



TOSHIBA



DVD VIDEO PLAYER & VIDEO CASSETTE RECORDER SD-K220

OWNER'S MANUAL

VHS Hi-Fi

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This device does not tape-recorded copy protected DVD Video Discs.

IMPORTANT SAFEGUARDS



The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, do not expose this appliance to rain or moisture.

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

WARNING: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance with the FCC Rules could void the user's authority to operate this equipment.

CAUTION: THIS DIGITAL VIDEO PLAYER EMPLOYS A LASER SYSTEM.

TO ENSURE PROPER USE OF THIS PRODUCT, PLEASE READ THIS USER'S GUIDE CAREFULLY AND RETAIN FOR FUTURE REFERENCE. SHOULD THE UNIT REQUIRE MAINTENANCE, CONTACT AN AUTHORIZED SERVICE LOCATION-SEE SERVICE PROCEDURE.

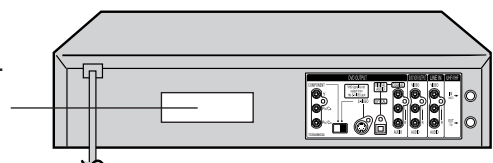
USE OF CONTROLS, ADJUSTMENTS OR THE PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

TO PREVENT DIRECT EXPOSURE TO LASER BEAM, DO NOT TRY TO OPEN THE ENCLOSURE. VISIBLE LASER RADIATION MAY BE PRESENT WHEN THE ENCLOSURE IS OPENED. DO NOT STARE INTO BEAM.

Location of the required Marking

The rating sheet and the safety caution are on the rear of the unit.

CERTIFICATION: COMPLIES WITH FDA RADIATION PERFORMANCE STANDARDS, 21 CFR SUBCHAPTER J.





IMPORTANT SAFEGUARDS

1. READ INSTRUCTIONS

All the safety and operating instructions should be read before the unit is operated.

2. RETAIN INSTRUCTIONS

The safety and operating instructions should be retained for future reference.

3. HEED WARNINGS

All warnings on the unit and in the operating instructions should be adhered to.

4. FOLLOW INSTRUCTIONS

All operating and use instructions should be followed.

5. CLEANING

Unplug this unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners.

Use a damp cloth for cleaning the exterior cabinet only.

6. ATTACHMENTS

The manufacturer of this unit does not make any recommendations for attachments, as they may cause hazards.

7. WATER AND MOISTURE

Do not use this unit near water. For example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool.

8. ACCESSORIES

Do not place this unit on an unstable cart, stand, tripod, bracket, or table.

The unit may fall, causing serious injury, and serious damage to the unit.

- 8A. 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.

9. VENTILATION

Slots and openings in the cabinet back or bottom are provided for ventilation, to ensure reliable operation of the unit, and to protect it from overheating.

These openings must not be blocked or covered. The openings should never be blocked by placing the unit on a bed, sofa, rug, or other similar surface. This unit should never be placed near or over a radiator or heat source. This unit should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided and/or the manufacturer's instructions have been adhered to.

10. POWER SOURCE

This unit should be operated only from the type of power source indicated on the rating plate. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For units intended to operate from battery power, or other sources, refer to the operating instructions.

11. GROUNDING OR POLARIZATION

This unit is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug, if your unit is equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This too, is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

12. POWER-CORD PROTECTION

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

PORTABLE CART WARNING
(symbol provided by RETAC)



S3125A

IMPORTANT SAFEGUARDS

13. LIGHTNING

To protect your unit from a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the unit due to lightning and power line surges.

14. POWER LINES

An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits, as contact with them might be fatal.

15. OVERLOADING

Do not overload wall outlets and extension cords, as this can result in a risk of fire or electric shock.

16. OBJECT AND LIQUID ENTRY

Do not push objects through any openings in this unit, as they may touch dangerous voltage points or short out parts that could result in fire or electric shock. Never spill or spray any type of liquid into the unit.

17. OUTDOOR ANTENNA GROUNDING

If an outside antenna or cable system is connected to the unit, be sure the antenna or cable system is grounded to provide some protection against voltage surges and built-up static charges, Section 810 of the National Electrical Code, ANSI/NFPA 70, 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.

18. SERVICING

Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

19. DAMAGE REQUIRING SERVICE

Unplug this unit from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- a. When the power-supply cord or plug is damaged.
- b. If liquid has been spilled, or objects have fallen into the unit.
- c. If the unit has been exposed to rain or water.
- d. If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
- e. If the unit has been dropped or the cabinet has been damaged.
- f. When the unit exhibits a distinct change in performance, this indicates a need for service.

20. REPLACEMENT PARTS

When replacement parts are required, be sure the service technician uses replacement parts specified by the manufacturer or those that have the same characteristics as the original part.

Unauthorized substitutions may result in fire, electric shock or other hazards.

21. SAFETY CHECK

Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.

22. HEAT

The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

23. DISC TRAY

Keep your fingers well clear of the disc tray as it is closing. It may cause serious personal injury.

24. CONNECTING

When you connect the product to other equipment, turn off the power and unplug all of the equipment from the wall outlet. Failure to do so may cause an electric shock and serious personal injury. Read the owner's manual of the other equipment carefully and follow the instructions when making any connections.



IMPORTANT SAFEGUARDS / Power Source

25. LASER BEAM

Do not look into the opening of the disc tray or ventilation opening of the product to see the source of the laser beam. It may cause sight damage.

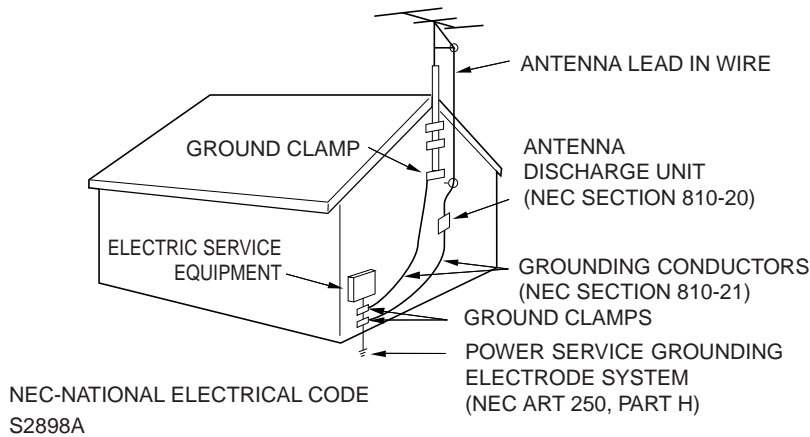
26. DISC

Do not use a cracked, deformed, or repaired disc. These discs are easily broken and may cause serious personal injury and product malfunction.

27. 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.

EXAMPLE OF ANTENNA GROUNDING AS PER THE NATIONAL ELECTRICAL CODE



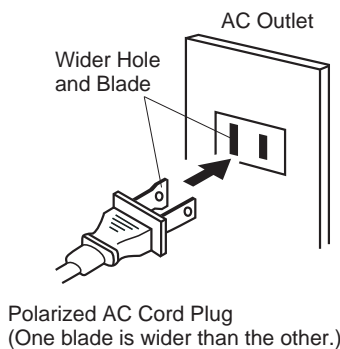
CONDENSATION

Moisture will form in the operating section of the DVD/VCR if the player is brought from cool surroundings into a warm room or if the temperature of the room rises suddenly. When this happens, the DVD/VCR's performance will be impaired.

To prevent this, let the DVD/VCR stand in its new surroundings for about an hour before switching it on, or make sure that the room temperature rises gradually.

Condensation may also form during the summer if the DVD/VCR is exposed to the breeze from an air conditioner. In such cases, change the location of the DVD/VCR.

Power source



TO USE AC POWER SOURCE

Use the AC polarized line cord provided for operation on AC. Insert the AC cord plug into a standard 120V 60Hz polarized AC outlet.

Notes:

- Never connect the AC line cord plug to other than the specified voltage (120V 60Hz). Use the attached power cord only.
- If the polarized AC cord does not fit into a non-polarized AC outlet, do not attempt to file or cut the blade. It is the user's responsibility to have an electrician replace the obsolete outlet.
- If you cause a static discharge when touching the unit and the unit fails to function, simply unplug the unit from the AC outlet and plug it back in. The unit should return to normal operation.



