



Omnivision **VHS**

Panasonic®

Video Cassette Recorder Operating Instructions

Model No. **NV-FJ4521PX**



Connections and Initial Setup Procedures are on pages 8 to 9.

*As an ENERGY STAR® Partner,
Matsushita Electric Corporation of
America has determined that this product
or product model meets the ENERGY
STAR® guidelines for energy efficiency.*



Please read these instructions carefully before attempting to connect, operate or adjust this product. Please save this manual.

This product is designed for the US. Some features are not available except in the US.

LSQT0393A

Initial Setup
(Connection)

Basic
Operation

Timer
Recording

Advanced
Operation

For Your
Information

Important Safeguards and Precautions

FOR YOUR SAFETY, READ AND RETAIN ALL SAFETY AND OPERATING INSTRUCTIONS. HEED ALL WARNINGS IN THE MANUAL AND ON THE UNIT

INSTALLATION

1 POWER SOURCE CAUTION

Operate only from a power source indicated on the unit or in this manual. If necessary, have your Electric Utility Service Company or Video Products Dealer verify the power source in your home.

2 POLARIZED OR GROUNDING PLUG

As a safety feature, this Video product comes with either a polarized power cord plug (one blade is wider than the other), or a three-wire grounding type plug.

POLARIZED PLUG CAUTION:

This plug will only fit into an outlet one way. If you cannot fully insert the plug, try reversing it. If it still will not fit, have an electrician install the proper wall outlet. Do not defeat the safety feature by tampering with the plug.

GROUNDING PLUG CAUTION:

This plug will only fit into a three-hole grounding outlet. If necessary, have an electrician install the proper outlet. Do not defeat the safety feature by tampering with the plug.

3 POWER CORD

Make sure power cords are routed so that they are not likely to have anything rest on them, roll over them, or be in the way of walking traffic. If an extension cord is used, make sure it also has either a polarized or grounded plug and that the cords can be securely connected. Frayed cords, damaged plugs, and damaged or cracked wire insulation are hazardous and should be replaced by a qualified service technician. Overloaded outlets and extension cords are fire hazards and should be avoided.

4 DO NOT BLOCK VENTILATION HOLES

Ventilation openings in the cabinet release heat generated during operation. If they are blocked, heat build-up inside the unit can cause failures that may result in a fire hazard or heat damage to cassettes. For protection, follow these rules:

- Never cover ventilation slots or the unit while in use, or operate the unit when placed on a bed, sofa, rug, or other soft surface.
- Avoid built-in installation, such as a book case or rack, unless proper ventilation is provided.

5 AVOID EXTREMELY HOT LOCATIONS OR SUDDEN TEMPERATURE CHANGES

Do not place the unit over or near any kind of heater or radiator, in direct sunlight, inside a closed vehicle, etc.. Do not move the unit suddenly between areas of extreme temperature variation. If the unit is suddenly moved from a cold place to a warm place, moisture may condense in the unit and on the tape.

6 TO AVOID PERSONAL INJURY

- Do not place unsecured equipment on a sloping surface.
- Do not place this unit on any support that is not firm, level, and adequately strong. The unit could fall causing serious injury to a child or adult and damage to the unit.
- An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
- Carefully follow all operating instructions and use the manufacturer's recommended accessories when operating this unit or connecting it to any other equipment.



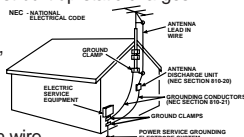
OUTDOOR ANTENNA INSTALLATION

1 SAFE ANTENNA AND CABLE CONNECTION

If an outside antenna or cable system is connected to the equipment, be sure the antenna or cable system is grounded so as to provide some protection against built up static charges and voltage surges. Section

810 of the National Electrical Code, ANSI/NFPA 70 (in Canada, part 1 of the Canadian Electrical Code) provides information

with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes and requirements for the grounding electrode.



2 KEEP ANTENNA CLEAR OF HIGH VOLTAGE POWER LINES OR CIRCUITS

An outside antenna system should be located well away from power lines, electric light or power circuits and where it will never come into contact with these power sources if it should happen to fall. When installing an outside antenna, extreme care should be taken to avoid touching power lines, circuits or other power sources as this could be fatal. Because of the hazards involved, antenna installation should be left to a professional.

USING THE VIDEO UNIT

If the unit has been in storage or moved to a new location, refer first to the INSTALLATION section of these safeguards.

1 KEEP THIS VIDEO UNIT AWAY FROM WATER OR MOISTURE OF ANY KIND.

2 IF EQUIPMENT IS EXPOSED TO RAIN, MOISTURE, OR STRONG IMPACT, unplug the unit and have it inspected by a qualified service technician before use.

3 DURING AN ELECTRICAL STORM

During a lightning storm, whether indoors or outdoors, or before leaving the unit unused for extended periods of time, disconnect all equipment from the power source as well as the antenna and cable system.

4 WHEN THE UNIT IS PLUGGED IN

- Never expose the unit to rain or water. DO NOT OPERATE if liquid has been spilled into the unit. Immediately unplug the unit, and have it inspected by a service technician. Fire and shock hazards can result from electrical shorts caused by liquid contact inside.
- Never drop or push any object through openings in the unit. Some internal parts carry hazardous voltages and contact can cause electric shock or fire hazard.
- Avoid placing the unit directly above or below your TV set as this may cause electrical interference. Keep all magnets away from electronic equipment.

5 USING ACCESSORIES

Use only accessories recommended by the manufacturer to avoid risk of fire, shock, or other hazards.

6 CLEANING THE UNIT

Unplug the unit. Then, use a clean, dry, chemically untreated cloth to gently remove dust or debris. DO NOT USE cleaning fluids, aerosols, or forced air that could over-spray, or seep into the unit and cause electrical shock. Any substance such as wax, adhesive tape, etc. may mar the cabinet surface. Exposure to greasy, humid, or dusty areas may adversely affect internal parts.

SERVICE

1 DO NOT SERVICE THIS PRODUCT YOURSELF

If, after carefully following the detailed operating instructions, this Video product does not operate properly, do not attempt to open or remove covers, or make any adjustments not described in the manual. Unplug the unit and contact a qualified service technician.

2 IF REPLACEMENT PARTS ARE REQUIRED

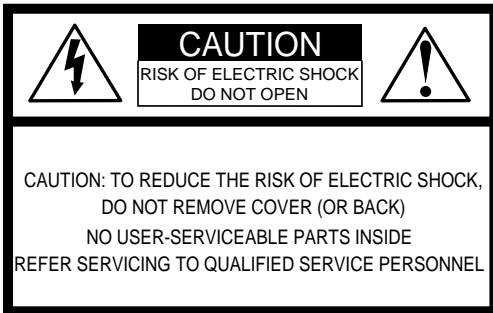
Make sure the service technician uses only parts specified by the manufacturer, or those having the same safety characteristics as the original parts. The use of unauthorized substitutes may result in fire, electric shock, or other hazards.

3 HAVE THE SERVICE TECHNICIAN PERFORM A SAFETY CHECK

After any service or repairs to the unit, request the service technician to conduct a thorough safety check as described in the manufacturer's service literature to ensure that the video unit is in safe operating condition.

Safety Precautions

WARNING: To prevent fire or shock hazard, do not expose this equipment to rain or moisture.



This symbol warns the user that uninsulated voltage 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 CABLE system installer:

This reminder is provided to call the CABLE system installer's attention to Article 820-40 of the NEC in USA (and to the Canadian Electrical Code in Canada) 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.

FCC Warning: Any unauthorized changes or modifications to this equipment would void the user's authority to operate.

Before Using

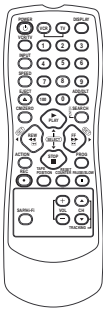
Congratulations

on your purchase of one of the most sophisticated and reliable products on the market today. Used properly, it will bring you years of enjoyment. Please fill in the information below. The serial number is on the tag located on the back of your VCR.

- Date of Purchase _____
- Dealer Purchased From _____
- Dealer Address _____
- Dealer Phone No. _____
- Model No. NV-FJ4521PX
- Serial No. _____

Accessories

- ☐ Remote Control
LSSQ0264
- ☐ Batteries 2 "AA"



- ☐ RF Coaxial Cable
VJAS0196

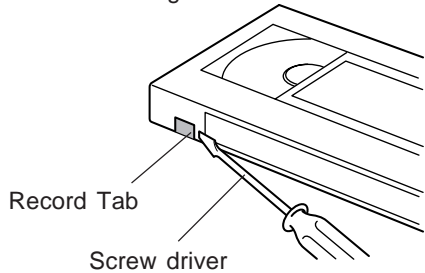


- ☐ Power Plug Adapter
VJSS0070

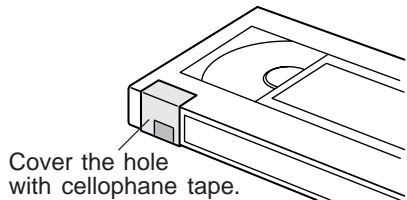


Prevent Accidental Tape Erasure

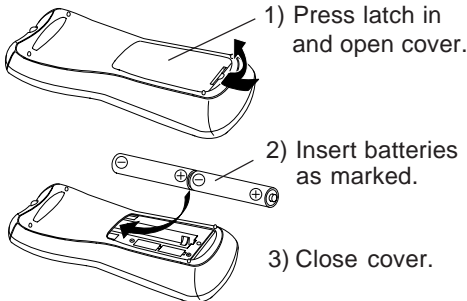
Break off the tab to prevent recording.



