

Operating Instructions

Panasonic VHS
Professional/Industrial Video

**PRO
LINE**

AG-2560



Video Cassette Recorder

Before attempting to connect, operate or adjust this product, please read these instructions completely.

VQT7590

Dear Customer

Thank you for purchasing this Panasonic Video Cassette Recorder.

We strongly suggest that you carefully study the Operating Instructions before attempting to operate the VCR, and that you note the listed precautions.

AI Crystal View Control

The AI Crystal View Control optimizes playback characteristics.

During playback, the contrast of tapes recorded at the appropriate contrast setting is automatically optimized.

FCC NOTE: This device complies with Part 15 of the FCC Rules. To assure continued compliance follow the attached installation instructions and do not make any unauthorized modifications.

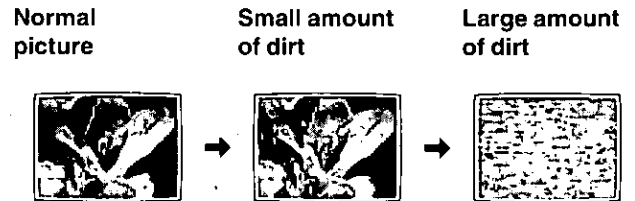
FCC's limits are designed to provide reasonable protection against harmful interference when operated in a residential environment.

If this device does cause interference to radio or television reception, which can be determined by turning the device off and on, use this device in another location and/or utilize an electrical outlet different from that used by the receiver.

If necessary, consult the dealer or an experienced radio/TV technician for help.

Dirt on the video heads

If the video heads get dirty, pictures will not be recorded or played back clearly.
(See the following conditions.)

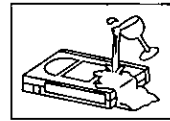


If this happens, insert and eject a cassette 5-10 times successively to remove the dirt from the video heads.

If a clear picture is not produced, clean the video heads with a commercially available cleaning cassette.

If the problem still persists after performing all of the measures listed above, contact a service personnel to request assistance.

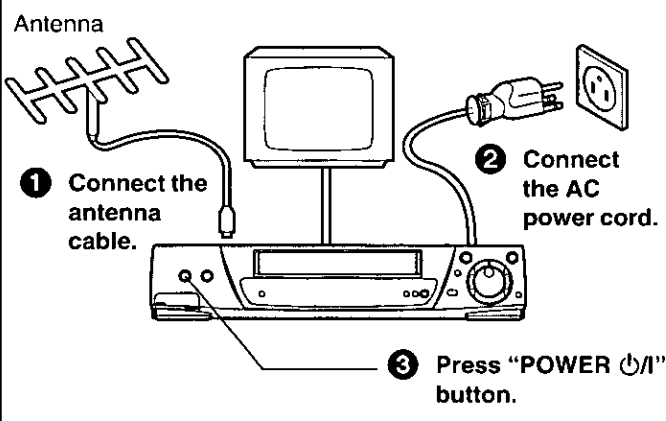
Heads mainly become dirty because of scratched or dirty tapes, use of the unit in places where temperature and humidity are high, dust in the air and other reasons.



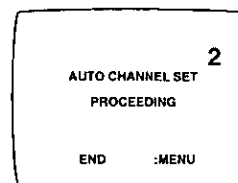
Never use tapes on which juice has been spilt or those that are extremely damaged since this will not only cause the heads to become dirty, but will also make the unit malfunction.

Auto Tuning

Setting image illustration



On Screen Display



Auto Tuning is completed.

All broadcasting stations that can be received in the area are automatically tuned and stored in memory.

• Don't turn off the VCR halfway. (See pages 11, 13, 14.)

Contents

Description

Controls and Connection Sockets	4
Infra-red Remote Controller	6

Setting Up

Connections	8
Tuning the TV to your VCR	10
Auto Tuning	11
Language Setting of the On Screen Display	12
Storing TV Broadcasts in your VCR	13
Setting the Clock of your VCR	15
Settings Using the On Screen Display	16

Basic Operations

Playback	20
Manual Recording	22
•One-Touch Recording (OTR)	24

Advanced Operations

Timer Recording	25
•Using the On Screen Display	25
Search Functions	27
•VHS Index Search System	27
•Intro-Jet Scan	27
Editing	28
•Assembly Editing	28
Other Functions	29
•Other Automatic Functions	29

Helpful Hints

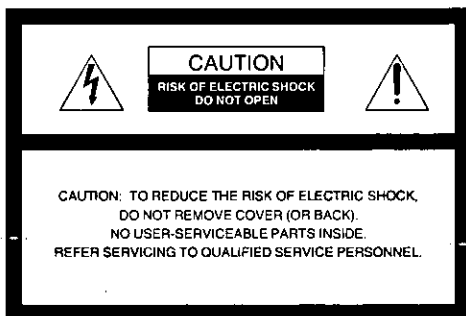
Before Requesting Service	30
Precautions	33
Specifications	34

WARNING:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

CAUTION:

- TO REDUCE THE RISK OF FIRE, SHOCK OR INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.



This symbol warns the user that uninsulated voltages within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.



This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included.



Therefore, it should be read carefully in order to avoid any problems.

Note to CATV system installer:

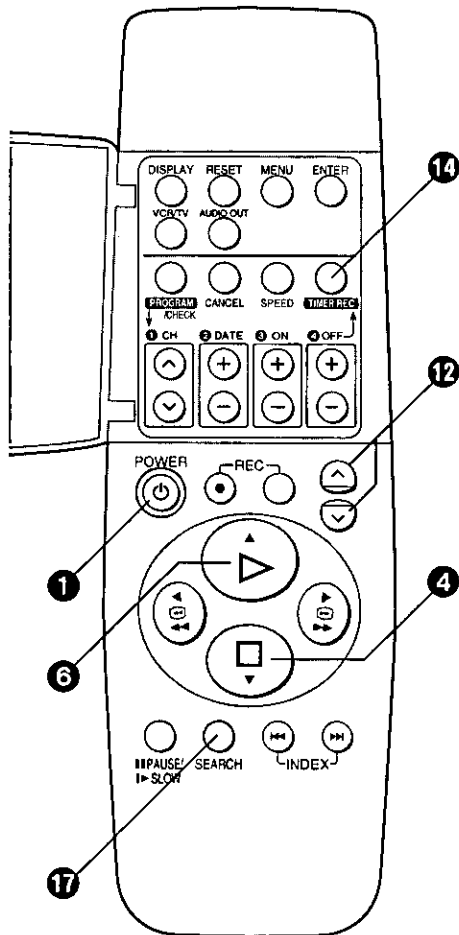
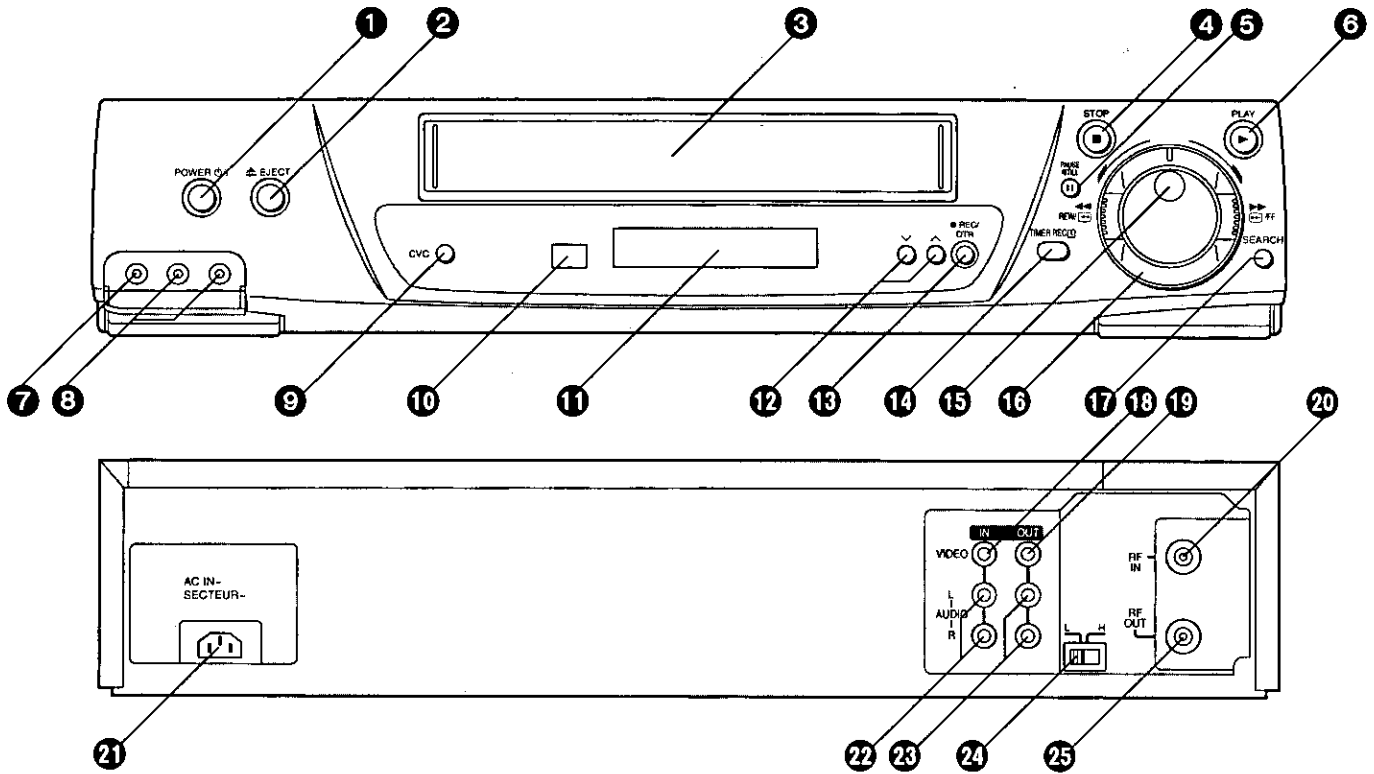
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building; as close to the point of cable entry as practical.

ACCESSORIES

- 1 pc. Infrared Remote Controller
- 1 pc. Coaxial Cable
- 1 pc. AC Power Cord
- 2 pcs. "AA" size Batteries

Controls and Connection Sockets

This section describes in detail the function of each button, switch and connection socket.



FRONT

- 1 POWER $\text{\textcircled{I}}$**
Press to switch the VCR from on to standby mode or vice versa. In standby mode, the VCR is still connected to the main AC power.
- 2 EJECT**
Ejects a video cassette.
- 3 Cassette Compartment**
Insert a video cassette here.
- 4 STOP**
Stops playback or recording.
- 5 PAUSE/STILL**
In the stop mode: Still picture (Jog/Shuttle mode).
During playback:
•By pressing: Still picture. "00" is lit. (Jog/Shuttle mode).
•By pressing for 2 seconds or more: Slow playback. "0▷" is lit.
During recording: Interrupts recording.
- 6 PLAY**
Starts playback.
"▷" is lit.
For the repeat playback function.
- 7 VIDEO IN (AV2)**
Connects a video cable from a movie camera or another unit.
- 8 AUDIO IN (AV2)**
Connects an audio cable from a movie camera or another unit.

9 CVC (Crystal View Control)

- ON:** Using the CVC function, the pictures appear more sharply defined during playback.
- The CVC indicator is lit on the VCR display.
 - This control should normally be left in the ON position.
- OFF:** Turn off the CVC function.
- The CVC indicator is not lit.

10 Infra-red Remote Control Receiver Window**11 Display****12** ∨ ∧

Selects the required program position (TV station) of the VCR

For tracking adjustment and vertical locking adjustment

- For manual tracking adjustment
The ∨ and ∧ buttons are used to adjust the tracking when, for example, noise bars on the picture during normal playback are better removed manually than by automatic digital tracking control. Press both buttons down at the same time to return to automatic digital tracking control.
- For slow tracking adjustment
When noise bars appear during still or slow playback, switch over to slow playback and adjust with the ∨ or ∧ button to reduce the noise bars.
- For vertical locking adjustment
Use the ∨ and ∧ buttons to minimize any vertical jitter during still picture playback.

