

# SANYO

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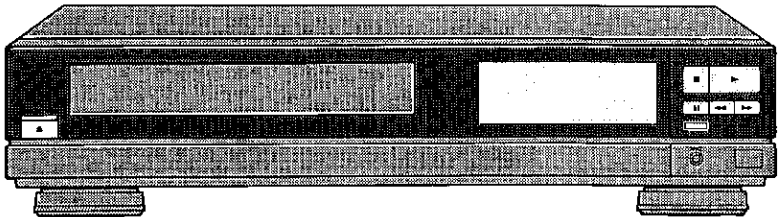
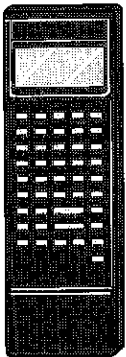
Instruction  
Manual

Video cassette  
recorder

VHR-5700

VHS HQ  
PAL

Hi-Fi



Congratulations. You are now the owner of SANYO Video Cassette Recorder.

Please read these instructions before operating the VCR.

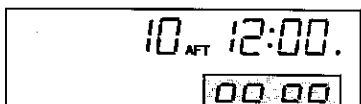


- This VCR is based on a PAL-VHS signal system. Only video cassette bearing the **VHS** symbol can be used.
- Video cassette recorders bearing the "HQ" mark incorporate VHS high picture quality technology. Note that there is interchangeability with former VHS video cassette recorders.

### DEW SENSOR

When operating the VCR, always pay attention to the following.

- If the DEW indicator (00 00) illuminates, stop all operations until the DEW indicator goes off.
- Because condensation will form gradually, the DEW indicator may not illuminate immediately when the temperature or humidity has changed abruptly, even though dew has formed inside the VCR.
- Therefore, when operating a VCR under such conditions for forming condensation as an abrupt change of temperature or humidity, wait approximately 20 minutes until condensation is confirmed not to form.



DEW indicator

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## PRECAUTIONS

### WARNING:

This Instruction Manual has been prepared for use with products for use in both Australia and New Zealand. In those places in the manual where descriptions, information, etc., differ for the two countries, both are provided and described as such, so the reader should take care to read the applicable part.

COUNTRY	TV CHANNEL
AUSTRALIA	AUST. CH-0 or CH-1
NEW ZEALAND	N.Z. CH-2 or CH-3

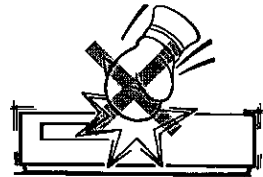
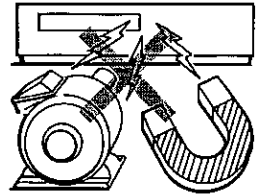
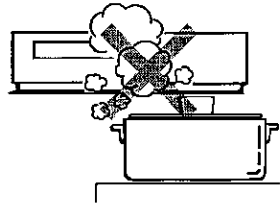
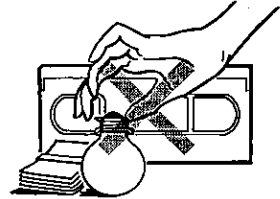
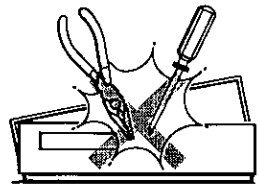
### OPERATING PRECAUTIONS

- Removing the cabinet and touching the inside of the VCR with your hand, a screwdriver, or anything else, is not only harmful to the unit, but is also dangerous.  
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.
- The unauthorized recording of television programmes, video tapes, films and other such material may involve infringement of copyright or the rights of third parties.
- Be sure to use this VCR only in a temperature range of 5°C to 35°C and less than 85% humidity.
- This VCR is sensitive to magnetism. Do not expose to a magnetic source.
- Place the VCR on a flat, stable, level surface. Never subject it to violent shaking or any other shock or impact.
- Do not block the air vents that are provided to prevent the temperature inside the VCR from rising excessively.

The power on/off (O/STOP) button of this VCR is a secondary circuit, and does not disconnect the unit from the AC power source, even if the button is in the stand-by position, as long as the power cord is connected to AC electrical outlet.

**Note:** Stand-by is the condition in which the digital display becomes dimmer and the date and time are displayed.

If the power supply cord of this appliance is damaged, it must be replaced. Return to a SANYO authorized service center for replacement of the cord.



## CONNECTIONS

### A ANTENNA CONNECTION

- Un-plug the antenna cable from your TV receiver and reconnect to the terminal marked "ANT IN" on the VCR.
- Connect the antenna cable supplied as an accessory of the VCR to the "ANT OUT" terminal on the VCR. Connect the other end of this antenna cable to the TV receiver.
- Insert the plug of the power cord into the wall socket.

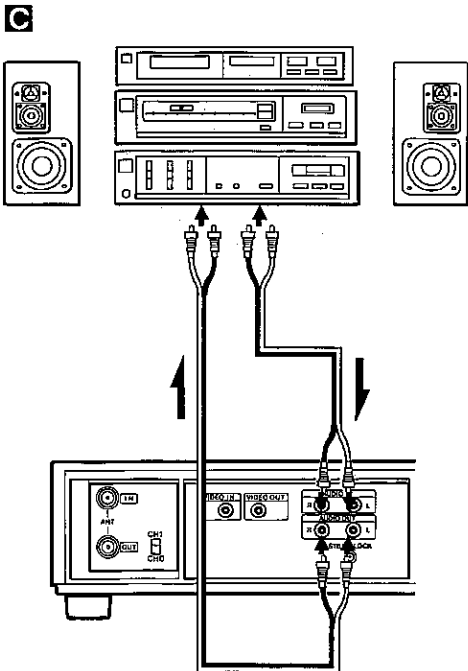
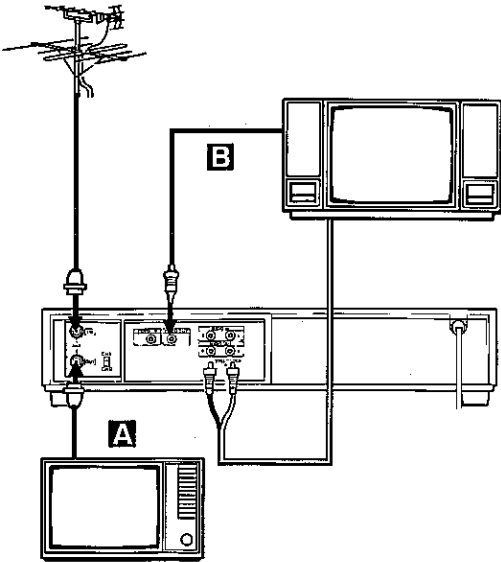
### B AV-CONNECTION

If the TV receiver on hand has an AV terminal, the following AV connections are also possible. The AV cable is sold separately. Obtain it from your dealer if necessary.

- Connect the VIDEO/AUDIO OUT terminal on the VCR to the AV terminal on the TV receiver.
- The advantage of this connection is a superior quality picture and sound during playback.

### C Hi-Fi AUDIO CONNECTION

- For sound playback over a hi-fi system, connect the AUDIO OUT (L, R) terminal on the VCR to the audio input terminal on the hi-fi system.
- To record sound from a hi-fi system, connect the audio output terminal on the hi-fi system to the AUDIO IN (L, R) terminal on the VCR.



# ADJUSTING THE TV RECEIVER

The VCR channel for this equipment is either channel 0 or 1 (channel 2 or 3 ... for NEW ZEALAND). Select the channel which is not being used by a television broadcasting station in the area in which the equipment is to be used. On the rear panel of the VCR is the VCR channel select switch. Set the switch to the position which corresponds to the channel to be used.

## ADJUSTING THE TELEVISION'S VCR CHANNEL

Varying from television to television, the VCR channel (channel 0 or 1 ... for AUSTRALIA, channel 2 or 3 ... for NEW ZEALAND) might be considerably out of adjustment. Use the following procedure to adjust the television's VCR channel.

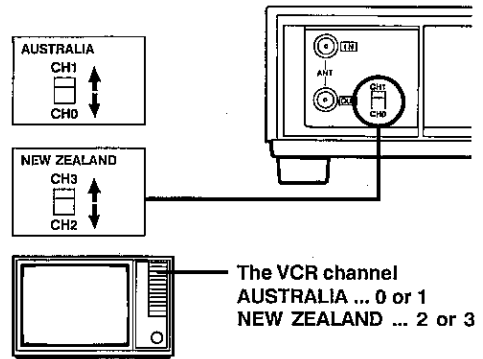
- 1 Turn the television power on.
- 2 Set the television to the VCR Channel 0 or 1.

### The VCR channel

AUSTRALIA...channel 0 or 1  
NEW ZEALAND...channel 2 or 3

- 3 Select an active TV channel by pressing a CHANNEL button (numeric button or  $\leftarrow, \rightarrow$  button) on the VCR. If TV broadcast is not received, play back the pre-recorded tape.
- 4 Set the VTR/TV selector to the "VTR" position. "VTR" indicator will be on.
- 5 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.

This is your VCR RF channel. To view video playback, always set your TV channel selector to the same channel.



## FEATURES

- VHS high quality picture technology
- Hi-Fi audio stereo system with audio frequency modulation recording
- Stereo and bilingual programme recording capability
- 39-position voltage synthesizer tuner
- Infra-red remote control
- Built-in 1 year, 6-event timer with every day function
- QSR (Quick Start Recording) timer
- Linear time counter
- Forward and reverse colour picture search
- Still picture playback
- Frame advance playback
- Variable slow motion
- Double (x2) speed playback
- Lesson repeat playback
- Remaining time display with timer notice
- Special code operation
- Index/Go to search system
- Various convenient automatic functions

### MEP (Miss Erasure Prevention) EJECT

A video cassette will automatically be ejected if recording is attempted on a video cassette without an erasure-prevention tab.

### Auto rewind

The VCR automatically rewinds the tape at the end of the tape.

**Note:** This function does not operate for timer recording or QSR timer recording.

### Auto rewind eject

When the EJECT button is pressed while the REW button is kept depressed, the VCR will automatically eject the cassette after the tape has been rewound to the beginning or to the counter memory position ("0H00M00s").

### Auto rew-play

When the PLAY button is pressed while the REW button is kept depressed, the VCR begins playback again automatically after the tape has been rewound to the beginning or to the counter memory position (0H00M00s). When controlling the VCR with the remote control unit, press the REW-PLAY button on the unit.

### Auto play

The VCR will playback a tape automatically when a video cassette is inserted whose erasure-prevention tab has been removed.

### Auto eject

When a video cassette without an erasure-prevention tab is played to the end of the tape, the tape will be automatically rewound and then the cassette will be ejected.

### Off power eject

A video cassette will be ejected when the EJECT button is pressed even with VCR is in stand-by condition.

### Auto-timer stand-by

If timer setting is completed, VCR's power is automatically switched off and is in the timer stand-by mode.