To record again



Loading the Batteries



☐ Battery replacement caution

- Do not mix old and new batteries.
- Do not mix alkaline with manganese batteries.

Record/Playback Time

Only use tapes with the **VHS** mark in this unit.

Tape Speed Setting	Type of Video Cassette		
	T60	T120	T160
SP (Standard Play)	1 Hour	2 Hours	2 Hours 40 Minutes
LP (Long Play)	2 Hours	4 Hours	5 Hours 20 Minutes
SLP (SuperLongPlay)	3 Hours	6 Hours	8 Hours

Cautions

- Voltage 110V, 220V and 240V are not for use in USA.
- Operation at a voltage higher than 120V AC may require the use of a different AC plug. Please contact either a local or foreign Panasonic Distributor Center for assistance in selecting an alternate plug.

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Timer
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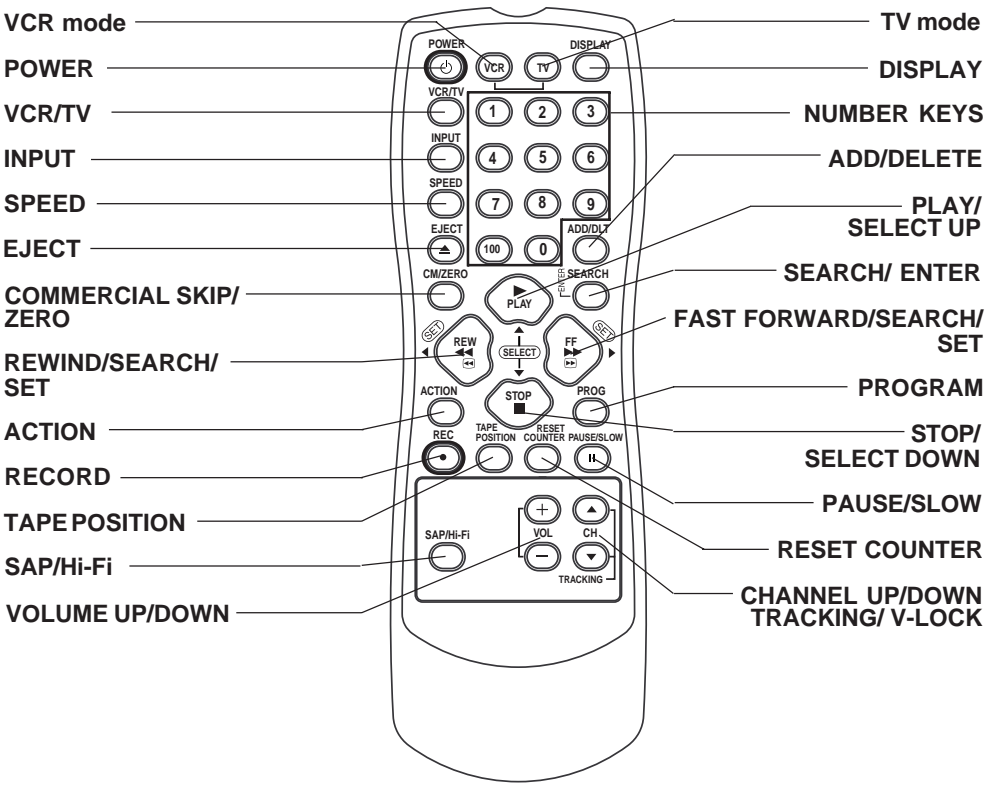
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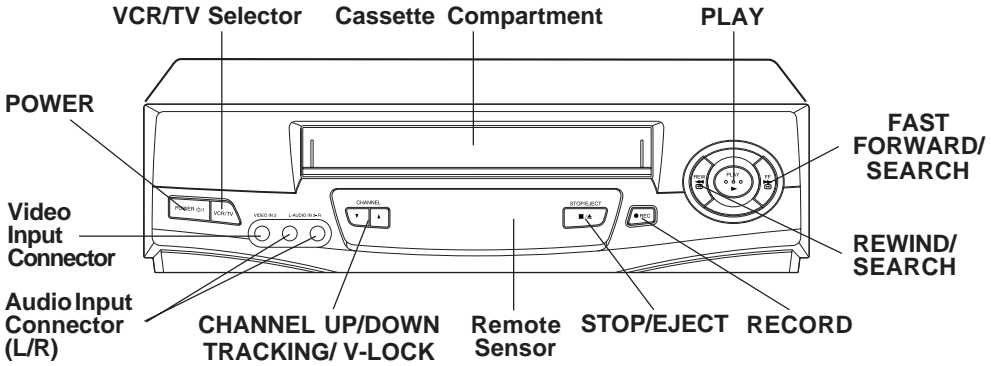
Location of Controls

Remote control Buttons



EJECT button: Press to eject tape from VCR. If EJECT is pressed during record, VCR will not respond.

Front View of the VCR



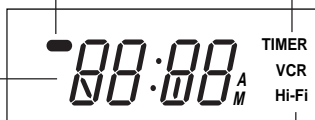
Multi Function Display

Power Indicator

Lights up when power is on.

Timer Indicator

Lights up when the VCR is set for a Timer Recording, or when One Touch Recording (OTR) is used. Flashes when a Timer Recording is set, but a tape has not been inserted into the VCR and when a power interruption occurs during Timer Programming.



VCR Indicator

Lights up when the VCR/TV selector is set to VCR.

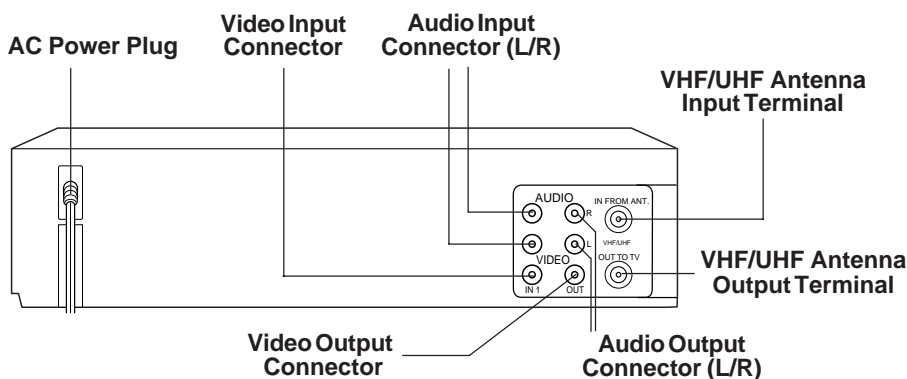
Hi-Fi Indicator

Lights up when Hi-Fi audio is monitored in Playback Mode.

Clock/ Status/ Channel/ Speed Display

Displays the current time. Briefly displays VCR status when a function button is pressed. Briefly displays the channel number, or "L1" or "L2" when a channel or line input is selected. Briefly displays the recording speed when SPEED is pressed.

Rear View of the VCR



Note

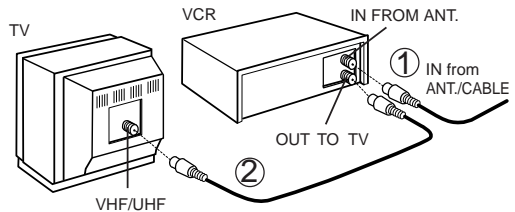
- While plugged into an AC outlet, the VCR consumes 3.5 W of electrical power in off mode.

Connections and Initial Setup

How to Connect

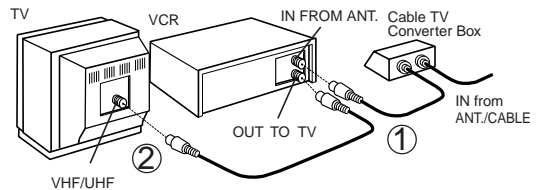
Initial Setup for ANT./Cable - VCR - TV

- 1 Connect the Cable from Antenna/Cable to the IN FROM ANT. terminal on VCR.
- 2 Connect the OUT TO TV terminal on the rear of VCR to the ANT. IN terminal on TV using the RF Cable (included accessory).