Precautions

Notes on handling

- When shipping the DVD/VCR, the original shipping carton and packing materials come in handy. For maximum protection, repack the unit as it was originally packed at the factory.
- Do not use volatile liquids, such as insect spray, near the DVD/VCR. Do not leave rubber or plastic products to contact the DVD/VCR for a prolonged period. They will leave marks on the finish.
- The top and rear panels of the DVD/VCR may become warm after a long period of use. This is not a malfunction.
- When the DVD/VCR is not in use, be sure to remove the disc and the video cassette turn off the power.
- If you do not use the DVD/VCR for a long period, the unit may not function properly in the future. Turn on and use the DVD/VCR occasionally.

Notes on locating

- Place the DVD/VCR on a level surface. Do not use it on a shaky or unstable surface such as a wobbling table or inclined stand. The loaded disc or the video tape may become dis-aligned and damage the DVD/VCR.
- When you place this DVD/VCR near a TV, radio, or VCR, the playback picture may become poor and the sound may be distorted. In this case, place the DVD/VCR away from the TV, radio, or VCR.

Notes on cleaning

Use a soft, dry cloth for cleaning.

- For stubborn dirt, soak the cloth in a weak detergent solution, wring well and wipe. Use a dry cloth to wipe it dry.
Do not use any type of solvent, such as thinner and benzene, as they may damage the surface of the DVD/VCR.
- If you use a chemical saturated cloth to clean the unit, follow that product's instructions.

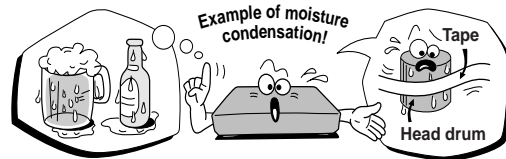
To obtain a clear picture

The DVD/VCR is a high technology, precision device. If the video head, the head drum, the optical pick-up lens or disc drive parts are dirty or worn down, the picture quality will deteriorate. To obtain a clear picture, we recommend regular inspection and maintenance (cleaning or parts replacement) every 1,000 hours of use depending on the operating environment. For details, contact your nearest dealer.

Notes on moisture condensation

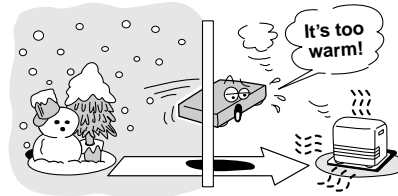
Moisture condensation damages the DVD/VCR. Please read the following carefully.

Moisture condensation occurs, for example, when you pour a cold drink into a glass on a warm day. Drops of water form on the outside of the glass. In the same way, moisture may condense on the head drum or the optical pick-up lens inside this unit, one of the most crucial internal parts of the DVD/VCR.



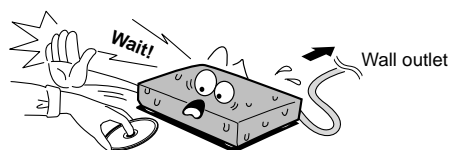
■ **Moisture condensation occurs during the following cases.**

- When you bring the DVD/VCR directly from a cold place to a warm place.
- When you use the DVD/VCR in a room where you just turned on the heater, or a place where the cold wind from the air conditioner directly hits the unit.
- In summer, when you use the DVD/VCR in a hot and humid place just after you move the unit from an air conditioned room.
- When you use the DVD/VCR in a humid place.



■ **Do not use the DVD/VCR when moisture condensation may occur.**

If you use the DVD/VCR in such a situation, it may damage discs and internal parts. Remove the disc or the video tape, connect the power cord of the DVD/VCR to the wall outlet, turn on the DVD/VCR, and leave it for two or three hours. After two or three hours, the DVD/VCR will have warmed up and evaporated any moisture. Keep the DVD/VCR connected to the wall outlet and moisture condensation will seldom occur.

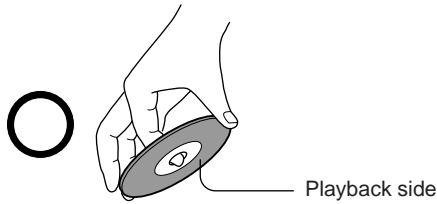




Notes on discs

On handling discs

- Do not touch the playback side of the disc.

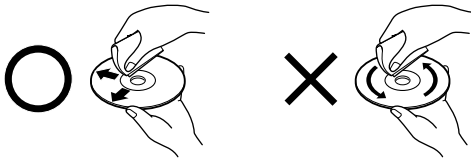


- Do not attach paper or tape to discs.



On cleaning discs

- Fingerprints and dust on the disc cause picture and sound deterioration. Wipe the disc from the center outwards with a soft cloth. Always keep the disc clean.



- If you cannot wipe off the dust with a soft cloth, wipe the disc lightly with a slightly moistened soft cloth and finish with a dry cloth.
- Do not use any type of solvent such as thinner, benzene, commercially available cleaners or antistatic spray for vinyl LPs. It may damage the disc.

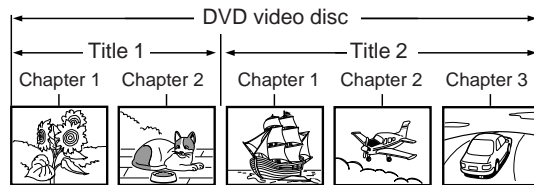
On storing discs

- Do not store discs in a place subject to direct sunlight or near heat sources.
- Do not store discs in places subject to moisture and dust such as a bathroom or near a humidifier.
- Store discs vertically in a case. Stacking or placing objects on discs outside of their case may cause warping.

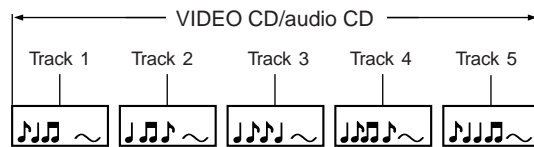
Structure of disc contents

Normally, DVD video discs are divided into titles, and the titles are sub-divided into chapters. VIDEO CDs and audio CDs are divided into tracks.

DVD video disc



VIDEO CD/audio CD



Each title, chapter or track is assigned a number, which is called "title number", "chapter number" or "track number" respectively.

There may be discs that do not have these numbers.

Notes on copyright

It is forbidden by law to copy, broadcast, show, broadcast on cable, play in public, and rent copyrighted material without permission.

This device does not tape-record copy protected DVD Video Discs.

The device is not to be used for copying copyrighted content without the express written permission of the copyright owner.

Obtaining such permission is the sole responsibility of the user.



This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.





Notes on discs (continued)

About this owner's manual

This owner's manual explains the basic instructions of this DVD/VCR. Some DVD video discs are produced in a manner that allows specific or limited operation during playback. As such, the DVD/VCR may not respond to all operating commands. This is not a defect in the DVD/VCR. Refer to instruction notes of discs.

“” may appear on the TV screen during operation. A “” means that the operation is not permitted by the DVD/VCR or the disc.

Notes on region numbers

The region number of this DVD/VCR is 1. If region numbers, which stand for their playable area, are printed on your DVD video disc and you do not find  or , disc playback will not be allowed by the player. (In this case, the DVD/VCR will display a message on-screen.)

On VIDEO CDs

This DVD/VCR supports VIDEO CDs equipped with the PBC (Version 2.0) function. (PBC is the abbreviation of Playback Control.) You can enjoy two playback variations depending on types of discs.

- **VIDEO CD not equipped with PBC function (Version 1.1)**


Sound and movie can be played on this DVD/VCR in the same way as an audio CD.

- **VIDEO CD equipped with PBC function (Version 2.0)**

In addition to operation of a VIDEO CD not equipped with the PBC function, you can enjoy playback of interactive software with search function by using the menu displayed on the TV screen (Menu Playback). Some of the functions described in this owner's manual may not work with some discs.

Playable discs

This DVD/VCR can play the following discs.