### Direct power on and go

#### Power on

**If a control button is pressed while the VCR is on stand-by, the power is supplied directly with that control button and functioning begins.**

**Example:** If you press the PLAY button, the VCR will be turned on and start playback.

**Note:** This function is not provided for the REC button. This to prevent is the VCR from being easily put into a video recording condition. Normally, when only the power is being supplied, press the STOP button (⏹/STOP).

#### Power off

The video recorder will be turned off if you press the STOP button (⏹/STOP) in the stop mode.

#### Auto power stand-by

**When STOP mode continues for five minutes, the power supply is cut off automatically.**

When you want to continue with power supply at ON, perform channel select operation at the end. If the final operation selects channel, the "Auto power stand-by function" can be aborted.

This system is also active from the remote control unit.

### Self power on

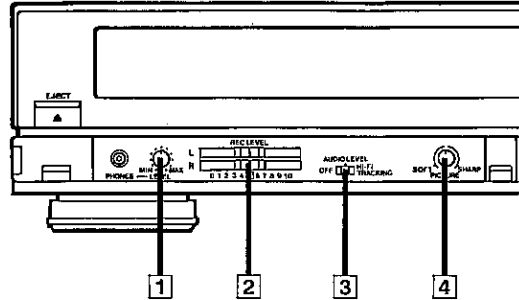
The power is automatically switched on as a cassette is inserted even when the VCR is in the stand-by condition.

## BASIC SETTING OF THE CONTROLS

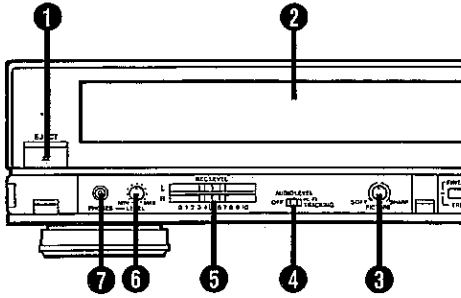
Each control should normally be set to the "basic position" described below. For detailed operation instructions, refer to the page on which each control is explained.

- 1 **PHONES LEVEL control** – "centre position"  
Adjust head phone volume. (See page 25)
  - 2 **Audio REC LEVEL control** – "centre position"  
Adjust hi-fi recording level. (See page 20)
  - 3 **AUDIO LEVEL METER switch** – "AUDIO LEVEL"  
When this is set to "OFF", the meter does not indicate anything. Adjust the hi-fi recording level and the hi-fi volume while watching this meter. (See page 20)
  - 4 **PICTURE sharpness control** – "centre position"  
Adjust quality of played-back picture. (See page 21)
- When "LP" appears on the digital display, turn the "LP" display off with the remote control unit SP/LP button. When "LP" does not appear the unit is in "SP" mode at its basic position.

**CAUTION:** In "LP" mode the picture is not recorded. When recording only sound in hi-fi, record in "LP" mode. (See page 18)



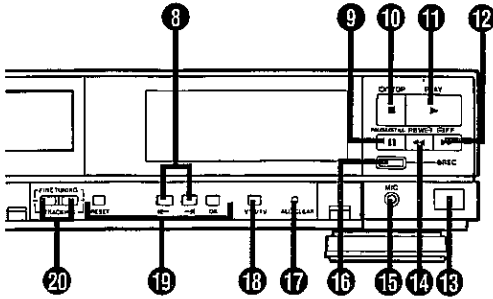
## PART NAMES AND FUNCTIONS



### Front

- 1 EJECT button
- 2 Cassette loading compartment
- 3 PICTURE sharpness control
- 4 Level meter switch
- 5 Audio REC LEVEL control
- 6 Head phones LEVEL control
- 7 Head PHONES jack
- 8 ← : Channel down/Back  
→ : Channel up/Next

Use these buttons to select the desired channel. To select the AV input, press one of the selector buttons until "AU" appears on the display.

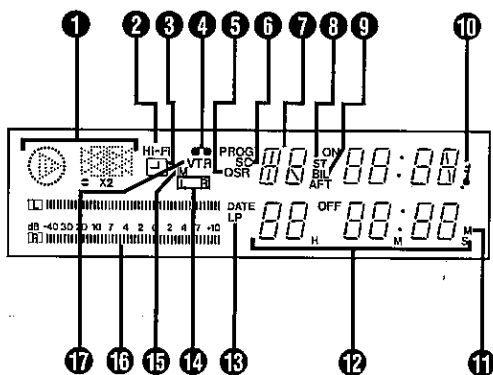


- 9 PAUSE/STILL button  
During playback: still picture.  
During recording: pause during which no material will be recorded.  
During still playback: advance the frame.
- 10 Power on-off/STOP button ( ⏻/STOP )
- 11 PLAYback button
- 12 Fast-Forward button
- 13 Remote control detector
- 14 REWind button
- 15 MICrophone jack
- 16 RECord button
- 17 ALL CLEAR button
- 18 VTR/TV selector
- 19 Tuning controls
- 20 FINE TUNING/TRACKING controls



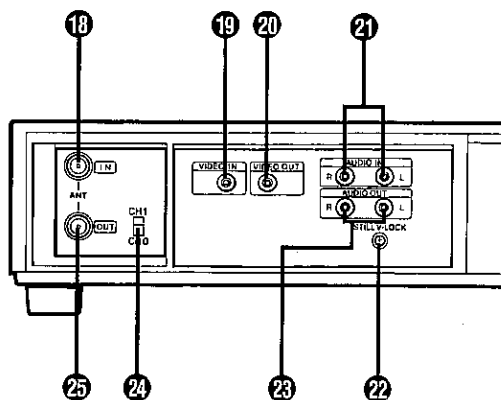
## Digital display

- ① Function indicator
- ② Hi-Fi mode indicator
- ③ Timer indicator
- ④ Cassette loading indicator
- ⑤ QSR indicator
- ⑥ SC (simulcast) indicator
- ⑦ Channel position indicator
- ⑧ STereo indicator
- ⑨ BILingual indicator
- ⑩ Key lock indicator
- ⑪ Counter memory indicator
- ⑫ Clock/Timer/Counter etc. indicator
- ⑬ LP mode indicator
- ⑭ Audio output indicators
- ⑮ Digital memory indicator
- ⑯ Audio level indicator
- ⑰ VTR indicator

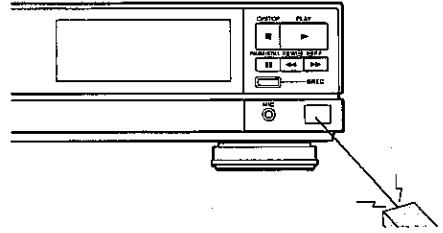
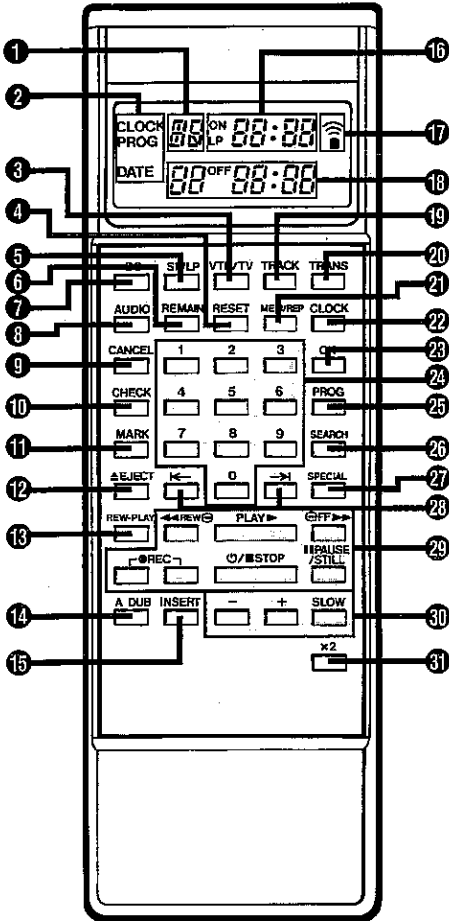


## Rear

- ⑱ ANTenna INput terminal
- ⑲ VIDEO INput terminal
- ⑳ VIDEO OUTput terminal
- ㉑ AUDIO INput terminals (L, R)
- ㉒ STILL V-LOCK adjustment screw
- ㉓ AUDIO OUTput terminals (L, R)
- ㉔ VCR channel select switch
- ㉕ ANTenna OUTput terminal



# REMOTE CONTROL UNIT



- ① Channel position number
- ② Mode indicator
- ③ VTR/TV selector
- ④ Counter RESET
- ⑤ SP/LP select button
- ⑥ Tape REMAIN
- ⑦ SimulCast button
- ⑧ AUDIO output select button
- ⑨ Programme CANCEL
- ⑩ Programme CHECK
- ⑪ MARK index
- ⑫ Cassette EJECT
- ⑬ Auto REWInd PLAYback
- ⑭ Audio DUBbing button
- ⑮ INSERT button
- ⑯ Programme on-time display
- ⑰ Remote function indicator
- ⑱ Programme off-time/day display
- ⑲ Auto TRACKing button
- ⑳ Programme TRANSfer
- ㉑ Counter MEMory/Lesson REPeat
- ㉒ CLOCK set
- ㉓ OK button
- ㉔ Numeric buttons
- ㉕ PROGRAMme set
- ㉖ Index/Go to SEARCH
- ㉗ SPECIAL code operation
- ㉘ ← : Channel down/Back  
→ : Channel up/Next
- ㉙ Main functions
- ㉚ SLOW (x1/5 - x1/25)
- ㉛ X2 (double speed playback)

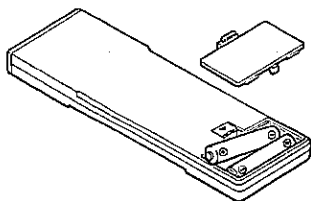
This remote control unit is a multifunctional unit equipped with an LCD panel.

Each operation can be set up while looking at the remote control unit LCD panel, then transmitted to the VCR. In addition to timer programming and time adjustments, convenient special functions can also be engaged with the remote control unit. For details, see separate entries for each operation.

Normally, time and data are displayed on the remote control unit LCD panel after clock setting is completed. When programming any type of data to be sent to the VCR, the display changes according to each mode.

### BATTERY INSERTION

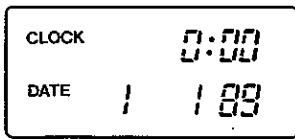
1. Open the lid.
2. Insert 2 "AA (IEC R6)" 1.5 volt batteries as indicated by the (+) and (-) signs.
3. Replace the lid.



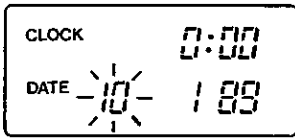
### Notes:

- Operate the remote control unit within a range of approx. 30° from the front of VCR.
- Operate unit within approx. 6 m (20 ft.) from the front of VCR.
- The batterie's life under normal operating conditions is about six month. If the batteries become weak, the operable distance will decrease; when this occurs, replace the batteries.
- If the remote control unit is not to be used for a long period of time, remove the batteries.
- If the battery is removed, timer programmes and other memorized material are erased.