Initial Setup for DSS/Cable Box-VCR-TV

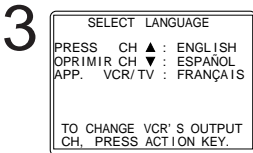
- 1 Connect the OUT Jack on your Cable Box to the IN FROM ANT. terminal on the VCR with the RF Cable.
- 2 Connect the OUT TO TV terminal on the rear of VCR to the ANT. IN terminal on TV using the RF Cable (included accessory).



How to do Initial Setup

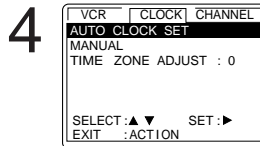
- 1 Press **VCR** button* on the remote for VCR mode.
Turn the TV on and set it to channel 3.

- 2 Press **POWER** to turn VCR on.



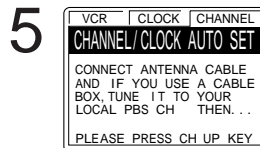
Press **CH ▲** for English. or
Press **CH ▼** for Spanish. or
Press **VCR/TV** for French.
to select language.

- When VCR is turned on for the first time, SELECT LANGUAGE screen appears.
- If wrong language is set, or there is not Language Display, do "Reset All VCR Memory Functions" steps on page 9.
- If screen does not appear, check connection between VCR and TV and, if TV is tuned to channel 3, try switching it to channel 4.
- When you want to change the output channel of VCR, please refer to VCR's Output Channel on page 11.



Press **▶** to set **AUTO CLOCK SET**.

- If you select "MANUAL", press **▲▼** to select "MANUAL". And then press **▶** to set. Go to "Manual Clock Set" on page 9.



Press **CH ▲** to start Channel/Clock Auto Set operation.

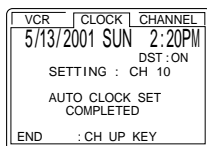
If you use a Cable Box, turn it on and set it to the Public Broadcasting Station (PBS) channel in your time zone. If you use DSS Receiver, it must be turned off.

WARNING

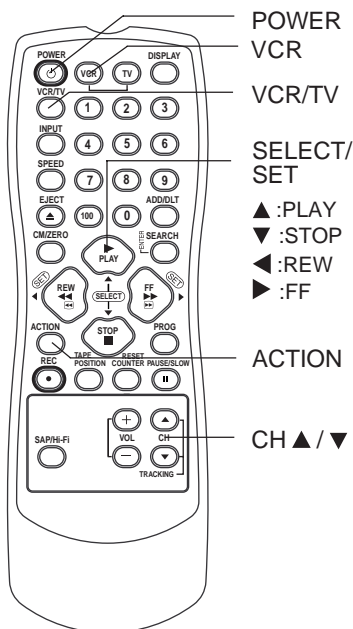
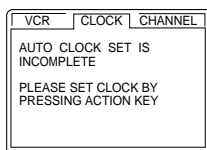
When using "Nut type" RF coaxial cables, tighten with fingers only. Overtightening may damage terminals.

***Important:** If a remote control button does not work when pressed, press the VCR button on the remote and try the button again.

4 Settings are performed automatically.



If "Auto Clock Set is Incomplete" screen appears, set the clock using MANUAL CLOCK SET procedure shown below.

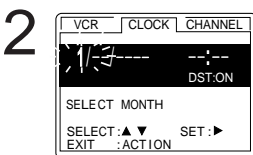


**Initial Setup
(Connection)**

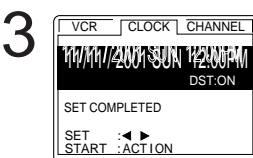
Manual Clock Set

If Auto Clock Set was incomplete, manually set the clock as follows.

1 Press ACTION on the Remote to display CLOCK MENU screen.



Press ▲▼ to select the month and **press ▶** to set. In the same manner, select and set the date, year, time, and DST (daylight saving time).



Press ACTION twice to start CLOCK and exit.

Reset All VCR Memory Functions

Use when moving VCR to new location, or if a mistake was made in the Initial Setup section.

- Make sure a tape is not inserted in the VCR.

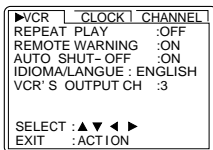


- 1 Turn VCR Power on.
- 2 Press and hold both **PLAY** and **CHANNEL ▲** on the VCR for more than 5 seconds.
 - The power shuts off.

3 Do "Initial Setup" on page 8.

Reset Language, Channels, Clock,

1

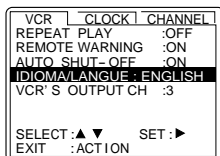


Press ACTION*
to display MENU.

2

Language

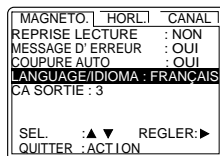
- 1) Press ▲▼ to select language item.



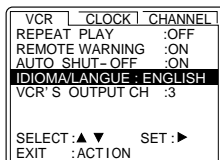
- 2) Press ► repeatedly.



For Spanish



For French

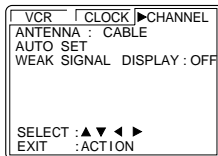


For English

- 3) Press ACTION to exit.

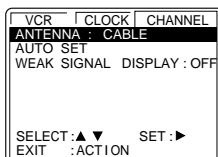
Channels

- 1) Press ◀▶ to select CHANNEL.



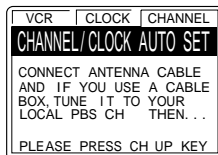
- 2) Press ▲▼ to select "ANTENNA," then press ► to set your antenna system (TV, CABLE or EUROPE).

- See page 11 for channel chart of USA and EUROPE.



- 3) Press ▲▼ to select "AUTO SET," then press ►.

- If you use a Cable Box, set it to the PBS channel in your time zone.



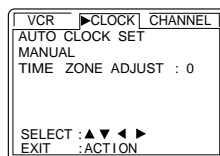
(This screen appears only when auto clock is set.)

- 4) Press CH ▲.

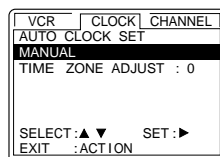
- After Channel Auto Set is finished, Clock Auto Set will be performed.

Clock

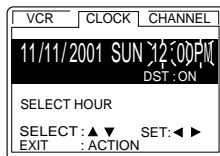
- 1) Press ◀▶ to select CLOCK.



- 2) Press ▲▼ to select MANUAL and press ►. (For Auto Clock Set, select "AUTO CLOCK SET," then press CH ▲.)



("TIME ZONE ADJUST" appears only when auto clock is set.)



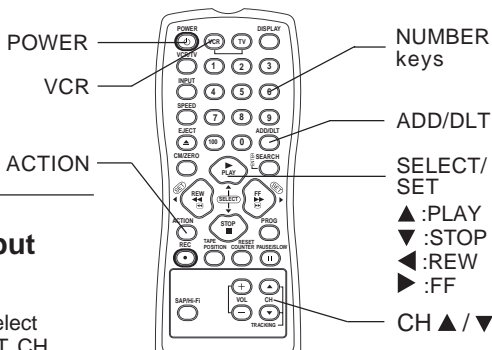
- 3) Press ▲▼ and ◀▶ to select and set the date, time, and DST (Daylight Saving Time)

- 4) Press ACTION twice to start the clock and exit this mode.

VCR's Output Channel

*Important:

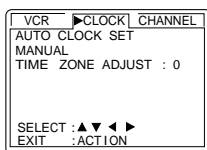
If a remote control button does not work when pressed, press the VCR button on the remote and try the button again.



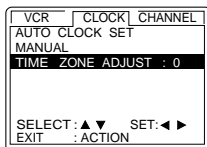
Time Zone Adjust

(Only when Auto Clock is set.)

- 1) Press ◀▶ to select CLOCK.



- 2) Press ▲▼ to select TIME ZONE ADJUST



and press ◀ or ▶ to subtract or add hour(s) as necessary.

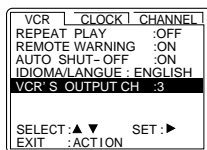
- 3) Press ACTION.

- 4) Press POWER off and wait a maximum 10 minutes until AUTO CLOCK SET is performed by the VCR.

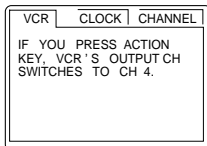
- TIME ZONE ADJUST returns to "0" if clock is set manually.

VCR's Output Channel

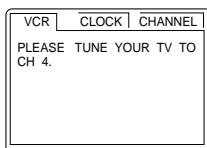
- 1) Press ▲▼ to select VCR'S OUTPUT CH.



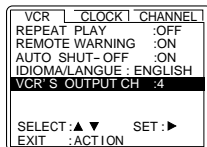
- 2) Press ▶.



- 3) Press ACTION.



After 3 seconds



- To Make Corrections, repeat step 1) ~ 3).

