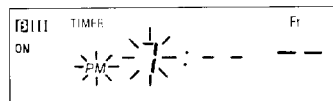


- 3 Press NEXT and set the turn-on hour with the + or - button.

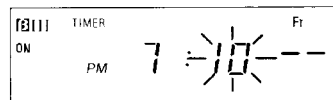
Make sure that AM or PM is properly set.

AM 12:00 = midnight

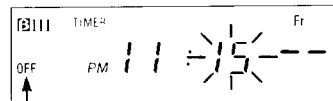
PM 12:00 = noon



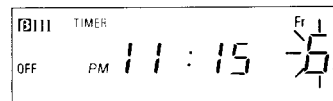
- 4 Press NEXT and set the minute with the + or - button.



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



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

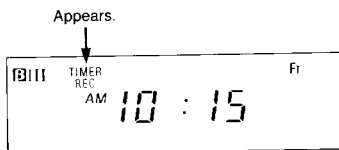


- 7 Press NEXT.

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

### 8 Press TIMER REC.

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



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

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

#### NOTICE:

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

## Before the Timer-activated Recording Starts

### To check the timer settings

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

### To change the settings

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

### To erase the memory of the timer settings

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

### To stop during a timer recording

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

### If the power should be interrupted during a timer recording

If the recorder is in the standby mode, the timer settings will be erased. Reset the clock and timer settings.

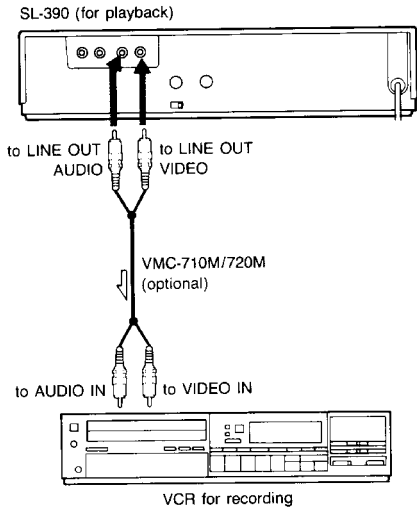
If the power interruption occurs while recording, the recording will stop.

# Editing Tapes

To edit a tape you will need another VCR for recording.

## CAUTION

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



Set the INPUT SELECT switch of the recording VCR to LINE (line input), if provided.

### When using this VCR for recording

Connect the LINE IN VIDEO and AUDIO jacks of this unit to the VIDEO OUT and AUDIO OUT jacks of the other VCR respectively.

# Antenna/Cable and TV Connection

**Before making connections**

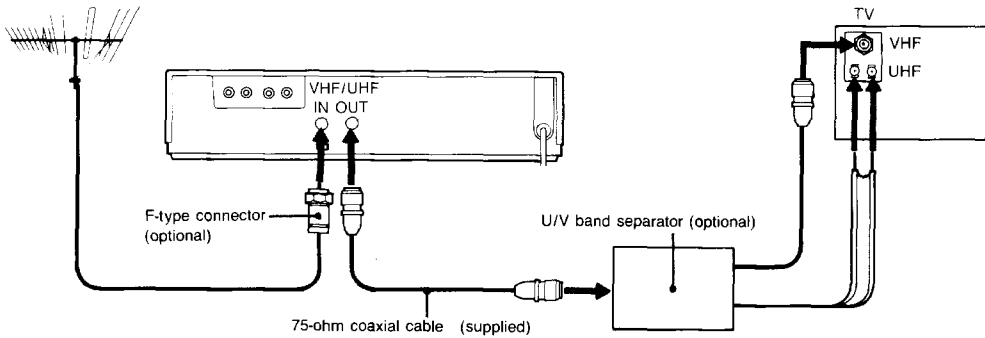
- Turn off the TV.
- Make the connections firmly. Loose connections may cause a distorted picture.
- Do not connect the AC power cord to a wall outlet until all the connections of the video cassette recorder and the TV have been completed.

Disconnect the TV antenna cable from the TV receiver and connect it to the recorder, then connect the recorder and the TV.