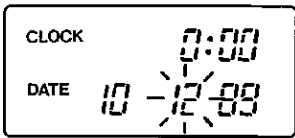




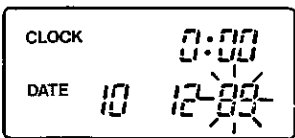
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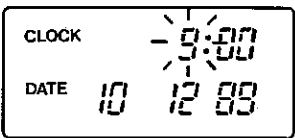
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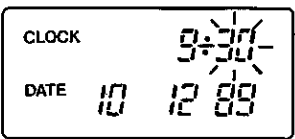
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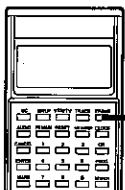
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5

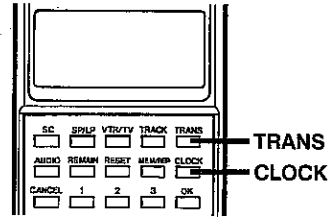


6





7

## CLOCK SETTING



- Clock setting can be changed by pressing the ← or → button until the desired figure flashes. Then input correct number.
- When a one digit number is going to be set, press "0" first and then the desired number (ex.: in case of 9: press "0" and then "9".)

**Example:** 9:30 December 10, 1989

- 1 Press the CLOCK button, then press the → button once.
  - 2 Set the DAY with numeric buttons.  
**Example:** DAY = 10
  - 3 Set the MONTH with numeric buttons.  
**Example:** MONTH = 12
  - 4 Set the YEAR with numeric buttons.  
**Example:** YEAR = 89
  - 5 Set the HOUR with numeric buttons.  
**Example:** HOUR = 09
  - 6 Set the MINUTE with numeric buttons.  
**Example:** MINUTE = 30
  - 7 While the remote function indicator (  ) blinks, press the TRANS button.
- Whenever the remote function indicator (  ) flashes, it indicates that the setting can be transferred to the VCR.

### Seconds Counter Adjustment

On the VCR side, the seconds counter starts from "00" seconds immediately upon transmission from the remote control unit. Adjust the seconds counter accurately for coordination between MINUTE adjustment and transmission period timing.

### ALL CLEAR FUNCTION

When pressing the ALL CLEAR button, the digital display will read "88:88", so that the current time and the desired times for recording programmes can be reset.

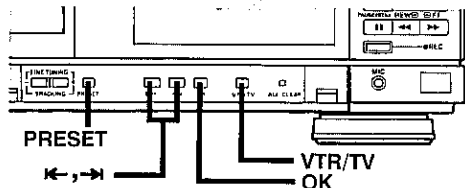
- Depress the ALL CLEAR button in the event that the function buttons cannot be activated.

# TUNING CONTROL ADJUSTMENTS

## Check before starting

- Set the TV receiver channel to the channel where the RF channel has been preset. (channel 0 or 1 for AUSTRALIA, channel 2 or 3 for NEW ZEALAND)

**Example:** To preset UHF channel "23" to channel position number "12".



- 1 Set the VTR/TV selector to the "VTR" position. ("VTR" indicator will be on.)

- 2 Press the tuning PRESET button.

- 3 Select the desired channel position number (Example: "12") by pressing the ← or → button. Then press the OK button.

- 4 Select "L", "H" or "U" (Example: "U") by pressing the ← or → button. Then press the OK button.

- When the ← or → button is pressed, the character "L", "H", "U" or "S" (skip) will be sequentially displayed as a band indicator.

Band Indicator	Channel Range	
	For AUSTRALIA	For NEW ZEALAND
L	0 — 5	1 — 3
H	5A — 11	4 — 11
U	28 — 69	21 — 69
S	Skip function (See Page 13.)	

- 5 When the ← or → button is pressed, a channel being used for broadcast will be automatically found.

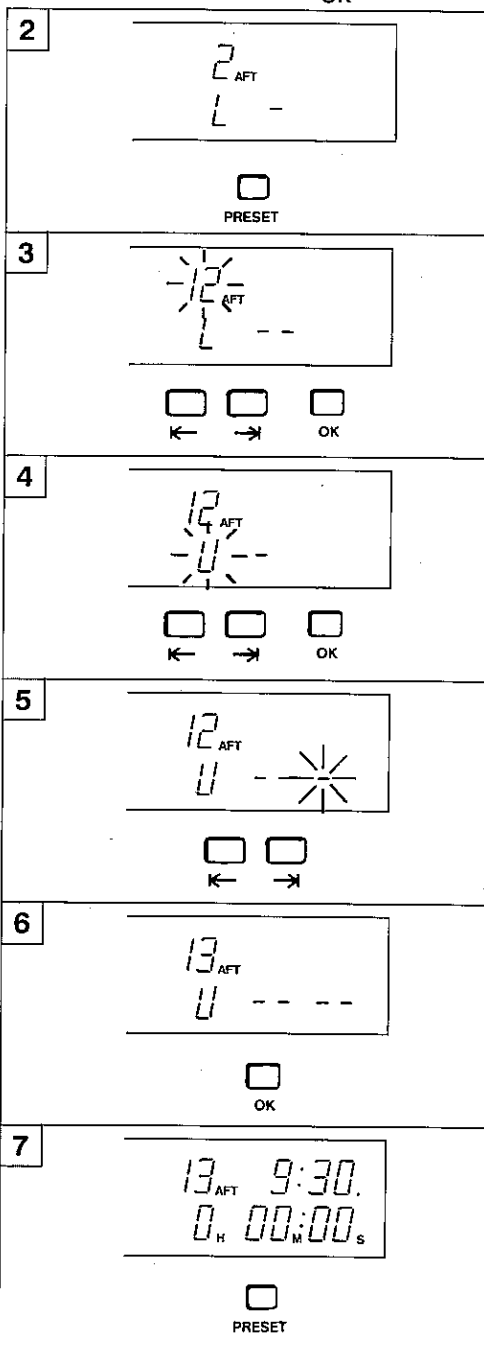
**Note:** Since the lowest position of the band becomes the tuning point when a band has been selected, at the beginning push the → button and then start searching for the channel.

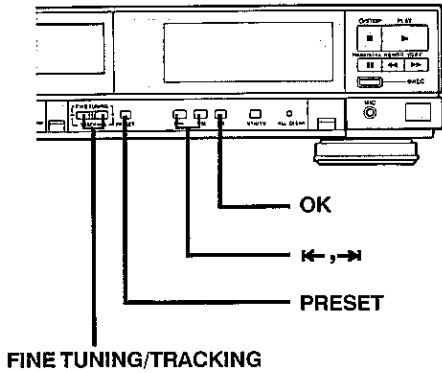
When a channel is located by channel searching, the same search stops and the channel indicator changes from blinking to steady illumination, and at the same time, "AFT" indicator illuminates. Check the TV screen to confirm that the located channel is the channel you want and, if it is, proceed to step 6. If it is not, repeat step 5.

- 6 Press the OK button, and the station selected is memorized.

When presetting another channel position number display, repeat steps 3 to 6 by following the same procedure.

- 7 When the PRESET button is pressed, the display will return to the normal display.





## SKIP FUNCTION

The skip function gives you the possibility to jump the unused channels.

**Example:** To skip channel position number "10".

- 1 Press the PRESET button.
- 2 Press the ← or → button to select the channel position number (**Example:** "10") to be skipped. Then press the OK button.
- 3 Press the ← or → button until the band indicator shows "S".  
**Note:** "S" denotes SKIP.  
To cancel the SKIP mode, press the ← or → button once again to select the band to be received, and then preset once again (see page 12).
- 4 Press the OK button.
- 5 When the PRESET button is pressed, the display will return to the normal display.

## CHANNEL FINE TUNING

For the preset channels, the received picture is automatically optimized in the AFT on condition, but it may happen that reception can be somewhat improved, if signals are weak or if the channel is disturbed by interference, by fine tuning with the AFT off.

- 1 Press the ← or → button to select the unsatisfactory channel.
- 2 Press the PRESET button.
- 3 Press the FINE TUNING/TRACKING (- or +) button until you are able to obtain the best possible picture and sound. When the FINE TUNING/TRACKING button is pressed the AFT indicator is turned off, and the fine tuning can then be made.
- 4 Then press the PRESET button.  
**Note:** To reset AFT from "off" to "on", press the PRESET button once, select the channel position number, press the OK button, and once again press the PRESET button.  
If the AFT isn't reset to "on" despite performing the above operation, preset it once again (see page 12).

## CASSETTE LOADING AND UNLOADING

### LOADING

When a video cassette is inserted, it will be loaded automatically and the cassette indicator will illuminate.

### UNLOADING

The video cassette will be unloaded when the EJECT button is pressed.

### ERASURE-PREVENTION TAB

If the erasure-prevention tab on the back of the video cassette is removed, it cannot be recorded. 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 onto the same cassette again, place two layers of adhesive tape over the space where the tab was, so as to cover the space completely.

### COUNTER MEMORY

This convenient feature for finding the beginning of a specific recording etc., is made possible by the "Linear Time Counter" that indicates the tape run time in seconds.

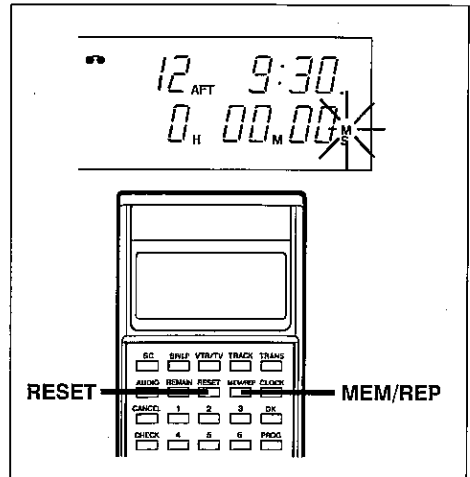
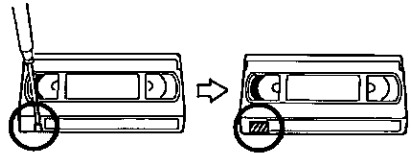
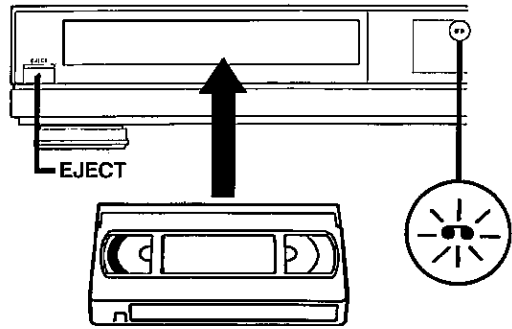
- If the counter Indicator is displaying remainder amount of tape, press the REMAIN button. Then the Indicator will display counter.
- Whenever you load a cassette tape, the counter will be reset to "0h00m00s".
- The counter operates using control signals which are recorded on the tape, hence if you playback a tape which has nothing recorded on it, the counter will not operate.