13 REC/OTR

Starts recording.
For One-Touch Recording (OTR).

14 TIMER REC

Turns the timer recording function on and off.
□ is lit or not lit.
Once you operate the timer recording function, normal VCR operation is not possible unless you press this button again and release the VCR from the timer recording standby mode.

15 Jog Dial

Locates any desired frame with utmost precision.

16 Shuttle Ring

In the stop mode: Rewinds or fast forwards the tape.
In the playback mode:

Searches picture backward or forward.

In the still playback mode:

Adjusts playback speed backward or forward.

In the rewind or fast forward mode:

Obtains high speed picture.

17 SEARCH

Searches a recorded program using the intro-jet scan functions.

REAR**18 VIDEO IN**

Connects a video cable from a movie camera or another video recorder.

19 VIDEO OUT

Connects a video cable to a TV or another video recorder.

20 RF IN

Connects the external antenna.

21 AC IN~

Connects the main power supply.

22 AUDIO IN

Connects an audio cable from a movie camera or another video recorder.

23 AUDIO OUT

Connects an audio cable to a TV or another video recorder.

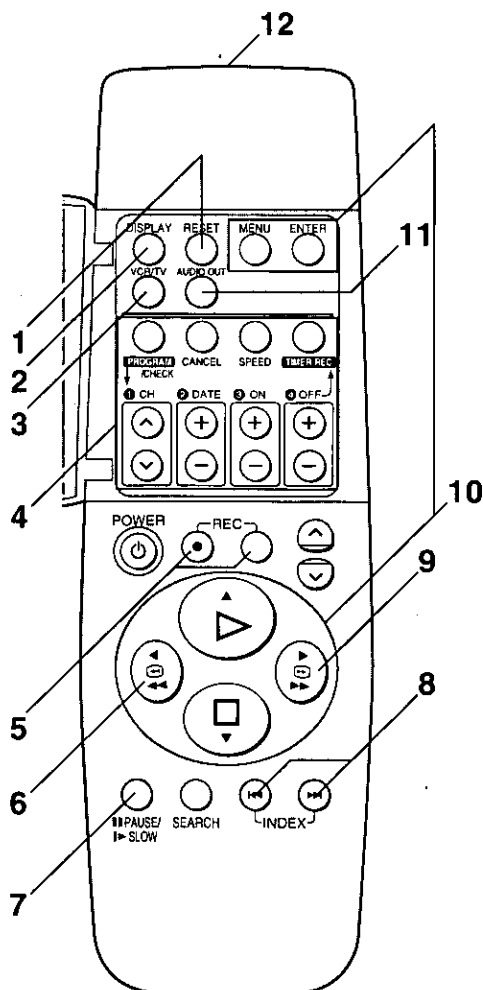
24 L/H

Used to select the RF Converter Channel.

25 RF OUT

Connects the antenna terminal on a TV.

Infra-red Remote Controller



1 RESET

Resets the tape counter (elapsed time) to "0:00.00".
 •The tape counter is automatically reset to "0:00.00" .. when a video cassette is inserted.

2 DISPLAY

Changes the indication on the VCR display or on screen display as follows.



3 VCR/TV

Selects the VCR mode or TV mode.

4 Timer Recording Operation Buttons

PROGRAM/CHECK

Sets and checks timer programmes.

CANCEL

Cancels the settings made for timer recording.

SPEED

Selects the desired tape speed for recording.
 SP gives the best picture quality.
 EP gives the longest recording time.

TIMER REC

Turns the timer recording function on and off.
 [] is lit or not lit.

Once you operate the timer recording function, normal VCR operation is not possible unless you press this button again and release the VCR from the timer recording standby mode.

CH

Programmes timer recording.

DATE

Programmes timer recording.

ON

Programmes timer recording.

OFF

Programmes timer recording.

5 REC

Starts recording.
 •Press both buttons simultaneously.

6 << (Rewind)

In the stop mode: Rewinds the tape.
 In the playback mode: Searches back.
 In the rewind mode: Obtains a high speed picture.
 "<<" is lit.

7 PAUSE/SLOW

During playback:
 •By pressing: Still picture. "00" is lit.
 •By pressing for 2 seconds or more: Slow playback. "0>" is lit.
 By pressing during recording:
 Recording is interrupted.

8 INDEX

Used for the index search function.

9 ►► (Fast Forward)

- In the stop mode: Fast forwards the tape.
- In the playback mode: Searches forward.
- In the fast forward mode: Obtains a high speed picture.

">>" is lit.

10 On Screen Display Menu Operation Buttons

The buttons written by green characters are used for the on screen display menu operation.

MENU

Makes the on screen display main menu appear on the TV screen.

ENTER

Confirms the selection, or stores.



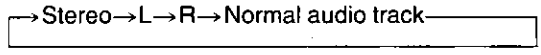
Makes selections from the on screen display.

- These buttons can also be used for playback, stop, rewind and fast forward mode.

11 AUDIO OUT

Selects the desired sound mode.

For each push of this button, the audio output mode changes as follows.



The Left (L) and Right (R) indicators show which sound mode is selected as follows on the On Screen Display.

- Stereo: Both the L and R indicators appear.
- L: The L indicator appears.
- R: The R indicator appears.
- Normal: Neither the L nor R indicator appears.

12 Infra-red Transmitter

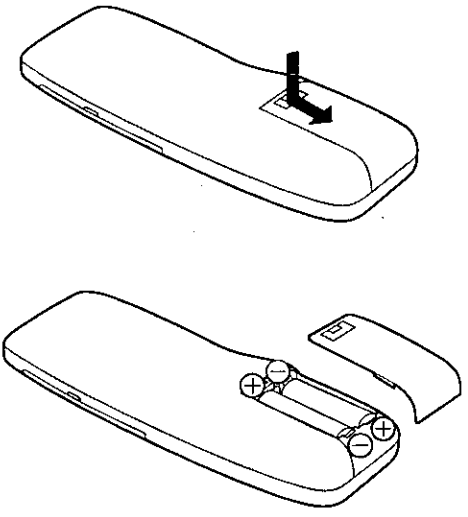
Power Source for the Remote Controller

The remote controller is powered by 2 "AA", "UM3" or "R6" size batteries. The life of the batteries is about one year, although this depends on the frequency of use.

Precautions for Battery Replacement

- Load the new batteries with their polarity (⊕ and ⊖) aligned correctly.
- Do not apply heat to the batteries, or an internal short circuit may occur.
- If you do not intend to use the remote controller for a long period of time, remove the batteries and store them in a cool and dry place.
- Remove spent batteries immediately and dispose of them.
- Do not use an old and a new battery together, and never use an alkaline battery with a manganese battery.

Installing the Batteries



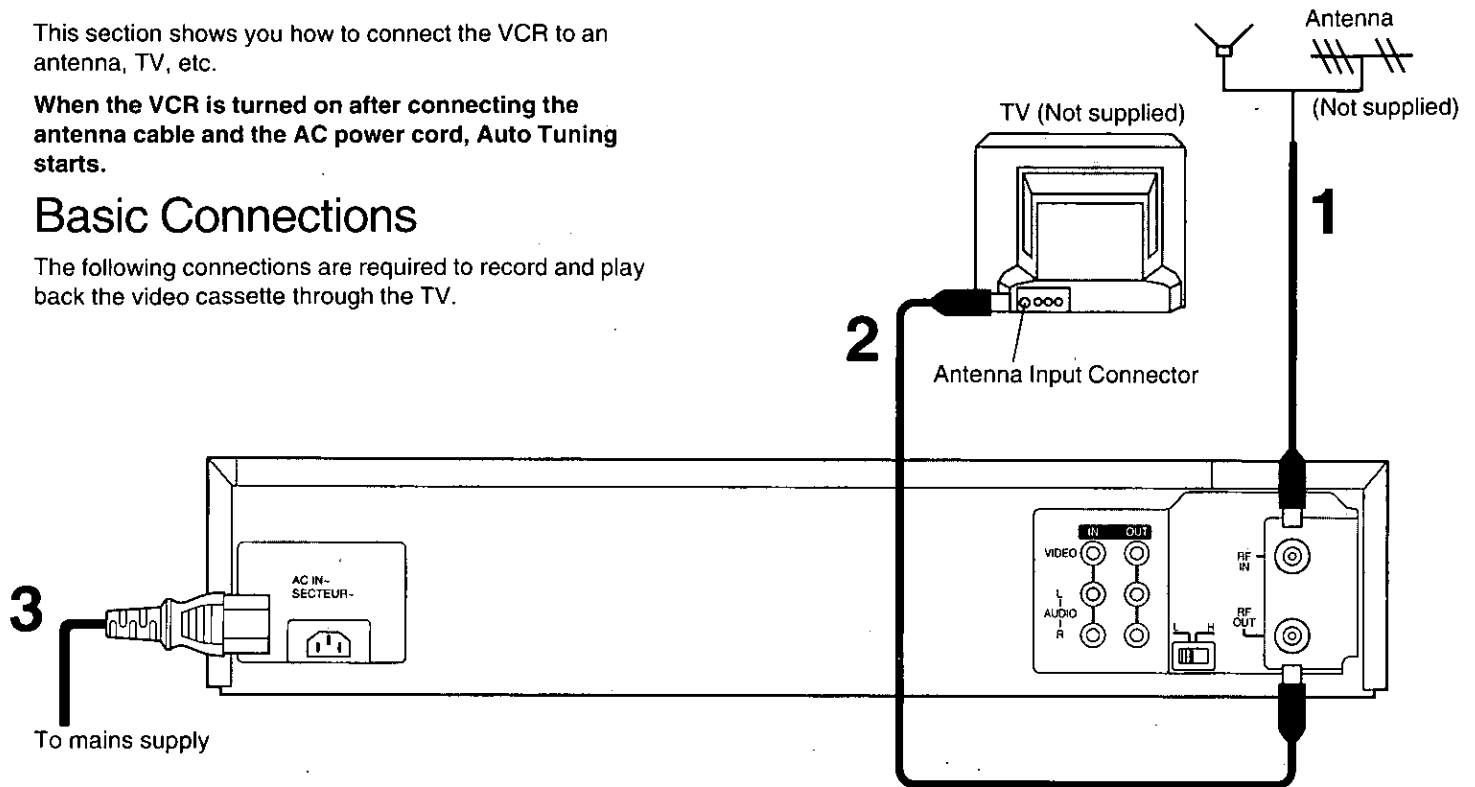
Connections

This section shows you how to connect the VCR to an antenna, TV, etc.

