

 **SANYO**

**Beta hi-fi**

**VCR 7200**

Beta  




**SANYO  
COLOR VIDEO  
CASSETTE RECORDER**

**OWNER'S MANUAL**

## LIMITED WARRANTY

THIS WARRANTY IS VALID ONLY ON SANYO PRODUCTS PURCHASED AND USED IN THE UNITED STATES OF AMERICA EXCEPT U.S. TERRITORIES AND PROTECTORATES. THIS WARRANTY APPLIES ONLY TO THE ORIGINAL USER. THIS WARRANTY DOES NOT APPLY TO PRODUCT IN USE FOR INDUSTRIAL, RENTAL OR COMMERCIAL PURPOSES.

Subject to OBLIGATIONS and EXCLUSIONS found below, this Sanyo product is warranted against manufacturing defects in material and workmanship for the period of Parts + Labor specified and Sanyo will repair or replace (at our option) any parts found to be defective. For the period specified under Parts, Sanyo will provide a replacement for any defective parts.

PARTS + LABOR	PARTS		IN HOME SERVICE
	PARTS ONLY	PICTURE/PROJECTION/IMAGE PICKUP TUBE	
1 YEAR	1 YEAR	NONE	NONE

Each warranty period commences on the date of purchase by the original user. Performance under this warranty must be obtained at a Sanyo Authorized Service Station. A list of Sanyo Authorized Service Stations can be obtained from Sanyo Electric Inc., 1200 West Artesia Blvd., Compton, CA 90220, ATTN: Warranty Service, (213/537-5830).

### OBLIGATIONS

1. This warranty will be honored only on the presentation of the original dated bill of sale or sales slip.
2. Transportation of the product to and from the service station is the responsibility of the user unless specifically stated otherwise in this warranty.

### EXCLUSIONS

1. THIS WARRANTY SHALL NOT COVER ADJUSTMENT OF CUSTOMER OPERATED CONTROLS AS EXPLAINED IN THE APPROPRIATE MODEL'S INSTRUCTION MANUAL OR PRODUCTS WHICH HAVE BEEN ALTERED, REPLACED, OR HAVE MISSING SERIAL NUMBERS:
2. This warranty shall not apply to the antenna nor to appearance or accessory items including, but not limited to cabinets, cabinet parts, knobs, batteries, cartridges, or styli.
3. This warranty does not apply to uncrating, setup, installation, or the removal and reinstallation of products for repair.
4. This warranty shall not apply to repairs or replacements necessitated by any cause beyond the control of Sanyo including, but not limited to, any malfunction, defects or failure caused by or resulting from unauthorized service or parts, damaged or broken video heads, improper maintenance, modification or repair by the user, abuse, misuse, neglect, accident, fire, flood or other Acts of God, incorrect line voltage, damage or image burns to television picture tubes caused by or attributable to the use of any accessory, electronics game or device, or damage caused to image pickup tubes by excessive light.

The foregoing is in lieu of all other expressed warranties and Sanyo does not authorize any party to assume for it any other obligation or liability. In no event shall Sanyo be liable for special or consequential damages arising from the use of this product, or for any delay in the performance of this warranty due to causes beyond our control.





SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS AND/OR DO NOT ALLOW THE EXCLUSION OR LIMITATION OF CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS ON IMPLIED WARRANTY AND CONSEQUENTIAL DAMAGES MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

#### ATTENTION

For your protection in the event of theft or loss of this product, please fill in the information requested below:

Model No. \_\_\_\_\_ Serial No. \_\_\_\_\_  
 (Located on back or bottom side of unit)  
 Date of Purchase \_\_\_\_\_  
 Purchased Price \_\_\_\_\_  
 Where Purchased \_\_\_\_\_

	<b>CAUTION</b> <b>RISK OF ELECTRIC SHOCK</b> <b>DO NOT OPEN</b>	
<b>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</b>		
	<b>THIS SYMBOL INDICATES THAT DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THIS UNIT.</b>	
	<b>THIS SYMBOL INDICATES THAT THERE ARE IMPORTANT OPERATING AND MAINTENANCE INSTRUCTION IN THE LITERATURE ACCOMPANYING THIS UNIT.</b>	

**WARNING:** TO PREVENT RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

#### 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 practicable.

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#### CAUTIONS

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\*Never attempt to disassemble the VCR (video cassette recorder).

Removing the cabinet and/or touching the inside of the VCR with your hand, a screwdriver, or anything else, is not only harmful to the unit, but also dangerous. **TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.**

\*Be sure to use the VCR only in conditions with a temperature range of 5°C - 35°C (41°F - 95°F) and less than 85% humidity.

Avoid using the VCR in places of high temperature and high humidity such as bathrooms, kitchens, saunas, etc., or in dusty places, poorly ventilated places, or near space heaters, furnaces, ovens, or other heat generating equipment.

Also, do not keep the VCR inside a closed automobile in the direct sunlight. Doing so could result in the cabinet becoming deformed, and mechanism malfunctions.

\*Do not expose the VCR to a magnetic source.

Video cassette recorders are extremely sensitive to magnetism, and should not be brought in contact with, or exposed to, magnetized objects (magnets, transformers, magnetic toys, etc.).

Exposure to magnetic sources could result in erasure of valuable recordings.

\*Do not subject the VCR to violent shocks or impacts.

Place the unit on a flat, stable, level surface, and never subject it to violent shaking or any other shock or impact.

\*Do not block the air vents.

The VCR has been provided with air vents to prevent the temperature inside the unit from rising excessively; be sure never to cover these vents during operation.

**CONGRATULATIONS.** You are now the owner of one of the many fine products manufactured by Sanyo Electric Co., a world-wide leader in electronics. We take pride in our international reputation for product quality and industry proven performance.

This product has been carefully inspected to comply with rigid quality control standards before shipment to you. We are sure you will find that with reasonable care it will provide you with years of reliable performance.

To obtain the full performance capability engineered into your new Sanyo product, please read this owner's manual thoroughly before attempting to operate this unit.

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### **WARNING:**

**UNAUTHORIZED RECORDING OR USE OF BROADCAST TELEVISION PROGRAMMING, VIDEO TAPE, FILM OR OTHER COPYRIGHTED MATERIAL MAY VIOLATE APPLICABLE COPYRIGHT LAWS. SANYO ASSUMES NO RESPONSIBILITY FOR THE UNAUTHORIZED DUPLICATION, USE OR OTHER ACTS WHICH INFRINGE UPON THE RIGHTS OF COPYRIGHT OWNERS.**

## FEATURES

- \* Beta hi-fi audio stereo system with audio frequency modulation recording
- \* Front cassette loading mechanism
- \* Beta II/III recording and playback
- \* 12 position soft-touch cable-TV 105-ch varactor tuner
- \* Feather touch transport control
- \* 4-digit electronic tape counter with memory stop
- \* Automatic rewind at the end of the tape
- \* Maximum recording time 5 hours with L-830 cassette tape
- \* Built-in 14-day, 8-events timer with everyday and every week function
- \* Forward and reverse picture search
- \* Still image playback
- \* Simple editing
- \* IR remote control

## ACCESSORIES

The following accessories are included with this VCR:

75-ohm Coaxial Cable .....	1
300-ohm Twin-lead .....	1
300-ohm to 75-ohm Matching Transformer .....	1
75-ohm to 300-ohm Matching Transformer .....	1
Channel Number Sheet.....	1
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### WHAT IS Beta hi-fi

The Beta hi-fi system offers audio recording capability and performance characteristics which are far superior to conventional VCR's. In the Beta hi-fi system, audio information is laid onto the video track through a process called multiplexing. The fast rotating video head are used for audio recording and playback instead of slower audio heads in conventional VCR's. With this system, the audio portion takes up as much space on the tape as the video, providing a truly hi-fidelity audio signal.

1. Frequency response: 20Hz - 20kHz
2. Total harmonic distortion: Less than 0.3% (400Hz)
3. Dynamic range: 80dB
4. Wow and flutter: Less than 0.005% (WRMS)
5. Channel separation: 60dB

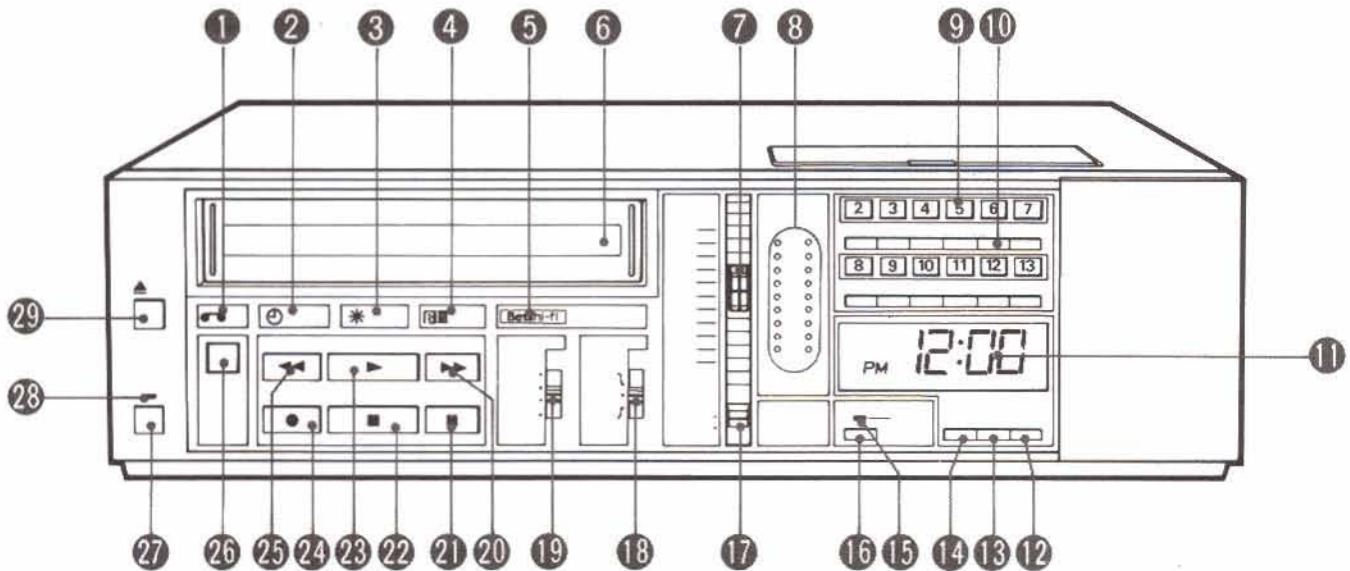
### COMPATIBILITY

In Beta hi-fi, the audio signal is combined with the video, allowing it to use the wide video track and high speed rotating video heads.

However, Beta hi-fi also retains the fixed audio heads of conventional recording system, ensuring compatibility with existing VCR cassette. Tapes recorded through Beta hi-fi will also be compatible with conventional VCR's.

## PART NAMES AND FUNCTIONS

Front



**(1) CASSETTE IN Indicator**

The CASSETTE IN Indicator illuminates when a video cassette is loaded.

**(2) TIMER Indicator**

The TIMER Indicator will illuminate when the TIMER Switch is in the ON position.

**(3) DEW Indicator**

Refer to page 28.

**(4) TAPE SPEED Indicator**

The TAPE SPEED Indicator will illuminate when the tape speed is in the Beta III mode.

**(5) AUDIO MODE Indicator**

This indicator illuminates when recording in Beta hi-fi or when playing back a tape recorded in Beta hi-fi.

**(6) Cassette Door**

Insert a video tape cassette, the tape will be loaded automatically.

**(7) REC VOLUME Controls**

Adjust the audio (LEFT and RIGHT) recording levels with these controls when the AUDIO REC Level Selector is in the MAN position.

**(8) Audio LEVEL Meter**

The audio LEVEL Meter illuminates when recording in Beta hi-fi or when a tape recorded in Beta hi-fi is being played back.

**(9) Channel Indicators**

A Channel Indicator will illuminate when the corresponding Channel Button is pressed.

**(10) Channel Buttons**

As many as 12 television broadcast stations can be selected and programmed into the tuner's memory. Press the Channel Button corresponding to the station which is broadcasting the desired program.

**(11) Digital Display**

Shows CLOCK/TIMER display or TAPE COUNTER display.

**(12) Counter MEMORY Button**

If this button is pressed, "M" appears on the right side of the counter and the tape position of "0000" is memorized.

**(13) Counter RESET Button**

The readout of the tape counter will return to "0000" when this button is pressed.

**(14) CLOCK/COUNTER Button**

The Digital Display can be used as a CLOCK/TIMER display as well as a TAPE COUNTER with memory. Press this button to select either function.

**(15) VCR Indicator**

Illuminates to indicate that the VCR/TV Selector is in the VCR position. The VCR Indicator is off in the TV position.

**(16) VCR/TV Selector**

**TV:** This position is used when television broadcasts are to be viewed. (The VCR Indicator is off.)

**VCR:** This position is used for video recording, and for playing back recorded video tapes. (Illuminates the VCR Indicator.)

**(17) AUDIO REC Level Selector**

**MAN:** Audio recording level can be adjusted manually by REC VOLUME Controls (LEFT and RIGHT).

**AUTO:** Audio recording level is automatically adjusted to the optimum level.

**NOTE:** When the REC MODE Selector is in the MONO position, the record level is automatically adjusted regardless of what position the AUDIO REC LEVEL Selector is in.