**Combination VHF/UHF antenna**

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

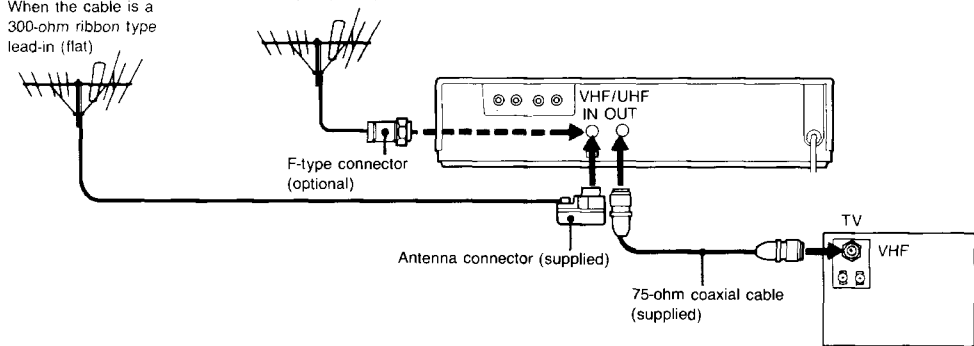
Use the removed separator to connect the recorder and the TV.



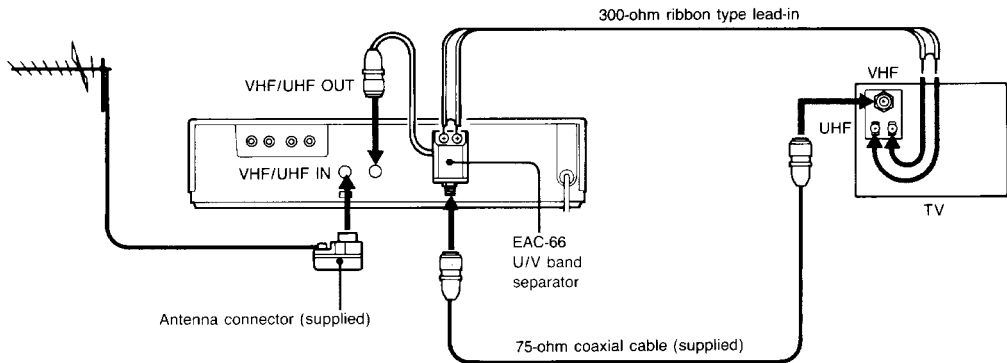
**VHF antenna**

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

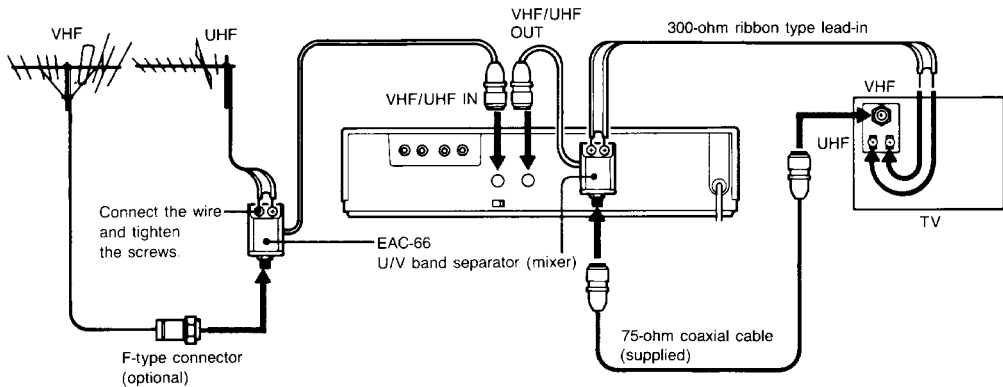
When the cable is a 75-ohm coaxial type (round)



**UHF antenna**



**When both VHF and UHF antennas are connected**



**Caution**

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

**When the TV has a 75-ohm UHF/VHF antenna terminal**

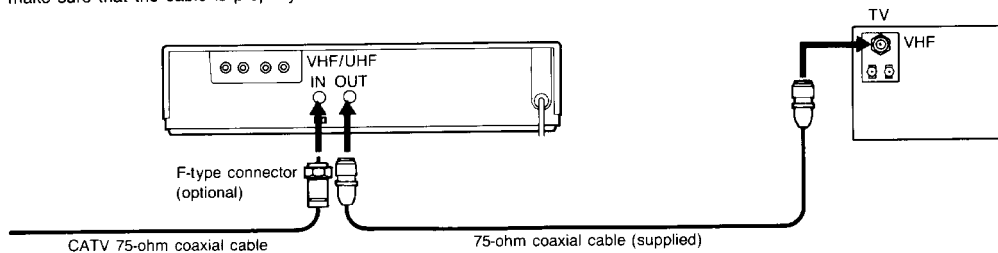
Easy connection of the recorder to the TV can be made with the supplied 75-ohm coaxial cable regardless of the type of antenna.