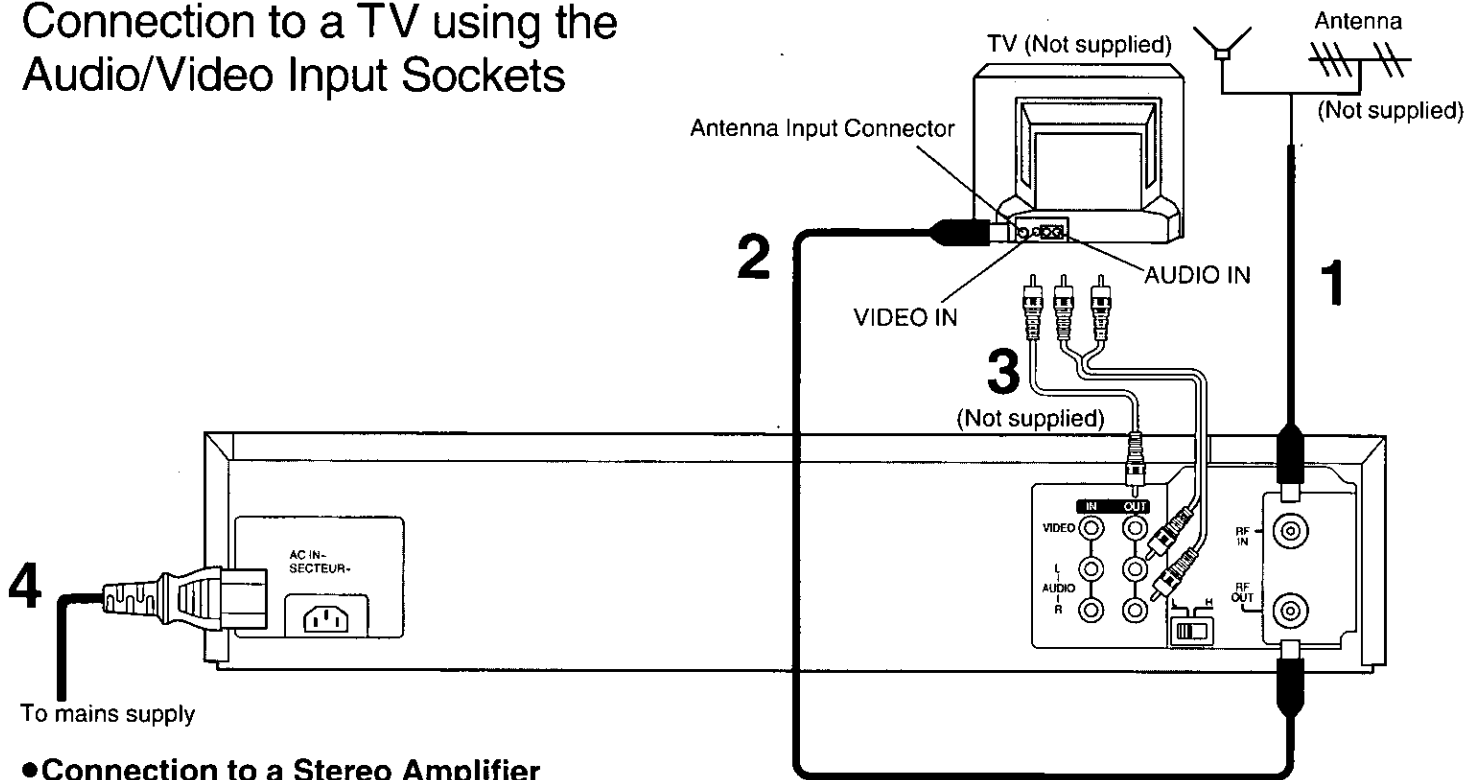
When the VCR is turned on after connecting the antenna cable and the AC power cord, Auto Tuning starts.

Basic Connections

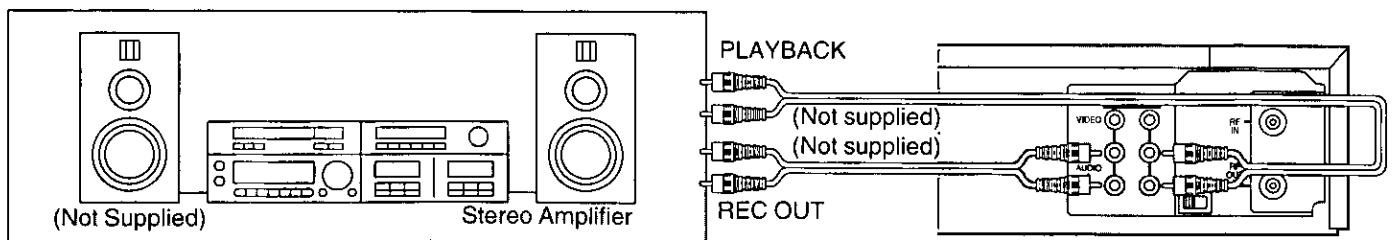
The following connections are required to record and play back the video cassette through the TV.



Connection to a TV using the Audio/Video Input Sockets



• Connection to a Stereo Amplifier



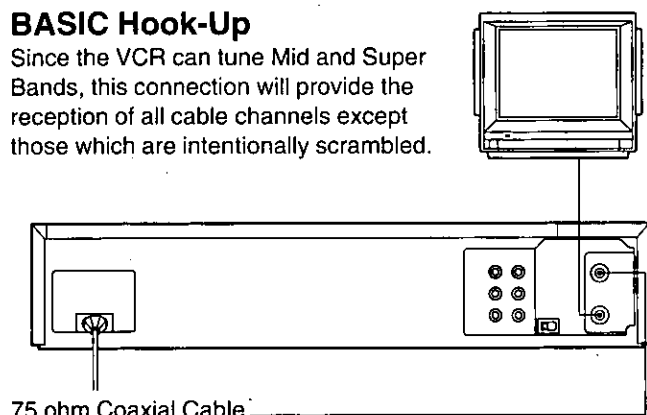
Cable Connection

Cable-VCR-TV (For CATV/PAY Channels Recording/Playback)

The VCR has an extended range, and can tune the Low-Band, Mid-Band, Super-Band, Hyper-Band, Ultra-Band and Special cable channels (Channels A-5-A-1, A-W, AA-FFF, GGG-WWW, WWW+1-WWW+12, 100-125, 5A). Also, the VCR can tune to any of the 56 UHF channels (14-69). Refer to **Storing TV Broadcasts in your VCR** on page 13.

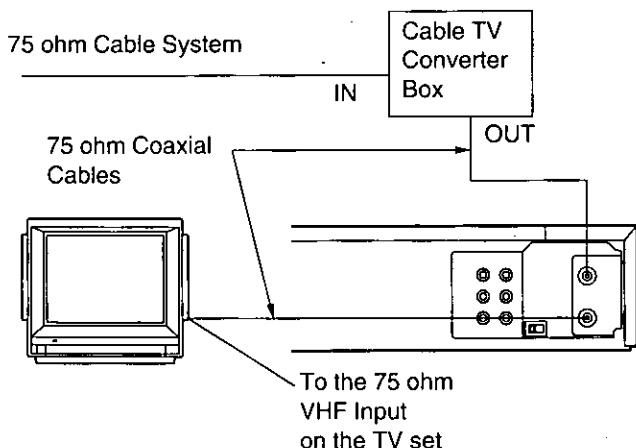
BASIC Hook-Up

Since the VCR can tune Mid and Super Bands, this connection will provide the reception of all cable channels except those which are intentionally scrambled.

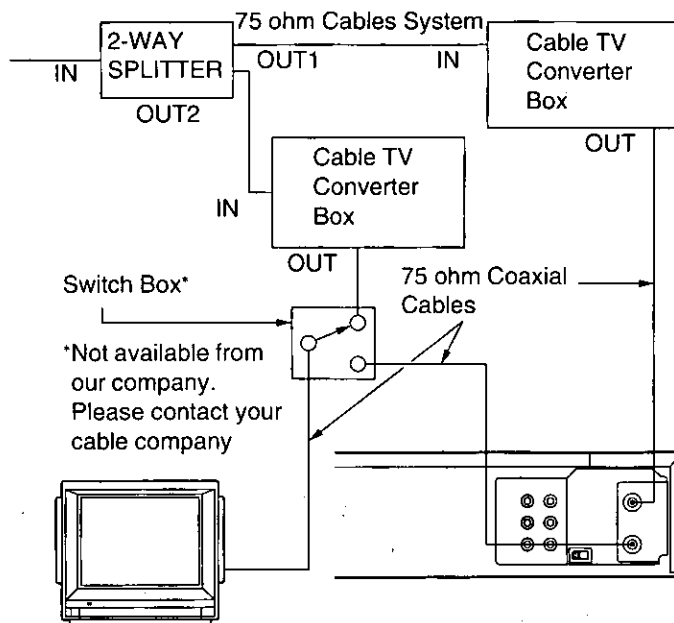


However, if you subscribe to a special channel which is scrambled—you will probably have a descrambler box for proper reception. The VCR by itself cannot properly receive a scrambled program since it does not contain a descrambler. In order for the VCR to properly receive a scrambled program, your existing descrambler must be used. There are two commonly used methods of connection in this case.

Typical Cable System Hook Ups with Cable Converter/Descrambler Boxes



The above cable hook-up allows VCR-TV functions except for viewing one channel while recording another.

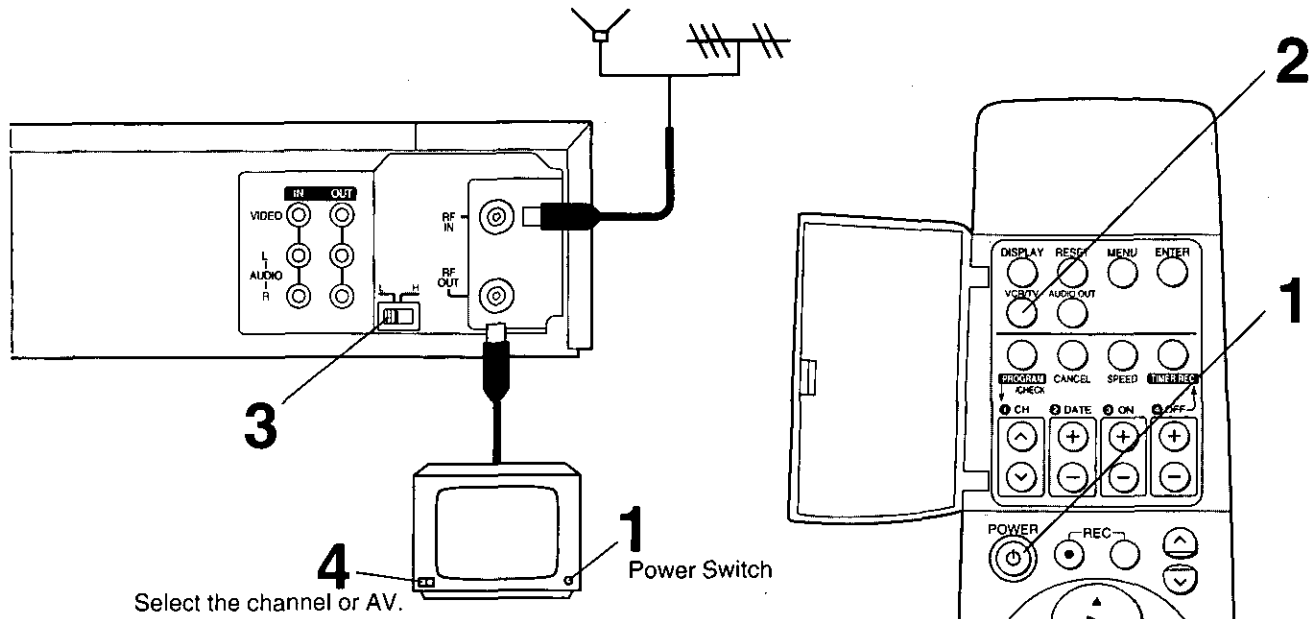


To the 75 ohm VHF input on the TV set

The above cable hook-up allows VCR functions, including viewing one channel while recording another, but it requires two cable TV Converter/Descrambler Boxes, one Switch Box and one 2-Way Splitter.

Since the VCR has an extended range of tuning, tuning-programing of non-scrambled Mid-Band and Super-Band TV programmes is possible. When a cable converter or descrambler box is connected to the VCR, all timer-controlled recording functions will continue to operate with the exception of changing channels automatically. CATV Channel selection will have to be performed with the cable converter. Timer-controlled recording from CATV Channels is therefore limited to one channel at any given time.

Tuning the TV to your VCR



The VCR supplies a signal to the TV via the RF coaxial cable on channel US3 or 4.

It is possible to view the video picture on your TV in the same way that you watch TV broadcasts.

If you have connected the VCR to the TV through the video and audio input sockets, then you do not need to follow the procedure below. Instead, simply select the AV mode on the TV.

When the VCR is turned on after connecting the antenna cable and the AC power cord, Auto Tuning starts.

Notes:

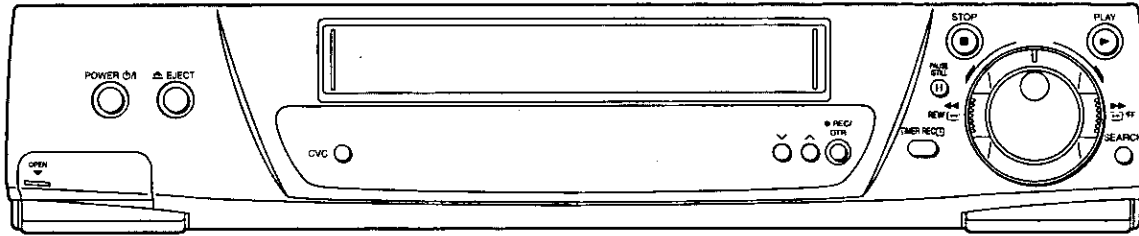
- If the VCR is turned on with the antenna not connected, all channels are skipped.
- When Auto Tuning is canceled halfway, Auto Tuning is not executed even if the VCR is turned off and then turned on again. In this case, see page 11 "To restart Auto Tuning".