**(18) REC MODE Selector**

This selector is used to select the audio recording mode.

**B HI-FI:** Beta hi-fi sound is activated.

**STEREO:** Only audio recorded by means of the Beta hi-fi system. To use the unit as an audio tape deck, set to this position.

**MONO:** Only the normal track is recorded, and the Beta hi-fi system is not used.

**NOTE:** When making a recording to be played back on a model which is not Beta hi-fi, set the REC MODE Selector to MONO.

**(19) AUDIO OUT Selector**

Select an audio output mode during record or playback.

**STEREO:** The audio output signal on both the left and right channels.

**LEFT:** The audio output signal is on the left channel only.

**RIGHT:** The audio output signal is on the right channel only.

**MONO:** The audio signal being recorded in the normal audio track or the audio signal already recorded in the normal audio track is output. The audio signal is monaural at this time.

**NOTE:** Material not recorded in Beta hi-fi will be played back in MONO regardless of the selector position.

**(20) FF/SEARCH Button**

This button is used both for advancing the tape quickly, and forward picture search. When the button is pressed, the tape is advanced at a high speed.

If the button is pressed during playback, the picture can be seen while the tape is being advanced to the desired scene.

**(21) PAUSE/STILL Button**

If this button is pressed during either recording or playback, the tape movement will stop temporarily.

**(22) STOP Button**

When the STOP Button is pressed during any operation, the operation will be immediately stopped.

**(23) PLAY Button**

Load a recorded video tape cassette, press the PLAY Button, and playback will begin.

**(24) REC Button**

First press the REC Button, then while holding it, press the PLAY Button to start recording.

**(25) REW/SEARCH Button**

This button is used both for rewinding the tape, and reverse picture search.

When the button is pressed, the tape will rewind at a high speed.

If the button is pressed during playback, the picture can be seen while the tape is being rewound to the desired scene.

**(26) Remote Control Detector**

Refer to page 27.

**(27) POWER Switch**

Press to turn the power on. The POWER Indicator will illuminate. To turn the unit off, press the Switch again.

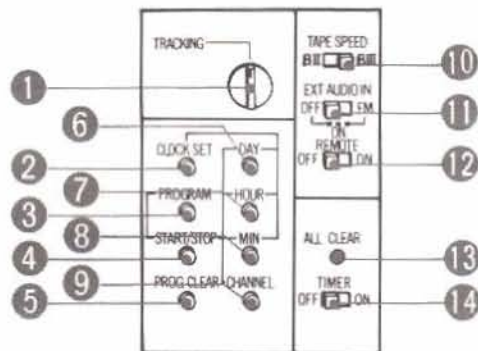
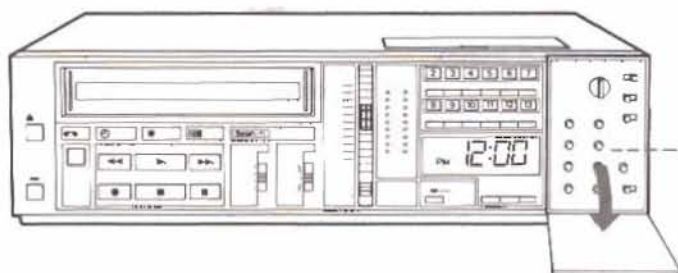
**(28) POWER Indicator**

The POWER Indicator will illuminate when the POWER is on.

**(29) EJECT Button**

Press this button to eject a cassette.

### Inside the Timer Controls Compartment



#### (1) TRACKING Control

Refer to page 24.

#### (2) CLOCK SET Button

Press this button when setting the clock to the current time, or when the Digital Display is to be changed from a timer program to the current time.

#### (3) PROGRAM Button

The VCR is equipped with memory capability for eight different programs. Press the PROGRAM Button to select from Program 1 to Program 8.

#### (4) START/STOP Button

This button is used to set the starting time and the stopping time of timer programming.

#### (5) PROGRAM CLEAR Button

Press this button to cancel a timer programming.

#### (6) DAY Button

This button is used to set the day of the week for both the current time readout and the timer programming.

#### (7) HOUR Button

This button is used to set the hour for both the current time readout and the timer programming.

#### (8) MIN Button

This button is used to set the minute for both the current time readout and the timer programming.

#### (9) CHANNEL Button

Use this button to select the TV channel to be recorded for the timer programs.

#### (10) TAPE SPEED Selector

Select a tape speed for recording according to your needs.  
 βII: Optimum recording quality; interchangeable with other Beta II format video recorder's.

βIII: Maximum recording time.

**NOTE:** During playback of either a Beta II or Beta III cassette, the video recorder automatically senses and sets itself to the correct playback speed regardless of the TAPE SPEED Selector setting. For information on maximum playing times of available Beta cassettes, refer to page 14.

#### (11) EXT AUDIO IN Switch

**OFF:** This switch should normally be set in this position.  
**ON:** For audio recording through the AUDIO IN (L and R) terminals using a tape deck, CD player, FM tuner etc.

**FM:** Set to this position if the sound is noisy when an FM tuner is used to record and playback an FM stereo broadcast.

Depending upon the FM tuner used, the 19-kHz pilot signal may leak during recording, thus weakening the effect of the noise-reduction system and resulting in noisy sound.

If this occurs, setting to the "FM" position activates the MPX filter, thus cutting the 19-kHz pilot signal and making a better recording possible.

#### (12) REMOTE Switch

Set this switch to the ON position when using the Remote Control Unit.

#### (13) ALL CLEAR Button

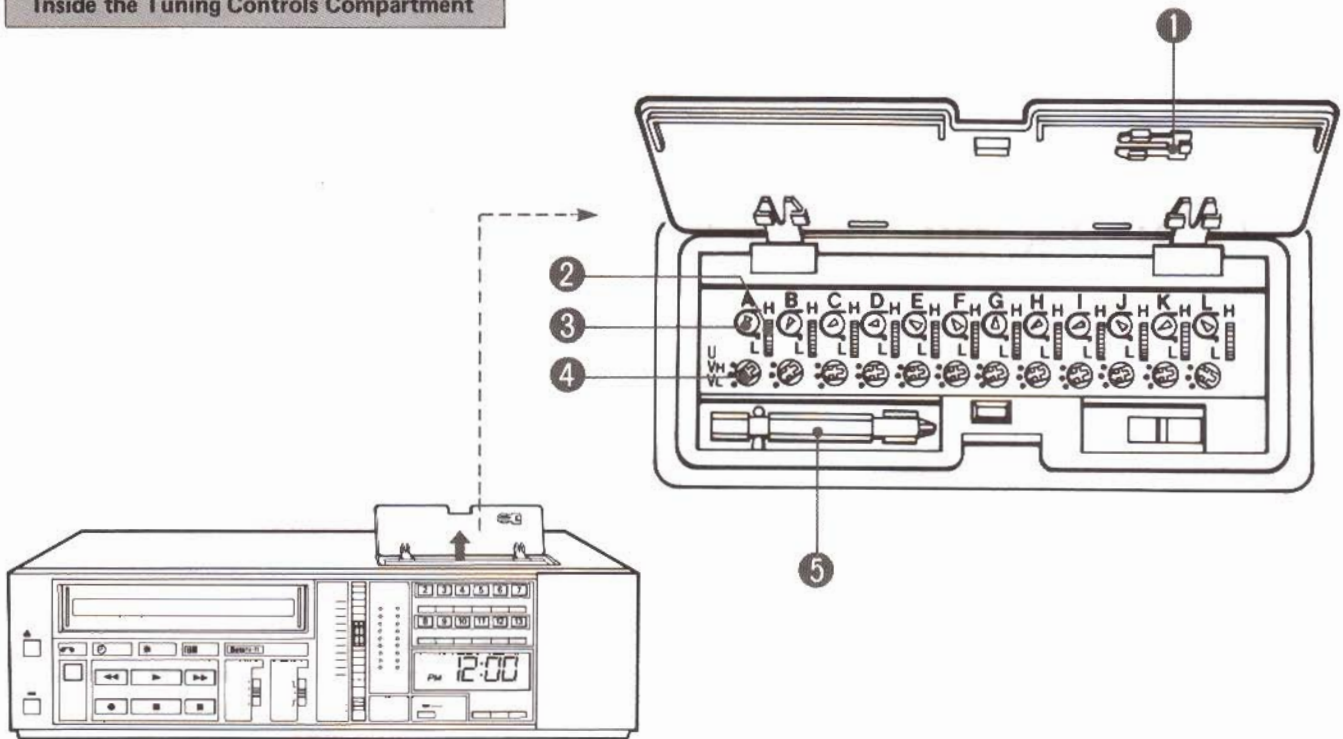
If this button is pressed, all settings (days, hour, minutes, etc.) will be cancelled for both the clock and timer sections. The ALL CLEAR Button should be pressed if anything unusual occurs to affect the display readout; such as an unplugged power cord or any other interruption in the power supply. If the ALL CLEAR Button is pressed the readout of the Digital Display will be set to "8888", and will blink on and off. This button is pressed to prevent accidental operation.

#### (14) TIMER Switch

When this switch is set to ON after the timer has been programmed, and Timer Recording is now possible.



## Inside the Tuning Controls Compartment



### (1) AFT Switch

Normally with this selector at ON position, the best obtainable TV reception is automatically maintained for optimum recording quality. However, under unusual conditions such as weak signal from the TV station or interference, tuning off the AFT may provide a better picture.

### (2) Channel Tuning Controls

Turn the Channel Tuning Controls to tune in the best reception of the desired TV station.

### (3) Channel Tuning Indicators

A Channel Tuning Indicator is provided for each of 12 Channel Tuning Controls to indicate the channel range where you are tuning.

The arrow point moves when the Channel Tuning Control is being turned.

### (4) Band Selectors (U-VH-VL)

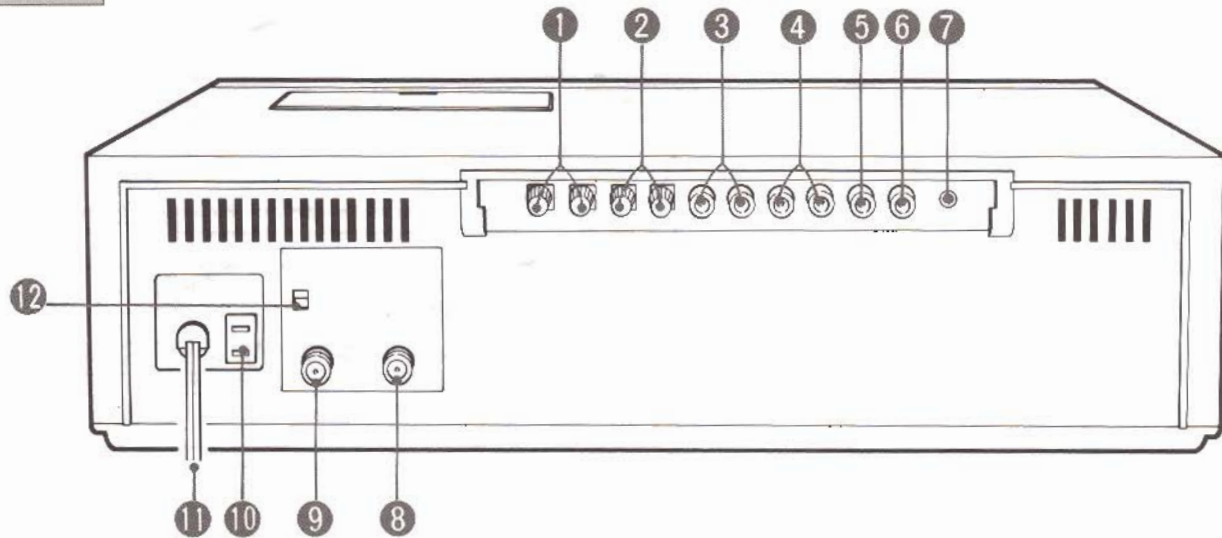
Set this selector to the channel band (U, VH or VL) of the channel you wish to preset in the tuner. (See page 13)

### (5) Band Selector Tool

Use this tool to turn the Band Selector.

**CAUTION:** The Band Selector Tool should be kept out of the hands of small children as it is small and could accidentally be swallowed.

**Rear**



**(1) UHF IN Terminal**

Connect the UHF antenna to this terminal.

**(2) UHF OUT Terminal**

Connect this terminal to the UHF antenna terminals of the television.

**(3) AUDIO IN (L & R) Terminal**

For connection of other audio equipment for recording.

**(4) AUDIO OUT (L & R) Terminal**

For connection of a monitor TV, another VCR, or audio equipment.

**(5) VIDEO IN Terminal**

For connection of the video output of other equipment such as another VCR for recording.

**(6) VIDEO OUT Terminal**

For connection of a monitor TV, another VCR etc. for monitoring or recording. The video signal during recording and playback is output from this terminal.

**(7) REMOTE PAUSE Jack**

The Remote Pause Control (an optional accessory) should be connected to this Jack. This push/push control permits remote operation of the VCR's PAUSE/STILL function. The REMOTE PAUSE Jack also accepts the remote pause connection from a Video Sound Camera.

**(8) VHF OUT Terminal**

Connect this terminal to the VHF antenna terminals of the television.

**(9) VHF IN Terminal**

Connect the VHF antenna to this terminal.

**(10) Auxiliary AC Outlet**

This is an AC electrical outlet. The power cord from a television or other equipment can be connected to this outlet. The total electrical load connected to the outlet should be within the maximum of 500 W.