Antenna System

EUROPE

Select the "EUROPE" antenna system on the screen. Use channel auto set for the UHF and VHF bands. In channel auto set, the antenna system automatically set to the "TV" mode. This will allow you to receive C.C.I.R. Broadcast such as AFN.

TV Brand Channel Chart

Selected Channel Indication	Channel Band Designations	Channel Received off the Air
02 ~ 13	VHF	2 ~ 13 (USA)
21 ~ 62	UHF	21 ~ 62 (C.C.I.R.)

USA

Your VCR is capable of receiving the OFF-THE AIR and Cable broadcast available in your area from the standard U.S. reception system.

TV Brand Channel Chart

Selected Channel Indication	Channel Band Designations	Channel Received off the Air
02 ~ 13	VHF	2 ~ 13
14 ~ 69	UHF	14 ~ 69

Cable Brand Channel Chart

Selected Channel Indication	Channel Band Designations	Channel Received off the Air
02 ~ 13	Broadcast VHF	2 ~ 13
14 ~ 36	CATV Mid/ Super Bands	A ~ W
37 ~ 64	CATV Hyper Band	2 ~ 13
65 ~ 94 100 ~ 125	Ultra Band	65 ~ 94 100 ~ 125
95 ~ 99	CATV Low Band	A-5 ~ A-1
01	Special CATV Channel	5A (between 4 and 5)

Add or Delete a Channel

To add channel:

Select channel with number keys and press ADD/HLT.

CHANNEL 08 ADDED

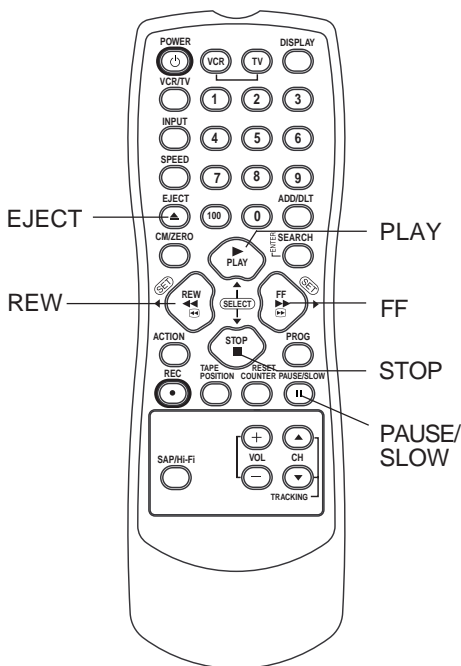
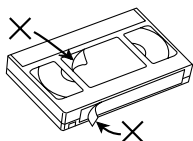
To delete channel:

Select channel with CH ▲ ▼ or number keys and press ADD/HLT.

CHANNEL 08 DELETED

Playback a Tape

Note Remove loose or peeling labels from tapes to prevent tape jam.



Playback using VCR controls

1 Insert a tape.

2 Press PLAY.



Multi Function Display

■ Press STOP/EJECT to stop and/ or eject tape.



Ready Check List

- ☐ All connections are made (pg. 8, 17).
- ☐ TV and VCR are plugged in.
- ☐ TV is on and tuned to CH3, 4, or VIDEO.
- ☐ Remote is in VCR mode. (Press VCR)

1

Insert a tape,

- VCR power comes on.
- "VCR" lights up on Multi Function Display.

2

Press PLAY*
to play tape.

- If tape has no rec. tab (pg. 4), auto play begins.

Special Features During Play

■ Forward/ Reverse scene search

- > Press FF or REW.
- > Press again or PLAY to release.

■ Still (Freeze) picture

- > Press PAUSE/SLOW.
- > Press PLAY to release.

■ Frame by Frame picture

- > Press PAUSE/SLOW in Still mode.
- > Press PLAY to release.

■ Slow Motion picture

- > Hold down PAUSE/SLOW in Still mode.
- > Press PLAY to release.

Notes

- These features work best in SP or SLP mode.
- The sound will be muted.
- To reduce picture noise, see "Manual Tracking Control" on page 25.
- After the VCR is in Still or Slow mode for 3 minutes, it will switch to Stop mode automatically to protect the tape and the video head.

3

Press STOP
to stop a tape.

■ Press REW or FF in Stop mode

to rewind/ fast forward a tape.

■ Press EJECT on the remote,

or STOP/EJECT on VCR to eject a tape.

Record on a Tape

***Important:** If a remote control button does not work when pressed, press the VCR button on the remote and try the button again.



Ready Check List

- ☐ All connections are made (pg. 8, 17).
- ☐ TV and VCR are plugged in.
- ☐ TV is on and tuned to CH3, 4, or VIDEO.
- ☐ Remote is in VCR mode. (Press VCR)

1 Insert a tape with rec. tab (pg. 4).

- VCR power comes on.
- "VCR" lights up on Multi Function Display.

2 Press CH ▲▼, or number keys to select channel.

- For "LINE" input, see pg. 24.
- For channels over 100, press 100 key then press the remaining 2 digits.

3 Press SPEED to select the record speed (pg. 4).

- SP** = Standard Play **LP** = Long Play
- SLP** = Super Long Play
- Speed appears on-screen and on Multi Function Display.

4 Press REC to start recording.

- To edit out unwanted scenes, press PAUSE/SLOW to pause, and again to resume recording.
- You cannot view another channel during recording.

5 Press STOP to stop recording.

■ One Touch Recording (record in progress),

- VCR shuts off after preset record length.
- > each press of REC adds 30 min. to record length up to 4 hours.

■ Record one station, watch another,

- > press VCR/TV ("VCR" goes out on Multi Function Display),
- > select channels at TV (recording continues).

Note

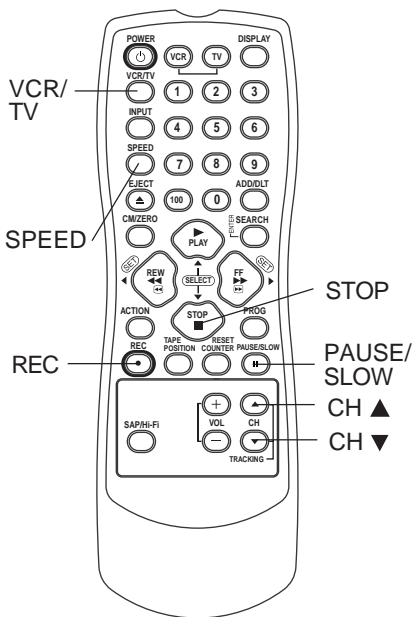
- **Watching one channel and recording another is NOT possible when using a Cable Box or a Satellite Receiver.**

■ Select channels at VCR,

- > press VCR/TV ("VCR" lights up on Multi Function Display),
- > select channels at VCR.

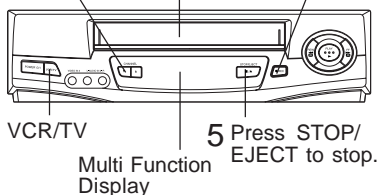
Note

- After 5 min. in Pause mode, VCR stops to protect tape and video head.



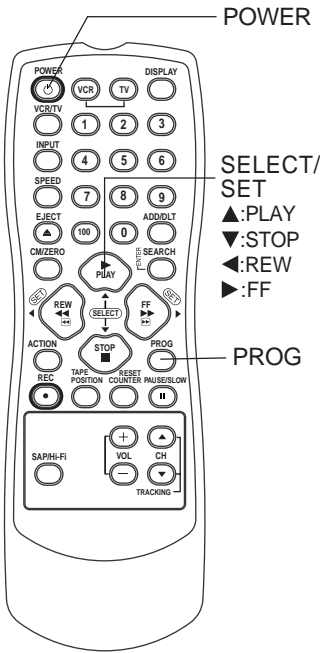
Record using VCR controls

- 2 Select Channel.
- 1 Insert a tape.
- 4 Press REC to start Recording.



This video recorder, equipped with HQ (High Quality) system, is compatible with existing VHS equipment. Only use tapes with the **VHS** mark. Only tapes tested and inspected for use in 2, 4, 6, and 8 hour machines are recommended.

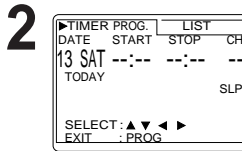
Timer Recording



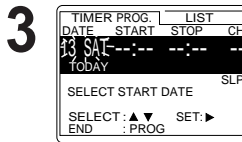
✓ Ready Check List

- ☐ All connections are made (pg. 8, 17).
- ☐ TV and VCR plugged in and turned on.
- ☐ VCR/TV selector set to "VCR."
- ☐ Clock set correctly.
- ☐ Tape has rec. tab (pg. 4).
- ☐ Remote in VCR mode. (Press VCR)

1 Press PROG*
to display PROGRAM.



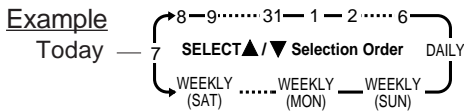
Press ▼
to display Program screen.