Operations

Display Symbol

1			<p>Turn on the TV and VCR. Ensure that the VCR is connected to the antenna cable. • Auto Tuning starts. (See next page.)</p>
2			<p>Select the VCR mode.</p>
3			<p>Select the video playback channel not used for any TV station. H: Channel US4 L: Channel US3</p>
4	<p>On Screen Display</p> <p>(During Auto Tuning)</p>	<p>(After Auto Tuning)</p>	<p>Select a program number on the TV which you wish to use as the video viewing channel. Then tune in the TV to the picture from the screen being auto tuned or the screen selected with the ∇ and \blacktriangle of the VCR. • During Auto Tuning, the TV program screen does not appear, and the Auto Tuning screen appears instead.</p>

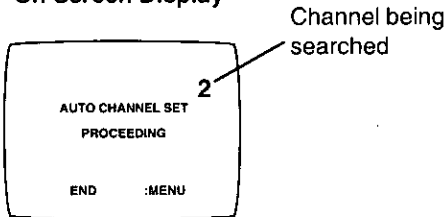
Auto Tuning



Auto Tuning

When the VCR is turned on after connecting the antenna cable and the AC power cord, Auto Tuning starts.

On Screen Display



Auto Tuning searches for TV stations from VHF minimum to UHF maximum and memorizes every tuned program position.

- Do not turn off the power, play back a tape, etc. during the auto tuning process.
- When there are 5 or more CATV channels, the antenna system CATV is automatically selected; when there are 4 or fewer CATV channels, the TV is selected. If a change is required, conduct the resetting procedure described in step 4 on page 13.

To Cancel Auto Tuning Mid-Operation:

Press **POWER** during Auto Tuning. The VCR is off, and Auto Tuning is canceled.



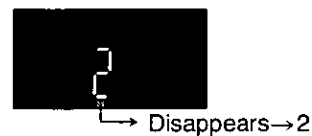
To restart Auto Tuning:

- 1 Press **EJECT** and remove the video cassette.
- 2 Keep **∨** and **∧** on the VCR pressed simultaneously for 3 seconds or more during the VCR on.



- The channel displayed on the VCR display disappears for a moment then changes to 2.

Display Symbol

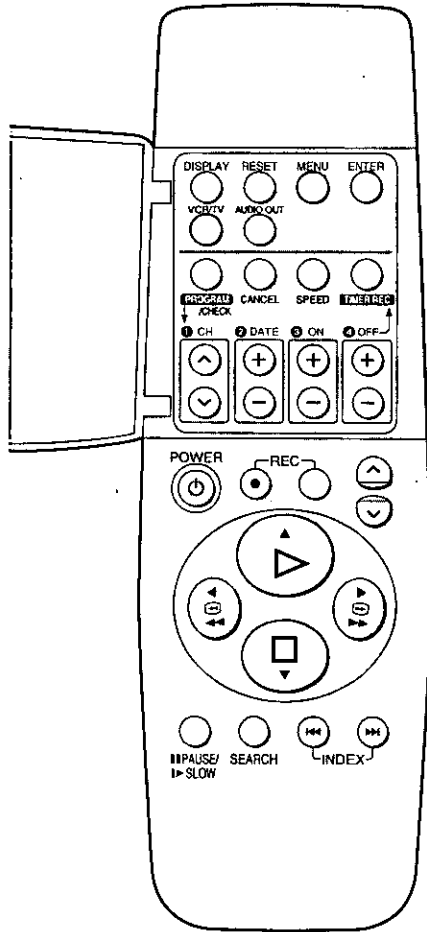


- Step 3 must now be performed to complete the auto tuning process.
- 3 Turn off the VCR and then turn it on. Press **VCR/TV** to select the VCR mode.
 - Auto Tuning commences.

Language Setting of the On Screen Display

Preparations

- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.
- Press **VCR/TV** to select the VCR mode.



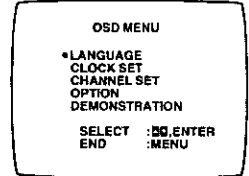
To Select the Desired Language

Select one of the four languages displayed: English, Spanish, Portuguese and French.

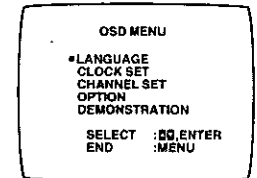
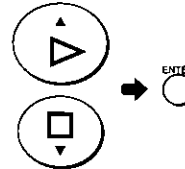
1 Press **MENU**.



On Screen Display



2 Select **LANGUAGE**.



3 Select the desired language.



4 Press **MENU** twice.



Storing TV Broadcasts in your VCR

Auto Tuning with the On Screen Display

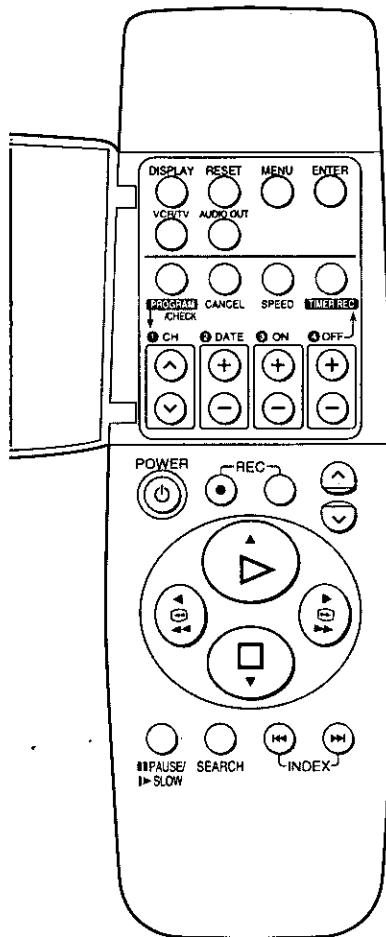
Introduction


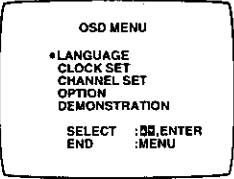



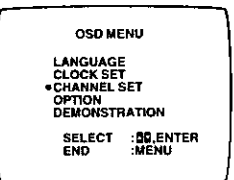



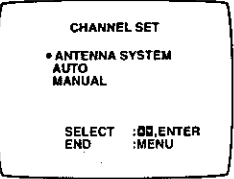



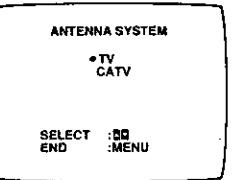



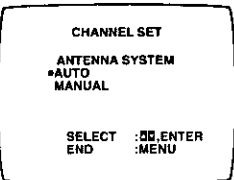
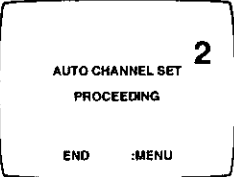
The VCR includes its own tuner (just like a normal TV) and can receive up to 181 TV broadcast stations.

Preparations

- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR and select any program position except A1 and A2.
- Press VCR/TV to select the VCR mode.

Operations On Screen Display



1			Press MENU.
2	 →  		Select CHANNEL SET.
3	 →  		Select ANTENNA SYSTEM.
4	 →  		Select the desired system.
5	 →  	 	Select AUTO and press ENTER. • When Auto Tuning is completed, the on screen display disappears and the lowest channel position at which a broadcast can be tuned in is received.

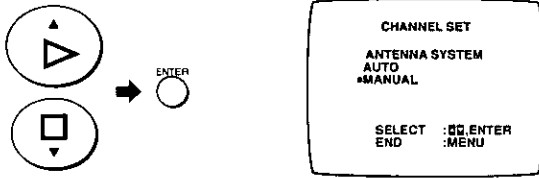
Notes:

- Auto Tuning searches for TV stations from VHF minimum to UHF maximum and memorizes every tuned program position. Other program positions are skipped.
- Auto Tuning takes seven or more minutes to complete its search.
- If the VCR is not correctly tuned by Auto Tuning, follow the procedure on the next page.

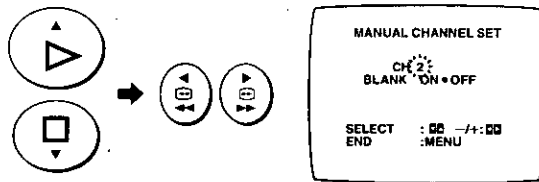
Manual System Setting Procedure

Follow steps 1 to 4 on page 13.

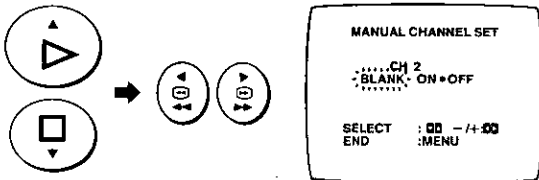
- 5 Select **MANUAL** by pressing ▲ or ▼ and then press **ENTER**.



- 6 Select **CH** by pressing ▲ or ▼ and then select the program position by pressing ◀ or ▶.



- 7 Select **BLANK** by pressing ▲ or ▼ and then select **OFF** by pressing ◀ or ▶.



- To select the blanking of a program position, select **ON**.
- Repeat steps 6 and 7 for another unoccupied program positions to skip during the selection of the program positions.

- 8 Press **MENU** three times.



Channel Plan

TV mode

CHANNEL DESIGNATIONS	CHANNEL RECEIVED OF THE AIR	CHANNEL SELECTION & INDICATION ON VCR
VHF	2-13	2-13
UHF	14-69	14-69

CATV mode

CHANNEL DESIGNATIONS	CATV CHANNEL RECEIVED FROM CABLE	CHANNEL SELECTION & INDICATION ON VCR
BROADCAST VHF	2-13	2-13
CATV LOW BAND	A-5-A-1	95-99
CATV MID/SUPER BANDS	A-W	14-36
CATV HYPER BAND	AA-FFF	37-65
ULTRA BAND	GGG-WWW WWW+1- WWW+12	66-94
	100-125	100-125
SPECIAL CATV CHANNEL	5A	1

Setting the Clock of your VCR

The built-in digital clock is used to activate the timer for automatic recording and must be set to the correct time. It employs the 24-hour system.

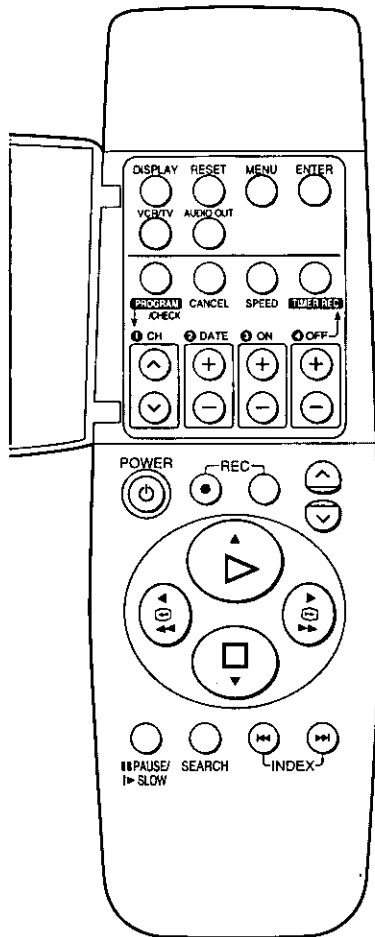
Example:

Date; 16 October, 1999

Time; 20:15

Preparations

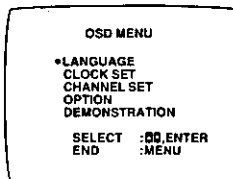
- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.
- Press **VCR/TV** to select the VCR mode.



Operations

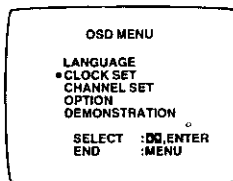
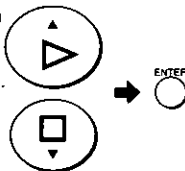
On Screen Display

1



Press **MENU**.