The current of this electrical outlet is not controlled by either the POWER Switch of the VCR, or any of the timer programming. (In other words, the outlet is "unswitched".)

**(11) Power Cord**

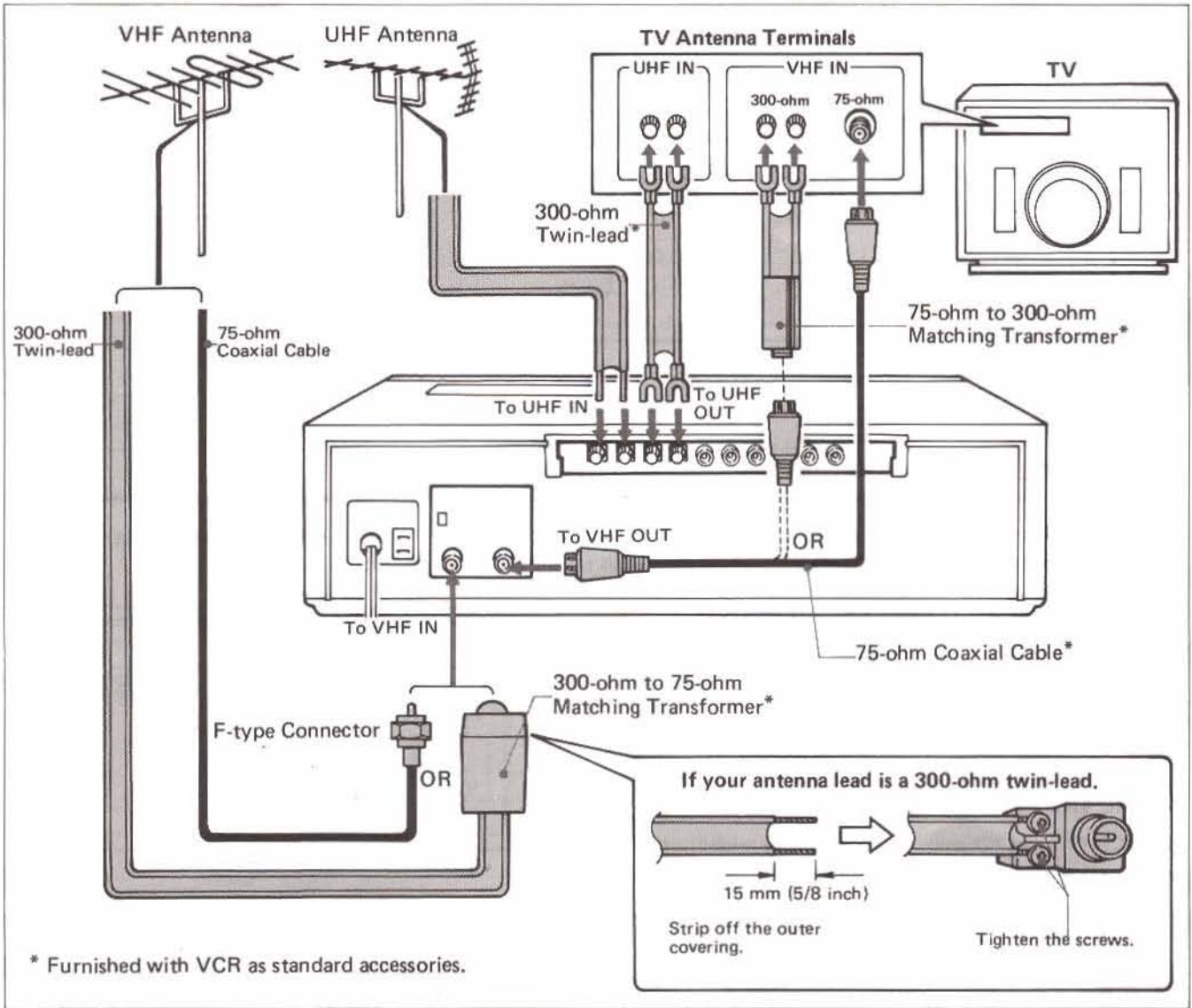
Connect the power cord to a standard household AC electrical outlet.

**(12) VCR Channel Select Switch**

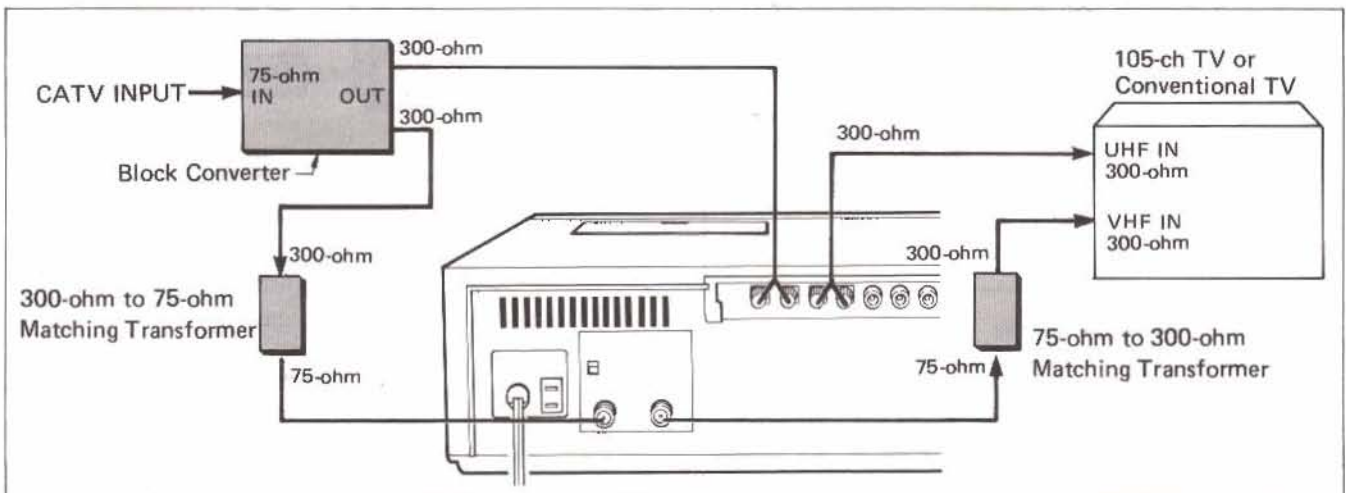
Refer to page 11.

# CONNECTIONS

## ANTENNA/TV CONNECTION

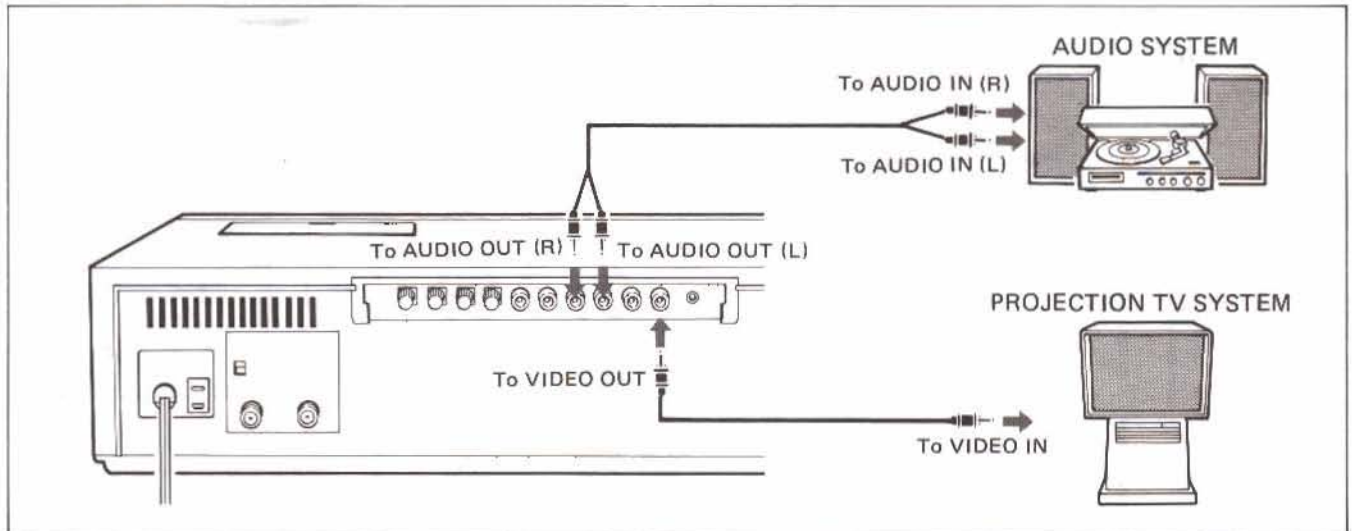


## CONNECTION TO CABLE TELEVISION (MULTICHANNEL CABLE TV WITHOUT PAY-TV)



For other situations consult your Sanyo Dealer for assistance.

## TYPICAL OUTPUT CONNECTION



## VCR CHANNEL SELECTION (RF CONVERTER SWITCH)

The VCR uses either TV Channel 3 or 4 to transmit the signals to a TV set. Select the channel which is not used by a television broadcasting station in your area, and set the switch to that channel position.

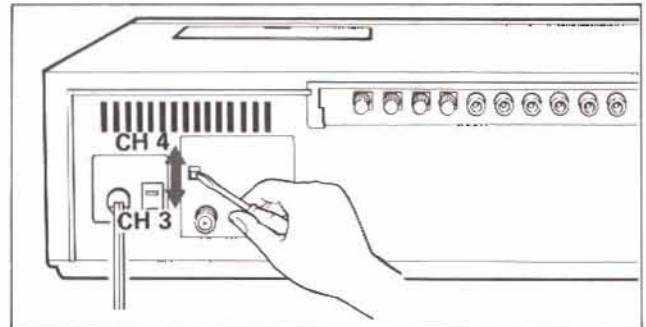
### SETTING THE VCR CHANNEL SELECT SWITCH

Use a screwdriver or other thin object to set the Switch.

**IMPORTANT:** If the RF converter is set to the channel currently in use by a commercial broadcast station, severe interference with reception on the channel may result.

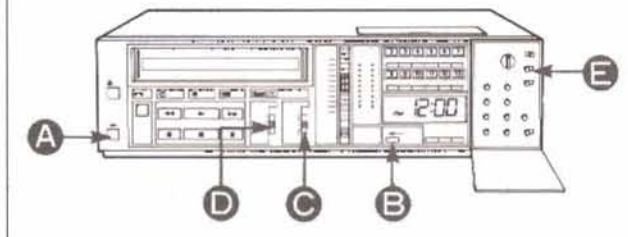
### TUNING THE VCR CHANNEL OF YOUR TV SET

The VCR Channel (Channel 3 or Channel 4) might not be tuned properly. Use the following procedure to tune.

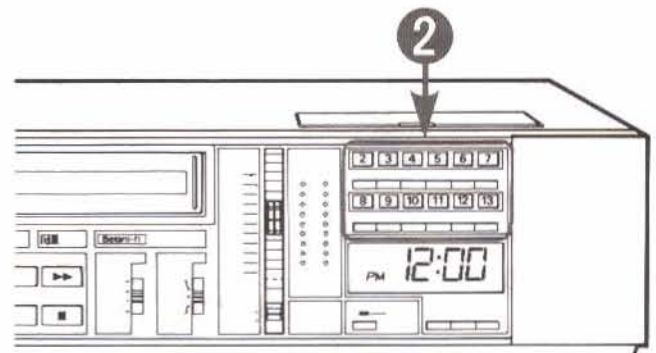
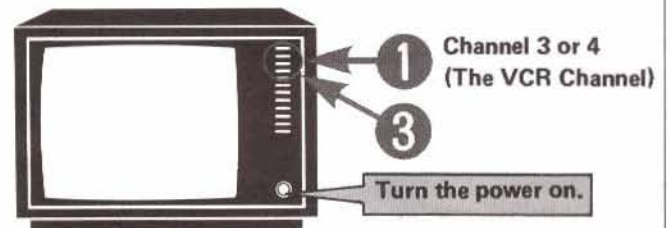


### Check before starting

A. POWER Switch	ON
B. VCR/TV Selector	VCR
C. REC MODE Selector	B HI-FI
D. AUDIO OUT Selector	STEREO
E. EXT AUDIO IN Switch	OFF

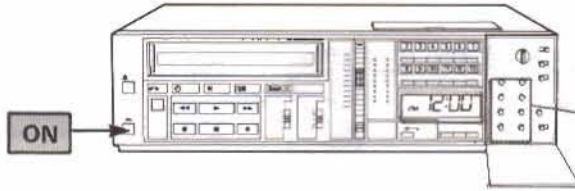


- (1) Set the television to the VCR Channel (3 or 4).
- (2) Select an active TV channel and press the corresponding Channel Button on the VCR.
- (3) Adjust the channel tuning control on the TV (or fine tuning control) to the point at which the picture image and the audio output are best.



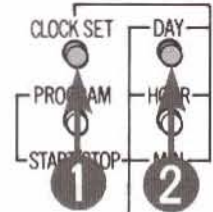
## CLOCK SETTING

When the Video Recorder is connected to AC power, the Digital Display will start to flash "8888".



Example: Here we will set the time to Monday 9:30:00 PM.