	Disc Mark	Contents	Disc Size	Maximum playback time
DVD video discs		Audio + video (moving pictures)	12 cm	Approx. 4 hours (single sided disc)
			8 cm	Approx. 80 minutes (single sided disc)
VIDEO CDs		Audio + video (moving pictures)	12 cm	Approx. 74 minutes
			8 cm	Approx. 20 minutes
Audio CDs		Audio	12 cm	Approx. 74 minutes
			8 cm (CD single)	Approx. 20 minutes
CD-R/ CD-RW	 	CD-DA/ JPEG/ MP3/WMA file	12 cm	Depending on the recording conditions
			8 cm	

- This unit can play back FUJICOLOR CD and Kodak Picture CD formats.
- You cannot play discs other than those listed above.
- You cannot play discs of DVD-RAM, DVD-RW, Photo CD, etc., or non standardized discs even if they may be labeled as above.
- Some CD-R/RWs can not be played back depending on the recording conditions.
- This DVD/VCR uses the NTSC color system, and cannot play DVD video discs recorded in any other color system (PAL, SECAM, etc.).



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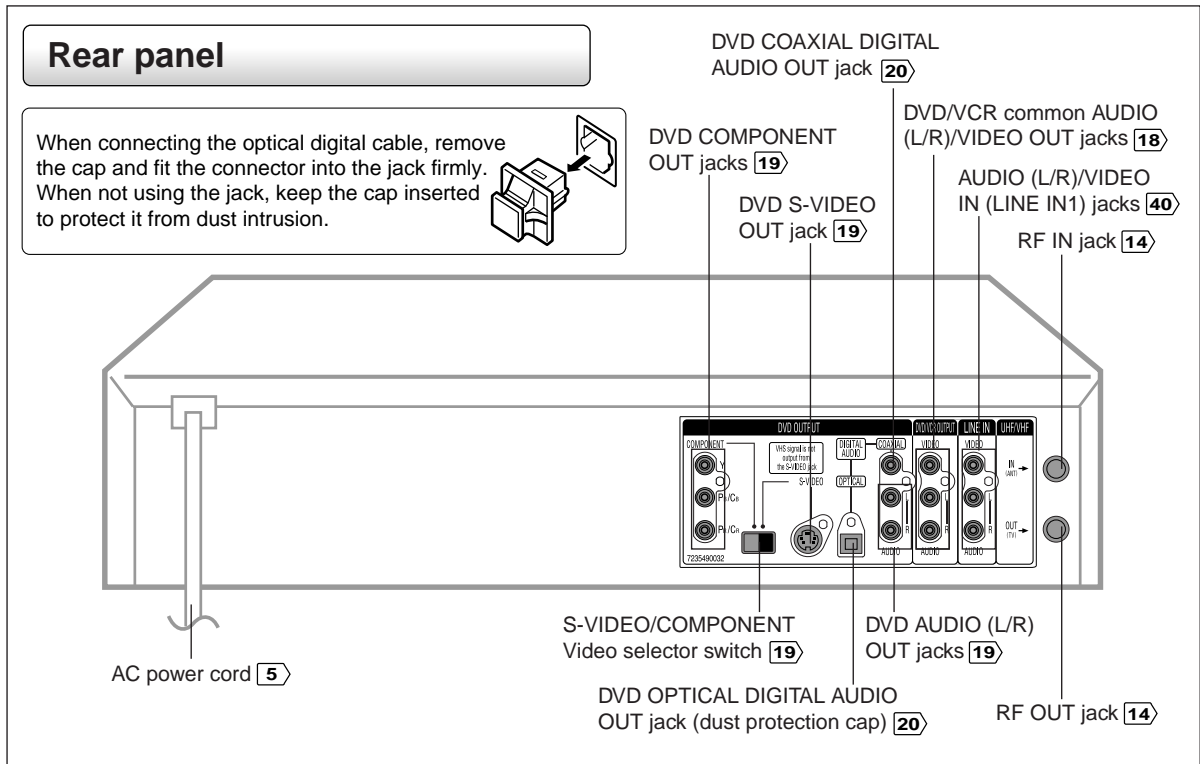
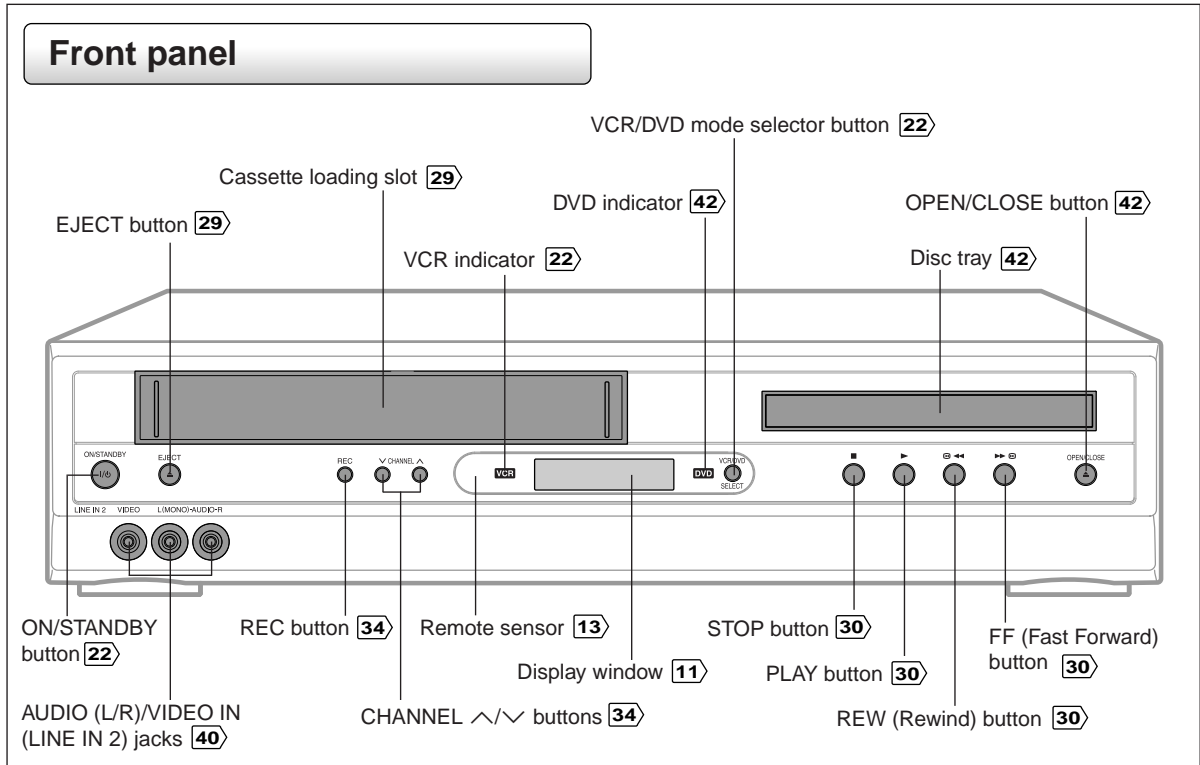
Others

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Introduction

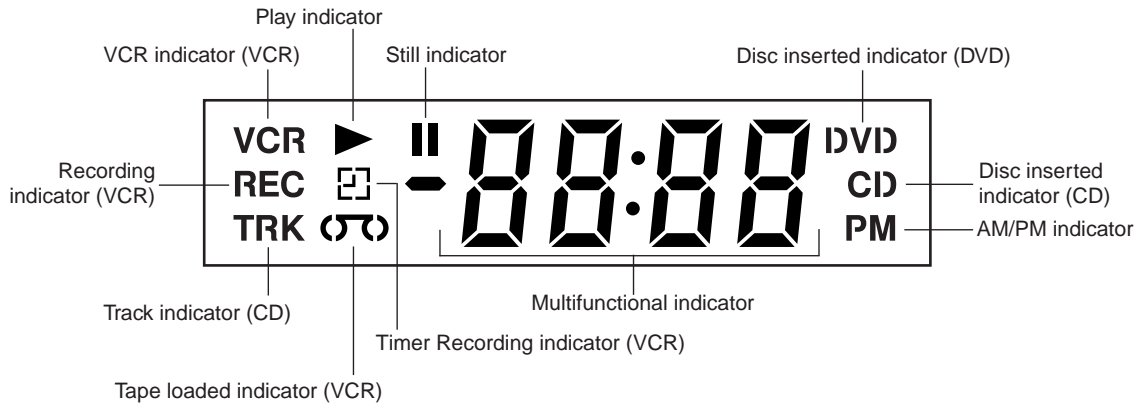
Identification of controls

See the page in for details.