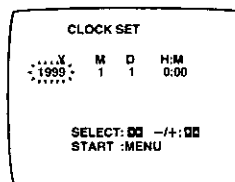
2



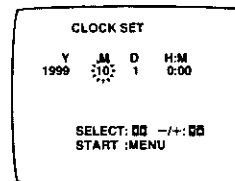
Select **CLOCK SET**.

3

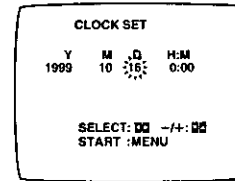
Set each item by pressing **▲** or **▼** and **▶**. Press **◀** to return to the previous item.



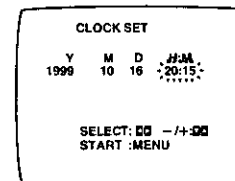
Set Year to "1999".



Set Month to "10".



Set Date to "16".



Set Time to "20:15".

- When it is kept pressed, the indication changes in 30-minute steps.
- There is no need to press **▶**.

Time Reset Function

If the clock is less than two minutes slow or fast, it can easily be reset to the proper time.

Example:

Resetting the clock to 12:00.00

Reset the clock while the display shows a time between 11:58.00 and 12:01.59.

1 Select **CLOCK SET** from the OSD menu and press **ENTER**.

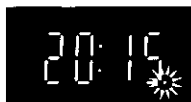
2 Press **MENU**.

The clock, which shows a time between 11:58.00 and 12:01.59, is now set to 12:00.00.

4



Display Symbol



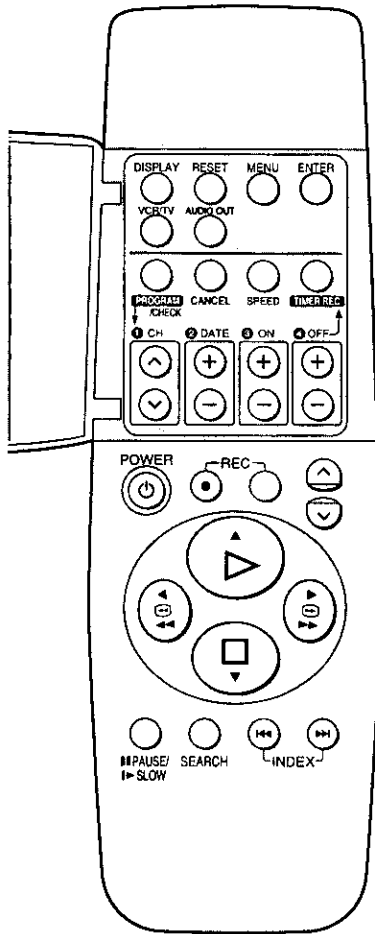
Press **MENU**.

- The clock starts.

Note:

The clock operates for at least 5 years on its backup system in the event of a power failure.

Settings Using the On Screen Display



Preparations

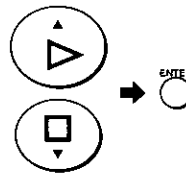
- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.
- Press **VCR/TV** to select the VCR mode.

On Screen Display

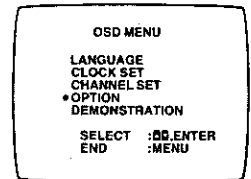
- 1 Press **MENU**.



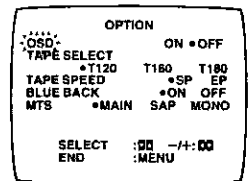
- 2 Select **OPTION**.



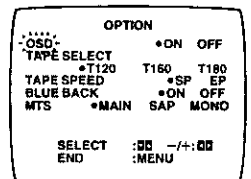
On Screen Display



- 3 Select **OSD**.



- 4 Select **ON** or **OFF**.



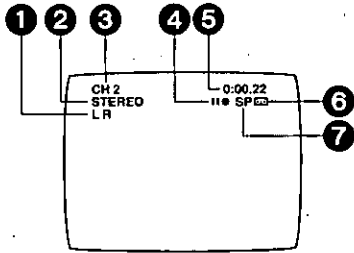
ON: The on screen display will appear on the TV screen.

OFF: The on screen display will not appear.

- 5 Press **MENU** twice to make the on screen display disappear.



To use the on screen display:



- 6 Cassette-in indicator
- 7 Tape speed indicator

Notes:

- The on screen display may be disturbed during special playback.
- The on screen display may be disturbed depending on the played back tape or the input signal.
- The on screen display does not appear when the OSD is set to OFF. Set the OSD to OFF for dubbing.

- 1 L and R Indicators
- 2 Indicator for STEREO and SAP Reception
When receiving a TV program, automatically indicates when a TV program is broadcast with the stereo and/or AUDIO II (SAP) sound system.
- 3 Program position (Channel)
- 4 Tape running display

Stop, Eject	
Rewind, Review	◀◀
Fast forward, Cue	▶▶
Playback	▶
Still playback	
Recording	●
Recording pause	●
Slow playback	◄▶
Repeat playback	R ▶

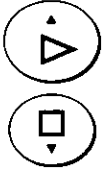
- 5 Present time/Tape counter/Remaining tape time/Index search

Information	Display
Present time	17:24
Tape counter	-2:35.47
Remaining tape time	REMAIN 2:34
Index search	S 01

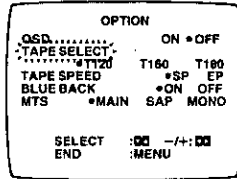
To Select the Corresponding Video Cassette Tape Length to Display the Approximate Remaining Tape Time

Follow steps 1 to 2 on page 16.

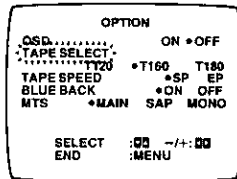
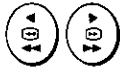
3 Select **TAPE SELECT**.



On Screen Display



4 Select the corresponding video cassette tape length.



T120: For T30, -60, -90 and -120 tapes.

T160: For T140 and -160 tapes.

T180: For T180 tape.

5 Press **MENU** twice to make the on screen display disappear.

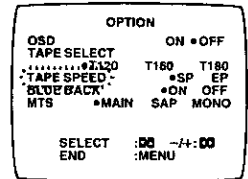


To Select the Desired Tape Speed for Manual Recording

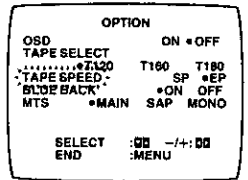
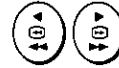
Follow steps 1 to 2 on page 16.

The tape speed can be selected also using the **SPEED** button on the remote control.

3 Select **TAPE SPEED**.



4 Select the desired tape speed.



5 Press **MENU** twice to make the on screen display disappear.

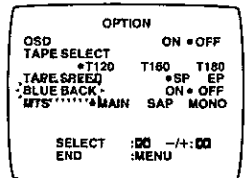


For the Blue Background Function

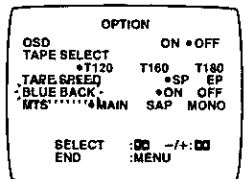
When **BLUE BACK** is **ON**, the screen will always have a blue background when no signal is received or the received signal is very weak.

Follow steps 1 to 2 on page 16.

3 Select **BLUE BACK**.



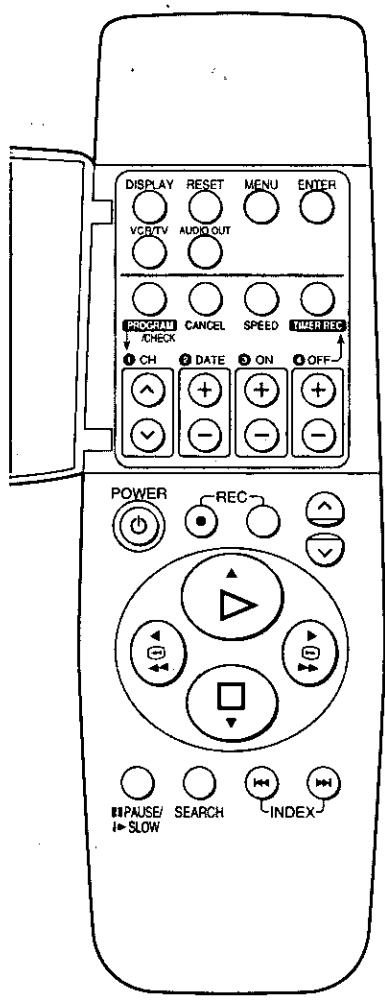
4 Select **ON** or **OFF**.



- When **BLUE BACK** is **OFF**, the blue background function is deactivated.
- It is not possible to record the blue picture of the blue background function.

5 Press **MENU** twice to make the on screen display disappear.





The table below shows the TV broadcast type, MTS settings, and audio recording patterns.

Be sure that **MTS** is set to MAIN or SAP and follow the operation procedure described on page 22 to record on the Hi-Fi audio tracks.

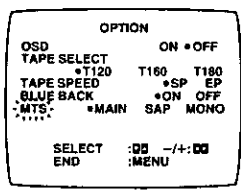
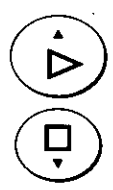
TV Broadcast	MTS	Audio Track		
		Normal (Mono)	Hi-Fi	
			Left	Right
Mono	MAIN or SAP	Mono	Mono	Mono
Stereo	MAIN or SAP	L+R (Mixed)	Left	Right
Mono and Audio II (SAP)	MAIN	Mono	Mono	Mono
	SAP	Mono	Mono	Audio II
Stereo and Audio II (SAP)	MAIN	L+R (Mixed)	Left	Right
	SAP	L+R (Mixed)	L+R (Mixed)	Audio II

Audio Channel Selection

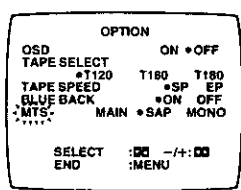
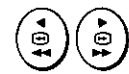
When a stereo and/or Audio II (SAP) broadcast is received, "STEREO" and/or "SAP" are lit to inform you of the type of broadcast.

Follow steps 1 to 2 on page 16.

3 Select MTS.



4 Select the desired mode.



MONO Position

If the sound of a stereo or Audio II (SAP) broadcast is impaired by noise due to weak reception, set **MTS** to MONO. The TV broadcast is recorded monaurally for easier listening.

To resume stereophonic recording, set **MTS** to MAIN or SAP.

5 Press **MENU** twice to make On Screen Display disappear.

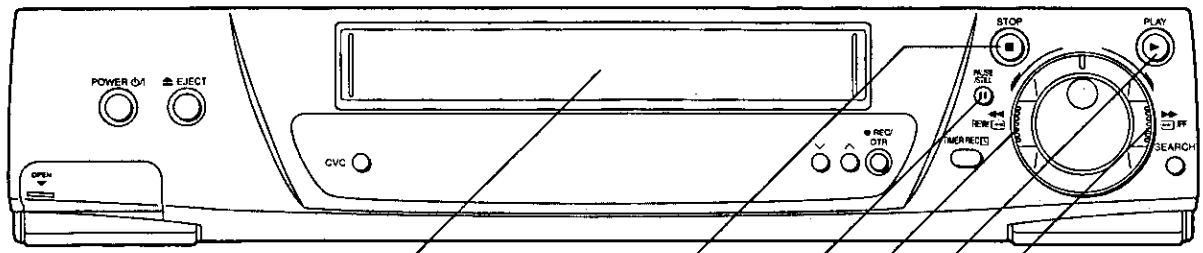


Auto Bilingual Choice Function

When a stereo broadcast or Audio II (SAP) broadcast is recorded and played back on this unit, stereo sound will be automatically selected in the case of a stereo broadcast and Audio II (SAP) sound will be automatically selected in the case of a dual-sound broadcast (Mono and Audio II or Stereo and Audio II).