1) To set record DATE,
press ▲▼ to select:
1~31= one time, or
DAILY= MON~ FRI, or
WEEKLY= same time
each week and
press ▶ to set.
• See selection order
below left.

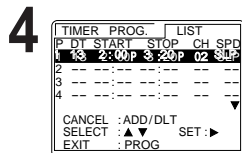
2) To set remaining items,
press ▲▼ to select and
press ▶ to set START/
STOP times, CH(channel)
or LINE input (pg.24), and
tape speed (SP, LP, SLP).

Press PROG
to end the program.



Notes

- If you are using a Cable Box, VCR Timer Programming Channel (Step 3) must be set to the Cable Box output channel AND your Cable Box must be manually set to the desired channel. The Cable Box power left on.
- If a power interruption occurs while programming the timer, the timer program(s) may be canceled. If "TIMER PROGRAMS WERE LOST DUE TO POWER INTERRUPTION" appears on-screen, please reenter the timer programs.



To Enter More Programs,
press ▲▼ to select and
press ▶ to set an unused
program number and
repeat step 3.

Or

Press PROG
to exit.

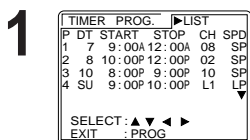
5 Press POWER off
to set the timer.

("TIMER" lights up on Multi Function Display.)

***Important:** If a remote control button does not work when pressed, press the VCR button on the remote and try the button again.

Review, Replace or Clear Program Contents:

(Recording is not in progress)

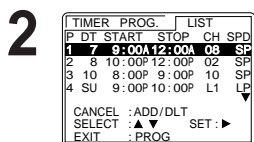


1) Press **PROG.**

2) Press **◀▶** to select **LIST**.

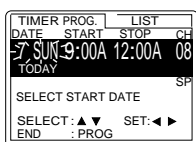
To cancel a Timer Recording in progress...

Press **POWER** and then **STOP** within 10 seconds to cancel the Timer Recording. (The **TIMER** indicator goes out on Multi Function Display.)



Press **▲▼** to select number.

3 To Replace program...

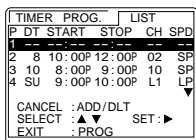


1) Press **▶** to display.

2) Repeat Step 3 (pg.14) to set new programs.

or

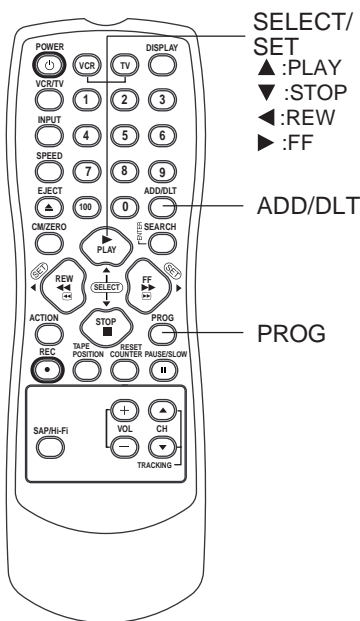
To Clear program...



Press **ADD/DLT**.

4 Press **PROG** to end the program.

- If there are set programs, press **POWER** off to set timer.



Timer
Recording

Important notes when using a DSS Receiver

- When recording programs via a DSS Receiver, the DSS Receiver must be left on.
- When recording programs via an antenna or cable, the DSS Receiver must be turned off.

Multi-Brand Control Feature

Multi-Brand Control Setup

The Remote Control can be set to control some TV functions.

1 Find your TV Brand Code Number shown below.

2 Setup for TV control,
-->hold down TV button,
-->enter code with number keys.

3 Confirm code entry,
-->press POWER to turn selected unit on or off.
• See table below for controllable functions in each mode.

- Notes
- Repeat setup after remote battery replacement.
 - Remote will not control every TV made by the manufacturer listed. If you get no response, your particular unit cannot be controlled. There are NO additional codes for the products listed. If your product is not listed, then the remote is not compatible with that product.

Using Multi-Brand Control

After remote is set up, you can select VCR or TV for the desired function.

Press VCR or TV on the remote.
(Table below shows available unit buttons for each mode.)

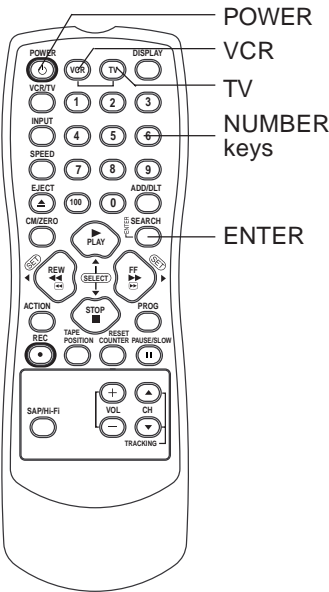
Unit Mode	VCR	TV
VCR	All	VOL UP/DOWN
TV	VCR/TV, PLAY, STOP, EJECT, SAP/Hi-Fi, DISPLAY, FF, REW, PAUSE/SLOW, REC, SPEED, CM/ZERO, RESET COUNTER, TAPE POSITION	POWER, INPUT, number keys, ENTER, CH UP/DOWN, VOL UP/DOWN

- Notes
- Not all functions listed may be controllable.
 - In TV mode, it may be necessary to press ENTER after pressing number keys for channel selection.

TV Brand Code Numbers			
Panasonic	01, 02	Sylvania	05
Quasar	01, 02	Sharp	06, 07
RCA	03	Sony	08
GE	03	Toshiba	09
Zenith	04	Sanyo	10
Magnavox	05	Fisher	10
JVC	11		
Hitachi	12		
Mitsubishi	07, 13		
Samsung	14		
Gold Star	15, 16, 17		

Important Notes

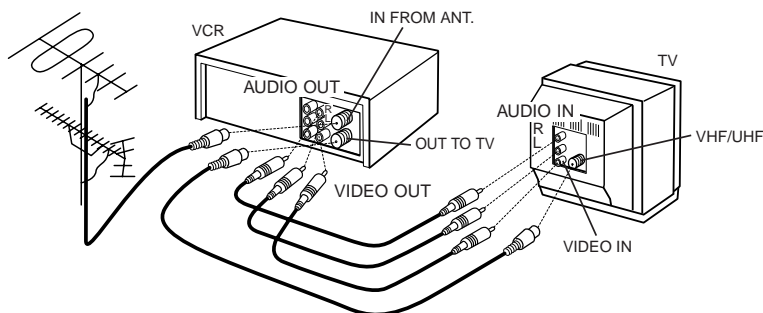
- Due to changes in infra-red commands used by manufacturers, some brands have several codes. If your unit does not respond to the first code, please try the next one.
- Some TV brands require you to turn on the power manually.



Advanced Connections

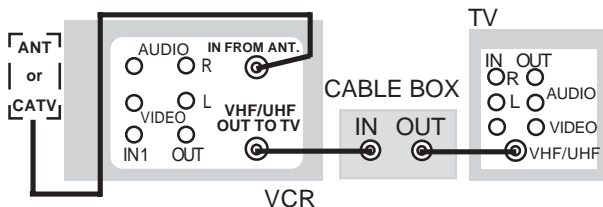
Audio/Video Connection

If your TV has AUDIO IN and VIDEO IN terminals, you can connect the VCR to them to receive higher quality picture and sound.

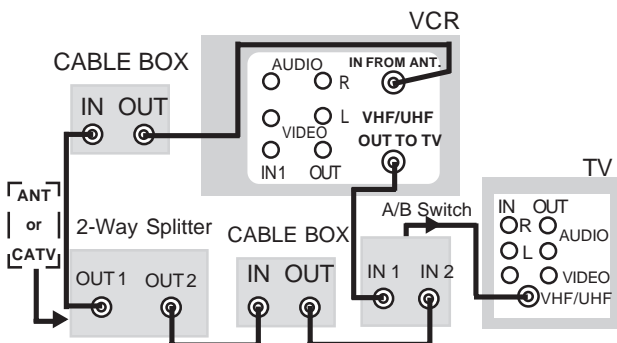


- 1 Connect the VIDEO OUT terminal on the VCR to the VIDEO IN terminal of your TV.
- 2 Connect the "L" and "R" AUDIO OUT terminals on the VCR to the "L" and "R" AUDIO IN terminals of your TV.
- 3 Set the VIDEO/TV selector of your TV (Monitor/Receiver) to "VIDEO."

■ With a Cable Box (VCR → Cable Box)



■ Connect With Two Cable Boxes



You Can

- view any (including scrambled) channel.
- use the VCR Remote to select channels without using Multi-brand control feature.

You Can

- record and view both scrambled and unscrambled channels if additional equipment is added. This connection requires: two converter boxes, an A/B switch, and a 2-way splitter.