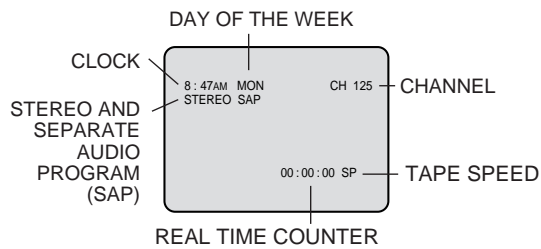
Display window



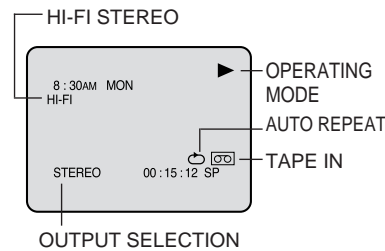
VCR operation status

Press **CALL** to display information on screen.
To cancel the display, press **CALL** again.

While watching TV



While operating a tape

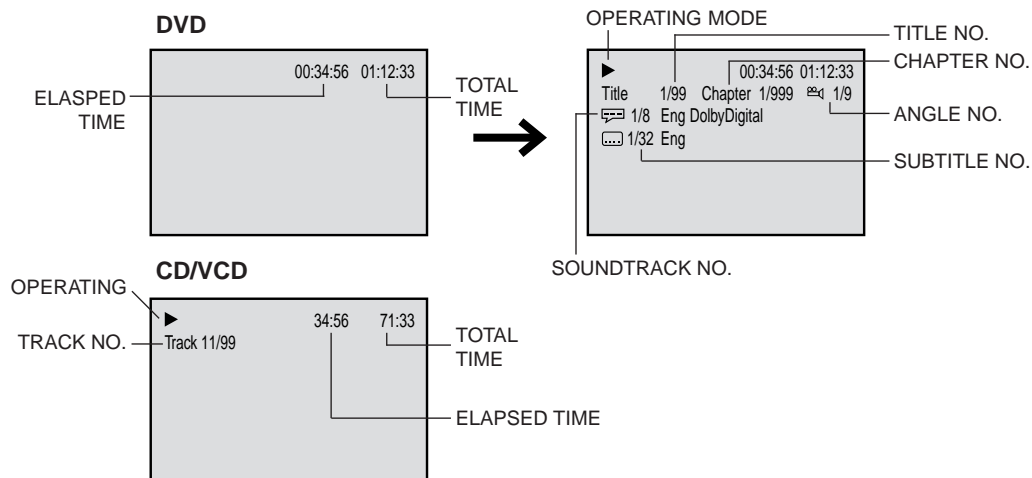


VCR Icons


- Recording : ●
- Rec/Pause : ●||
- Play : ▶
- Stop : ■
- Eject : ▲

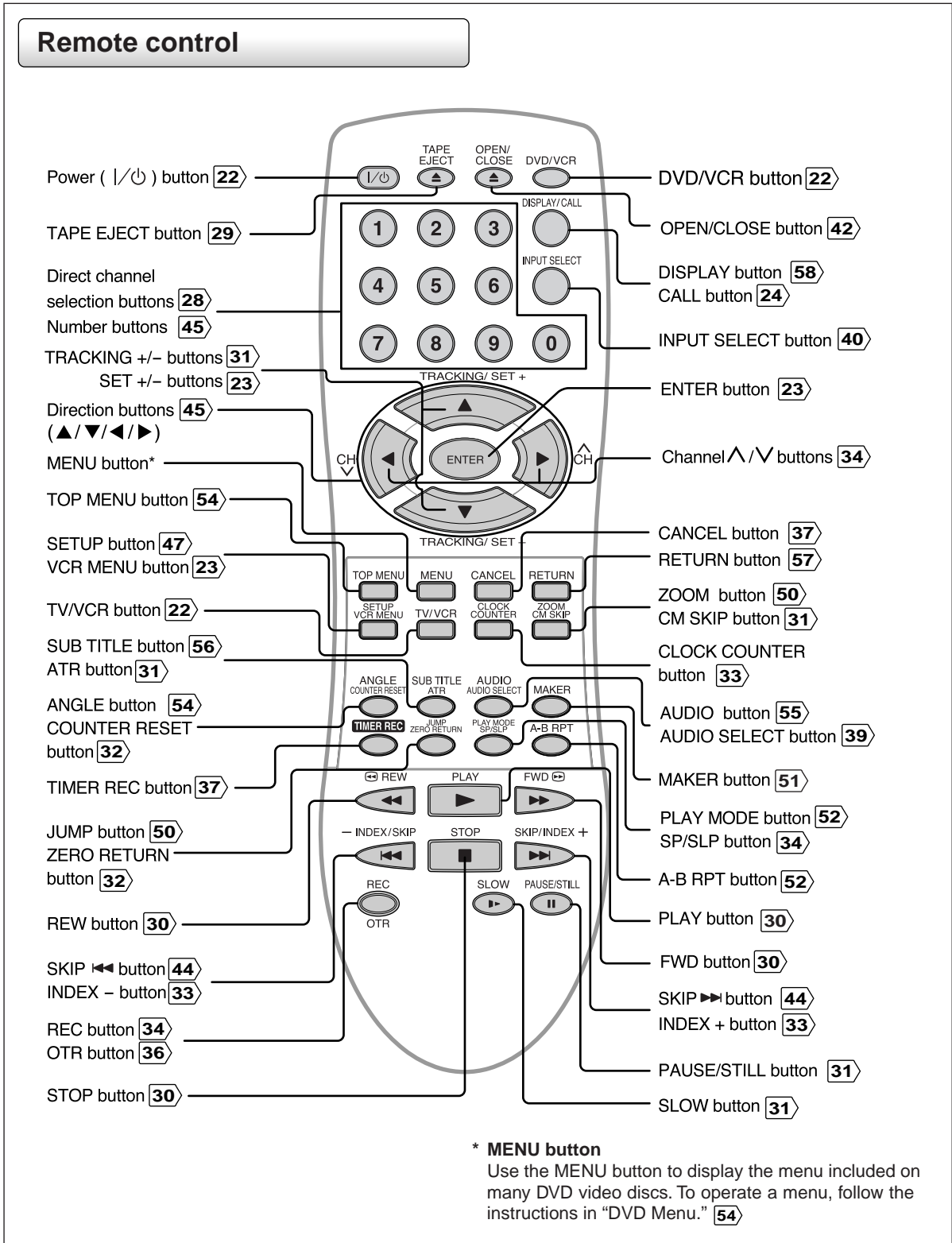
DVD/CD/VCD operation status

Each press of **DISPLAY**, the status display of the disc will appear on the screen and change as follows.



Identification of Controls (continued)

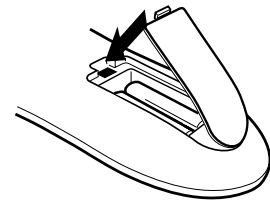
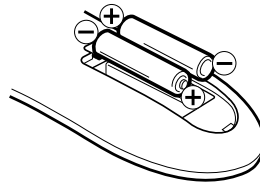
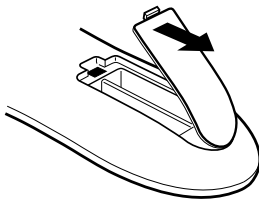
The instructions in this manual describe the functions on the remote control. See the page in  for details.





Inserting Batteries

- 1** Open the battery compartment cover in the direction of the arrow.
- 2** Install two "AAA" batteries (supplied), paying attention to the polarity diagram in the battery compartment.
- 3** Replace the compartment cover.



Battery precautions

The precautions below should be followed when using batteries in this device:

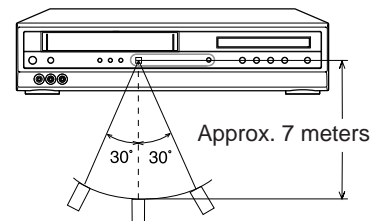
1. Use only the size and type of batteries specified.
2. Be sure to follow the correct polarity when installing the batteries as indicated in the battery compartment. Reversed batteries may cause damage to the device. To avoid a potential short circuit, insert the "-" end first.
3. Do not mix different types of batteries together (e.g. Alkaline and Carbon-zinc) or old batteries with fresh ones.
4. If the device is not to be used for a long period of time, remove the batteries to prevent damage or injury from possible battery leakage.
5. Do not try to recharge batteries not intended to be recharged; they can overheat and rupture. (Follow battery manufacturer's directions.)