- 1** Press the RESET and MEM/REP buttons before starting recording or playback. The zero point of the counter is now memorized and the memory indicator "M" will illuminate.

**Note:** If you press the MEM/REP button during playback, the unit will enter the Lesson Repeat mode (page 22).

- 2** When the REW button is pressed at the end of recording, or playback, tape will be re-wound automatically to the memorized position and then stops.

- When rewinding further back from position "0h00m00s," the counter shows figures beginning with "-".
- The tape stops at the memorized position even with fast forward.



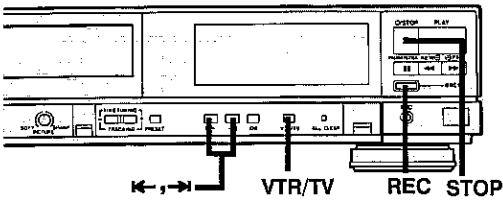
### CAUTION:

Do not put your hand or other objects behind the cassette door because of the risk of injury or an accident. Particularly keep small children away from the VCR.

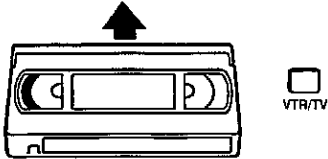
## RECORDING TELEVISION BROADCASTS

### Check before starting

- Set the TV receiver channel to the channel where the RF channel has been preset. (channel 0 or 1 for AUSTRALIA, channel 2 or 3 for NEW ZEALAND)

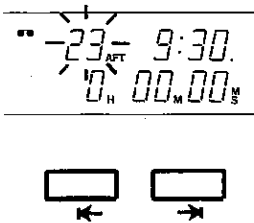


1



- 1 Insert a video cassette. Set the VTR/TV selector to the VTR position. ("VTR" indicator will be on.)

2



- 2 Press the numeric buttons or  $\leftarrow$ ,  $\rightarrow$  button for the channel (channel position) to be recorded. **Example:** "23"

3



- 3 Press the REC button.
  - Video recording starts. This is the normal video recording procedure.

### QUICK START RECORDING (QSR) TIMER

If you wish to select the stop time, press the REC button again within 10 seconds. The VCR will require you to enter the stop time.

Setting can be performed with any of the following buttons.

**Numeric button:** Direct setting by 10-key can be done.

**REC button:** Setting can be done in 30-minute increments each time this button is pressed.

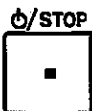
**$\rightarrow$  button:** Forwards by one-minute increment

**$\leftarrow$  button:** Returns by one-minute increment

### Check/change

When the REC button is pressed during QSR recording, QSR ending time will be displayed for 10 seconds. The QSR ending time can be changed by pressing the numeric button or REC or  $\leftarrow$ ,  $\rightarrow$  buttons during this 10 seconds period.

4



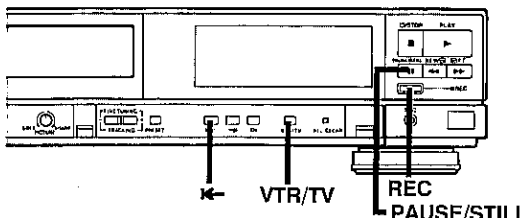
- 4 To stop the recording, press the STOP button.



## OTHER RECORDING POSSIBILITIES

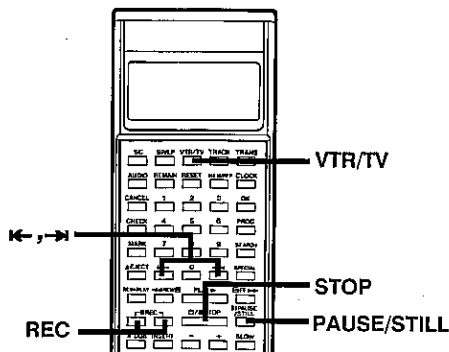
### If you wish to avoid recording unwanted material

- 1 During recording, press the PAUSE/STILL button. The TV picture will not be recorded.
- 2 Press the PAUSE/STILL button or REC button, and the recording will resume.  
**Note:** If REC PAUSE mode continues for about five minutes, the VCR will automatically go into the stop mode in order to prevent the tape from damage.



### Recording one programme while watching another

- 1 Set the VTR/TV selector to the "TV" position. ("VTR" indicator will go off.)
- 2 You can view another TV programme while recording, by simply selecting the programme you want to view with the TV's channel selector.

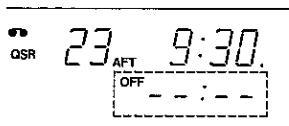


#### Notes:

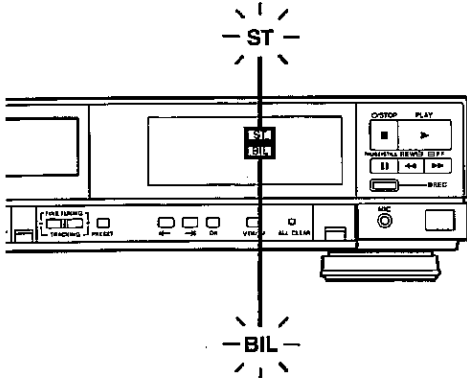
When recording in the normal mode takes place up to the tape end, the auto rewind mechanism operates to automatically rewind the tape to the beginning, and stand-by condition is assumed. If the timer programme has been programmed, timer stand-by is assumed and the danger arises that programs recorded earlier may be erased by timer recording.

To prevent such errors in recording, it is recommended recording be done by the QUICK START RECORDING (QSR) TIMER which sets the record finish time.

To record up to the tape end but abort the auto rewind function, press the ← button once after the QUICK START RECORDING (QSR) TIMER setting mode has been engaged. The digital display becomes as shown below and the tape stops when it reaches the end.



## MULTIPLEX TV SOUND PROGRAMMES



For hi-fi recordings, stereo/bilingual programmes can be recorded as they are. Stereo programmes will be recorded in stereo, and, for bilingual programme, the main sound and sub sound will each be recorded. Recording of stereo and bilingual programmes is controlled automatically, it is not necessary to preselect any audio tracks.

### RECORDING STEREO PROGRAMMES

The STereo indicator "ST" illuminates when a stereo programme is being received.

### RECORDING BILINGUAL PROGRAMMES

The BILingual indicator "BIL" illuminates when a bilingual programme is being received.

### MONITORING DURING RECORDING

The AUDIO button of the remote control unit can be used to select the sound track. (See page 25)

#### How stereo programmes are recorded

- For hi-fi sound, the left channel and right channel sounds are simultaneously recorded on the video track.
- Left and right sounds are recorded mixed on the ordinary audio track.

#### How bilingual programmes are recorded

- For hi-fi recordings the main sound and sub sound are recorded on the video track at the same time.

## Hi-Fi AUDIO ONLY RECORDING/PLAYBACK

By using the characteristics of VHS Hi-Fi sound, this model can be used as a high-quality audio cassette recorder. When recording in the "LP" mode, you can record for a maximum of 8 hours using a single cassette (E-240).

The "LP" mode is provided as an "audio only" recording mode. In this mode, the video signal will not be recorded.

### RECORDING

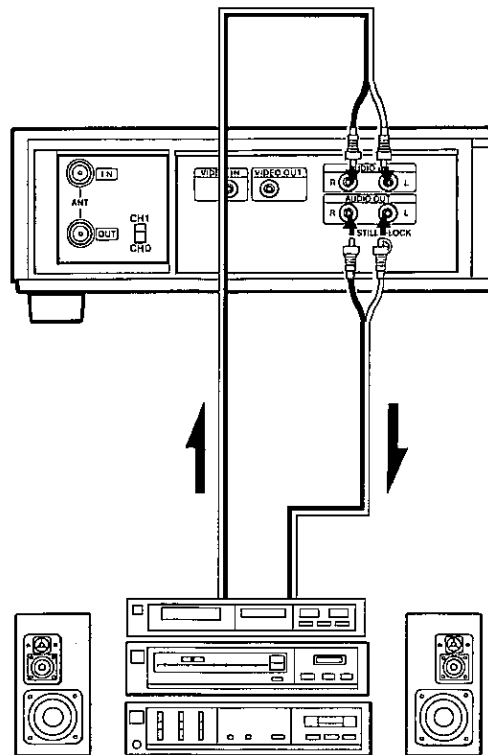
- 1 When you wish to listen to a programme source connected to the AUDIO IN (RCA) terminals, set to the "SC" position by pressing the SC button on the remote control unit, or press the ← or → button so that "AU" appears on the channel position number display, or press "0" of the numeric button on the remote control unit. The unit is in "SC" mode when "SC" appears on the VCR digital display, and "AV" mode is set when "AU" appears.
- 2 Select your desired tape speed using the SP/LP button on the remote control unit. When you select the LP mode, the LP mode indicator will illuminate on the display.
- 3 Input the programme source and adjust the recording level. (See page 20).
- 4 To start recording, press the REC button.

### PLAYBACK

- When the unit is put into the playback mode, it will automatically judge whether the loaded tape was recorded in the "SP" or the "LP" recording mode.
- To start playback press the PLAY button.
- The sound track can be selected with the AUDIO button of the remote control unit.

#### Notes:

- When recording the audio only of the programme source from the AUDIO IN (RCA) terminals, leave the VCR channel vacant.
- The sound recorded on a normal audio track in the "LP" mode is not frequency-compensated.



## FM SIMULCAST RECORDING

You can record the FM simulcast TV programmes (stereo sound transmitted from an FM radio station) while recording the TV programme picture (video signals) from the TV aerial inputs.

- 1 Connect an audio equipment (FM tuner) to the AUDIO IN (RCA) terminals.
- 2 Set the SC button on the remote control unit to the "SC" position. The unit is in "SC" mode when "SC" appears on the VCR digital display.
- 3 Turn in the station you wish on the recorder and the FM tuner.
- 4 Adjust the hi-fi audio recording level. (See page 20).
- 5 To start recording, press REC button.

### How FM simulcast programmes are recorded

#### Hi-fi audio track

The signal from the external AUDIO IN (RCA) terminals are hi-fi recorded (left and right).

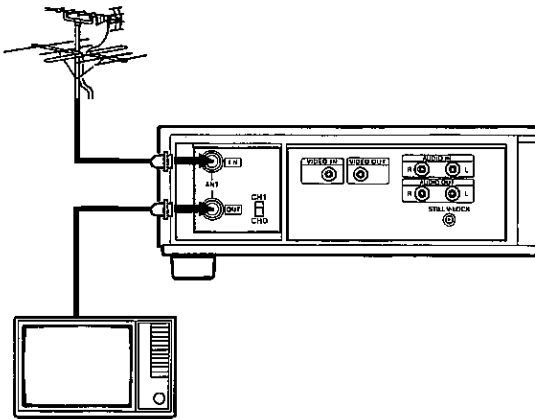
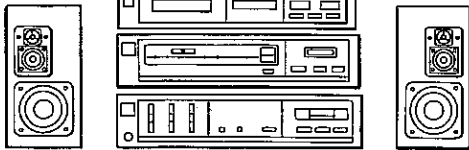
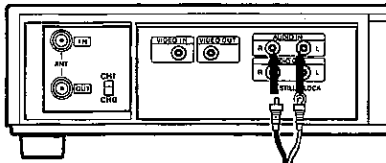
#### Normal audio track

The TV broadcast is audio signal being received by the VCR's tuner is recorded (mono).