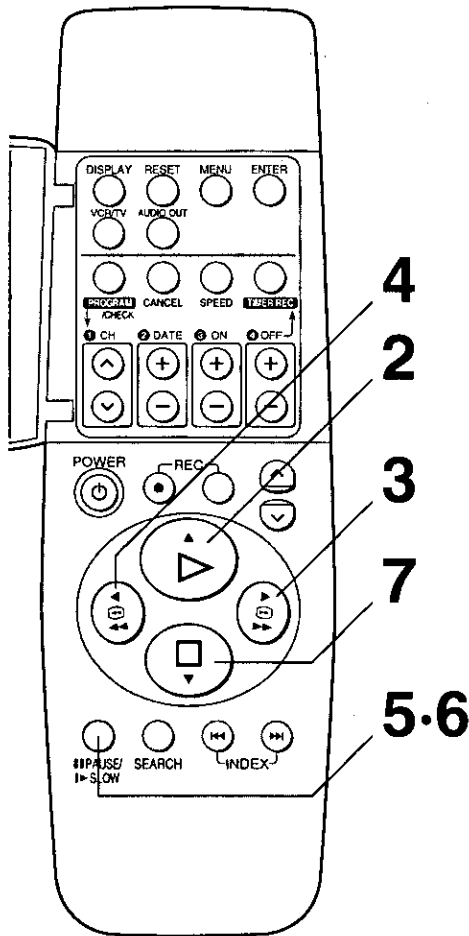
- The wrong choice may be made if the program is played back from an interim point. (In a case like this, press the **AUDIO OUT** button and select the right sound.)
- This function works only for cassettes which have been recorded by a video recorder equipped with Panasonic's Auto Bilingual Choice function.
- The function will not work with a cassette which has been recorded using the external input facility.

Playback



1 **7** **5-6** **4** **2** **3**

Operations **Display Symbols**



- | | | | |
|----------|--|--|---|
| 1 | | | Insert a recorded video cassette tape. |
| 2 | | | Start viewing the picture. |
| 3 | | | Search forward by tapping FF .
•To change back to normal playback, press PLAY . |
| 4 | | | Search backward by tapping REW .
•To change back to normal playback, press PLAY . |
| 5 | | | View a still picture.
•Press PAUSE/SLOW (PAUSE/STILL) .
•To continue normal playback, press PLAY or PAUSE/SLOW (PAUSE/STILL) . |
| 6 | | | View a slow motion picture.
•Keep PAUSE/SLOW (PAUSE/STILL) pressed for 2 seconds or more.
•To continue normal playback, press PLAY . |
| 7 | | | Stop viewing the picture. |

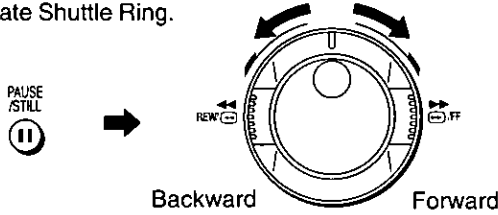
Note:

If you keep **FF** or **REW** pressed in step 3 or 4, search playback is activated while the button is pressed, and operation returns to normal playback when the button is released.

Other Playback Functions

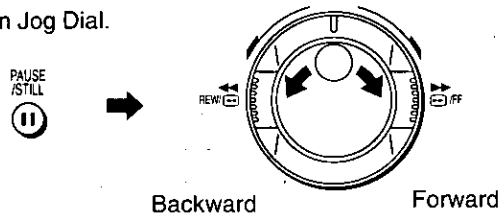
To change the Playback Speed

- 1 Press **PAUSE/STILL** on the VCR.
- 2 Rotate Shuttle Ring.



To locate the Desired Picture Exactly

- 1 Press **PAUSE/STILL** on the VCR.
- 2 Turn Jog Dial.



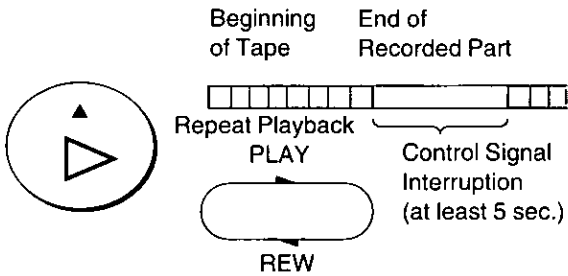
To Obtain a High Speed Picture During Fast Forward or Rewind

- Keep **FF** pressed during fast forward.
- Keep **REW** pressed during rewind.



To Playback the Recorded Part Repeatedly

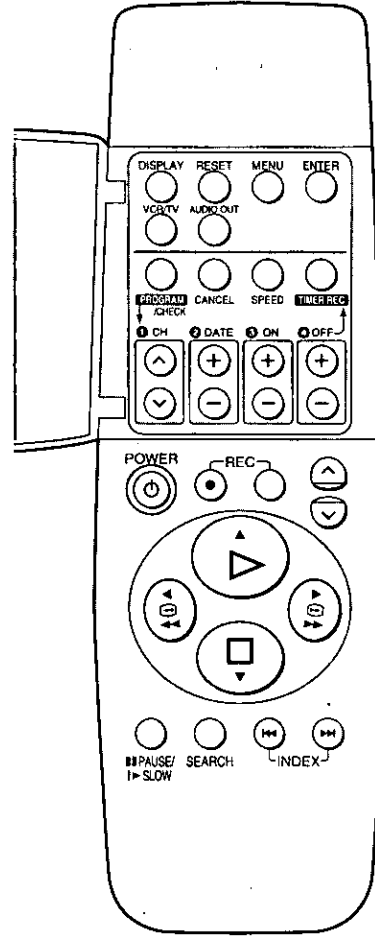
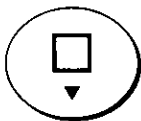
- Keep **PLAY** pressed for 5 seconds or more.
- The "R ▶" display appears on the TV screen.



- Press **POWER** to release the VCR from the Repeat Playback mode.

To Eject the Video Cassette Using the Remote Controller

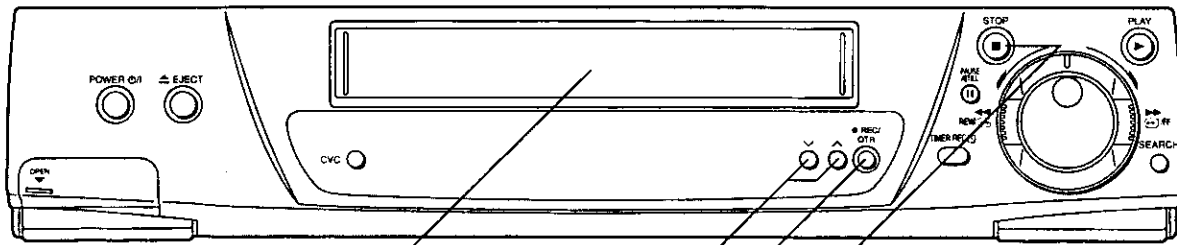
- Keep pressing **STOP** for at least 3 seconds.



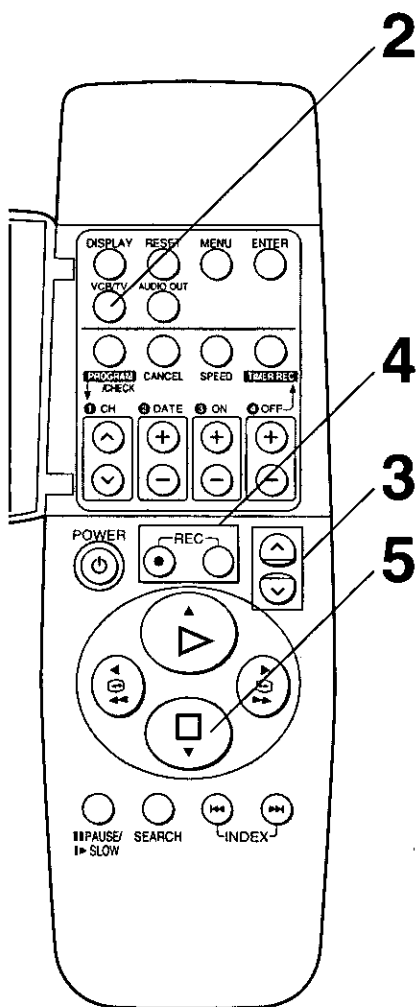
Notes:

- Audio reproduction of linear (conventionally recorded) tapes will be monaural when played back on the FM Hi-Fi video recorders.
- Cue, review or slow playback will be automatically released after 10 minutes, and still playback, after 5 minutes.
- In the EP mode only:
When playing back a tape which was recorded on another VCR, it may be necessary to adjust tracking control. In some cases the picture quality may still be inferior. This is due to format constraints.


Manual Recording



1 3 4 5



Operations	Display Symbols
1	 
2	 
3	 
4	 
5	

1 Insert a video cassette tape with an intact erasure prevention tab.
 • If it has already been inserted, press **POWER**  to turn the VCR on.

2 Select the VCR mode.

3 Select the TV station.

4 Start recording.

5 Stop recording.

To Select the Desired Tape Speed

Press **SPEED** before recording

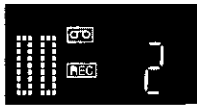
Display Symbol



To Interrupt Recording

Press **PAUSE/SLOW (PAUSE/STILL)** during recording

Press again to continue recording



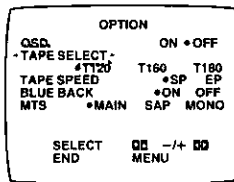
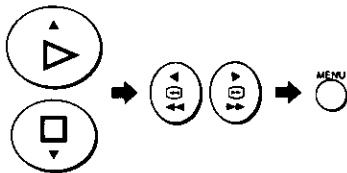
To Record One TV Program while Viewing Another One

- 1 Refer to steps 1–4 of the manual recording operation
- 2 Press **VCR/TV** to select the TV mode
- 3 Select the TV program on your TV that you wish to view now

To Display the Approximate Remaining Tape Time

- 1 Select **TAPE SELECT** from the on screen display and select the corresponding video cassette tape length
See page 18

On Screen Display



- T120 For T30, -60, -90 and -120 tapes
- T160 For T140 and -160 tapes
- T180 For T180 tape

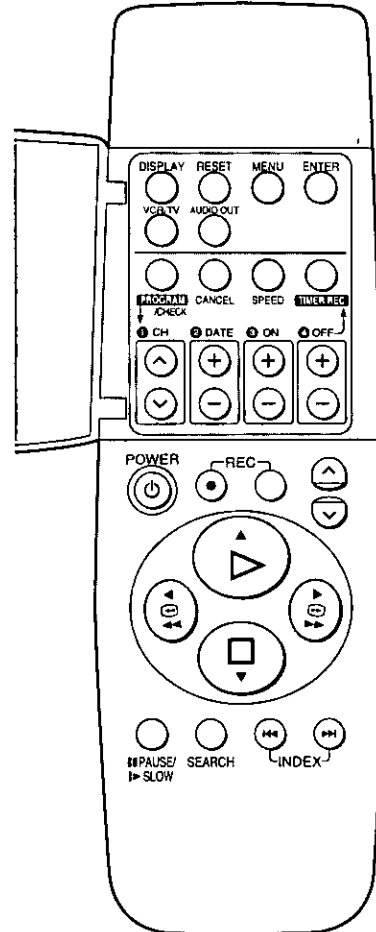
- 2 Press **DISPLAY**



The display changes as follows each time **DISPLAY** is pressed

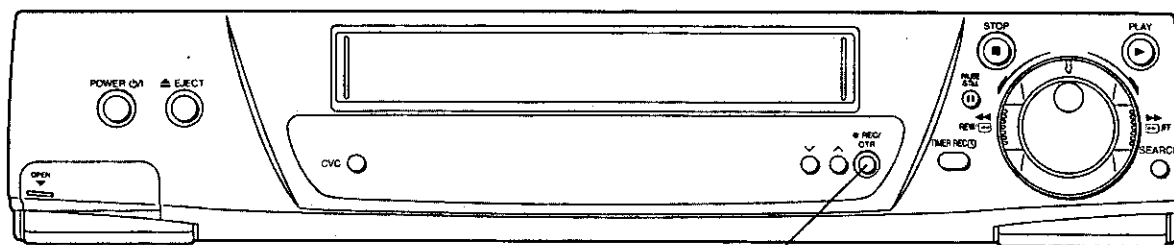


- The remaining tape time may not be displayed correctly depending on the tape used



Notes

- When a video cassette with a broken off erasure prevention tab is inserted, the "E" indication will flash to indicate that recording is not possible
- The recording pause mode will be automatically released after 5 minutes, and the VCR will return to the stop mode

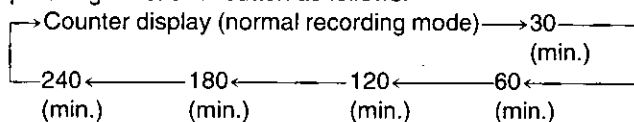


One-Touch Recording (OTR)

This function only works using the **REC/OTR** button on the VCR main unit.