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



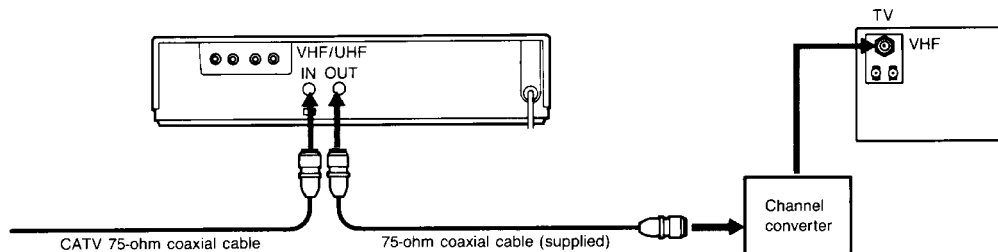
### CATV cable

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

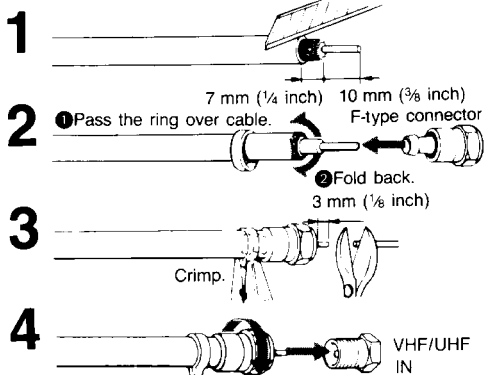


### When the TV is not a cable TV compatible type

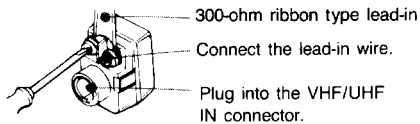
Connect the cable TV channel converter between the recorder and the TV so that you can watch one cable TV program while recording another.



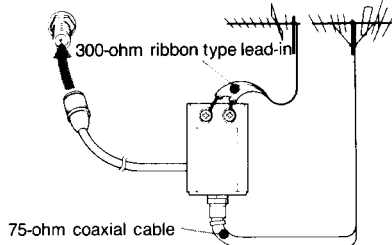
#### How to attach an F-type connector



#### How to attach an external antenna connector

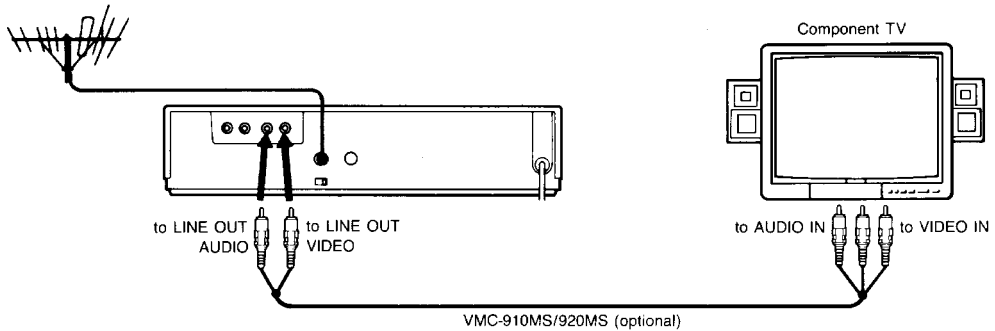


#### How to attach an EAC-66 U/V band separator (mixer)



Color Monitor Connection

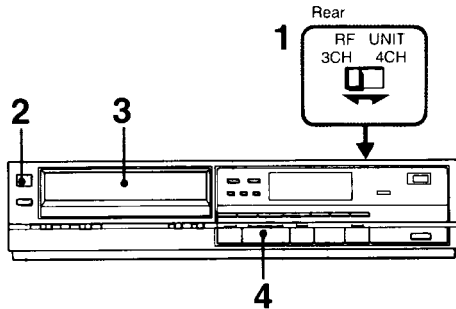
To obtain a better-quality picture, connect a color monitor, such as the Sony Profeel Trinitron Component TV. To use a component TV tuner together with the monitor, make the same connection as in the case of the recorder and the conventional TV receiver described on pages 15 and 16. For details on the connection of the TV tuner and the monitor, refer to the instruction manual of the TV tuner.