#### Video signal

The TV broadcast's video signal being received by the VCR's tuner is recorded.

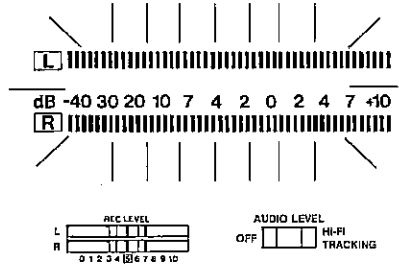
The sound track can be selected using the AUDIO button of the remote control unit. (See page 25)



## HI-FI AUDIO RECORDING LEVEL ADJUSTMENT

When recording from audio equipment or any time there is a significant difference between the highest and lowest volume levels of the material to be recorded, manual adjustment of the recording level is suggested for best results.

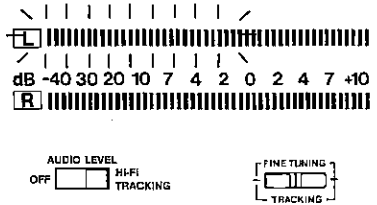
- 1 Set the level meter switch to "AUDIO LEVEL" position.
- 2 Adjust the audio REC LEVEL controls so that the audio level meters do not illuminate beyond "2 dB" at the maximum input signal.

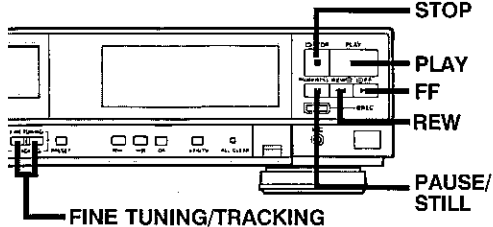


## ADJUSTMENT OF HI-FI PLAYBACK SOUND

This may be necessary, if the recording was made on another VHS hi-fi video recorder. If the playback sound is unpleasant to the ear, it can be adjusted while referring to the level meter.

- 1 Set the LEVEL METER switch to "Hi-Fi TRACKING" position.
- 2 Adjust the FINE TUNING/TRACKING (-, +) button to the position where sound is most comfortable, while using the position of maximum deflection of the audio level meter as a guide. The left level meter functions as a hi-fi tracking meter.





## PLAYBACK

### Check before starting

- Set the TV receiver channel to the channel where the RF channel has been preset. (channel 0 or 1 for AUSTRALIA, channel 2 or 3 for NEW ZEALAND)

- 1 Insert the video cassette.
- 2 Press the PLAY button.
- 3 To stop the playback, press the STOP button.
  - To rewind the tape, press the REW button.
  - To advance (fast-forward) the tape, press the FF button.

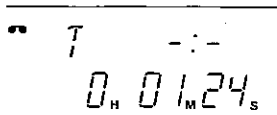
### TRACKING ADJUSTMENT

If the playback picture shows "noise" interference, adjust the FINE TUNING/TRACKING (-, +) control buttons to minimize the "noise".



"Noise" interference

Tracking condition will be displayed as follows:



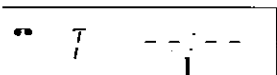
(-) ← Centre → (+)

### AUTO TRACKING ADJUSTMENT

When the TRACK button of the remote control unit is pressed, adjustment to the optimum point occurs automatically.

If you wish to resume "centre position" after the track position has been adjusted, press the FINE TUNING/TRACKING "-" and "+" buttons simultaneously.

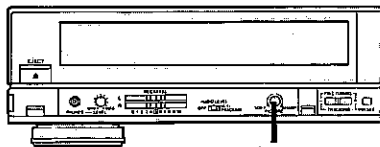
**Note:** If you use a poorly recorded tape, the noise level may fail to reach the optimum point. In this case, perform manual adjustment.



Auto tracking display

### PICTURE SHARPNESS ADJUSTMENT

Set the PICTURE sharpness control for the picture quality that suits your tastes.



PICTURE

### FORWARD SEARCH

- Press the FF button during playback or fast-forward operation. The picture can be viewed while the tape is advanced at a fast speed.
- Normal playback will resume as the PLAY button is pressed.

### REVERSE SEARCH

- Press the REW button during playback or rewind operation. The picture can be viewed while the tape is rewound at a fast speed.
- Normal playback will resume as the PLAY button is pressed.

### STILL PICTURE

- Press the PAUSE/STILL button during playback. A still picture can be viewed.
- Normal playback will resume as the PLAY button is pressed.

### FRAME ADVANCE

- Press the PAUSE/STILL button during still playback. Playback picture will advance frame by frame. One pressing once advances one frame at a time.
- Normal playback will resume as the PLAY button is pressed.

You can perform fast forward, forward search, rewind, and reverse search operations by simply pressing the FF and REW buttons on this VCR. For example, each time the FF button is pressed, the VCR will change from fast forward to forward search, or vice-versa. This is extremely useful when searching for a particular screen.

## DOUBLE SPEED PLAYBACK (SP mode only)

- Press the  $\times 2$  button of remote control unit during playback. The double speed picture can be viewed.
- Normal playback will resume as the PLAY button is pressed.

## SLOW MOTION

- Press the SLOW button during playback or during still picture. The picture can be viewed while the tape is advanced at approximately 1/10 slow-motion. If - button or + button of remote control unit is pressed, the tape speed can be varied from 1/5 to 1/25 of normal speed.
- Normal playback will resume when the PLAY button is pressed.

## LESSON REPEAT

- Playback of a desired scene can be repeated five times.
- During lesson repeat, you can perform special playback such as still and frame advance (You cannot perform a reverse search).

**1** Locate any desired scene to view repeatedly. Press the MEM/REP button of remote control unit at the starting point of the desired scene during playback. The "R" indicator will flash on and off.

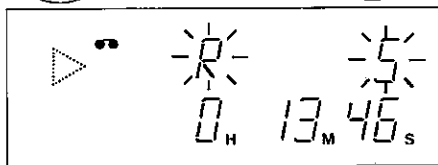
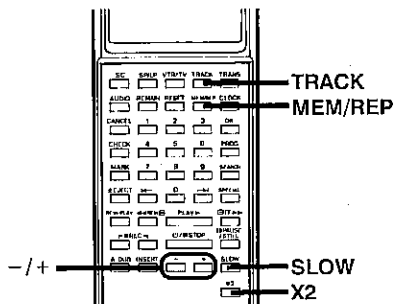
If the lesson repeat is of a long scene, advance the scenes in the middle by forward search and resume PLAY mode again in order to locate the lesson repeat's ending point.

**2** Press the MEM/REP button again at the ending point of the lesson repeat during playback. The "R" indicator will light up, and then the scene will be reverse-searched to the starting point and the playback will be repeated five times. The display shows the remaining number of times for lesson repeat.

- The count of the remaining number of times during lesson repeat is judged by the number of times the tape end was reached in the Playback mode.
- You can reset the number of times the above operation is repeated (maximum of 5 times) by pressing the MEM/REP button.

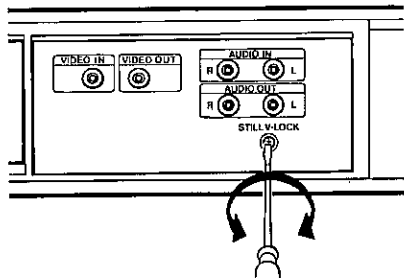
### Cancel

The lesson repeat is cancelled when the PLAY button is pressed during lesson repeat.



### Notes:

- During the special playback (forward search, reverse search, still picture, frame advance and slow search) the picture may contain some "noise" or vibration. But this is not a malfunction.
- If still picture playback is continued for about five minutes or if slow motion/frame advance playback continues for about three minutes, the VCR will automatically change to normal playback in order to prevent the tape from damage.
- If still picture moves up and down, turn the STILL V-LOCK adjustment screw on the rear panel. If VCR's STILL V-LOCK adjustment cannot remove this movement, also adjust the V-HOLD control of the TV receiver.

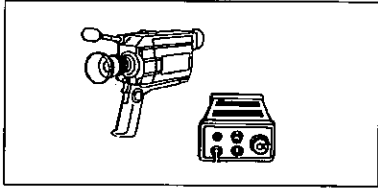


## CAMERA RECORDING

### Check before starting

- Set the TV receiver channel to the channel where the RF channel has been preset. (channel 0 or 1 for AUSTRALIA, channel 2 or 3 for NEW ZEALAND)
- Insert the video cassette.
- Press the ← or → button so that "AU" appears on the position number display ("AV" input).
- Set the VTR/TV selector to the "VTR" position. ("VTR" indicator will be on.)

- 1 Turn on the power of the video camera and adjust the focus, white balance, etc.
- 2 Press the REC button on the VCR.
- 3 To stop the recording, press the STOP button on the VCR.



## DUBBING

You can monitor a programme while dubbing by connecting a TV to the VCR 2's ANT OUT terminal.

- 1 Connect VCR 1 and VCR 2.
- 2 Insert the pre-recorded tape into the VCR 1.
- 3 Insert the blank video cassette into the VCR 2.
- 4 Press the VCR 2's ← or → button so that "AU" appears on the position number display ("AV" input).
- 5 Press the PLAY button on the VCR 1, and then press the REC button on the VCR 2.



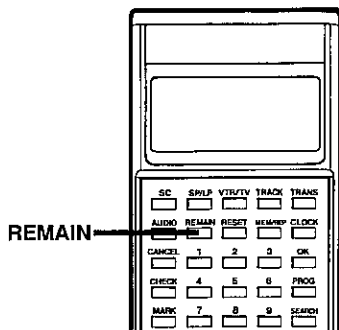
## TAPE REMAINDER

This convenient function enables you to determine at a glance the duration of remaining tape.

### TO CONFIRM DURING PLAYBACK, RECORDING, etc.

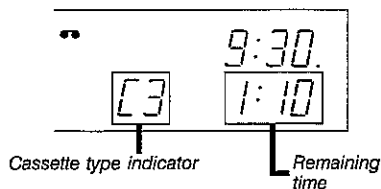
- When the REMAIN button is pressed once, the cassette type and duration of remaining tape are indicated by digital display.

Press the REMAIN button after the tape has been running for about 20 to 30 seconds at standard tape speed (normal playback or recording). This time interval is essential for calculating the duration of remaining tape.



### TO CONFIRM WHEN UNIT IS STOPPED

- Press the REMAIN button once. The VCR operates for several seconds to calculate the duration of remaining tape, and then indicates by digital display the cassette type and the remaining tape duration.
- Press the REMAIN button once again to restore the original display.