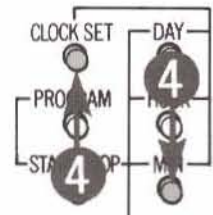
- (1) Keep the **CLOCK SET** Button depressed throughout the following procedure.
- (2) Press the **DAY** Button and set the day display to "MON".



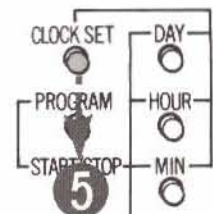
- (3) Press the **HOUR** Button and set the hour display to "PM 9".



- (4) Press the **MIN** Button and set the minutes display to "30".



- (5) To set the clock precisely, set the minutes to one minute ahead of the present time (9:31 in this example). Hold the **CLOCK SET** Button pressed until the exact moment of 9:31, then release it. The seconds will begin counting from "00" at the moment that the **CLOCK SET** Button is released.



### NOTES:

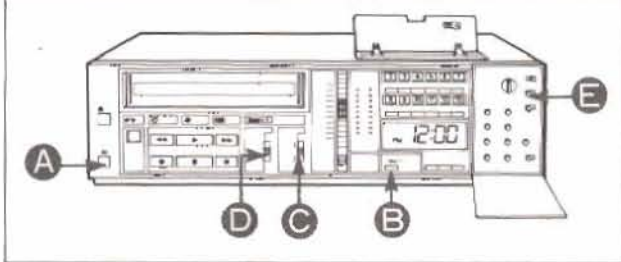
\* The **DAY**, **HOUR** and **MIN** Buttons can be pressed either continuously or intermittently. If a button is pressed continuously, the display will advance quickly. In order to avoid overshooting the desired setting, release the button somewhat before the setting and complete the adjustment by pressing it intermittently.

## PRESETTING CHANNEL

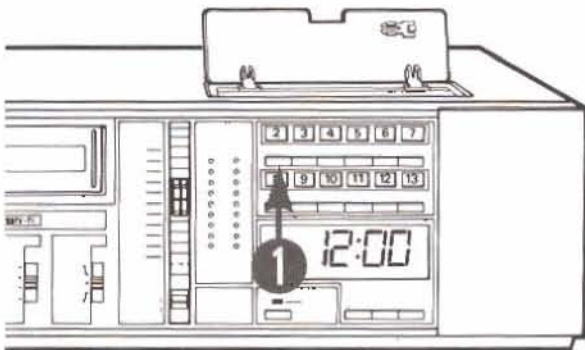
This VCR has a built-in electronic tuner that is capable of receiving 12 television channels. Once preset, any channel may be selected by pressing the Channel Button.

### Check before starting

A. POWER Switch	ON
B. VCR/TV Selector	VCR
C. REC MODE Selector	B HI-FI
D. AUDIO OUT Selector	STEREO
E. EXT AUDIO IN Switch	OFF



### (1) Press the Channel Button "A".



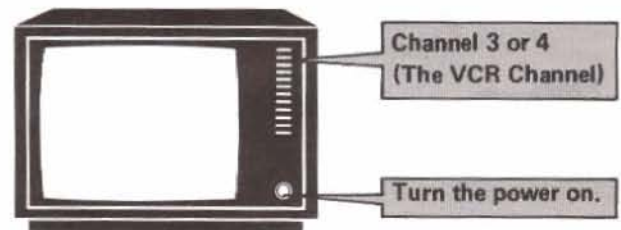
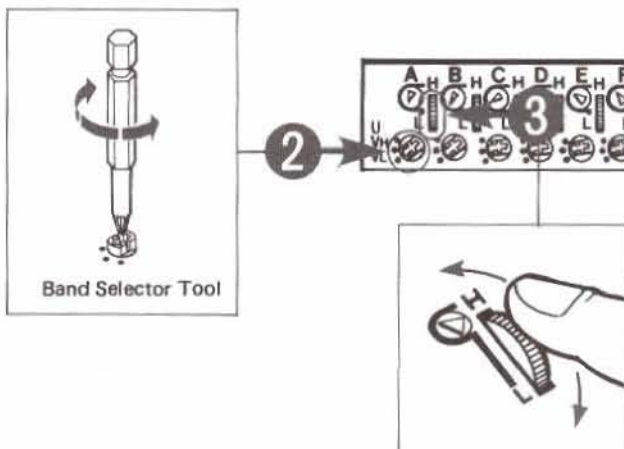
### (2) Locate the Band Selector "A".

VL: For receiving the VHF Channels 2 - 6.

VH: For receiving the VHF Channel 7 - 13, CATV Channels MIDBAND A - I and SUPERBAND J - W.

U: For receiving UHF Channels 14 - 83.

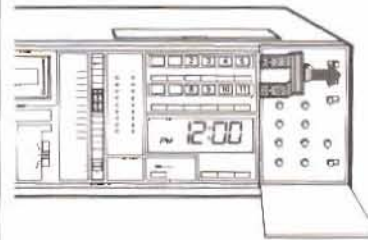
### (3) While watching the picture on the TV screen, turn the Tuning Control "A" to the position at which the reception of the desired station is best.



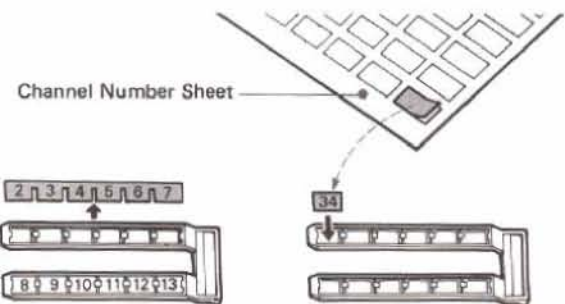
Press Channel Button "B" and proceed in the same manner as for the first station. Repeat it until all station are preset.

### CHANGING THE CHANNEL NUMBER

Open the Timer Controls Compartment Cover. Slide out the Channel Indicator Panel.

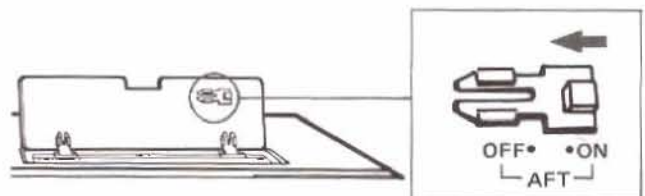


Using the accompanying Channel Number Sheet, arrange the numbers of the Channel Indicators to correspond to the channels to which the Channel Buttons have been set.




Replace the Channel Indicator Panel.

**NOTE:** If a broadcast signal is weak, the picture may worsen when the AFT Switch is set to the ON position. If this occurs, leave the switch in the OFF position.



## VIDEO TAPE AND CASSETTES

This Video Cassette Recorder is a BETA format unit. Only video tape cassettes bearing the  symbol can be used, Sony recommends use of the Sanyo L-830, L-750, L-500 and L-250 video tape cassettes.

If you want to enjoy the benefits of Beta hi-fi with video software sold on the market, look for tapes with the Beta hi-fi symbol.

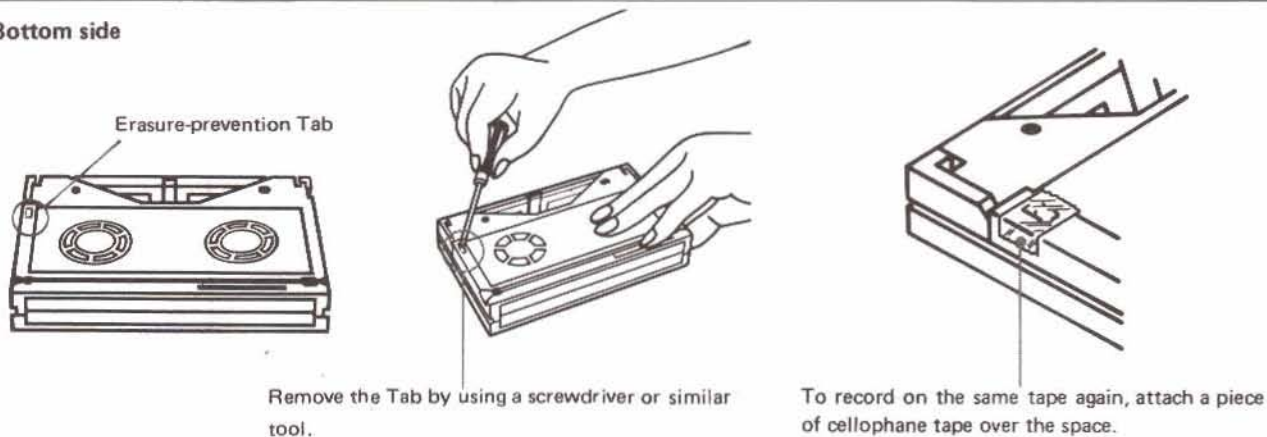
### RECORDING AND PLAYBACK TIME

TAPE SPEED Selector position	Video tape cassette size			
	L-250	L-500	L-750	L-830
$\beta$ II	60 min.	120 min.	180 min.	200 min.
$\beta$ III	90 min.	180 min.	270 min.	300 min.

### ERASURE-PREVENTION TAB

If the Erasure-prevention Tab on the bottom of the video tape cassette is removed, neither video recording nor audio dubbing will be possible. This Tab is designed to prevent the accidental erasure of recorded material. (The Tab should be snapped off at its base, and removed completely.) To record on the same tape again, attach a piece of cellophane tape over the space where the Tab was, and cover the space completely.

#### Bottom side



## CASSETTE LOADING AND UNLOADING

### LOADING

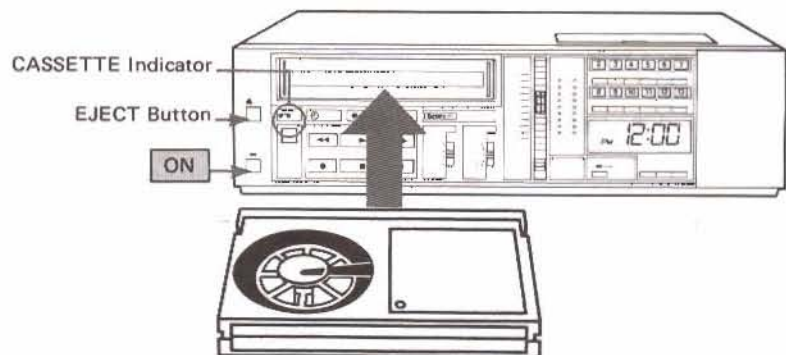
- (1) Press the POWER Switch to ON.
- (2) Insert a video cassette.
- (3) The tape will be loaded automatically.  
The CASSETTE IN Indicator will light up.

### UNLOADING

- (1) Press the POWER Switch to ON.
- (2) Press the EJECT Button.  
The tape will be unloaded automatically.
- (3) Remove the video cassette.

#### NOTES:

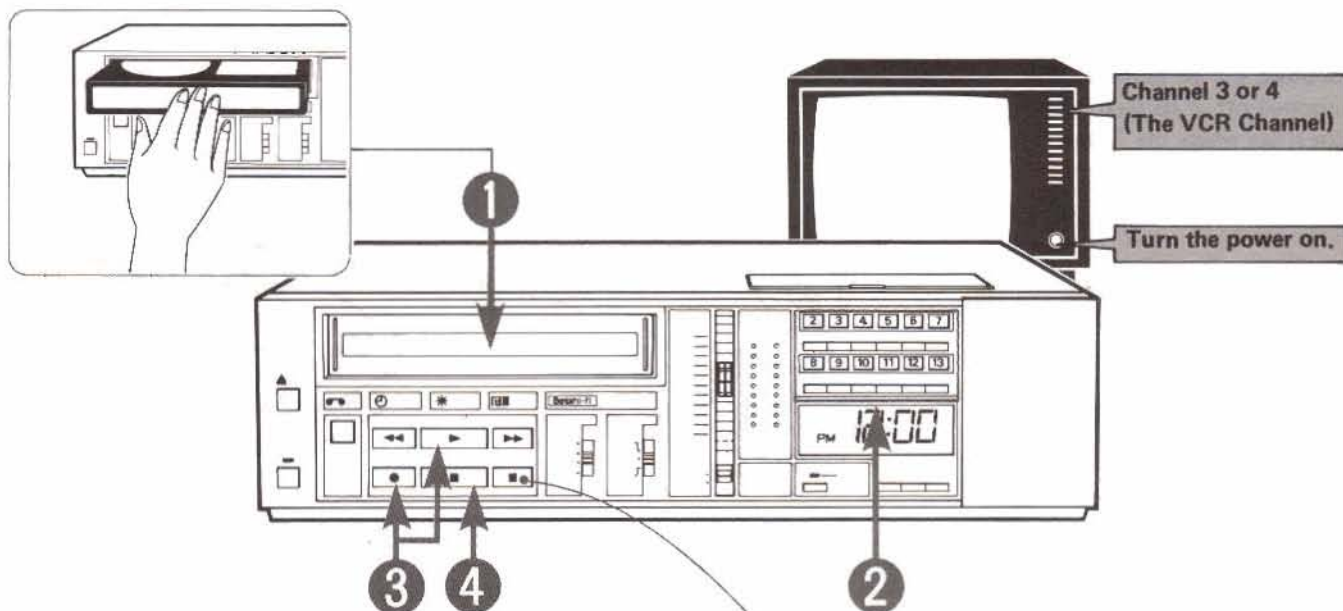
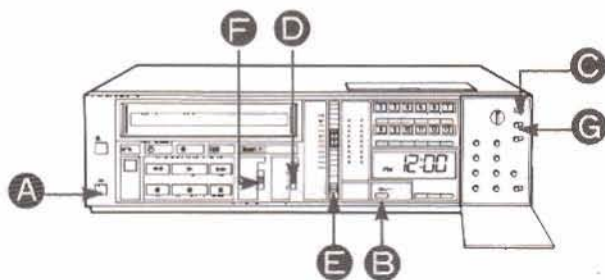
- \* If the CASSETTE IN Indicator is illuminated, a video cassette is inside the VCR. Never attempt to insert another cassette.
- \* When inserting a video cassette, push continuously at the center of the cassette until it is drawn completely in. Do not stop partway, and do not tap the cassette in; doing so could damage the VCR. Also, be very careful of the insertion direction. Never insert a cassette in the wrong direction (upside down, backwards, or sideways); doing so could damage both the video cassette and the VCR.
- \* When removing a video cassette, never either stop or pull the cassette partway during ejection.
- \* Never insert anything other than a video cassette through the cassette door.
- \* When the recorder is not in use, it is recommended that any video cassette in the unit be ejected.