You Cannot

- record scrambled channels.

You Cannot

- view channel other than the one selected for any type of recording.
- do a Timer recording of a channel unless you select it at the cable box.

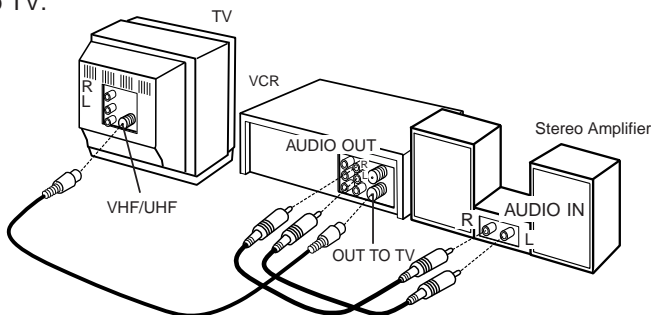
Advanced
Operation

MTS Broadcast/VHS Hi-Fi Stereo System

Connection

Make the Audio/Video Connection as shown on page 17.

- You can use a TV connected to Stereo amp and speakers instead of a Stereo TV.



Receiveable Broadcast Types

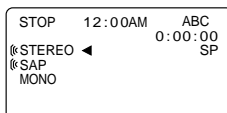
The following are possible audio broadcast types and on-screen displays.

The signal being received is indicated with an "Ⓢ" mark while the selected audio mode is indicated with an arrow.

To display the broadcast signal being received, --> press DISPLAY.

MTS Stereo and SAP broadcast

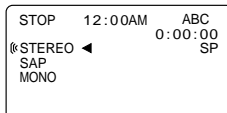
Multi-channel Television Sound Stereo (main language) and Secondary Audio Program (sub language) broadcasts are being received simultaneously. Select STEREO or SAP audio mode.



MTS Stereo broadcast

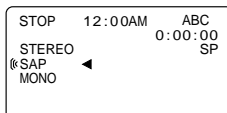
Multi-channel Television Sound Stereo broadcast. Select STEREO audio mode.

- If stereo broadcast is weak and display flickers, select MONO audio mode for possibly better results.



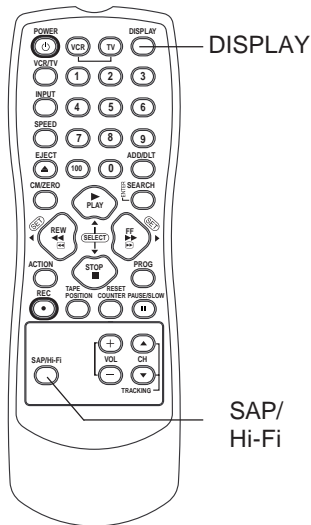
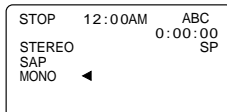
SAP broadcast

Secondary Audio Program (sub language) broadcast. Select SAP audio mode for the sub language.



MONO broadcast

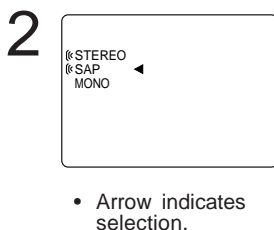
Normal monaural sound broadcast.



Equipped with **dbx**®-TV Noise Reduction for true MTS reproduction. **dbx**®-TV Noise Reduction is required for good stereo separation and audio fidelity. **dbx**® is a registered trademark, and is licensed by **dbx**® Technology Licensing.

Audio Mode for Recording

- 1 **Press SAP/Hi-Fi**
to display audio mode.
(Display disappears after 5 seconds.)



Press SAP/Hi-Fi repeatedly to select desired mode.

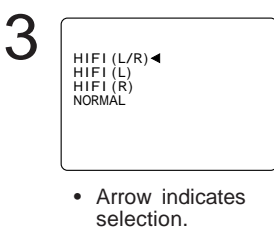
- Refer to “Receivable Broadcast Types” on page 18.

- 3 **Do a recording.**
See page 13.

Audio Mode for Playback

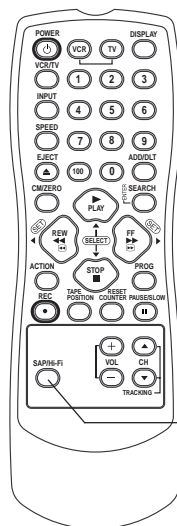
- 1 **Start playback.**
See page 12.

- 2 **Press SAP/Hi-Fi**
to display audio mode.
(Display disappears after 5 seconds.)



Press SAP/Hi-Fi repeatedly to select desired mode.

- Select “HIFI (L/R)” or “HIFI (L)” or “HIFI (R)” to listen to stereo recordings in stereo sound. Select “NORMAL” for monaural sound.



SAP/Hi-Fi

Notes

- Only tapes recorded in Hi-Fi stereo will playback with true stereo sound. Standard stereo tapes will playback in monaural sound.
- To listen to Hi-Fi stereo playback, the VCR AUDIO (L/R) jacks must be connected to a stereo TV or an external stereo amp and speakers. (See page 18.)
- If tracking is adjusted during playback, Hi-Fi audio may revert to normal audio.
- Hi-Fi and normal audio playback volume level may differ.

Tape Operation

Search System

For each recording, an invisible index mark is placed on the tape.
A program index and information are also included for timer recordings.
These marks are used to access or scan recordings.

Index Search

1

SEARCH	
INDEX	PROGRAM END
ENTER INDEX NUMBER :1	
USING 1-9 KEYS	
FORWARD SEARCH :FF	
REVERSE SEARCH :REW	
NEXT :SEARCH	
EXIT :STOP	

Press SEARCH*
to display SEARCH
in Stop or Play
mode.

2

INDEX SEARCH 3	

Press number keys
to select recording
number.

- To calculate number,
see below.

Press FF or REW
to start search.

3

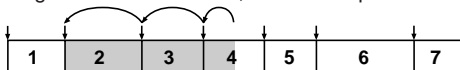
INDEX SEARCH	
FORWARD SEARCH : FF	
REVERSE SEARCH : REW	

- Play begins at
search end.
To search forward
or back 1 index,
press FF or REW
while screen left is
displayed (10 sec.).

To Calculate Index Number

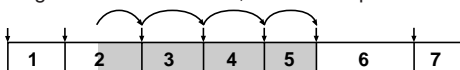
Example 1:

To go to rec. 2 from rec. 4, enter 3 and press REW.



Example 2:

To go to rec. 6 from rec. 2, enter 4 and press FF.



NOTE: ↓ indicates start points of each recording.

Note

- If Index Search is started very close to an index mark, that index mark may not be counted in the search.

Program End Search

Locates end point of recording for continuity.

1 Press SEARCH twice
to display SEARCH in Stop or
Play mode.

2

SEARCH	
INDEX	PROGRAM END
SEARCH START : FF	
EXIT :SEARCH	

Press FF
to start
PROGRAM
END SEARCH.

Examples of Program End Search.

Fig. 1

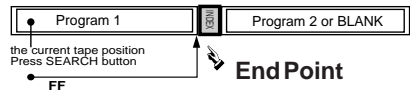


Fig. 2

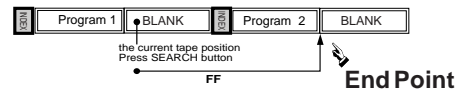
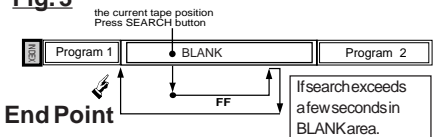


Fig. 3



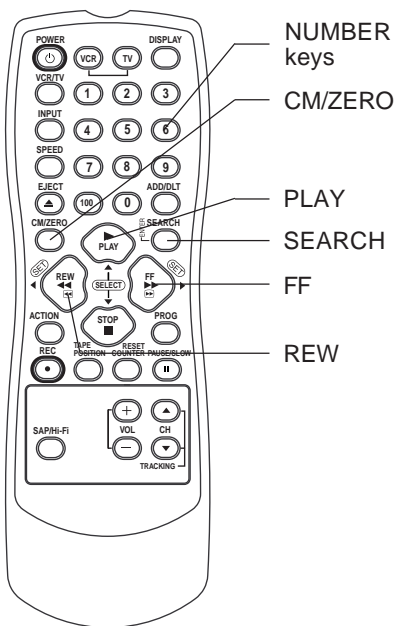
Upon locating end point,

- >search continues 7 sec. past end point,
- >tape rewinds to 10 sec. before end point,
- >tape plays to end point and stops.

Notes

- If Program End Search is started very close to an index mark, that mark may be skipped over.
- To cancel, press PLAY or STOP.

***Important:** If a remote control button does not work when pressed, press the VCR button on the remote and try the button again.



Auto Operation Functions

■ Auto Play

Insert a tape -->Power comes on,
-->Play starts if no record tab
(see pg. 4).