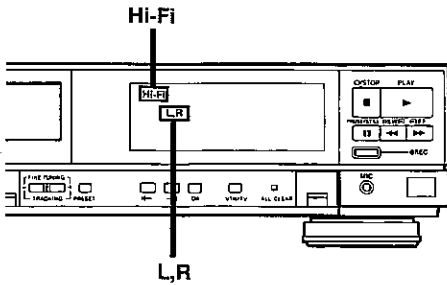


#### IMPORTANT NOTICE

Automatic calculation and display of remaining tape duration can only be done with cassettes marked "O" as shown left. When using a different type of cassette, after the REMAIN button has been depressed, input "CASSETTE NUMBER" with numeric buttons and press the → button while the cassette type indicator ("C3") is flashing (about 5 seconds).

Auto ID	Cassette	Cassette number	Cassette type display	
			Mode SP	Mode LP
○	E-30	30	03	C1
○	E-60	60	C1	C2
○	E-90	90	09	C3
○	E-120	120	C2	C4
○	E-150	150	15	C5
○	E-180	180	C3	C6
	E-195	195	19	38
	E-210	210	21	C7
○	E-240	240	C4	C8
	E-300	300	C5	C0

## PLAYBACK HI-FI STEREO / BILINGUAL PROGRAMMES

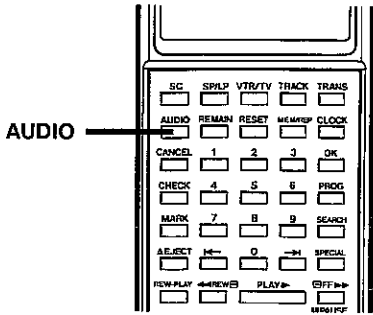


When a stereo or bilingual programme recorded on tape in hi-fi is played back, the "Hi-Fi" indicator lights up.

The sound track can be selected using the remote control unit AUDIO button.

### STEREO PROGRAMMES

Audio output indicator	Sound track
	Left + Right channels (Hi-fi audio track)
	Left channel (Hi-fi audio track)
	Right channel (Hi-fi audio track)
Doesn't light	Mono (Normal audio track)



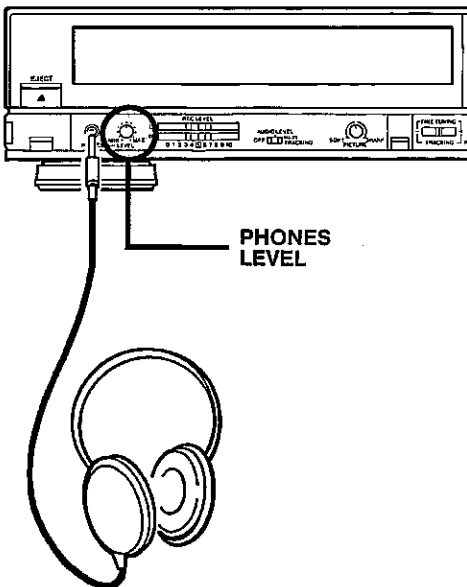
### BILINGUAL PROGRAMMES

Audio output indicator	Sound track
	Main + Sub (Hi-fi audio track)
	Main (Hi-fi audio track)
	Sub channel (Hi-Fi audio track)
Doesn't light	Main (Normal audio track)

### HEADPHONES

Connect the optional accessory headphones to the headphone jack.

Adjust the volume with the PHONES LEVEL control.

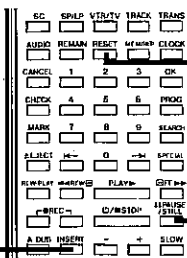


# INSERT EDITING

This function allows you to insert a portion of the image from another video component onto a previously recorded tape. This is very convenient for editing videotapes.

Insert editing can only be used to revise the video signal track recorded on a tape. It cannot be used to revise the audio signal track.

- 1 Press the counter RESET button to mark the ending point of insert.
- 2 Search for the starting point of insert editing using the REW and PLAY button and so forth. Press the PAUSE/STILL button at the point to start insert.
- 3 Press the INSERT button, then the VCR will enter the insert stand-by mode. Also the picture on the TV screen will change from a still picture of tape playback to the picture via AV input of TV programme that you selected for insert recording.
- 4 Press the INSERT button again, then the VCR will begin insert.
- 5 The VCR will enter the STOP mode automatically at the ending point (counter 0:00M00s).



RESET

PAUSE/STILL

INSERT

1

AU 12:30

0<sub>H</sub> 00<sub>M</sub> 00<sub>S</sub>

RESET

2

▶ 00 AU 12:30

-0<sub>H</sub> 00<sub>M</sub> 50<sub>S</sub>

◀◀REW▶▶ PLAY▶▶

3

00 AU 12:30

-0<sub>H</sub> 00<sub>M</sub> 50<sub>S</sub>

INSERT

4

▶ 0 AU 12:30

-0<sub>H</sub> 00<sub>M</sub> 50<sub>S</sub>

INSERT

5

12:30

0<sub>H</sub> 00<sub>M</sub> 00<sub>S</sub>

## AFTER RECORDING

After recording can only be used to revise the audio signal track recorded on a tape. It cannot be used to revise the video signal track.

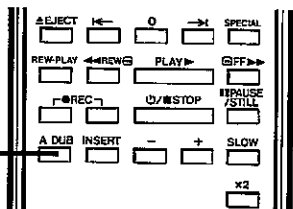
- The tuner, an external component or a microphone can be used as the audio source.
- To use the audio signal from the tuner for after recording, choose the programme of your choice.
- To use the audio signal from an external component for after recording, set the VCR to the "external input" mode.
- When you wish to listen to a programme source connected to the AUDIO IN (RCA) terminals, set to the "SC" position by pressing the SC button on the remote control unit, or press the ← or → button so that "AU" appears on the channel position number display, or press "0" of the numeric button on the remote control unit.
- It is not necessary to set the input mode when using microphone input. The input from the MIC jack takes precedence over all other input sources.

**Note:** The MIC jack is for after recording only.

- 1** Press the PLAY button to look for the point where you want to start the after recording.
- 2** Press the PAUSE/STILL button at the point to start after recording.
- 3** Press the A DUB button, then the VCR will enter the after recording stand-by mode. Also the sound which you will after record comes out through the TV speaker for sound monitoring.
- 4** Press the A DUB button again, then the VCR will begin after recording.

When the VCR goes into the AFTER RECORDING mode, the audio output switches over to the audio of the playback picture. Use the AUDIO button to switch over between the after-recording audio and the audio of the play-back picture.

- 5** Press the STOP button, then the VCR will enter the stop mode.



A DUB

	<b>1</b>
	<b>2</b>
	<b>3</b>
	<b>4</b>
	<b>5</b>

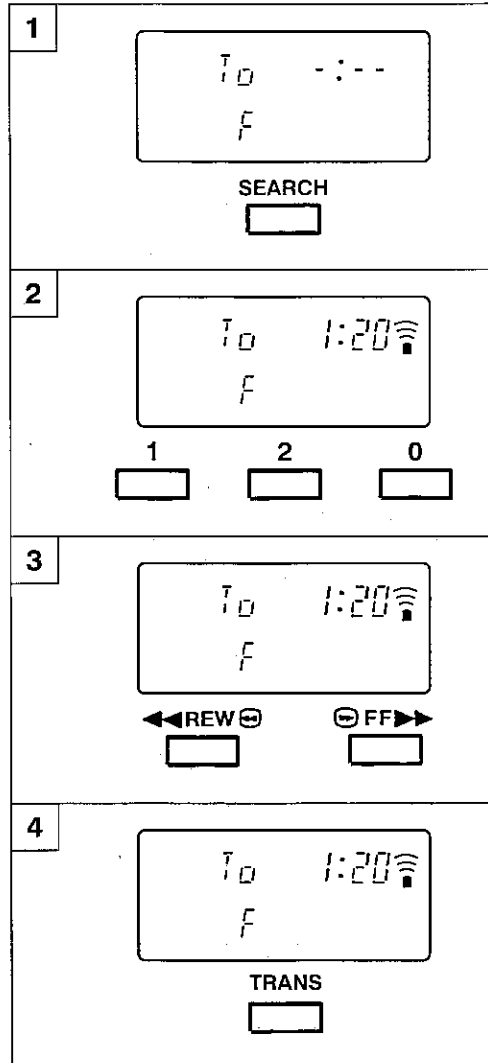
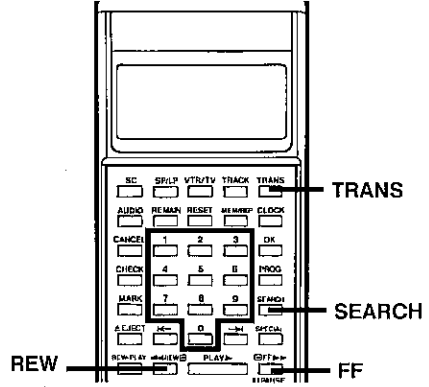
# GO TO SEARCH FUNCTION

This feature enables forward and reverse search with reference to tape playing time.

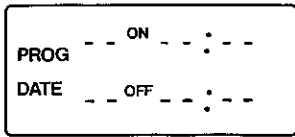
- 1 Press the SEARCH button **twice** during STOP or PLAY mode.
- 2 Input the time difference between the desired scene and present tape position, using the numeric buttons.  
**Example:** 1 hour 20 minutes  
 Press the CANCEL button when revising.

- 3 Designate the direction of search by pressing the FF button or the REW button. The "F" indication on the LCD panel indicates the fast-forward direction, and the "r" indication indicates the rewind direction. This step can be skipped for search in the fast-forward direction.

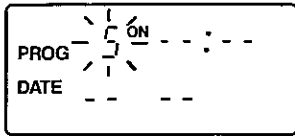
- 4 Press the TRANS button.  
 Tape will advance at fast speed to the desired scene and then starts playback.  
**Note:** The error between the designated time and the counter reading is about  $\pm 30$  seconds.



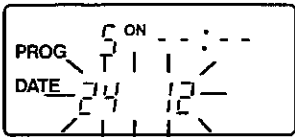
# TIMER RECORDING



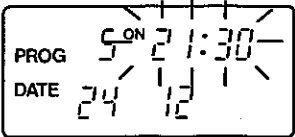
1



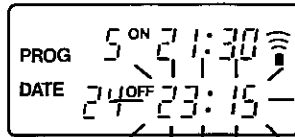
2



3



4

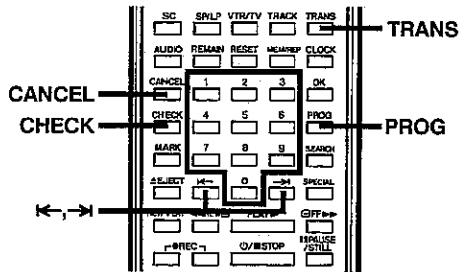


5



6




TRANS



**Example:** Reserve channel 5 from 21.30 to 23.15 on December 24, 1989.

- Insert a video cassette (with erasure-prevention tab).