Remote control basics

- Press **POWER** (|/⏻) to turn the DVD/VCR on or off.
- Select your desired operating mode (DVD or VCR) using **DVD/VCR**. (DVD or VCR indicator on the front panel will show you which mode is selected.)
- Press **CH ^** or **CH v** to move through the channels one channel at a time.
- The **CH ^/v** (◀/▶) and **SET +/-** (▲/▼) are also used to navigate on-screen menu system.
- You can directly access specific channels using **Number buttons**.
- Each press of **DVD/VCR** on the remote control, switches the screen between the VCR screen (VCR mode) and the DVD screen (DVD mode).

Operation

- Aim the remote control at the remote sensor and press control buttons to operate.
- Operate the remote control within 30° angle on either side of the remote sensor, up to a distance of Approx. 7 meters.

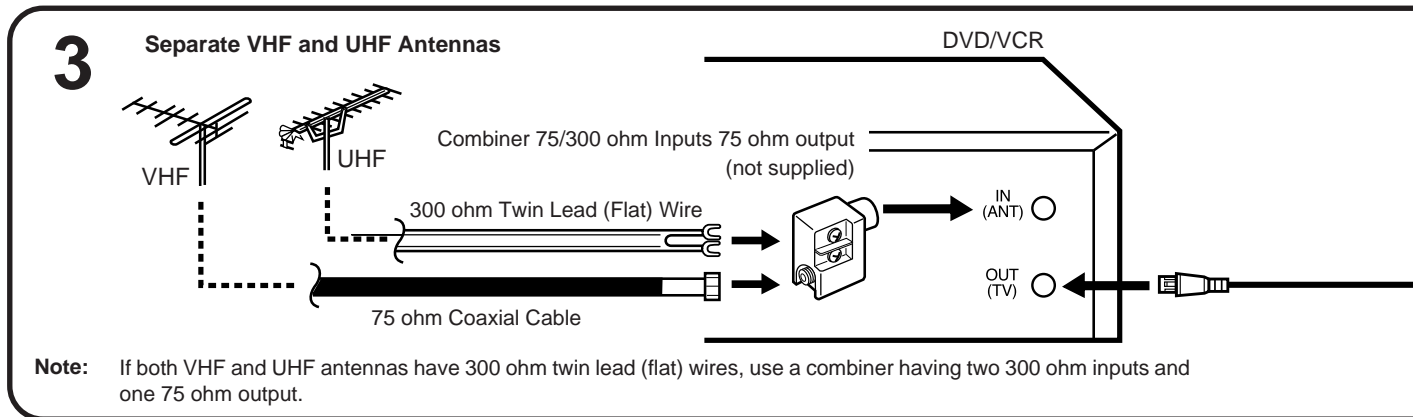
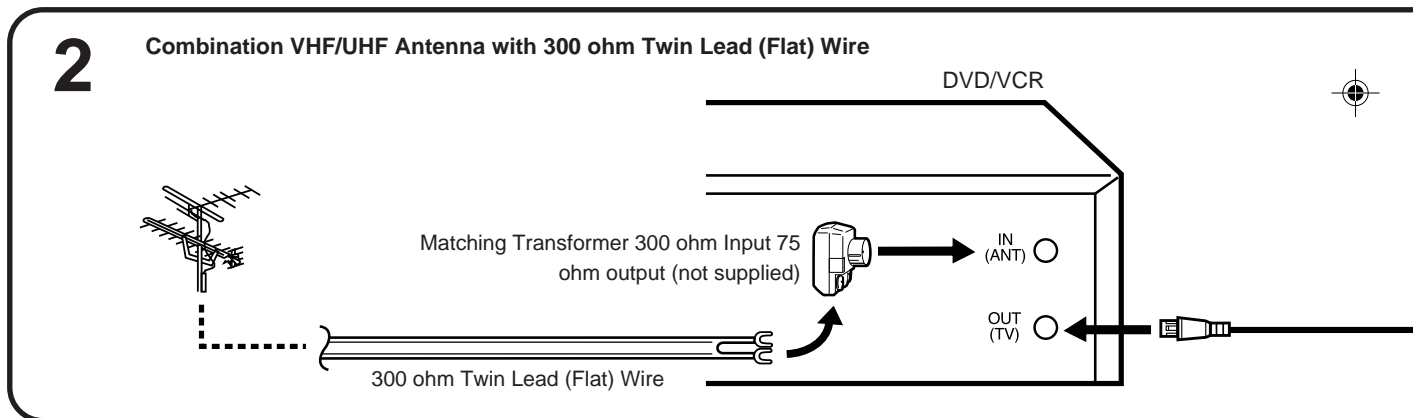
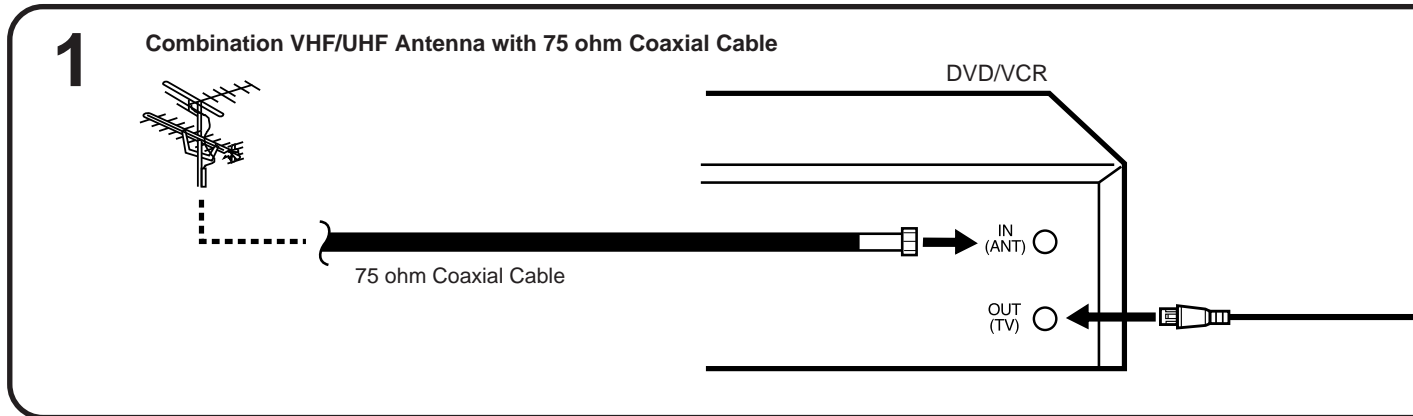


Antenna connections

If you are using an antenna system, follow these instructions. If you are a cable (CATV) subscriber, skip ahead to page 16 for the proper connections.

Antenna to DVD/VCR connection

The DVD/VCR must be connected "between" the antenna and the TV. First, disconnect the antenna from the TV and connect it to the DVD/VCR. Then connect the DVD/VCR to the TV. Below are 3 common methods of connecting an antenna system to a DVD/VCR. Find the type of antenna system you are using and follow the connection diagram.