## RECORDING TELEVISION BROADCASTS

### Check before starting

A. POWER Switch	ON
B. VCR/TV Selector	VCR
C. TAPE SPEED Selector	$\beta$ II or $\beta$ III
D. REC MODE Selector	B HI-FI
E. AUDIO REC Level Selector	AUTO or MAN
NOTE: When the MAN position is selected, it is necessary to adjust the recording level. (Refer to page 23)	
F. AUDIO OUT Selector	STEREO
G. EXT AUDIO IN Switch	OFF



- (1) Insert a video tape cassette.
- (2) Press the Channel Button on the VCR which corresponds to the channel from which the broadcast is to be recorded.
- (3) First press the REC Button, then while holding it, press the PLAY Button to begin recording.
- (4) Press the STOP Button to stop recording. When the end of the tape is reached recording will stop and the tape automatically rewinds.

### SIMPLE EDITING

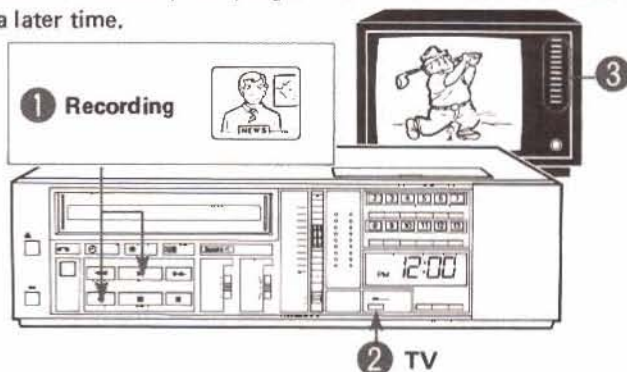
When an unnecessary part is to be deleted. . .

- (1) Press the PAUSE/STILL Button. The image will continue to be shown on the screen, but it will not be recorded.
- (2) Press the PAUSE/STILL Button again, and recording will resume.

### RECORDING ONE PROGRAM WHILE WATCHING ANOTHER

If two television programs in the same time slot are both desired to be seen, one program can be seen at the time it is broadcasted, and the other can be video recorded and seen at a later time.

- (1) Start recording the TV program to be recorded for later viewing following the procedure above.
- (2) Set the VCR/TV Selector to the TV position. The VCR Indicator will go off.
- (3) Set the television to the channel of the program to be viewed. Now you are watching one program, while another program of your choice is being recorded.



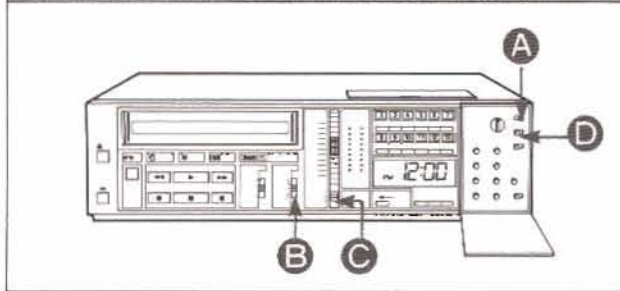


## TIMER RECORDING

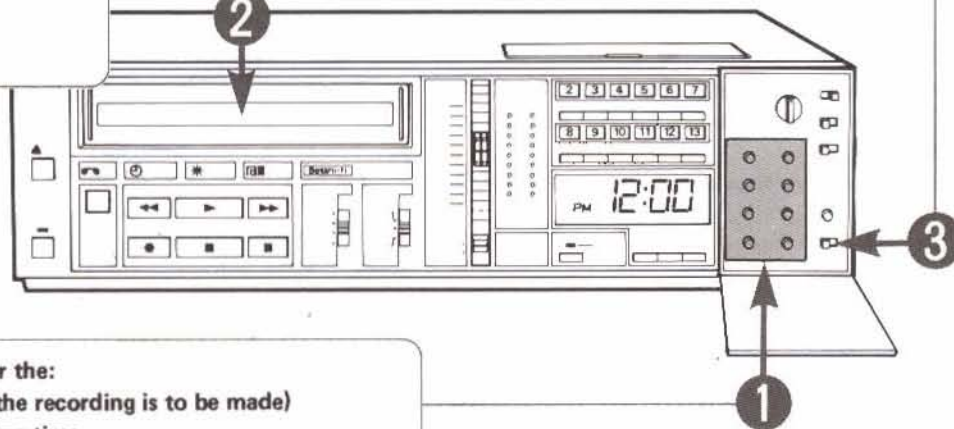
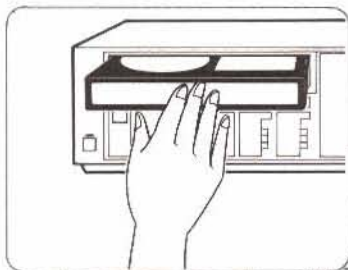
Using the built-in timer, this VCR can carry out unattended video recording of television broadcasts at a pre-set time.

### Check before starting

A. TAPE SPEED Selector	..... $\beta$ II or $\beta$ III
B. REC MODE Selector	..... B HI-FI
C. AUDIO REC Level Selector	..... AUTO
D. EXT AUDIO IN Switch	..... OFF



\* If the TIMER Switch is set to ON when a cassette is not loaded in the VCR, the POWER Switch will not function. During normal operation, the TIMER Switch should be set to OFF.



- (1) Set the timer for the:  
 Day (on which the recording is to be made)  
 Recording starting time  
 Recording channel  
 Recording stopping time  
 (Refer to pages 17 to 19 for a detailed explanation of the procedure timer programming.)

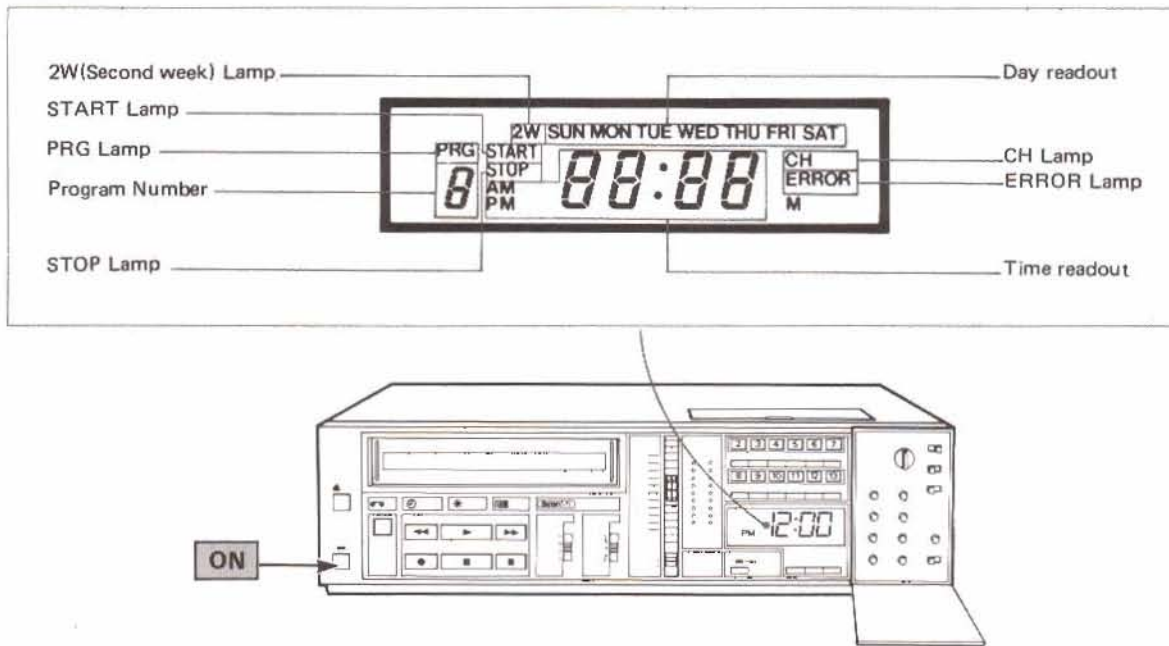
- (2) Insert a video tape cassette.  
 (3) Set the TIMER Switch to the ON position.  
 The POWER Indicator will go off, and the TIMER Indicator will illuminate, thus indicating that the VCR is set and waiting to begin timer recording.

### NOTES:

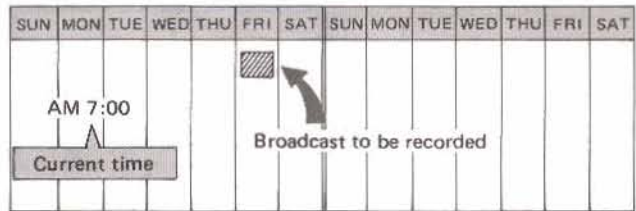
- \* If the tape runs out during timer recording, the mode will change to STOP at the point, and the power will stop.
- \* If the Erasure-prevention Tab has been removed from the cassette, the CASSETTE IN Indicator will flash on and off, and the cassette will be automatically ejected when the cassette is inserted and the TIMER Switch is set to the ON position. If this happens, either use a different cassette, or use the same cassette after first attaching a piece of cellophan tape over the hole where the Tab was. The CASSETTE IN Indicator will also flash on and off when there is no cassette in the unit.
- \* All programs except for those set for recording everyday or every week will be automatically cancelled once they are complete.
- \* When the TIMER Switch is on, the auto-rewind feature will not work.

# TIMER PROGRAMMING

The timer of this VCR can be set for eight fully independent programs within a two-week period.



**Example:** Here we will set Program No.1 to record the broadcast on Channel 10 on Friday of the first week from PM 9:30 to PM 10:00.  
(We assume that the current time is AM 7:00 on Monday.)



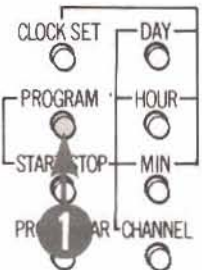
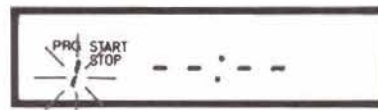
Before setting the timer program, be sure that the current time readout is accurate.

(1) Press the PROGRAM Button, and select the Program Number.

Here we will set it to "1".

The selected Program Number (in this case "1") and the PRG Lamp on the Digital Display will flash on and off.

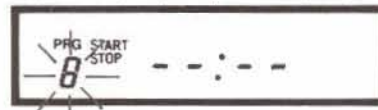
In addition, the START and STOP Lamps will flash on and off alternately, and the time display will read "--:--".



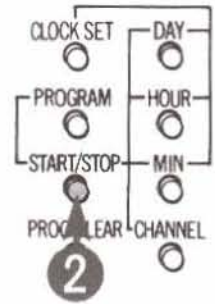
To record a same channel at the same time, and day every week...

Use Program No.8 record the same program every week.

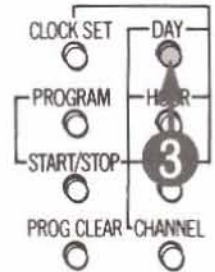
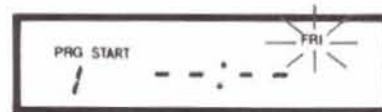
(Program No.8 is specially for every-week recording.)



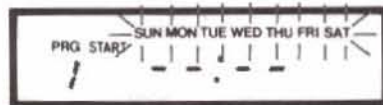
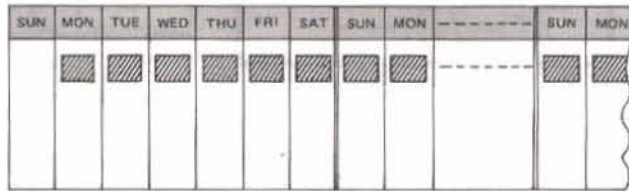
- (2) Press the START/STOP Button.  
The START Lamp will illuminate.



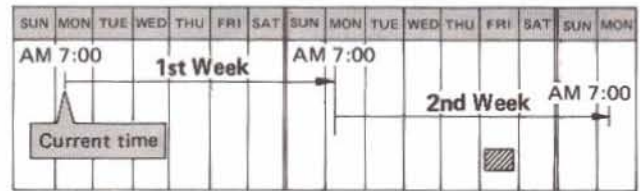
- (3) Press the DAY Button, so that the readout of the desired day appears on the display.  
The day display will begin from the current day, and advance in order each time the DAY Button is pressed.  
Here we will set the display to "FRI".