■ Auto Rewind

Play
Manual Record } -->Tape end,
Fast Forward } -->Rewind

■ Play Auto Eject

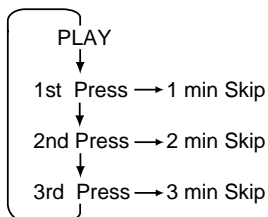
(Repeat Play must be off)
Play, -->Tape end, -->Rewind,
-->Tape ejects if no record tab

Commercial Skip

VCR fast forwards (skips) over 1 ~ 3 minutes of recorded tape.

1 Press CM/ZERO in Play mode.

- The skip time can be changed by pressing CM/ZERO button repeatedly as shown by the figure below.

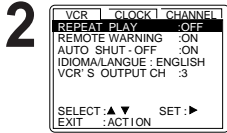


- No indication appears.

Repeat Play

Set to playback a recording over and over.

- 1 Press **ACTION*** to display menu.



Press **▲▼** to select **REPEAT PLAY** and press **▶** to set **ON** or **OFF**.

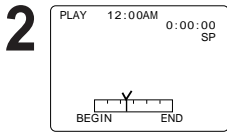
- Play repeats at tape end or if unrecorded portion over 30 sec. is detected.

- 3 Press **ACTION** to return to normal screen.

Zero Search

To quickly return to a specified tape location.

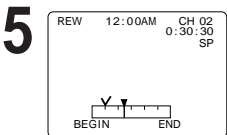
- 1 Press **DISPLAY** during play to display Counter.



Press **RESET COUNTER** at desired position to reset to "0:00:00".

- 3 Continue to record, playback etc.

- 4 Press **STOP**.



Press **CM/ZERO** in Stop mode to start **ZERO SEARCH**.

- Unit will go into FF or REW mode and stop at the last point the Counter was set to 0:00:00.

Note

- If a blank portion exists on the tape, and depending on the position of the V mark, the V mark display position may not be accurate.

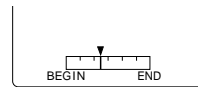
Tape Position Display Feature

To find out the present tape position.

Tape position cannot be detected for VHS-C Cassette type and tapes less than 60 minutes in length.

- 1 Press **TAPE POSITION** to detect tape position.

DETECTING TAPE POSITION



- "DETECTING TAPE POSITION" only appears the first time a cassette is inserted, and it takes several seconds for correct indication to appear.

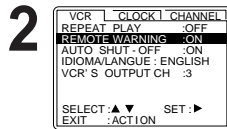
- The present tape position indication is displayed.

- 2 Press **TAPE POSITION** to return to normal screen.

Remote Warning ON/OFF Feature

If Multi-brand feature is used (page 16), and this feature is set to on, a warning appears whenever an invalid key is pressed in TV mode.

- 1 Press **ACTION** to display menu.



Press **▲▼** to select **REMOTE WARNING** and press **▶** to set **ON** or **OFF**.

- If "OFF", remote warning will not appear if invalid key is pressed.

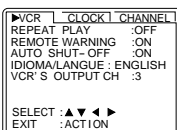
- 3 Press **ACTION** to return to normal screen.

***Important:** If a remote control button does not work when pressed, press the VCR button on the remote and try the button again.

Weak Signal Display ON/OFF Feature

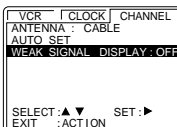
When "ON," picture is displayed regardless of signal strength.

1



Press ACTION
to display menu.

2



Press < >
to select and display
CHANNEL,
press < >
to select WEAK SIGNAL
DISPLAY, and
press < >
to set ON or OFF.

- ON: Picture is displayed regardless of signal condition, and may not always be clearly visible.
- OFF: Screen turns solid blue when signal is weak or non-existent.
- Selecting ON has no effect on connected equipment with blue back feature.

3

Press ACTION
to return to normal screen.

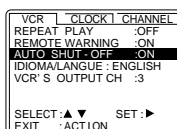
Auto Shut-Off Feature

When set to ON, VCR shuts off if blank tape is played or no signal is detected for 5 min.

1

Press ACTION
to display menu.

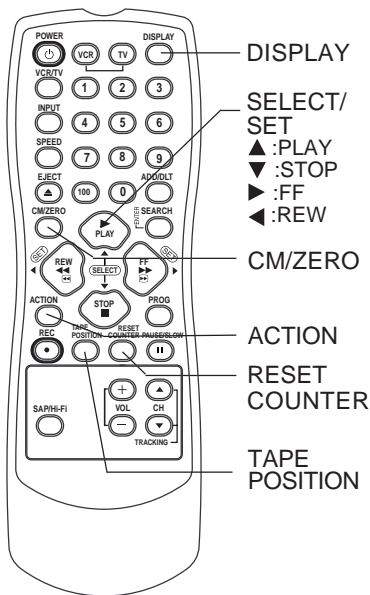
2



Press < >
to select AUTO SHUT-OFF
and
press < >
to set ON or OFF.

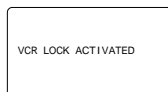
3

Press ACTION
to return to normal screen.

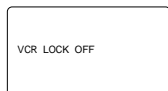


VCR Lock Feature

When set to ON, all operations except for timer record and tape eject are prohibited. Useful for households with small children.

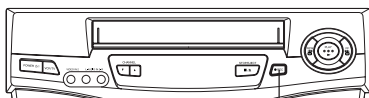


To turn on,
hold down REC on
the VCR in Stop
mode with no tape
inserted for 7 sec.
(Please ignore the
NO CASSETTE
warning.)



To turn off,
repeat above.

- VCR Lock cancels in 24 hours if clock is set.

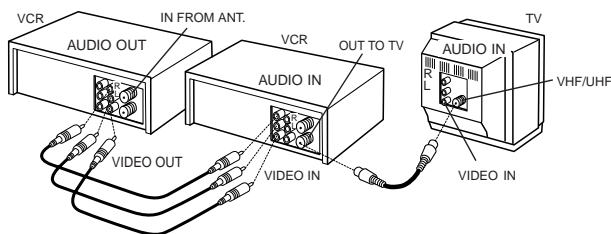


REC

Advanced
Operation

Copying Your Tapes (Dubbing)

Connection



Front of VCR



(Audio/Video In Terminals on the front of VCR are available)

- ① Connect VIDEO OUT terminal on Playing VCR to VIDEO IN terminal on Recording VCR. To monitor the dubbing, also connect a TV as shown.
- ② Connect "L" and "R" AUDIO OUT terminals on Playing VCR to "L" and "R" AUDIO IN terminals on Recording VCR.

In place of a Playing VCR, you can use other equipment, such as a Camcorder. Simply connect the unit's Audio/Video outputs to the Recording VCR.

Playing (Source) VCR

Recording (Editing) VCR

1 Insert pre-recorded tape.

Insert blank tape with record tab.

2 _____

Press INPUT to set VCR Input mode to LINE for Video Input. (See "Selecting the Input Mode" below.)

3 Press PLAY, then PAUSE/SLOW immediately to enter PLAY/PAUSE mode.

Press REC, then PAUSE/SLOW immediately to enter REC/PAUSE mode.

The operation of steps 4 and 5 must be done on both playing and recording VCRs at the same time.

4 Press PLAY to start dubbing. Playing VCR starts playback.

Press PAUSE/SLOW to start dubbing. Recording VCR starts recording.

5 Press STOP to stop dubbing.

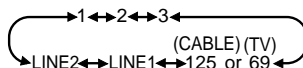
Press STOP to stop dubbing.

■ To Monitor Dubbing on Your TV

- 1 Turn your TV on and tune to the Recording VCR channel (CH3 or CH4).
- 2 Set the VCR/ TV Selector on the Recording VCR to "VCR."

■ Selecting the Input Mode

- Method1: Press INPUT repeatedly.
Channel Number <--> LINE1 <--> LINE2
- Method2: Press CH ▲/▼. Display will change as below.



Note

Dubbing tapes protected with Copy Guard will have poor quality results.

- "L1" or "L2" lights up on Multi-Function Display (about 4 sec.) when LINE1 or LINE2 is selected.
- LINE1: For rear audio/video connection.
- LINE2: For front audio/video connection.

Caution: Unauthorized exchanging and/or copying of copyrighted recordings may be copyright infringement.

VCR & Cassette Information

Head Cleaning

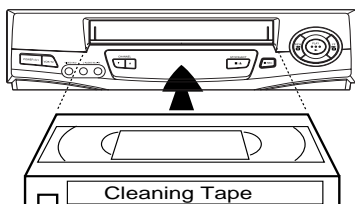
Playing older or damaged tapes may eventually cause video heads to become clogged.

Video Head Clog Sensor

During playback, this screen appears if clogging is detected. To remove screen, press PLAY on the remote or VCR.