- 1 Press the PROG button.
- 2 Set the CHANNEL with numeric buttons.  
**Example:** channel 5
- 3 Set the DAY with numeric buttons.  
**Example:** 24  
Set the MONTH with numeric buttons.  
**Example:** 12
- 3 **Everyday recording**  
By making the day setting of step 3 equal to "00", the day and month display will become "0 Ed" to enable everyday recordings.
- 4 Set the ON-HOUR with numeric buttons.  
**Example:** 21  
Set the ON-MINUTE with numeric buttons.  
**Example:** 30
- 5 Set the OFF-HOUR with numeric buttons.  
**Example:** 23  
Set the OFF-MINUTE with numeric buttons.  
**Example:** 15
- 6 Press the TRANS button.

- A maximum of 4 programmes can be memorized in the remote control unit. Hence transmission can be performed after 4 programmes have been set in steps 1 to 5. The procedure is to call out in sequence the programmes set with the PROG button and transmit them to the VCR by the TRANS button.
- When programme data is sent to the VCR, the VCR automatically assumes the timer standby mode and the Timer indicator (  ) light up.
- The VCR memory can store up to 6 programs.
- The timer indicator (  ) will flash to inform you if no videocassette is loaded.
- The timer indicator (  ) will flash 5 minutes before the starting time of one of the set programmes is reached.

## ERASURE OF REMOTE CONTROL UNIT PROGRAMME DATA

Since only 4 programmes can be memorized in the remote control unit, if more than 4 programmes have been timer programmed, unnecessary programmes must be cancelled and setting must be performed once again.

- 1 Press the PROG button to display on the remote control unit LCD panel the programme data to be cancelled.
- 2 Press the CANCEL button.

## CONFIRMATION OF REMOTE CONTROL UNIT PROGRAMME DATA

- 1 Each time the PROG button is pressed, programme data memorized in the remote control unit is shown sequentially on the control unit LCD panel.
- When the programme memory of the remote control unit is available, if the PROG button is pressed, the initial programme set mode (data input stand-by) is assumed.
  - To confirm day/month, press the → button twice during confirmation.

## REVISION OF REMOTE CONTROL UNIT PROGRAMME DATA

- 1 Press the PROG button to display on the remote control unit LCD panel the programme data to be revised.
- 2 Press the → (or ←) button until the number desired to be changed is blinking.
- 3 Press the numeric buttons and correct the number.
- 4 After revisions are completed, press the PROG button.

## CONFIRMING, REVISING OR CANCELLING PROGRAMME DATA SENT TO THE VCR

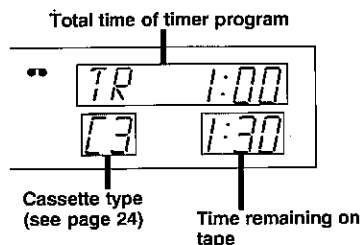
Press the CHECK button on the remote control unit while watching the VCR display. The programme data for each programme in memory is displayed in sequence. The procedure for revising and cancelling programme data is the same as that for memorizing programmes. The first step in memorizing a programme in the remote control unit is normally to press the PROG button. However, to access a programme directly as you watch the VCR display, press the CHECK button first.

### Notes:

- If an error occurs in the transmission of programme data from the remote control unit, "ER (error)" is shown on the VCR display. In this case, point the remote control unit properly at front of the VCR remote control detector and transmit once again.
- When the VCR's programme memory is full, the VCR display reads as "FULL".
- If programme setting is abandoned midway the programme is automatically cancelled.
- Year is not displayed in the programme data of the remote control unit.

### Remaining time display with timer notice

The total time of timer programming and the amount of time remaining on the loaded tape are shown automatically on the VCR digital display. After timer programming to the VCR side has been completed, the following data are displayed for about 5 seconds. The same data are displayed after programme confirmation.



If the time on remaining tape is less than the total time of the timer programme, the "TR" indicator blinks to warn that all the programme cannot be recorded on the tape.

### Notes:

- Everyday recording time for one day is included in the total time of timer recording.
- The remaining tape indication in this system is a value which has been converted into "SP" mode, even if a reservation is made in the "LP" mode.

### By using the timer in this unit, you can record a source from an external audio/video unit.

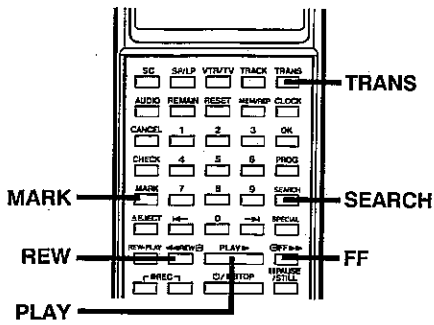
At the step for setting the channel position number (for ordinary programming), cause "AU" to appear in the channel position number display and enter the external input mode into the memory.

To select the external input mode, enter "00" by pressing the "0" numeric button on the remote control unit twice.

### Note:

- You cannot turn the power to the external unit ON or OFF.

## INDEX SEARCH FUNCTION



This convenient function enables you to use the index signal recorded at the beginning of each programme to easily select a desired programme. Data is programmed at the LCD panel of the remote control unit and transmitted to the VCR.

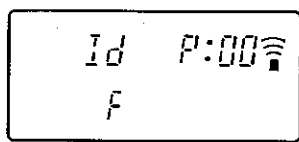
### RECORDING OF INDEX SIGNAL

- The index signal is recorded automatically at the beginning of each recording. While the index is being recorded, "Id" is shown on the VCR digital display.
- The MARK button can be used for manual index recording during record or playback.

**Note:** Index signal cannot be recorded after REC PAUSE.

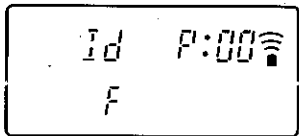
### INDEX SCAN SEARCH

This feature enables each programme with index signals recorded to be played back for 5 seconds consecutively during search.

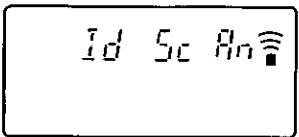


1

SEARCH



2



3

TRANS



PLAY



4

1 Press the SEARCH button once during the STOP or PLAY mode.

2 Press the FF or REW button depending upon the scanning direction.

The "F" indication on the LCD panel indicates fast forward, and the "r" indication indicates rewind.

The "F" indication appears first, so this step can be skipped for scanning in the fast-forward mode.

3 Press the TRANS button.

- FF or REW starts each time an index signal is found, the tape is played back for about 5 seconds.

4 Press the PLAY button when the desired programme is seen.



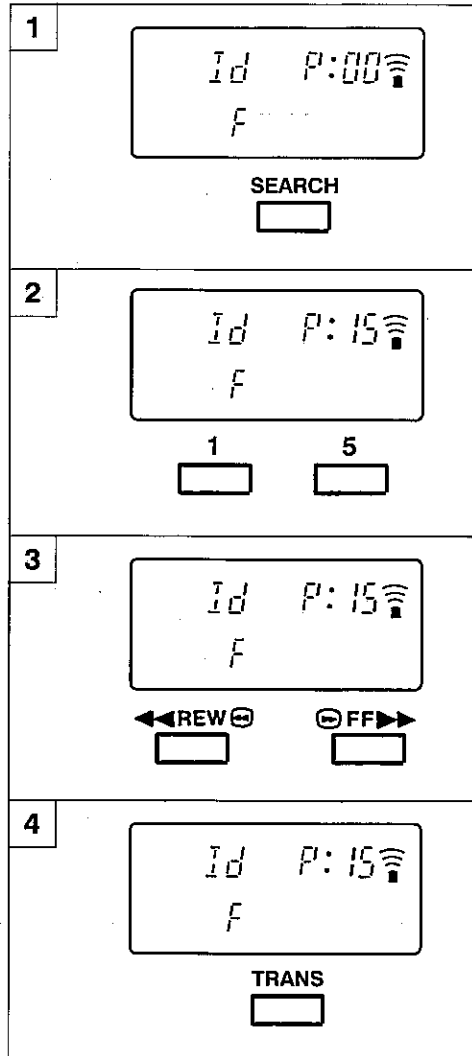
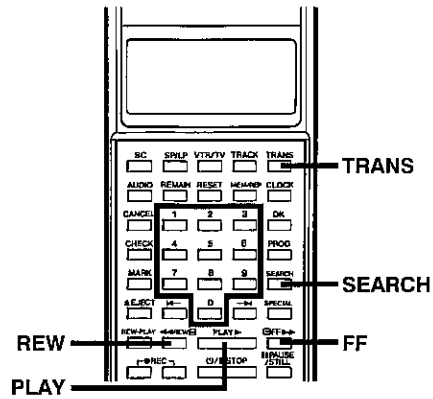
## INDEX SEARCH

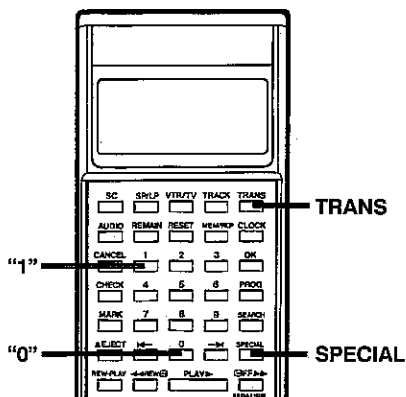
This feature enables automatic search for and playback of a programme whose INDEX number is known.

- 1 Press the SEARCH button once during STOP or PLAY mode.
- 2 Press the number using the numeric buttons to indicate how many programmes before or after the present one you wish to watch.  
**Example: 15**
  - Any index number up to "99" can be designated.
  - Press the CANCEL button when revising.
- 3 Designate the direction of search by pressing the FF button or the REW button. The "F" indication on the LCD panel indicates the fast-forward direction, and the "r" indication indicates the rewind direction. This step can be skipped for search in the fast-forward direction.
- 4 Press the TRANS button.

### Notes:

- If you insert the index signal in the Playback mode, the audio will not be heard while the index signal is being recorded.
- In the playback mode you cannot insert an index signal on a video cassette which does not have an erasure-prevention tab or at non-recorded part of the tape.
- If you record or erase and index signal to or from a tape recorded using another VCR, the video programme at that point may be disturbed or it may be impossible to search it.