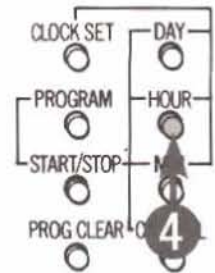
To record the broadcast at the same time and on the same channel everyday, press the button until all of the day lamps illuminate.



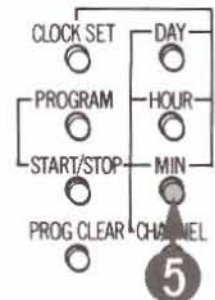
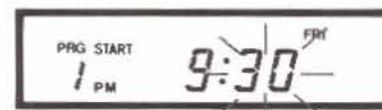
To record a broadcast in the second week... Press the DAY Button so that both the 2W(2nd WEEK) Lamp and the lamp corresponding to the desired day of the week illuminate.



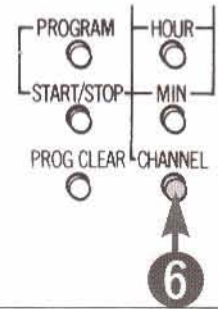
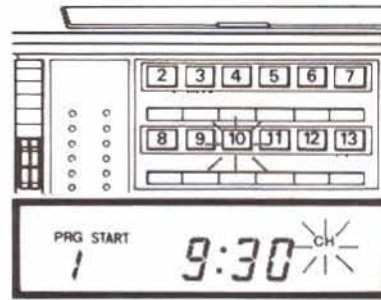
- (4) Press the HOUR Button to set the starting hour of recording.  
Here we will set the display to "PM 9".



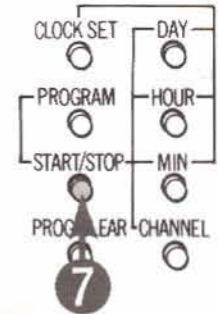
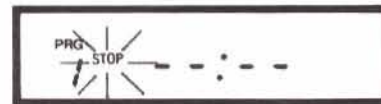
- (5) Press the MIN Button to set the starting minute of recording.  
Here we will set the display to "30".



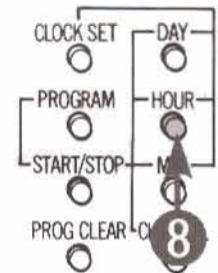
- (6) Press the CHANNEL Button until the Channel Indicator of Channel 10 lights up.  
The CH Lamp will flash on and off during the channel setting procedure.



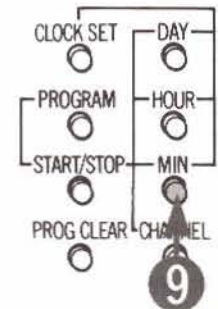
- (7) Press the START/STOP Button.  
The STOP Lamp will illuminate.



- (8) Press the HOUR Button to set the stopping hour of recording.  
Here we will set the display to "PM 10".



- (9) Press the MIN Button to set the stopping minute of recording.  
Here we will set the display to "00".



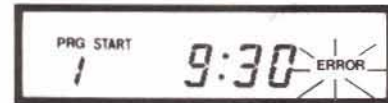
This now completes the setting of one timer programming. Press the PROGRAM Button and select the next Program Number.  
Steps (1) through (9) can then be repeated until all eight programs are set. When finished, turn the TIMER Switch to ON and the VCR will be ready for timer recording.

**NOTE:** The display will automatically return to a readout of the current time approximately one minute after the program setting is finished. Even during program setting, the display will return to a readout of the current time if the setting procedure is discontinued for approximately one minute.

### What if the ERROR Lamp flashes on and off?

If the ERROR Lamp begins to flash on and off while you are setting the timer, check the following items.

1. Have you made some mistake in the order of the steps in the timer setting procedure?  
Follow Steps (1) through (9) in the correct order.
2. Do the START and STOP times overlap?  
Reset them so that they do not overlap.

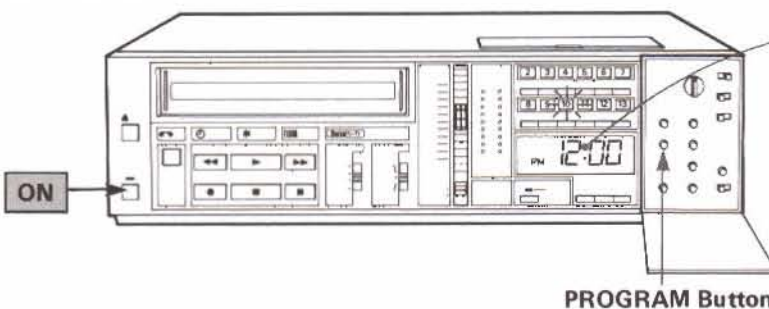


\* If the ERROR Lamp begins flashing because of a mistake in the order of the steps, it will stop flashing if you return to the correct order.

### CONFIRMATION OF A TIMER PROGRAM

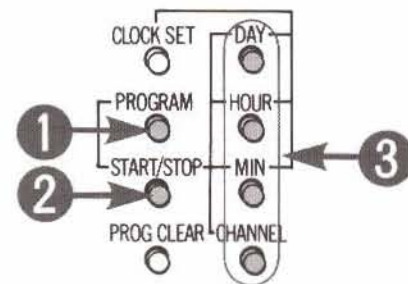
Press the PROGRAM Button and select the Program Number to be confirmed.  
The START and the STOP times will be displayed alternately for approximately one minute. The Channel Indicator will also illuminate and display the programmed television channel.

In the illustrations we can see that Program No.3 has been set for timer recording of the broadcast on Channel 10 on Tuesday from PM 8:00 to PM 10:00.



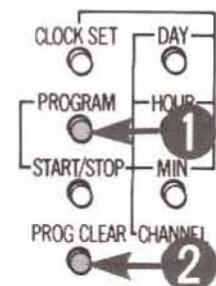
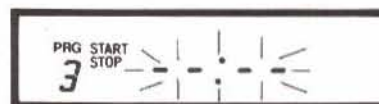
### CHANGING PROGRAM SETTING

- (1) Press the PROGRAM Button.  
Set the display to the Program Number that you wish to change.
- (2) Press the START/STOP Button.  
Set the display to the START time or the STOP time.
- (3) Make the change.  
Make the desired change by pressing the DAY, HOUR, MIN, and/or CHANNEL Buttons (in any order).



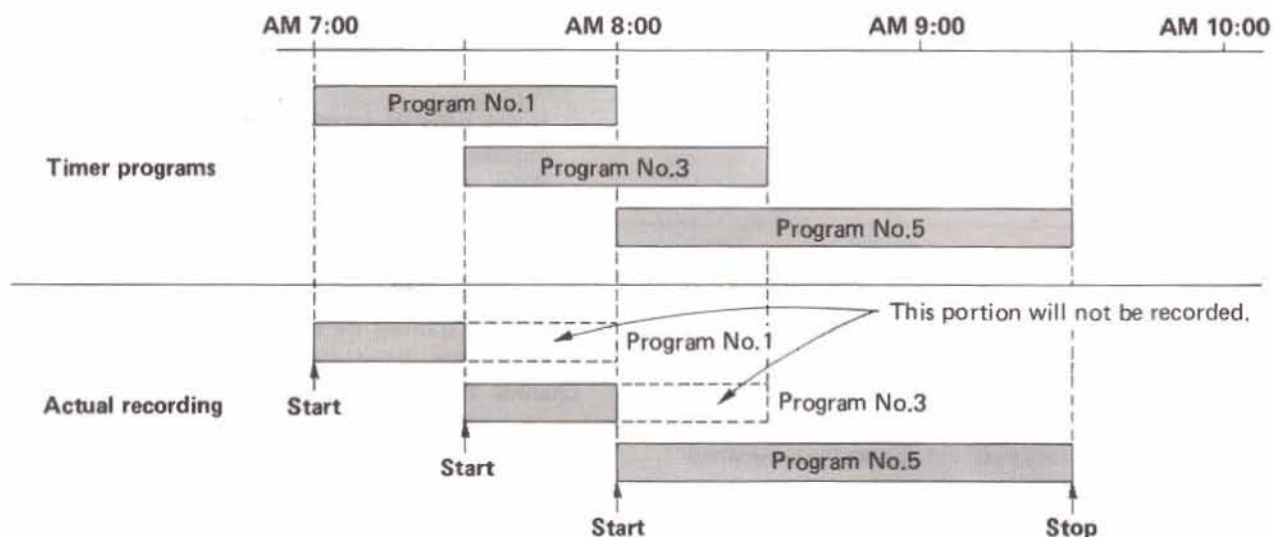
### CANCELLATION OF A TIMER PROGRAM

Press the PROGRAM Button, select the Program Number to be cancelled, and then press the PROGRAM CLEAR Button.  
The program contents will be cancelled, and the display will read "--:--".



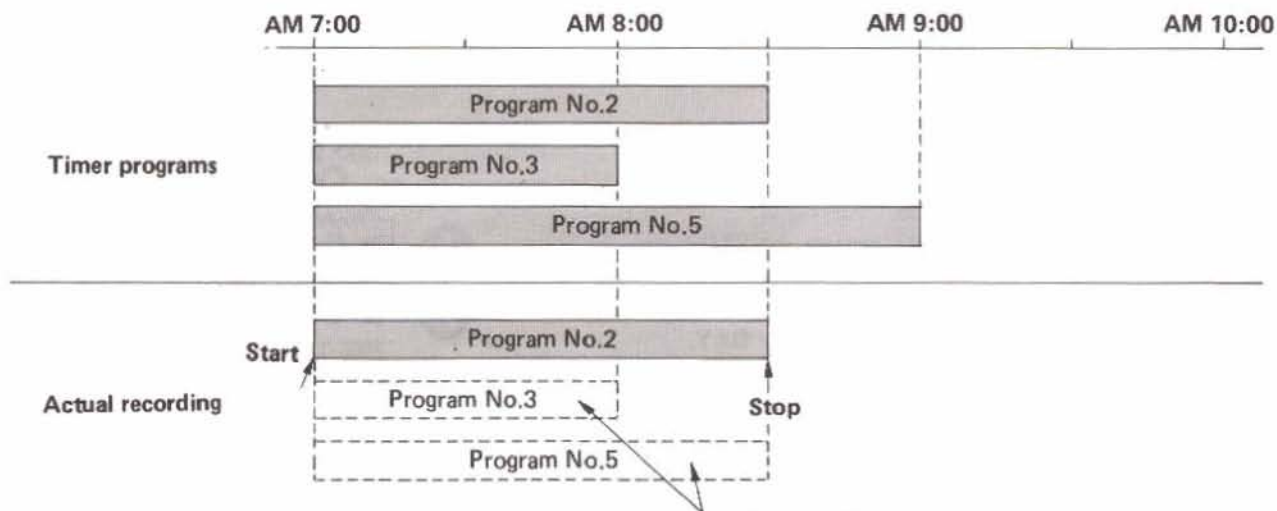
## PROGRAM PRIORITY

**Example 1:** The recording days of two or more programs are the same and the recording time spans overlap.



In this way, if the recording days of two or more programs are the same and the recording time span overlap, the recording START time will be given priority.

**Example 2:** The recording days of two or more programs are the same and the recording START times are also the same.



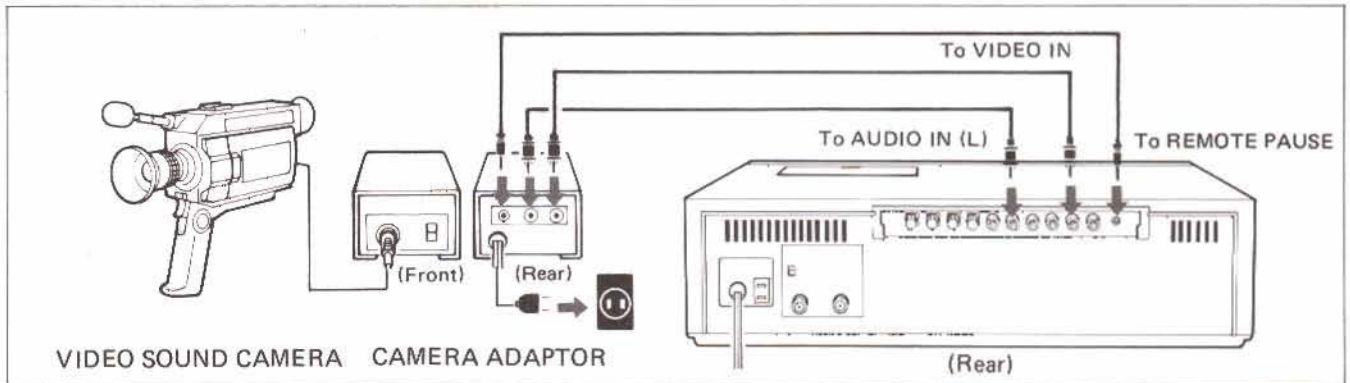
Programs No.3 and No.5 will not be recorded as programmed; No.3 will be recorded on the same day of the first subsequent week and No.5 on the same day of the second subsequent week.

In this way, if the recording days of two or more programs are the same and the recording START times are also the same, the program with the lowest number (in this case, No.2) will be given priority.