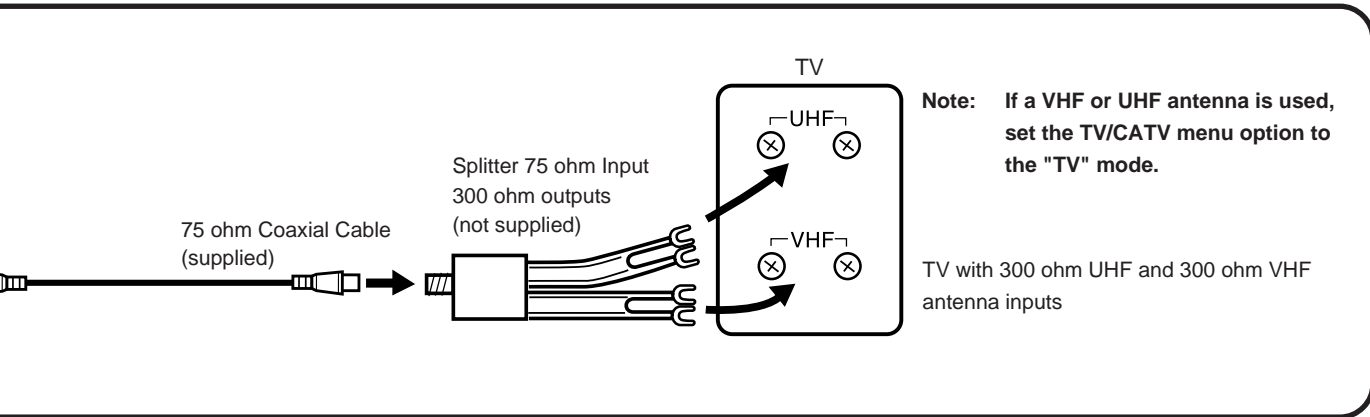
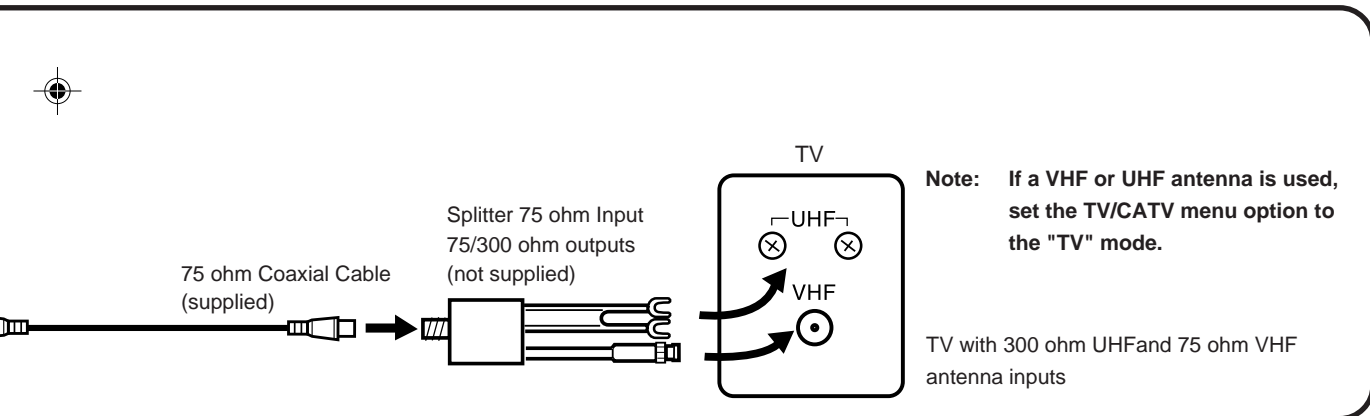
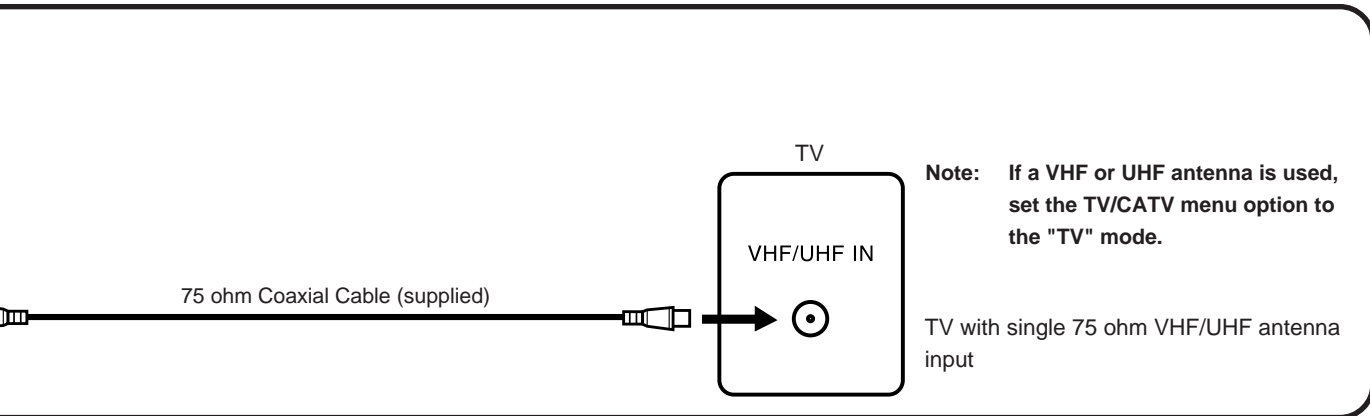
- Notes:**
- A clear picture will not be obtained by the DVD/VCR unless the antenna signal is good. Connect the antenna to the DVD/VCR properly.
 - For better quality recording, an indoor antenna or a telescopic antenna is not recommended. The use of an outdoor type antenna is required.
 - If you are not sure about the connection, please refer to qualified service personnel.



DVD/VCR to TV connection

After you have connected the antenna to the DVD/VCR, you must connect the DVD/VCR to the TV. Below are 3 common methods of connecting your DVD/VCR to a TV. Find the type of TV you are using and follow the connection diagram.

This DVD/VCR has a single 75 ohm output for connection to a TV. If your TV has separate VHF and UHF antenna inputs (numbers 2 and 3 below), use a splitter to connect the DVD/VCR to the TV for VHF and UHF reception.



CATV (CABLE TV) connections

Many cable companies offer services permitting reception of extra channels including pay or subscription channels. This DVD/VCR has an extended tuning range and can be tuned to most cable channels without using a cable company supplied converter box, except for those premium channels which are intentionally scrambled. If you subscribe to a premium channel which is scrambled, you must have a descrambler box for proper reception.

1

DVD/VCR

IN (ANT)

OUT (TV)

Incoming Cable

TV

VHF/UHF IN (ANT)

Allows:

- * Recording of nonscrambled channels.
- * Use of the programmable timer.
- * Recording of one channel while watching another.

2

DVD/VCR

IN (ANT)

OUT (TV)

Incoming Cable

Converter/Descrambler

TV

VHF/UHF IN (ANT)

Allows:

- * Recording of channels through the converter box (scrambled and unscrambled).
- * Using the programmable timer to record only the channel selected at the converter box.

Prevents:

- * Recording one channel while watching another.
- * Using the DVD/VCR tuner to select channels.

Note:

To record from converter/descrambler, DVD/VCR tuner must be tuned to the converter output channel, usually channel 3 or 4.

3

DVD/VCR

IN (ANT)

OUT (TV)

Incoming Cable

Converter/Descrambler

TV

VHF/UHF IN (ANT)

Allows:

- * Recording of nonscrambled channels.
- * Use of the programmable timer.
- * Recording an unscrambled channel while watching any channel selected at the converter box.

Prevents: Recording scrambled channels.

Note:

If you are playing a tape or using the tuner built into the DVD/VCR, the converter must be set to the video channel output of the DVD/VCR (either 3 or 4).

Note: Whenever a Converter/Descrambler box is placed before the DVD/VCR, you must tune the DVD/VCR to the output of the Converter/Descrambler box, usually channel 3 or 4.



IMPORTANT: Make sure the TV/CATV menu option is set to the "CATV" mode.

This DVD/VCR cannot receive scrambled programs since it does not contain a descrambler. In order to receive scrambled programs, your existing descrambler must be used. Descrambler boxes are available from cable companies. Consult your local cable company for more information concerning connection to their descrambler equipment. There are many ways to connect your DVD/VCR to a cable system. Below are six common methods of connection.

4

Allows:

- * Recording of one channel while watching another.
- * Using the programmable timer to record only the channel selected at the converter box.
- * Recording of all channels through the converter box.

Prevents:

- * Watching scrambled channels while recording another channel.
- * Using the DVD/VCR tuner to select channels.

5

Allows:

- * Recording of nonscrambled channels.
- * Recording of one channel while watching another.
- * Watching premium channels through the converter while recording nonscrambled channels.
- * Using the programmable timer.

Prevents: Recording scrambled channels.