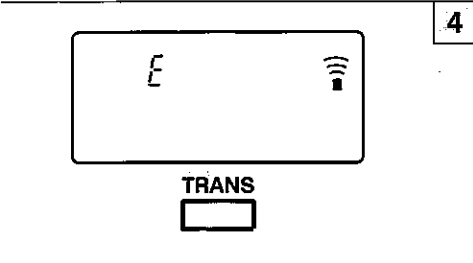
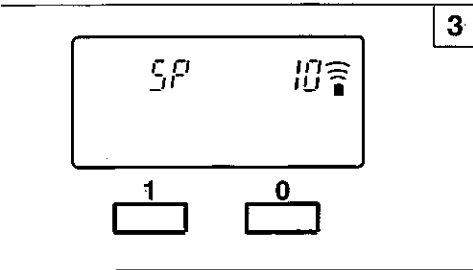
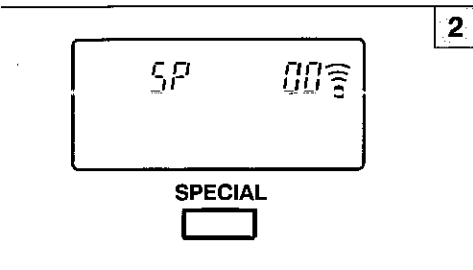
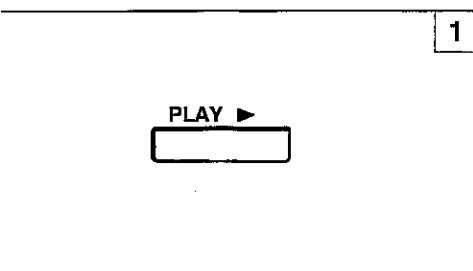


## TO ERASE THE INDEX SIGNAL

Carry out the following procedures to erase a recorded index signal.

- 1 Playback the programme having the index signal you want to erase.
- 2 Press the SPECIAL button.
- 3 Input the special code "10" for index signal erasure with the numeric buttons.
  - Press the CANCEL button when revising.
- 4 Press the TRANS button.
  - The VCR will start searching backwards toward the beginning of the programme and erase the index signal automatically.
  - "E" is shown on the VCR display while index signal is being erased.

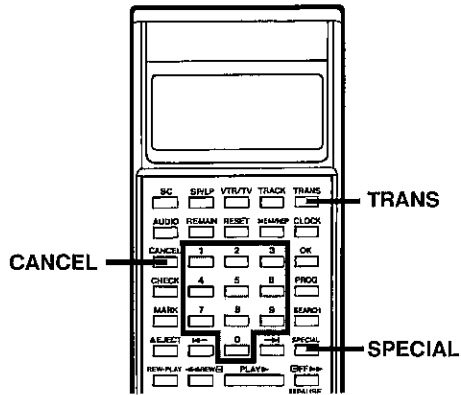
**Note:**  
Insert the index signal at least five minutes apart from each other. If these signals are too close together, the unit will sometimes fail to operate normally during erase operation.



## SPECIAL CODE FUNCTION

For your convenience, this VCR has various special functions using SPECIAL CODE.

- 1 Press the SPECIAL button.
- 2 Input 2-digit SPECIAL CODE with numeric buttons.  
Example: "91" (ENDLESS PLAY)  
 Press the CANCEL button when revising.
- 3 Press the TRANS button.



Upon completion of the aforementioned fundamental operations, special functions can be implemented by input of each special code through step 2.

**"00"**—PROGRAMME END FINDER: To prepare for the next recording on a tape, the beginning of the non-recorded area is searched automatically.

- 1 Insert cassette tape and transmit SPECIAL CODE "00".

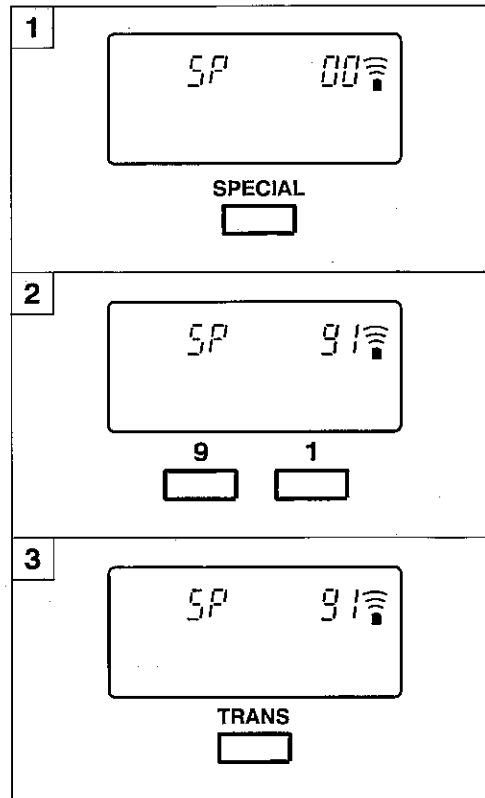
**"01"**—DIMMER: Changes digital display brightness.

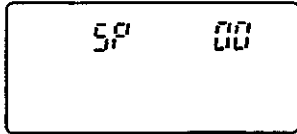
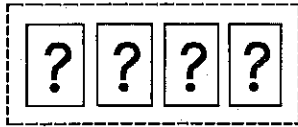
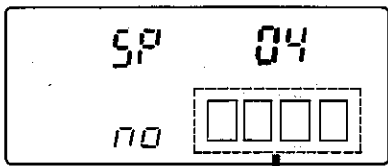
- 1 With power on, transmit CODE "01."
- 2 To restore original brightness, transmit "01" once again.

**"10"**—INDEX ERASE: Erases the index signal.  
(See page 33)

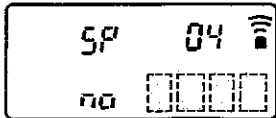
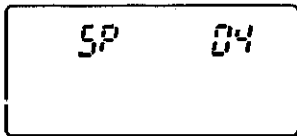
**"91"**—ENDLESS PLAY: Plays back tape repeatedly from beginning to end (from tape start to "0H00M00s" in case of counter memory).

- 1 Insert cassette tape, and transmit SPECIAL CODE "91".  
Playback starts once the tape has been rewound to the beginning.





SPECIAL





TRANS

## SECRET NUMBER

**“03”**—PLAY KEY LOCK: Prevents all operation from the VCR so that children cannot playback any pre-recorded tape.

- 1 With the power on, after SPECIAL CODE “03” has been input, enter a four-digit secret number (Example: “1 2 3 4”) with the numeric button and transmit it.


When the PLAY KEY LOCK is engaged, the “” indicator is shown on the display.

If the PLAY button is pressed while the PLAY KEY LOCK is engaged, the playback indicator, “” blinks to notify of PLAY KEY LOCK status.

- 2 To cancel the lock function, transmit the same secret number (Example: “1 2 3 4”) once again.

**“04”**—CHANNEL LOCK: Locks certain channel positions so that children cannot watch programmes for adults (up to 3 positions). Select the channel position to be concealed, then perform the following operations.

- 1 Select the channel position number of the CHANNEL to be Locked.

- 2 After SPECIAL CODE “04” has been input, input a four-digit secret number (Example: “5 6 7 8”) with the numeric buttons and transmit it. When CHANNEL LOCK is engaged, the “” indicator is shown on the display.

When channel position number with CHANNEL LOCK engaged has been selected, a screen image does not appear, but the channel position number blinks to notify CHANNEL LOCK status.

The same procedure can be repeated to engage the CHANNEL LOCK in 3 positions.

- 3 To cancel the lock function, transmit the same secret number (Example: “5 6 7 8”) once again.

### Note:

When cancelling PLAY KEY LOCK or CHANNEL LOCK, if the secret numbers do not match, “Error” is displayed. If you forget the secret number entered and cannot cancel it, clear with the ALL CLEAR button. When the ALL CLEAR button is pressed, the preset clock and timer programme data are all cleared.

## 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 highly sophisticated. It is shipped from the factory after having been checked and adjusted under the most rigid quality control and inspection system. Should problems occur, check the following points.

Symptom	Check points
No power	<ul style="list-style-type: none"><li>• The power cord is disconnected.</li></ul>
No off the air programmes	<ul style="list-style-type: none"><li>• Are the connections between your VCR and TV correct.</li><li>• Off the air reception on the VCR is poor.</li><li>• The TV channel selector has not been set to VCR operating channel. (Channel 0 or 1 for AUSTRALIA, channel 2 or 3 for NEW ZEALAND)</li></ul>
No recording	<ul style="list-style-type: none"><li>• The erasure-prevention tab on the cassette has been removed.</li></ul>
Timer recording is not possible	<ul style="list-style-type: none"><li>• The starting day and time have not been set correctly.</li><li>• The clock time is not set correctly.</li><li>• There has been a power interruption.</li></ul>
Playback picture does not appear	<ul style="list-style-type: none"><li>• The TV channel selector has not been set to VCR operating channel. (Channel 0 or 1 for AUSTRALIA, channel 2 or 3 for NEW ZEALAND)</li></ul>
Interference on playback picture	<ul style="list-style-type: none"><li>• Adjust the TRACKING control.</li><li>• Dust and dirt on video heads.</li></ul> <p>Take the VCR to an Authorized Service Station or dealer.</p>

# SPECIFICATIONS

## General

Video format: VHS PAL  
Television system: CCIR: 625 lines, PAL colour signals  
Recording system: Rotary two heads helical-scan system  
Audio recording system: VHS hi-fi system (2 channels), (Normal audio track is monaural)  
Tape speed: SP: 23.39 mm/sec  
LP (hi-fi): 11.70 mm/sec (Hi-Fi audio only)  
Recording/Playback time: SP: 240 minutes with E-240 cassette  
LP (hi-fi): 480 minutes with E-240 cassette (Hi-Fi audio only)  
Tuner input:

For AUSTRALIA	For NEW ZEALAND
VL: 0 - 5	VL: 1 - 3
VH: 5A - 11	VH: 4 - 11
U: 2B - 69	U: 21 - 69

RF converter: Built-in VHF converter  
Converter output: On channel 0 or 1 ..... AUSTRALIA  
On channel 2 or 3 ..... NEW ZEALAND  
Timer indication: 24 hour indication  
Power failure backup: Approx. one hour  
Timer recording: 1 year 6 programmes with every day function  
Power requirement: AC 220-240 V  $\pm$  10%; 50 Hz  
Dimensions (W x H x D): 420 x 79 x 360 mm  
Weight: 5.9 kg  
Power consumption: 30 W

## Electronic characteristics

Video input level: 0.5-2.0 Vp-p  
Video input impedance: 75  $\pm$  5 ohms  
Video output level: 1.0  $\pm$  0.2 Vp-p  
Video output impedance: 75  $\pm$  5 ohms  
Video S/N: Luminance: more than 43 dB  
Resolution: Colour: more than 240 lines  
Audio input level: -7 dBs  
Audio input impedance: High  
Audio output level: -7 dBs  
Audio output impedance: Less than 2 kohms

## VHS hi-fi sound

Frequency response: 20 Hz - 20,000 Hz  
Dynamic range: More than 90 dB  
Wow and flutter: Less than 0.005% (WRMS)  
Channel separation: More than 60 dB

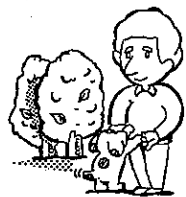
## Remote control unit

Power requirements: 3V (two "AA (IEC R6)" size, 1.5-volt batteries)

## Accessories

Instruction manual ..... 1  
Antenna output cable ..... 1  
Remote control unit ..... 1  
"AA" size, 1.5 volt batteries ..... 2

Appearance and specifications are subject to change without notice.





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**SANYO Electric Co., Ltd.**  
Printed in Japan

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