## CAMERA RECORDING

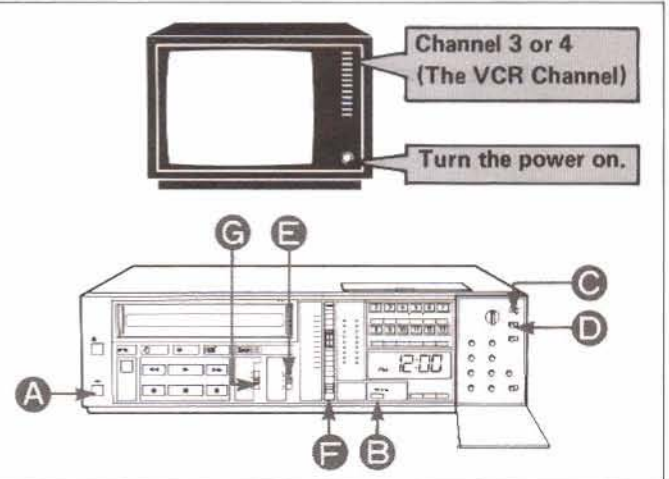
Use a Video Sound Camera (sold separately).

### CAMERA CONNECTION

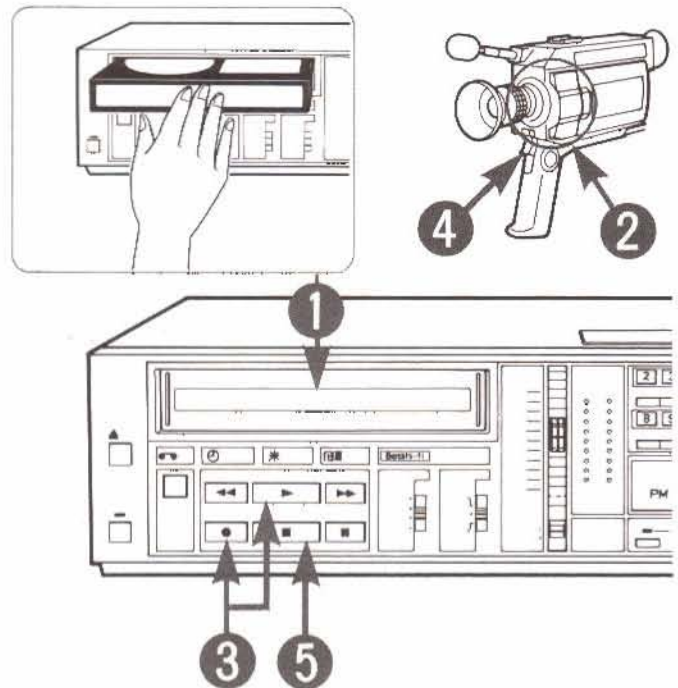


#### Check before starting

A. POWER Switch	ON
B. VCR/TV Selector	VCR
C. TAPE SPEED Selector	$\beta$ II or $\beta$ III
D. EXT AUDIO IN Switch	ON
E. REC MODE Selector	B HI-FI
F. AUDIO REC Level Selector	AUTO or MAN
NOTE: When the MAN position is selected, it is necessary to adjust the recording level. (Refer to page 23)	
G. AUDIO OUT Selector	LEFT or RIGHT
NOTE: Set to the position which matches the AUDIO IN terminal (L or R) to which the audio cord from the CAMERA ADAPTOR is connected. For example, if the audio cord is connected to the AUDIO IN (L) terminal, set to LEFT.	

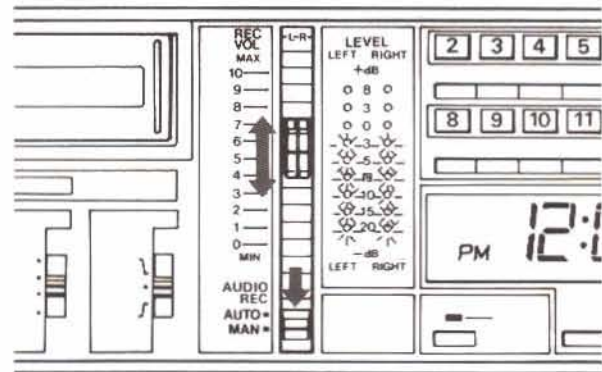


- (1) Insert a video tape cassette.
- (2) Turn the Video Sound Camera on.  
Adjust the focus, white balance, etc.  
(Refer to the Owner's Manual of the Video Sound Camera for a detailed explanation.)
- (3) First press the REC Button, then while holding it, press the PLAY Button. The VCR will be set to the RECORD PAUSE mode.
- (4) Squeeze the camera start/stop trigger. Camera recording will begin.  
Squeeze the trigger again, to return the mode to RECORD PAUSE.  
NOTE: If the RECORD PAUSE mode continues for about five minutes, the VCR will automatically change from the RECORD PAUSE mode to the STOP mode in order to protect the tape from damage.
- (5) Press the STOP Button to stop recording.  
When the end of the tape is reached recording will stop and the tape automatically rewinds.



## HOW TO ADJUST RECORDING LEVEL

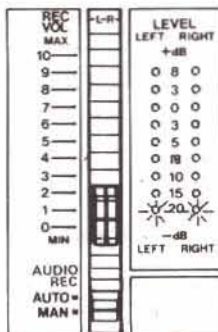
- (1) Set the AUDIO REC Level Selector to the MAN position.
- (2) Adjust the left and right REC VOLUME Controls. The audio LEVEL Meters should not illuminate beyond "0 dB" at the maximum input signal.



Readjust the REC VOLUME Controls when the audio LEVEL Meter are in the following conditions.

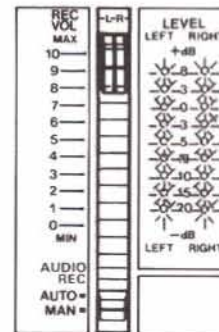
### Settings are too low. . .

Recorded sound will be too low and unclear.



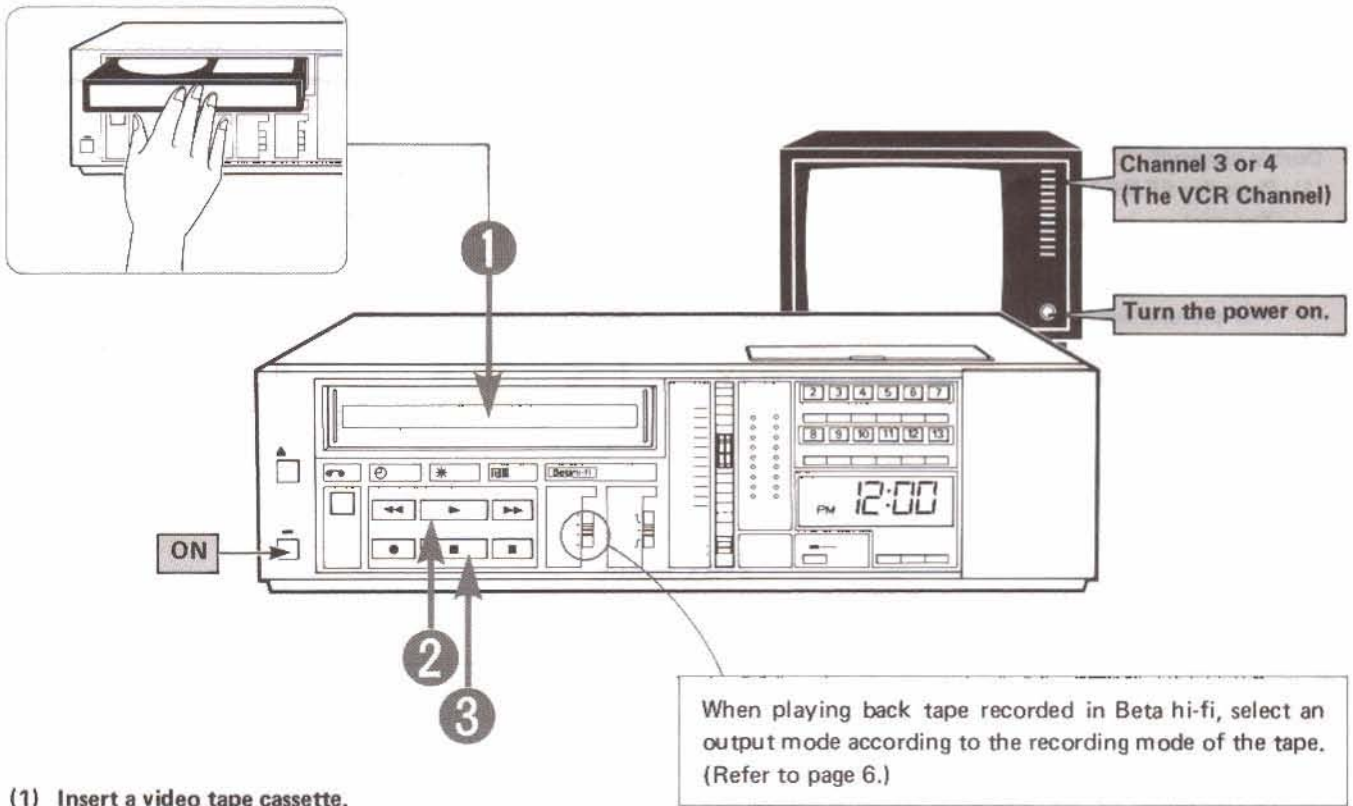
### Setting are too high. . .

Recorded sound will be distorted.





## NORMAL PLAYBACK



- (1) Insert a video tape cassette.
- (2) Press the PLAY Button.
- (3) Press the STOP Button to stop the playback.  
When the end of the tape is reached playback will stop and the tape automatically rewinds.

## TRACKING ADJUSTMENT

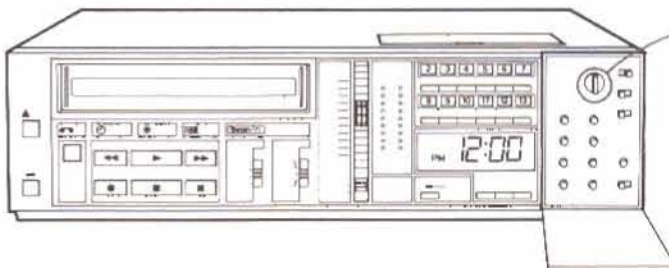
If a video tape which has been recorded with another BETA format Video Cassette Recorder is played back on this VCR, a certain amount of "noise" interference may appear in the picture image.

Turn the TRACKING Control to the left or right to the least amount of "noise".

When playing back a tape which was recorded using a Beta hi-fi system, adjust the TRACKING Control if there are breaks in the audio or if there is static interference. Turn the TRACKING Control back to the center position during playing back a tape recorded with this VCR.



"Noise" interference

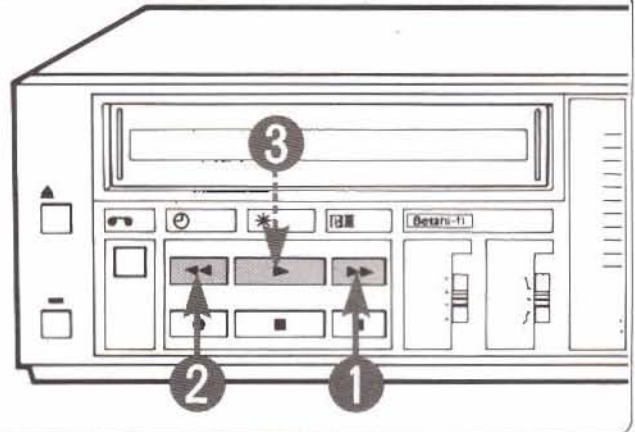


## PLAYBACK VARIATIONS

### PICTURE SEARCH

During playback. . .

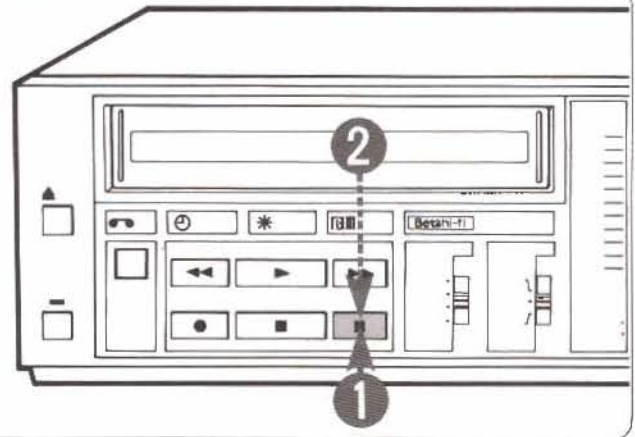
- (1) Press the FF/SEARCH Button.  
The picture image can be viewed on the television screen while the tape is advanced at a high speed.
- (2) Press the REW/SEARCH Button.  
The picture image can be viewed on the television screen while the tape is rewound at a high speed.
- (3) Normal playback will resume when the PLAY Button is pressed.



### STILL IMAGE

During playback. . .

- (1) Press the PAUSE/STILL Button.  
A still image can be viewed on the television screen.
- (2) Normal playback will resume when the PAUSE/STILL Button is pressed once again.