Whenever you are in a hurry to start a timer recording with automatic stop in your absence, simply set the recording duration by pressing **REC/OTR** repeatedly.

The duration indicated on the VCR display changes by pressing **REC/OTR** button as follows:



Preparation

Insert a video cassette with an intact erasure prevention tab.

Operations

- 1** Ready the video source which is to be recorded, and start recording.
- 2** Press **REC/OTR** repeatedly to select the desired recording duration.



- The VCR will automatically switch off when OTR is completed. To turn the VCR on again, press **POWER** .

Notes:

- The OTR function works during normal recording.
- When the tape reaches its end during OTR, the VCR will turn itself off.
- To stop OTR at any time, press (**STOP**) or **POWER** .

Timer Recording

Using the On Screen Display

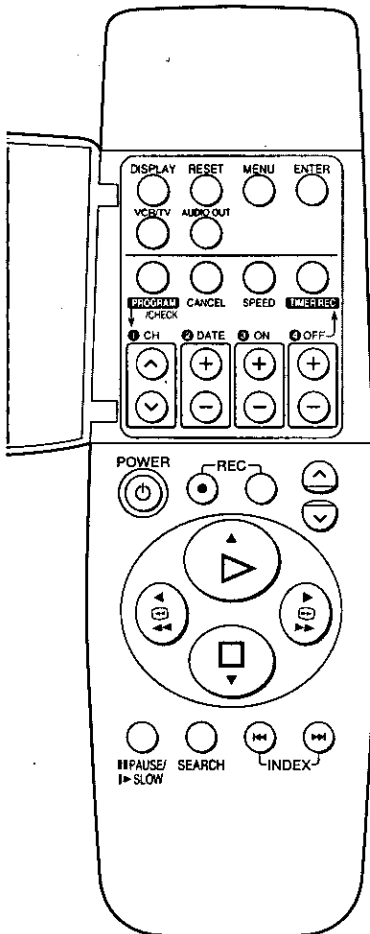
Up to 8 timer programmes, including weekly and daily programmes, can be recorded up to one month in advance by setting the timer.

Preparations

- Insert a video cassette tape with an intact erasure prevention tab.
- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR and set it to the stop mode.
- Press **VCR/TV** to select the VCR mode.

Example:

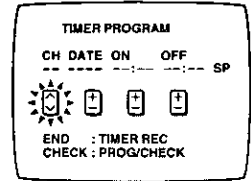
Program position (channel); 2
 Date; 27 October
 Starting time; 20:02
 Ending time; 21:30
 (Present date; 16 October)



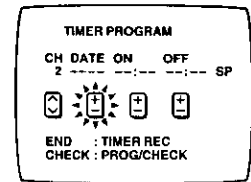
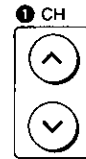
Operations

On Screen Display

1 Press the **PROGRAM/CHECK** button.

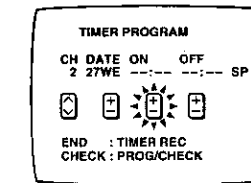


2 Set Program position (channel) to "2".



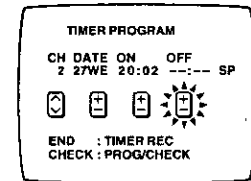
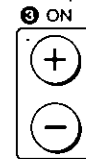
- The next item will flash after about 2 seconds.

3 Set Date to "27WE".

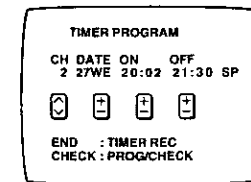
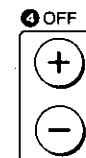


4 Set Starting time to "20:02".

- When kept pressed, the indication changes in 30-minute steps.



5 Set Ending time to "21:30".



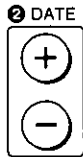
6 To activate timer recording, press **TIMER REC.**



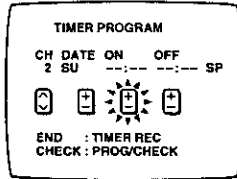
- The "PROGRAM IS COMPLETED." message appears.
- If **TIMER REC** is not pressed, the timer recording standby mode will be automatically activated in approximately 1 minute.

Weekly Timer Recording

In step 3, select the desired day by pressing **DATE** —.
For example, SU (Sunday)



On Screen Display



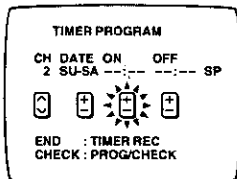
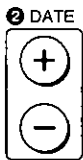
(SU=Sunday, MO=Monday, TU=Tuesday,
WE=Wednesday, TH=Thursday, FR=Friday,
SA=Saturday)

Daily Timer Recording

For this timer function, several groups of days can be selected.

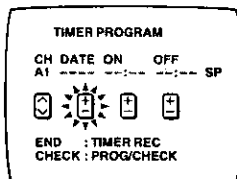
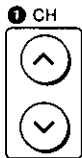
- (A) Daily recording from Monday to Friday (MO–FR)
- (B) Daily recording from Monday to Saturday (MO–SA)
- (C) Daily recording from Sunday to Saturday (SU–SA)

In step 3, select the desired days by pressing **DATE** —.
For example, (C)



Timer Recording from an External Signal Source

If timer recording is performed by a unit connected to the audio/video input sockets, select the A1 or A2 indicator in step 2 for the program position.

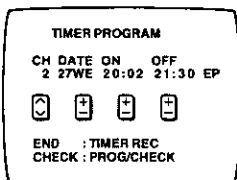


Setting other Programmes in Succession


Repeat steps 1–6.

Selecting the Desired Tape Speed

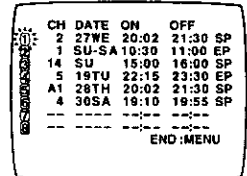
Press **SPEED** to make the selection in any of steps 1–5.



Checking a Timer Program

- The VCR must be turned on, or the timer recording indicator “” lit.
- Confirm that the TV is on and the VCR viewing channel is selected.

1 Press **PROGRAM/CHECK** twice.



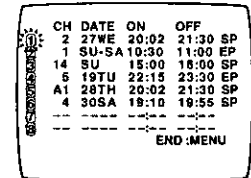
2 Press **VCR/TV** to select the VCR mode.



Cancelling a Timer Program

- The VCR must be turned on, in timer recording standby mode.
- Confirm that the TV is on and the VCR viewing channel is selected.

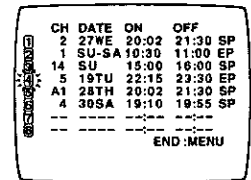
1 Press **PROGRAM/CHECK** twice.



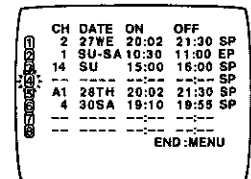
2 Press **VCR/TV** to select the VCR mode.



3 Press **PROGRAM/CHECK** repeatedly until the desired timer program number flashes on and off.



4 Press **CANCEL**.



Note:

If timer recording is not completed (due to insufficient tape or cancellation by the user), the programmed timer recording data will be cancelled from the memory by 4 A.M. two days later.

However, if, at that time, the timer recording function is activated, the programmed timer recording data will be cancelled at 4 A.M. the next day.

Search Functions


To Find the Beginning of Each Recording (VHS Index Search System)

Example:

Searching for the 2nd recorded segment in the forward direction. **Display Symbol**

Press **INDEX**  twice.



- After finding the specific recorded segment, playback starts automatically.
- For the reverse direction, press **INDEX** .
- Up to 20 index signals can be searched for in both directions.
- When the opposite **INDEX** button is pressed, the number will decrease to 1.
- The figure on the display decreases by 1 each time an index signal is located.

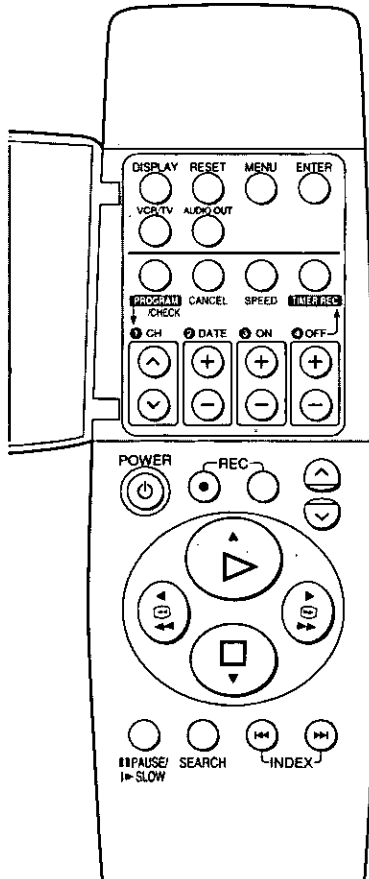
Recording Index Signals

Index signals are recorded in the following cases.

- When a recording is started by pressing **REC (REC/OTR)**.
- When **REC** on the remote controller is pressed during recording.
- When timer recording is activated.

Note:

The index search function can only work correctly if the index signals are spaced at least 3 minutes apart in the SP mode and 5 minutes apart in the EP mode.



Searching while checking the video cassette contents (Intro-Jet Scan)

The approximate beginnings of each recorded program are played in succession at the high speed so that the program to be viewed can be located easily.

Preparations

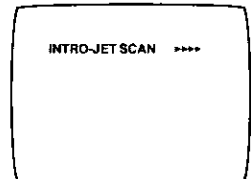
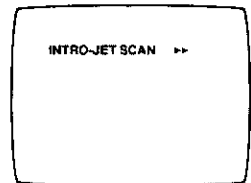
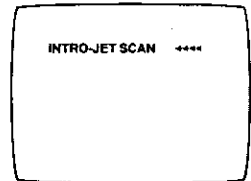
- Confirm that the TV is on and the VCR viewing channel is selected.
- Load the pre-recorded video cassette.

1 Press **SEARCH**.

- Perform this operation in the stop mode or normal playback mode while the VCR is on. Note that the **SEARCH** button on the VCR can be operated with the VCR off.



On Screen Display



- The tape is rewound to the start, and played for about 10 seconds at the high speed. It is then fast forwarded, the VISS (VHS Index Search System) signals are searched in succession, and each time the signals are found, the tape is played for about 10 seconds at the high speed.

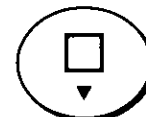
2 When the program to be viewed is reached, press **PLAY**.



- Normal playback now commences.

To stop the operation at any time

Press **STOP**.



Note:

This function may not work properly when recorded programmes run for 15 minutes or less.

Editing

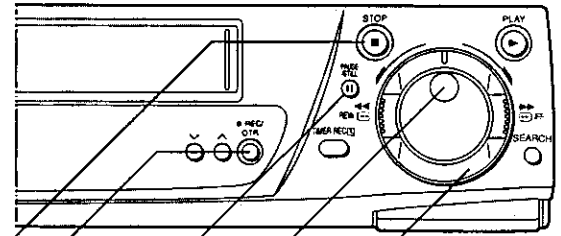
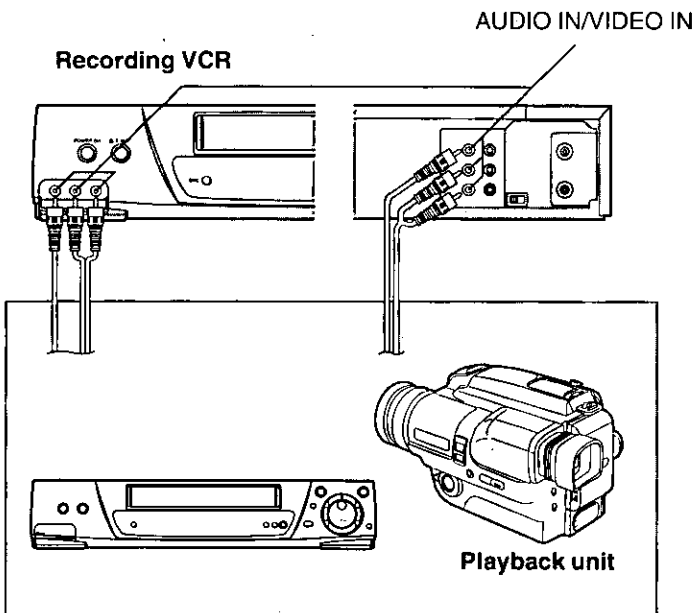
Assembly Editing

This function can be used to create an edited tape from other recordings or video sources.