6

Allows:

- * Recording of all channels through the converter box.
- * Recording a scrambled or unscrambled channel while watching another (scrambled or unscrambled) channel.
- * Using the programmable timer to record only the channel selected at the converter box.

Prevents: Using the DVD/VCR tuner to select channels.

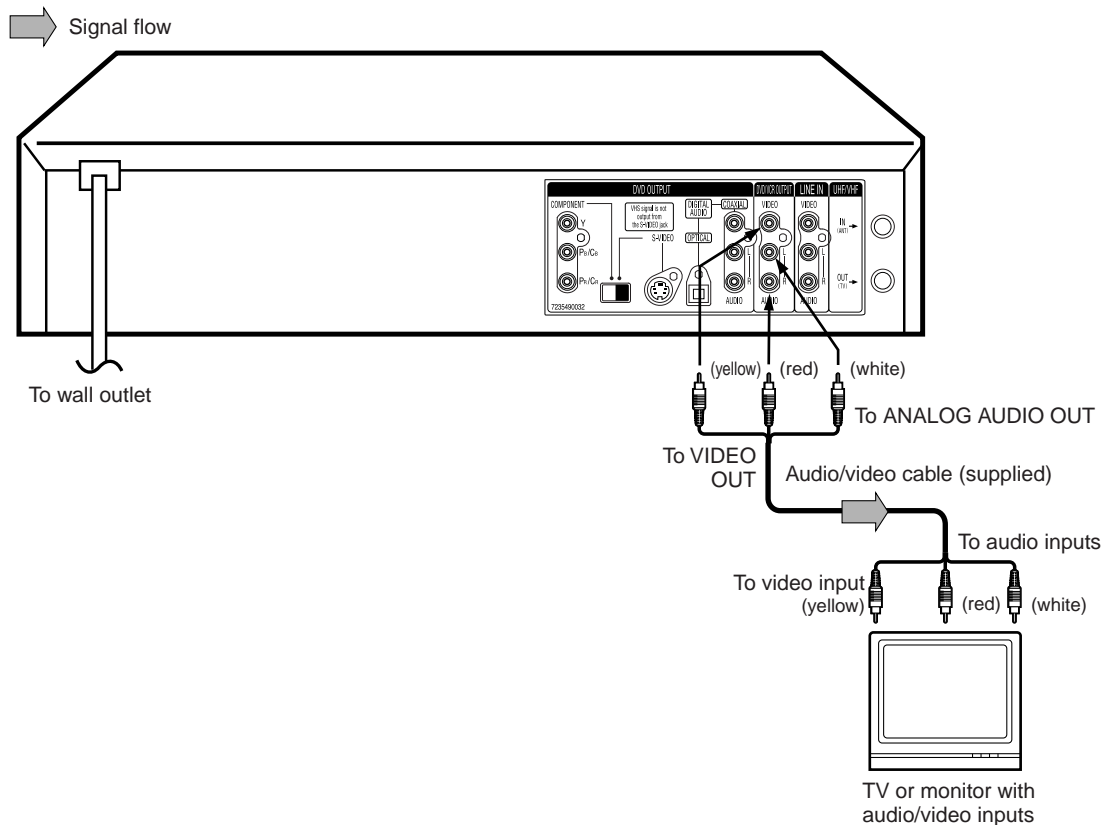


Connecting to a TV

Connect the DVD/VCR to your TV.

Note: This method transports VHS and DVD-video signals. For enhanced DVD-video performance, we recommend you also connect the S-video or ColorStream® component video outputs to your TV/monitor. (see page 19.)

Connecting to a TV



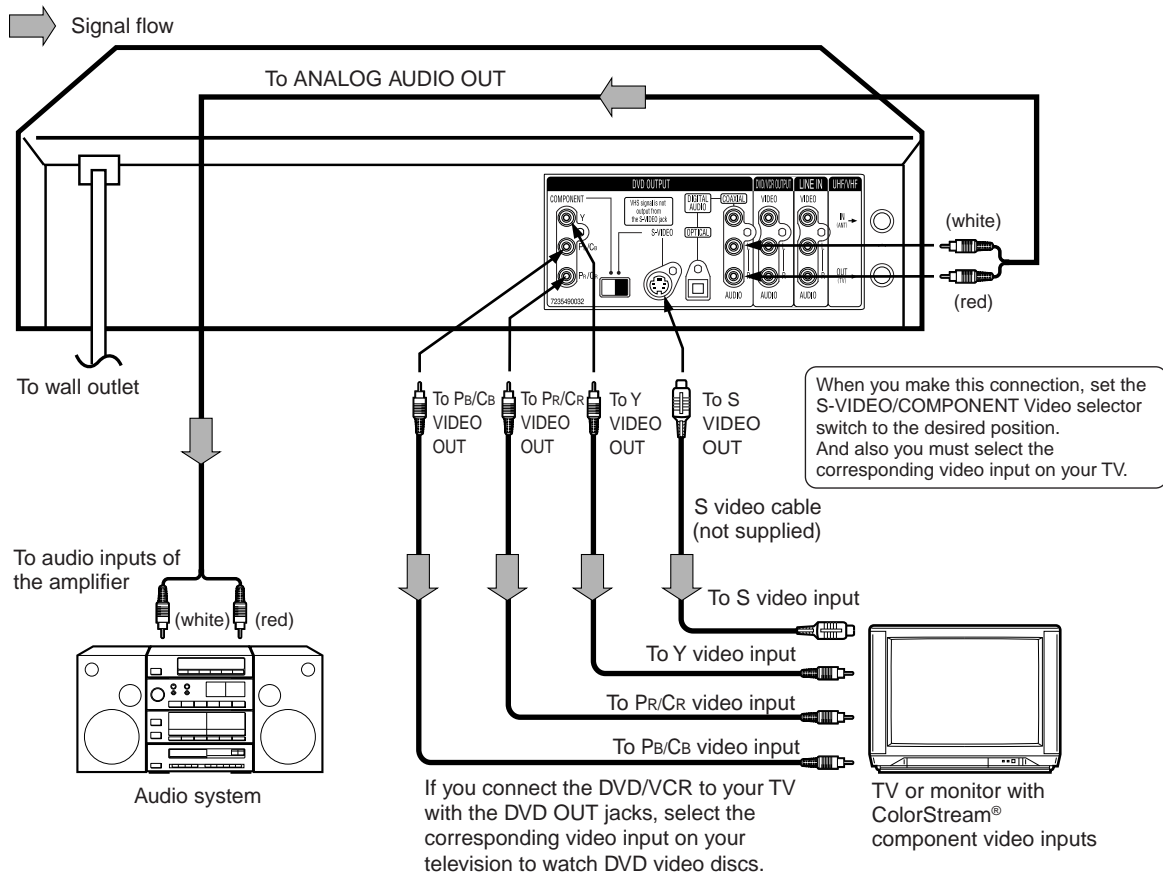
Notes:

- Refer to the owner's manual of the connected TV as well.
- When you connect the DVD/VCR to your TV, be sure to turn off the power and unplug both units from the wall outlet before making any connections.
- If your television set has one audio input, connect the left and right audio outputs of the DVD/VCR to a Y cable adapter (not supplied) and then connect to your TV.
- Connect the DVD/VCR directly to your TV. If you connect the DVD/VCR to a VCR, TV/VCR combination or video selector, the playback picture may be distorted as DVD video discs are copy protected.



Note: The S-video output and component video output transports the DVD-video signal exclusively and will deliver enhanced DVD video picture performance.

Connecting to an audio system and TV equipped with S video input/component video inputs



Connections

Component video (ColorStream®) outputs/inputs

Some TVs or monitors are equipped with component video inputs. Connecting to these inputs allows you to enjoy the highest quality DVD picture playback.

Actual labels for component video inputs may vary depending on the TV manufacturer. (ex. Y, R-Y, B-Y or Y, Cb, Cr) In some TVs or monitors, the color levels of the playback picture may be reduced slightly or the tint may change. In such a case, adjust the TV or monitor for optimum performance.