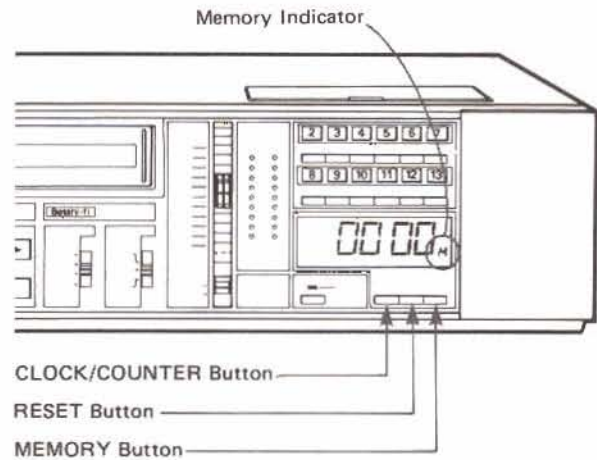
#### NOTES:

- \*The picture search functions are intended for high speed scanning of Beta III recordings only and will not provide a useable picture when scanning a Beta II recording. Please note that when scanning a Beta III recording, 4 or 5 narrow bands of noise (framing noise) will be evident in the picture and since this is normal for high speed playback, and can not be eliminated with the TRACKING Control.
- \* If the still image is continued for about five minutes, the VCR will automatically change to the STOP mode in order to protect the tape from damage.
- \* There will be no audio output during picture search or still image mode.

## COUNTER MEMORY

If the MEMORY Button is in the ON position when the tape is rewound, the VCR will automatically stop when the tape counter readout reaches "0000". This feature is convenient for finding the beginning of a recording, or for returning to a specific scene.

- (1) If the Digital Display indicates the time, press the **CLOCK/COUNTER Button** to set the display to the counter.
- (2) At the beginning of recording or playback, press the **RESET Button**.  
The tape counter readout will return to "0000".
- (3) Press the **MEMORY Button**. The letter "M" appears at the Digital Display and the tape position is memorized.
- (4) When recording or playback is finished, press the **REW/SEARCH Button**.  
The tape will automatically stop at the pre-set "0000" position.



## AUTOMATIC TERMINATION OF RECORDING

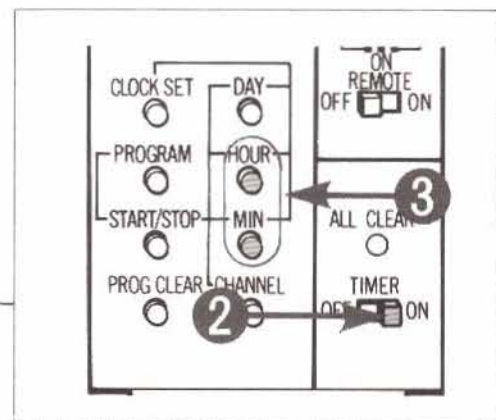
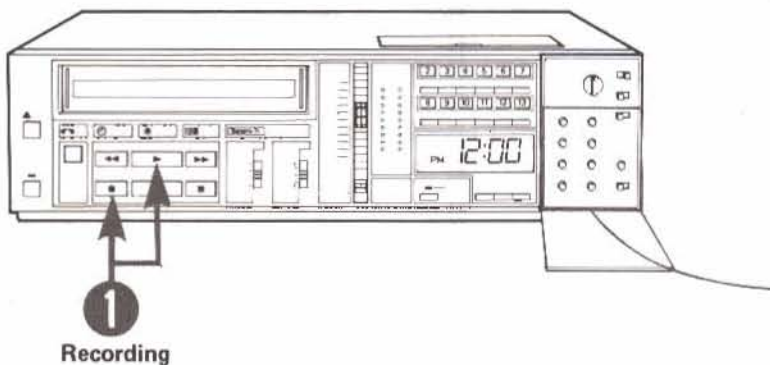
When retiring for the night, it may be convenient to start the recording function manually and set the recorder to automatically switch off.

Be sure that the current time readout is accurate.

- (1) Start recording the desired TV program, refer to the section titled "RECORDING TELEVISION BROADCAST" on page 15.
- (2) Set the **TIMER Switch** to ON and set the **POWER Switch** on the TV receiver to the OFF position.
- (3) Use the **HOUR Button** and **MIN Button** to set the stopping time for recording. (See page 19).

### NOTES:

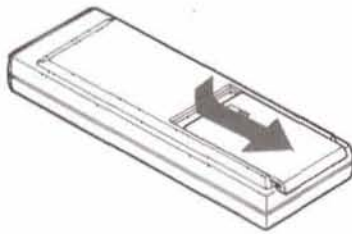
- \* If the stopping time is not entered within one minute after the STOP Lamp appeared, the Digital Display returns to the current time readout. Set the **TIMER Switch** to OFF and then back to ON to make the timer ready for stopping time setting again.
- \* When the pre-set stopping time is reached, recording will stop and the VCR will be turned off.
- \* If the stopping time is not set, recording will continue to the end of the tape, and then the recording will stop and the VCR will be turned off.



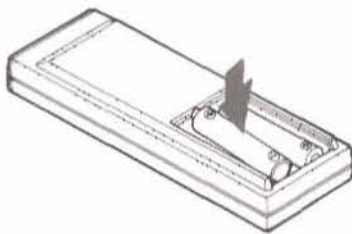
# THE REMOTE CONTROL UNIT

## BATTERY INSERTION

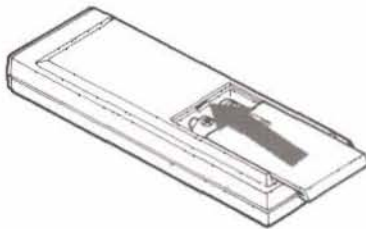
(1) Open the lid.



(2) Install 2 "AA" 1.5-volt batteries (sold separately) as indicated by the (+) and (-) signs.



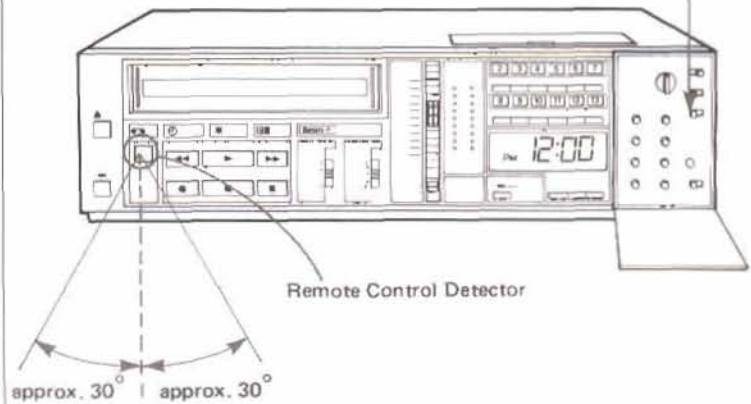
(3) Replace the lid.



## OPERATION

The operation of the buttons on the Remote Control Unit is the same as those of the buttons on the VCR. Point the unit at the Remote Control Detector on the front of the VCR during operation.

Set the REMOTE Switch to the ON position.



Use new batteries and operate within approx. 7 m (23 ft.) of the front of the VCR.

### Remote Function Indicator

Lights up when any of the buttons on the Remote Control Unit are pressed.

### REC Buttons

To record, press both of these buttons. In order to prevent an accidental erasure of a recorded tape, the VCR will not enter the recording mode unless both buttons are pressed.

REW/SEARCH Button

PLAY Button

STOP Button

VCR/TV Selector

POWER Switch

TV CHANNEL Buttons

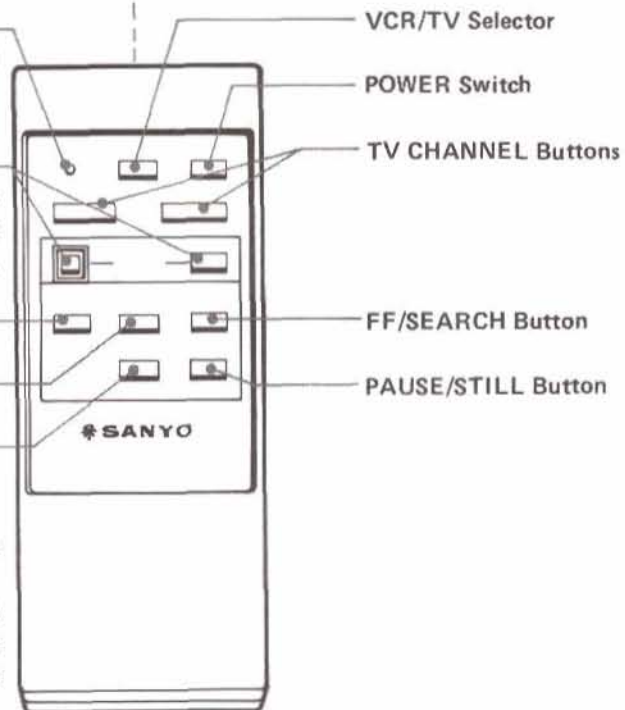
FF/SEARCH Button

PAUSE/STILL Button

## NOTES:

\* Remove the batteries from the Remote Control Unit if it is not to be used for long periods of time.

\* The battery life under normal operating conditions is approximately one year. When the batteries become weak, the operable distance will decrease; when this occurs, replace the batteries.



## DEW SENSOR

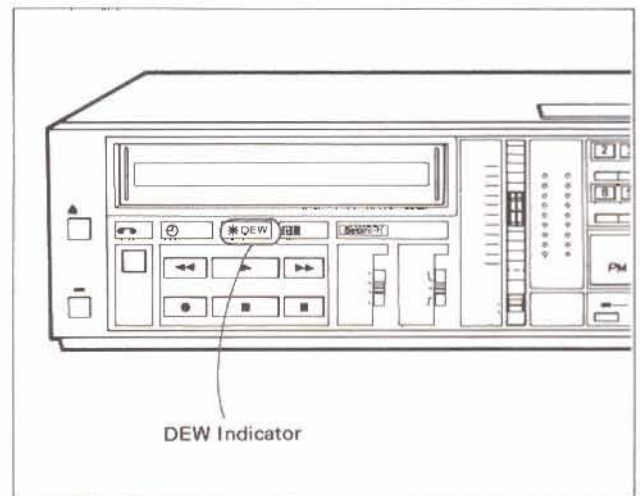
### WHAT IS DEW (CONDENSATION)?

- \*When a cup of ice water is brought into a warm room, drops of water will form on the cup's exterior. This phenomenon is called condensation, or DEW. This is the same phenomenon as when water drops form on the window glass of a heated room.
- \*Similarly, if a VCR is moved from extreme cold to a warm environment, this same type of DEW may form on parts along which the tape travels. This may cause damage to the tape and video heads and the unit may stop playing.



### INDICATIONS OF DEW CONDENSATION

- \*If DEW has formed inside the VCR, the DEW Indicator will illuminate, and the unit will stop playing and become inoperable.
- \*When the temperature or humidity has changed abruptly, and even though DEW has formed inside the unit, the DEW Indicator may not illuminate for the first 15 - 25 minutes. Therefore, absolutely do not insert a video tape cassette during this period.
- \*Turn on the power switch on, and wait approximately 15 - 25 minutes.
- \*If the DEW Indicator does not illuminate even though you have waited 15 - 25 minutes, the unit may be operated because no DEW has formed on its inside. However, if possible, try operating the VCR with a tape that has been used once before to confirm that the unit is OK.



### TO REMOVE DEW

- \*With the power on, wait until the DEW Indicator goes off.
- \*The amount of DEW (condensation) will vary according to the situation but it can be removed in a few hours at most.

## REPAIRS

This VCR is a precision instrument and treated with care, will provide years of satisfactory performance. However, in the event of difficulty, the owner is advised not to attempt to make repairs or open the cabinet. Servicing should always be referred to your servicing dealer or Sanyo Authorized Warranty Station.

## TROUBLESHOOTING

This VCR is a highly sophisticated instrument. It is shipped from the Sanyo factory after having been checked and adjusted under the most rigid quality control and inspection system. If treated with care, it will provide years of satisfactory performance. However, should you have problems, check the following symptoms and possible solutions.

### RECORDING

Symptom	Possible causes and corrections
No picture on TV screen.	* TV channel selector not set to VCR operating channel (3 or 4). * VCR/TV Selector not set to VCR position.
A picture appears on TV screen but it not clear.	* Off the air reception on the VCR is poor. * Reception on the TV receiver is poor.
A picture appears on TV screen but there is no sound.	* Phonoplug is connected to AUDIO IN (L and R) terminals.
No recording.	* Erasure-prevention Tab on the cassette has been removed.
Timer recording cannot be made correctly.	* The clock time is not set correctly. * The starting day and the starting time have not been set correctly. * There has been a power interruption.

### PLAYBACK

Symptom	Possible causes and corrections
No picture on TV screen.	* TV channel selector not set to VCR operating channel (3 or 4). * VCR/TV Selector not set to VCR position.
Noise interferes with playback picture.	* Misadjustment of TRACKING Control.
No picture, but sound is clear.	* Dust and dirt on video heads. (Take unit to Authorized Service Station or Sanyo Dealer.)

### OTHERS

Symptom	Possible causes and corrections
No power is applied to the unit.	* The power cord is disconnected. * The TIMER Switch is in the ON position.
Cassette cannot be ejected.	* The VCR is turned off. * The power cord is disconnected.
Cassette cannot be inserted.	* A cassette is already loaded. (The CASSETTE IN Indicator is illuminated.) * Set the POWER Switch to OFF and then to ON again, and then try to insert the cassette again.
Digital Display is flashing.	* There has been a power interruption.
The function buttons cannot be activated.	* Moisture condensation on head drum; DEW Indicator on. (Wait until DEW Indicator goes out.)
The VCR cannot be remotely controlled.	* The batteries are exhausted.

MEMO.....

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