New scenes can be added to the end of existing ones.

Preparations

- Connect a movie camera or other VCR to this VCR as shown.
- Insert a recorded video cassette tape with an intact erasure prevention tab.
- Select the required video source by pressing ∇ \blacktriangle to set A1 or A2.



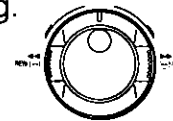
5 3 1, 4 2

Operations

- 1 Press **PAUSE/STILL** on the recording VCR.



- 2 Search for the end of the previous recording.



- 3 Press **REC (REC/OTR)** to switch the VCR from the pause mode to the recording standby mode.



- 4 Start the new recording by pressing **PAUSE/STILL (PAUSE/SLOW)** again.



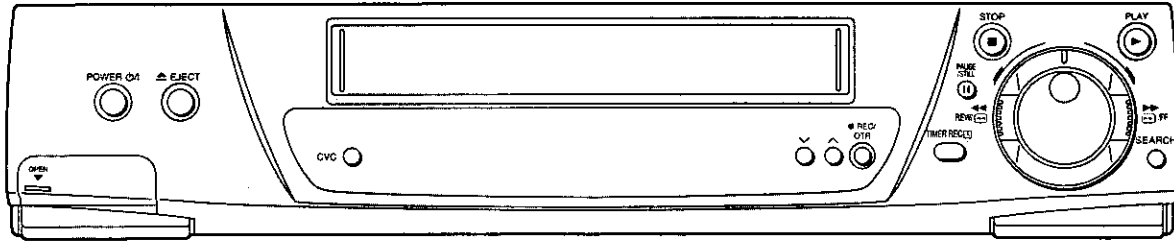
- 5 Press **STOP** to stop recording.



Note:

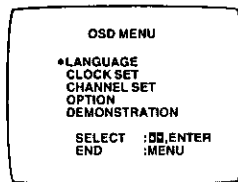
The new sound will be recorded on both the normal and Hi-Fi sound tracks, only monaural sound recording is possible on the normal sound tracks.

Other Functions

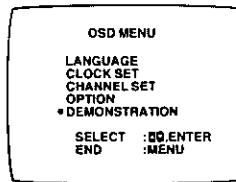
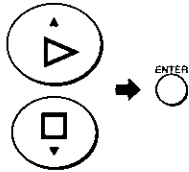


To Demonstrate the OSD Menu

1 Press **MENU**.



2 Select **DEMONSTRATION**.



- During the demonstration mode, all the on screen displays are displayed one after the other at about five second intervals.

3 Press **MENU** to stop the demonstration.



Note:

The menu screen has a blue background.

Other Automatic Functions

Automatic Playback

When a video cassette without an erasure prevention tab is inserted, the VCR starts playback automatically.

VCR-off Playback

When the VCR is off, an inserted video cassette can be played back by pressing **PLAY**.

Automatic Rewinding

When the tape reaches its end during recording (except for timer recording) or playback, it will automatically be rewound to the beginning.

Automatic Switching Off and Ejection

When the VCR is switched off, an inserted video cassette can be ejected by simply pressing **EJECT**. The VCR will eject the video cassette and automatically turn itself off again.

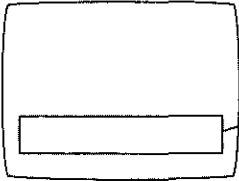

S-VHS Quasi Playback

It is also possible to playback tapes recorded in the S-VHS system.

- Some picture noise may occur depending on the type of tape used.
- It is not possible to fully obtain the high resolution that S-VHS is capable of.
- It is not possible to record in the S-VHS system with this VTR.

Before Requesting Service

Before requesting service, check the following points again.

On Screen Display Messages		
 <p>On screen display messages are displayed.</p>		
MESSAGE	CAUSE	REMEDY
PLEASE PUT IN A VIDEO CASSETTE.	REC (REC/OTR) or TIMER REC has been pressed without a video cassette inserted.	Insert a video cassette with an intact erasure prevention tab.
PLEASE STOP THE TAPE.	CHANNEL SET has been selected during playback.	Stop the tape.
PLEASE SET THE CLOCK.	TIMER REC or PROGRAM/CHECK has been pressed when the clock is not set.	Set the clock.
PLEASE USE A CASSETTE WITH TAB.	REC (REC/OTR) or TIMER REC has been pressed without a video cassette with an intact erasure prevention tab.	Use a video cassette with an intact erasure prevention tab.
NO TIMER RECORDING HAS BEEN SET.	TIMER REC has been pressed with no timer programmes.	Set timer recording
VCR IS IN THE TIMER STANDBY MODE.	POWER  has been pressed during the timer standby mode.	Press TIMER REC to release the VCR from the timer standby mode.

Self-diagnostic Indications		
<p>This VCR has a self-diagnosis and display function. If the VCR detects trouble during installation or during use, the following indications automatically appear in the VCR display. Indications are in the form of a single English letter plus two numbers, such as [H01].</p>		
INDICATION	CAUSE	REMEDY
H □ □	Some trouble has occurred. (Numbers after H and F differ according to the status of the VCR.)	Consult your dealer for further advice.
F □ □		

The VCR will not operate correctly			
SYMPTOM	CAUSE	REMEDY	CHECKED
The VCR display is not illuminated.	The AC power cord has not been connected.	Connect the AC power cord to the VCR.	
The VCR display is illuminated but the VCR will not operate.	The VCR is in the timer mode.	Press TIMER REC to operate the VCR manually.	
	Safety devices are operating.	Disconnect the AC power cord and wait for 1 minute. Reconnect the AC power cord supply and check functions.	
An unknown language appears on the TV screen.	The language setting has been set to an unknown language.	Select the desired language. See page 12.	

Playback will not operate correctly			
SYMPTOM	CAUSE	REMEDY	CHECKED
The picture is noisy or is not in colour. Horizontal bars or lines run down the screen.	Tracking is not correct.	Adjust the tracking. See page 5.	
	The TV has not been tuned to the VCR.	Check the TV tuning. See page 10.	
	The video heads are clogged or worn.	Consult your dealer for further advice.	

Recording will not operate correctly

SYMPTOM	CAUSE	REMEDY	CHECKED
The "⓪" indication flashes whenever recording is attempted.	The erasure prevention tab on the video cassette has been broken off.	Use a tape with an intact erasure prevention tab, or cover the tab hole with adhesive tape, if the original recording is no longer required.	
The picture is recorded with noise or a blank screen.	The antenna or antenna cable is defective.	Check the antenna connection to the VCR. See page 8. Check your normal TV picture. If there is no picture, check your antenna.	
	The VCR is not correctly tuned.	Retune the VCR. See pages 11, 13, 14.	
	AV has been selected.	Select the required TV program.	
Timer recording cannot be performed.	The clock or calendar has been incorrectly set.	Check the clock and calendar. Set them to the present time. (Note that this is a 24-hour clock.) See page 15.	
	The recording starting or ending time setting is incorrect.	Set the recording starting and ending time correctly.	
	The VCR has not been set for timer recording.	Press TIMER REC after programming for timer recording.	
AV external recordings cannot be made.	A1 or A2 has not been selected.	Select A1 or A2 by pressing \vee \wedge .	
	External AV connections are incorrect.	Check that the connections for external video and audio sources are correct. See page 28.	

The remote controller will not operate correctly

SYMPTOM	CAUSE	REMEDY	CHECKED
The remote controller does not operate correctly.	The remote controller transmitter beam is not reaching the VCR.	Ensure that the remote controller is being pointed at the VCR and that the transmitter beam is not obstructed.	
	The distance is too far.	Use the remote controller within 7 m of the VCR. If this range is not possible, replace the batteries.	
	The batteries are exhausted.	Replace the batteries. Note the precautions for replacement on page 7.	
	The batteries are incorrectly fitted with (+/-) reversed.	Fit the batteries correctly as shown on page 7.	

Precautions

Please read these precautions before you operate this VCR.

Avoid Sudden Changes in Temperature
If the VCR is suddenly moved from a cold to a warm place, dew may form on the tape and inside the VCR.

Humidity and Dust

Avoid places where there is high humidity or much dust, which may cause damage to internal parts.

Do Not Obstruct the Ventilation Holes

The ventilation holes prevent abnormal increases in temperature. Do not block or cover these holes. Avoid covering the holes with soft materials such as cloth or paper.

Keep Away from High Temperature

Keep the VCR away from extreme heat sources such as direct sunlight, heating radiators, or closed automobiles.

Avoid Magnets or Magnetized objects

Never bring a magnet or magnetized object near the VCR. It will adversely affect the performance of the VCR. Keep the VCR away from other equipments as much as possible when using it, to avoid any adverse effect on performance for both the VCR and the equipment.

Do Not Place Fingers or Other Objects Inside

Do not attempt to disassemble the VCR. Touching internal parts of this VCR is dangerous, and may cause it serious damage. There are no user serviceable parts inside.

Keep Water Away

Keep the VCR away from flower vases, tubs, sinks, etc. If liquids are spilled into the VCR, serious damage could occur. If you spill any liquid into the VCR, consult qualified service personnel.

Lightning

To avoid damage by lightning, disconnect the antenna plug from the VCR.

Cleaning the VCR

Wipe the VCR with a clean, dry cloth. Never use cleaning fluid or other chemicals. Do not use compressed air to remove any dust.

Stacking

Place the VCR in a horizontal position, and do not place anything heavy on it.

Dew may form in the VCR if:

- The VCR is in a room where the heater has just been turned on.
- The VCR is in a room with steam or high humidity.
- The VCR is brought from cold surroundings into a well-heated room.
- The VCR is suddenly brought from cool surroundings, such as an air-conditioned room or car, to a place which is hot and humid.

Note:

Do not operate the VCR for at least 1 hour if any of the above conditions occur.

This VCR does not incorporate a dew sensor.

Specifications

AG-2560P

Power Source:	120 V AC 50/60 Hz
Power Consumption:	23 watts

Video Recording System: 2 rotary heads, helical scanning system
Video Heads: 4 heads
Tape Speed: SP; 33.3 mm/sec.
EP; 11.1 mm/sec.
Tape Format: VHS tape
Record/Playback Time: SP; 120 min. with NV-T120
EP; 360 min. with NV-T120
FF/REW Time: approx. 1 min. with NV-T120

VIDEO

Television System: EIA; Standard (525 lines, 60 fields) NTSC color signal
Modulation System: Luminance; FM azimuth recording
Color signal; converted subcarrier phase shift recording

Input Level: VIDEO IN (PHONO); 1.0 Vp-p, 75 ohm
Output Level: VIDEO OUT (PHONO); 1.0 Vp-p, 75 ohm
RF modulated; VHF channel US3 or 4, 75 ohm, terminated

AUDIO

Input Level: AUDIO IN (PHONO); 316 mV, 47 kohm
Output Level: AUDIO OUT (PHONO); 400 mV, 1 kohm
Audio Track: 1 track (normal-mono only), 2 channels (Hi-Fi sound-stereo)

Signal-to-Noise Ratio: Video; more than 43 dB (SP)
Audio Frequency Response: 20 Hz-20 kHz/Hi-Fi
Operating Temperature: 5°C-40°C
Operating Humidity: 35%-80%
Weight: 8 $\frac{5}{8}$ lbs. (3.9 kg)
Dimensions: 16 $\frac{15}{16}$ "(W) \times 3 $\frac{7}{16}$ "(H) \times 12 (D) [430 (W) \times 87 (H) \times 304 (D) mm]

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

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