# Adjusting the TV

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

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



- 1 Set RF UNIT located at the rear to 3 CH or 4 CH, whichever channel is not active in your area.
- 2 Press POWER. The indicator will light up.
- 3 Insert a recorded cassette.
- 4 Press ► PLAY.
- 5 Turn on the TV.
- 6 Set the TV receiver to either VHF channel 3 or 4 to agree with the RF UNIT setting.

**If the recording on the tape is clearly displayed on the TV screen**

The TV adjustment is complete.

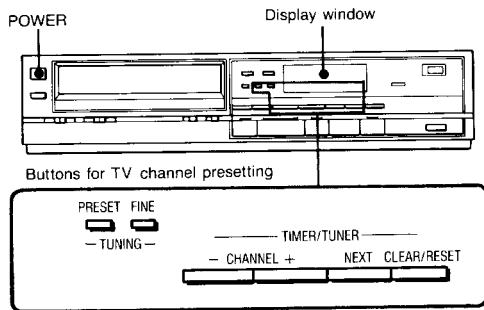
**If a picture does not appear or if the display is not clear**

Fine tune the channel (3 or 4) on the TV.

Whenever you use the video recorder, you should set the TV to the channel which you have chosen above.

# Presetting the Active Channels in Your Area

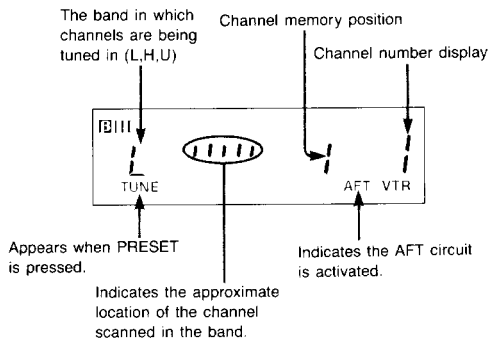
Your recorder is capable of receiving VHF channels 2–13, UHF channels 14–69 and cable TV channels 14–36 (A to W) and 66–125 (A-5 to A-1 and W+30 to W+84). See the cable TV channel chart on page 21. You can preset 14 channels so that only the desired channels will appear in sequence when you select a channel later on.



## Before Presetting

- Turn on the recorder and TV.
- Make sure that the TV is set to the correct channel (channel 3 or 4) for the recorder.
- Make sure that nothing is connected to the LINE IN VIDEO and AUDIO jacks.

## Check in the window during presetting



## Presetting Channels

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

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

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

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

## To Cancel an Unused Channel

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

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

## To Fine-tune a Weak Station

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

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

### AFT (Automatic Fine Tuning) circuit

When a channel is preset, the AFT circuit will automatically lock in to maintain a sharp picture. Once the channel is fine tuned, the AFT will be deactivated and the AFT indicator will go off. To reactivate the AFT on that channel, repeat the channel presetting procedure on page 20.

## Channel Allocation Chart

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

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

## Cable TV Channel Chart\*

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

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

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

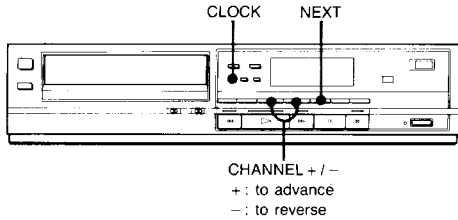
\* The designation of the cable TV channels conforms to the EIA/NCTA recommendation.

### Note

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

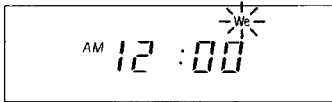
# Setting the Clock

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

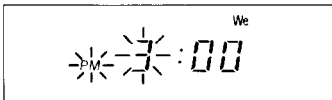


**Example: to set for Wednesday afternoon 3:56**

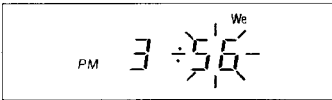
- 1 Press **CLOCK**.  
Set the day with the + or - button until "We" (for Wednesday) appears.