VIDEO HEADS MAY
NEED CLEANING
PLEASE INSERT HEAD
CLEANING CASSETTE
OR REFER TO MANUAL

END :PLAY



- Use “dry” type head cleaning cassette only.
(Part No. NV-TCL30PT is recommended.)
- Follow cleaning tape instructions carefully. Excessive use of tape can shorten head life.
- If head clog symptoms persist, contact your nearest Factory Service Center or authorized Service Center.

Cleaning the VCR

Use a soft cloth or dusting attachment of a vacuum cleaner to remove dust from the ventilation holes on the back sides and bottom of the cabinet.

Plastic surfaces are easily scratched and can be marred by alcohol and various solvents. Avoid excessive use of oil-based furniture polishes since the materials used in the cabinet will accumulate more dust. We recommend using a nonabrasive, antistatic cleaner and polisher.

Specifications

Power Source: 110 - 240 V AC Auto, 50 - 60 Hz
Power Consumption: Power On

Approx. 23 watts

Power Off

Approx. 3.5 watts

Video Signal:

EIA Standard NTSC color

Video Recording System: 4 rotary heads helical scanning system

Audio Track:

1 track (Normal)

2 channel (Hi-Fi Audio Sound)

Tuner: For USA

Broadcast Channels:

VHF 2 ~ 13, UHF 14 ~ 69

CABLE Channels:

Midband A through I (14 ~ 22)
Superband J through W (23 ~ 36)
Hyperband AA~EEE (37 ~ 64)
Lowband A-5 ~ A-1 (95 ~ 99)
Special CABLE channel 5 A (01)
Ultraband 65 ~ 94, 100 ~ 125

For EUROPE

VHF 2 ~ 13, UHF 14 ~ 69

Operating Temperature: 5 °C ~ 40 °C (41 °F ~ 104 °F)

Operating Humidity: 10 % ~ 75 %

Weight: 2.5 kg (5.5 lbs).

Dimensions: 360 (W) x 93 (H) x 242 (D) mm
14-3/16" (W) x 3-11/16" (H) x
9-9/16" (D)

Note: Designs and specifications are subject to change without notice.

Features for a Quality Picture

Digital Auto Picture

Automatically controls the video output signal for less noise depending on the tape condition.

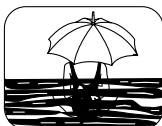
Digital Auto Tracking

Continuously analyzes the signal and adjusts for optimum picture quality.

Manual Tracking Control (to reduce picture noise)

Use during Playback and Slow Motion mode to reduce picture noise.

Press CH (TRACKING) ▲ / ▼ buttons on the remote control or on the VCR until the picture clears up. To return to Auto Tracking, press POWER off, then on again a few seconds later.



V-Lock Control (to reduce picture jitter)

In Still mode, CH (TRACKING) ▲ / ▼ buttons operate as a V-Lock control.

On-Screen Displays (OSD)

Function & Channel Display



When a function button is pressed, e.g. PLAY, or you change channels, a 4 second display appears first in large and then small characters.

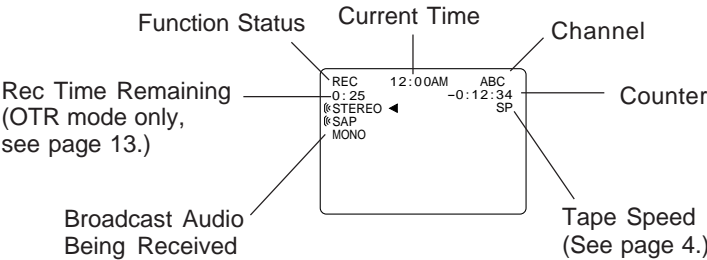
Blank Tape/ No Video Signal Indication

Whenever a blank section of a tape comes up in Play mode, or when the selected channel has no broadcast signal with the Weak Signal Display Feature (page 24) set to OFF, the TV screen will turn solid blue.

VCR Status & Clock Display

To display or remove overlay at right,

--> press DISPLAY.



Warning and Instruction Displays

These displays will alert you to a missed operation or provide further instructions.

OSD	Caution	Pg	OSD	Caution	Pg
NO CH FOUND PLEASE CHECK ANTENNA CABLE CONNECTION THEN PRESS CH UP KEY AGAIN	If no active channels are found for CHANNEL MEMORY...	8	TO CANCEL TIMER REC PRESS POWER THEN STOP KEY	If you press POWER or STOP during a Timer Recording... (visible in VCR mode only)	15
PLEASE SET CLOCK BY PRESSING ACTION KEY	If you attempt to set or review a Timer Recording and the Clock is not set...	14	VIDEO HEADS MAY NEED CLEANING PLEASE INSERT HEAD CLEANING CASSETTE OR REFER TO MANUAL END :PLAY	If head cleaning becomes necessary while playing back a tape...	25
TURN VCR OFF FOR TIMER RECORDING	After a Timer Program has been set...	14	VCR LOCK ACTIVATED	If you press a function button other than STOP/ EJECT or POWER while the VCR is in VCR Lock mode...	23
CHECK CASSETTE RECORD TAB	If you press REC on the remote control or VCR, and a cassette is inserted with no record tab...	4	REMOTE CONTROL IS SET TO TV MODE USE VCR : VCR KEY USE CABLE/DSS : CABLE/DSS	If you press an invalid key on the remote while in TV mode...	16 17 22
NO CASSETTE PLEASE INSERT A CASSETTE	If you press PLAY, FF, REW, or REC on the remote control or VCR without a cassette inserted...	12 13			

Before Requesting Service

Check the following points once again if you are having trouble with your VCR.

Power	Correction
No power...	<ul style="list-style-type: none"> • Completely insert Power Plug into an AC outlet. • Set POWER button to on. • Make sure power source is active.
Recording & Playback	Correction
TV program cannot be recorded...	<ul style="list-style-type: none"> • Check connections between VCR, external antenna, and TV. • Check channel selections. • Make sure your antenna system (CABLE or TV) is correctly set. (Channels [P.10]) • Make sure cassette record tab is intact. (P.4)
Timer recording cannot be performed...	<ul style="list-style-type: none"> • Confirm that clock is set to current time and date. • Make sure Cable/DSS box (if used) is left on and tuned to channel to be recorded. • Set recording start/stop times correctly. (P.14) • Make sure VCR POWER button is pressed off. (P.14) • Timer recording may not be performed or continued if a power interruption occurs before or during a Timer Recording, even after power is restored.
There is no playback picture, or the playback picture is noisy or contains streaks...	<ul style="list-style-type: none"> • Select channel 3 or 4 on TV to match VCR output channel (3 or 4) (P.8) or select LINE. • Set VCR/TV selector to "VCR." • Adjust TRACKING control in either direction. (P.25) • Try Head Cleaning. (P.25)
Special effects playback, picture may contain some vertical jitter when using a TV with an Automatic Vertical Hold Control...	<ul style="list-style-type: none"> • Set TV's Vertical Hold Control to MANUAL, then adjust.
VCR cannot be controlled...	<ul style="list-style-type: none"> • Make sure VCR power is on. • Check Remote batteries. • Make sure VCR LOCK is set to off. (P.23) • Make sure Remote is in proper mode. (P.16) • Make sure Timer Record is not in progress.
Remote Control	Correction
VCR cannot be remote controlled...	<ul style="list-style-type: none"> • Make sure VCR power is on. • Make sure Remote is in VCR mode. • Aim Remote Control directly at remote sensor on VCR. (P.6) • Avoid any object blocking signal path. • Check Remote batteries. (P.4) • Make sure VCR LOCK is set to off. (P.23) • Exposing VCR remote sensor to direct fluorescent or outdoor light may cause signal interference.
ACTION and PROG buttons do not respond...	<ul style="list-style-type: none"> • Check connections between VCR, external antenna, and TV. • Press VCR button for VCR mode. (P.16) • Check Remote batteries. (P.4)
Miscellaneous	Correction
Programs cannot be viewed on TV...	<ul style="list-style-type: none"> • Make sure TV power is on. • Make sure TV is set to output of VCR. • Check connections between VCR, external antenna, and TV. • Set VCR/TV selector to "TV." (P.13) • Make sure proper signal source is selected.
Video cassette cannot be inserted...	<ul style="list-style-type: none"> • Insert the cassette with window side up; record tab facing you. • Check if a tape is already in the unit.
Video cassette cannot be removed...	<ul style="list-style-type: none"> • Completely insert Power Plug into an AC outlet.
Video cassette ejects when a recording is started or the power is turned off for timer recording...	<ul style="list-style-type: none"> • Make sure cassette record tab is intact. (P.4)
In Stop mode, the motor (CYLINDER) continues to rotate...	<ul style="list-style-type: none"> • To enable Quick play mechanism, the cylinder will rotate for about 3 minutes. This reduces response time from Stop to Play mode and from Play to Rewind Search mode.

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