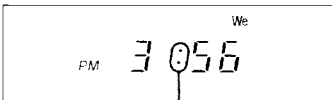
- 2 Press **NEXT**.  
Set the hour with the + or - button until "PM 3:00" appears.  
AM 12:00 = midnight  
PM 12:00 = noon



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



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



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

## CHANNEL +/- buttons

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

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



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



# Specifications

## System

Video recording system	Rotary two-head helical scanning
Video signal	EIA standards, NTSC color
Channel coverage	VHF channels 2 – 13 UHF channels 14 – 69
VHF output signal	Cable TV channels 14 – 36, 66 – 125 Channel 3 or 4 (selectable)
Antenna	75 ohms, unbalanced 75-ohms external antenna terminal for VHF/UHF

## Video

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

## Audio

Input	LINE IN AUDIO: phono jack More than 47 kilohms, –10 dBs (0 dBs = 0.775 Vrms)
Output	LINE OUT AUDIO: phono jack Less than 10 kilohms, –10 dBs (47 kilohms load), unbalanced
Frequency response	<b>Ⓘ II</b> : 50 – 10,000 Hz <b>Ⓘ III</b> : 50 – 7,000 Hz

## Tape transport

Tape speed	<b>Ⓘ I</b> : 4.0 cm/sec. (playback only) <b>Ⓘ II</b> : 2.0 cm/sec. <b>Ⓘ III</b> : 1.33 cm/sec.
Maximum recording time	<b>Ⓘ II</b> : 3 hours 20 min. <b>Ⓘ III</b> : 5 hours. (with Sony L-830 cassette)
Fast-forward time	Approx. 5½ min. (L-500)
Rewind time	Approx. 4½ min. (L-500)

## Timer

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

## General

Power requirements	120 V AC, 60 Hz
Power consumption	26 W
Operating temperature	5°C to 40°C (41°F to 104°F)
Storage temperature	–20°C to +60°C (–4°F to +140°F)
Dimensions	Approx. 430 × 95 × 368 mm (w/h/d) (17 × 3¾ × 14½ inches) incl. projecting parts and controls
Weight	Approx. 6.0 kg (13 lb 4 oz)

## Remote Commander RMT-156

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

## Accessories supplied

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

## Optional accessories

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

Design and specifications are subject to change without notice.

# Troubleshooting

If any difficulty should arise during operation, first check the power cord connection, then go through the following list. Should the difficulty persist, unplug the unit and contact your Sony dealer or local authorized Sony service facility.

	Symptom	Possible causes
<b>GENERAL</b>	The POWER switch does not function.	TIMER REC is pressed. Check in the window.
	Clock display blinks, showing 12:00 a.m.	The power has been interrupted. Reset the clock and the timer settings.
	Cassette cannot be inserted.	<ul style="list-style-type: none"> <li>• A cassette is already in the compartment.</li> <li>• The cassette is wrong side up.</li> </ul>
	The VCR program is not displayed on the TV screen.	<ul style="list-style-type: none"> <li>• Connections are incorrect.</li> <li>• The video channel on the TV receiver is not correctly adjusted.</li> <li>• TV/VTR is set to TV. (No VTR indicator in the window.)</li> </ul>
<b>RECORDING</b>	Recording cannot be made.	<ul style="list-style-type: none"> <li>• No cassette has been inserted.</li> <li>• The safety tab has been removed from the cassette.</li> <li>• The tape is at its end.</li> </ul>
	TV recording has not been made correctly.	<ul style="list-style-type: none"> <li>• The antenna is not correctly connected.</li> <li>• A cable is connected to the LINE IN VIDEO and/or AUDIO jacks.</li> <li>• The tape is at its end.</li> </ul>
	The cassette is ejected when RECORD or TIMER REC is pressed.	The safety tab has been removed from the cassette.
	Timer recording has not been made correctly.	<ul style="list-style-type: none"> <li>• There has been a power interruption.</li> <li>• The clock time is not set correctly.</li> <li>• The turn-on and turn-off times have not been set properly.</li> <li>• The tape is at its end.</li> <li>• TIMER REC has not been pressed.</li> </ul>
<b>PLAYBACK</b>	Streaks or snow on the playback picture	A tape recorded on another recorder is being played back. Adjust TRACKING until you get the best possible picture. Allow a second or two for the new settings to take effect. When playback of this particular cassette is finished, return the control to its center position.
	Noisy picture	The video heads may be contaminated. Clean the heads using the Sony L-25CL video head cleaning cassette. For details on cleaning, refer to the instructions furnished with the cleaning cassette. If the cleaning cassette is not available in your area, have the heads cleaned at the nearest Sony facility. (A commercially available wet-type cleaning cassette is not recommended. It may damage the video heads.)