Notes:

- Refer to the owner's manual of the connected equipment as well.
- When you connect the DVD/VCR to other equipment, be sure to turn off the power and unplug all of the equipment from the wall outlet before making any connections.
- If you place the DVD/VCR near a tuner or radio, the radio broadcast sound might be distorted. In this case, place the DVD/VCR away from the tuner and radio.
- The output sound of the DVD/VCR has a wide dynamic range. Be sure to adjust the receiver's volume to a moderate listening level. Otherwise, the speakers may be damaged by a sudden high volume sound.
- Turn off the amplifier before you connect or disconnect the DVD/VCR's power cord. If you leave the amplifier power on, the speakers may be damaged.
- An S-Video connection is superior to Video (Yellow) output. Use this method for DVD playback when the connected television has S-Video input, and does not have component video inputs.



Connecting to optional equipment

You can enjoy high quality dynamic sounds of DVD video discs or audio CDs by connecting the DVD/VCR to optional audio equipment.

For connection to your TV, see "Connecting to a TV" 18 19.

- : Front speaker
- : Rear speaker
- : Sub woofer
- : Center speaker
- ⇒ : Signal flow

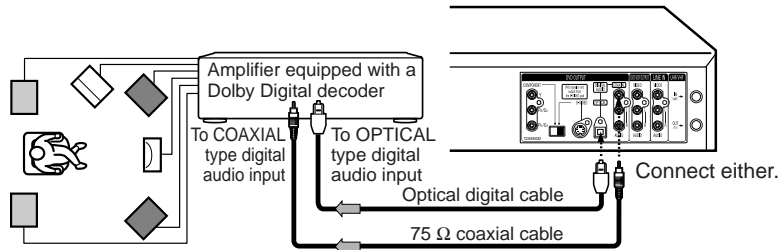
Connecting to an amplifier equipped with a Dolby Digital decoder

Dolby Digital

Dolby Digital is the surround sound technology used in theaters showing the latest movies, and is now available to reproduce this realistic effect in the home. You can enjoy motion picture and live concert DVD video discs with this dynamic realistic sound by connecting the DVD/VCR to a 6 channel amplifier equipped with a Dolby Digital decoder or Dolby Digital processor. If you have a Dolby Pro Logic Surround decoder, you will obtain the full benefit of Pro Logic from the same DVD movies that provide full 5.1-channel Dolby Digital soundtracks, as well as from titles with the Dolby Surround mark.

Manufactured under license from Dolby Laboratories. "Dolby" "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories. Confidential unpublished works. ©1992-1997 Dolby Laboratories. All rights reserved.

- Use DVD video discs encoded via the Dolby Digital recording system.

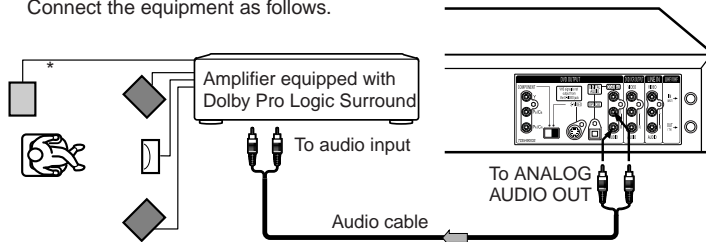


Connecting to an amplifier equipped with Dolby Pro Logic Surround

Dolby Pro Logic Surround

You can enjoy the dynamic realistic sound of Dolby Pro Logic Surround by connecting an amplifier and speaker system (right and left front speakers, a center speaker, and one or two rear speakers).

- With an amplifier equipped with Dolby Digital
Connect the equipment the same way as described in "Connecting to an amplifier equipped with a Dolby Digital decoder." Refer to that amplifier's owner's manual and set the amplifier so you can enjoy Dolby Pro Logic Surround sound.
- With an amplifier not equipped with Dolby Digital
Connect the equipment as follows.



* Connect one or two rear speakers. The output sound from the rear speakers will be monaural even if you connect two rear speakers.

Connecting to an amplifier equipped with a DTS decoder

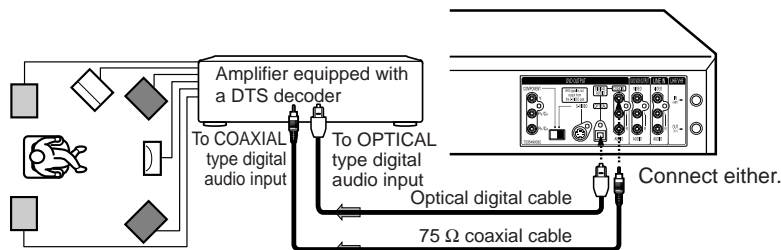
Digital Theater Systems (DTS)

DTS is a high quality surround technology used in theaters and now available for home use, on DVD video discs or audio CDs.

If you have a DTS decoder or processor, you can obtain the full benefit of 5.1 channel DTS encoded sound tracks on DVD video discs or audio CDs.

"DTS" and "DTS Digital Surround" are trademarks of Digital Theater Systems, Inc.

- Use DVD video discs or audio CDs encoded via the DTS recording system.





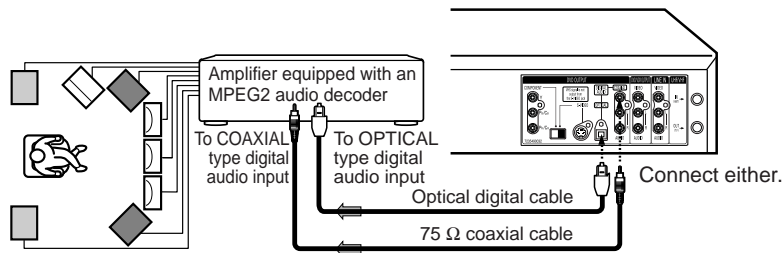
Warning

When playing DTS-encoded discs (DVD/VCR), excessive noise may be output from the analog stereo jacks. To avoid possible damage to the audio system, you should take proper precautions when the ANALOG AUDIO OUT (L/R) jacks of the DVD/VCR are connected to an amplification system. To enjoy DTS Digital Surround™ playback, an external 5.1 channel DTS Digital Surround™ decoder system must be connected to the BITSTREAM/PCM AUDIO OUT jack of the DVD/VCR.

Connecting to an amplifier equipped with an MPEG2 audio decoder

MPEG2 sound

You can enjoy motion picture and live concert DVD video discs with dynamic realistic sound by connecting an amplifier equipped with an MPEG2 audio decoder or MPEG2 audio processor.



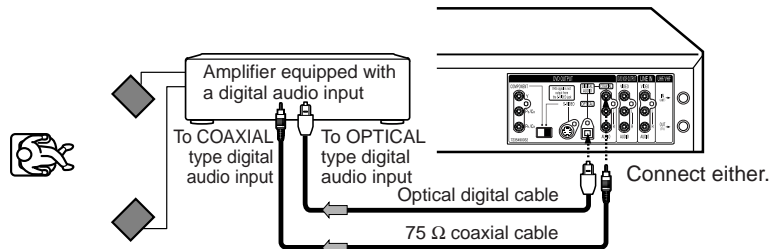
- Use DVD video discs encoded via the MPEG2 recording system.

Connections

Connecting to an amplifier equipped with a digital audio input

2 channel digital stereo

You can enjoy the dynamic sound of 2 channel digital stereo by connecting an amplifier equipped with a digital audio input and speaker system (right and left front speakers).



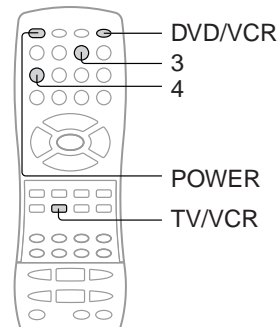
Notes:

- DO NOT connect the BITSTREAM/PCM AUDIO OUT jack of the DVD/VCR to the AC-3 RF input of a Dolby Digital Receiver. This input on your A/V Receiver is reserved for Laserdisc use only and is incompatible with the BITSTREAM/PCM AUDIO OUT jack of the DVD/VCR.
- Connect the BITSTREAM/PCM AUDIO OUT jack of the DVD/VCR to the "OPTICAL" or "COAXIAL" input of a Receiver or Processor.
- Refer to the owner's manual of the connected equipment as well.
- When you connect the DVD/VCR to other equipment, be sure to turn off the power and unplug all of the equipment from the wall outlet before making any connections.
- The output sound of the DVD/VCR has a wide dynamic range. Be sure to adjust the receiver's volume to a moderate listening level. Otherwise, the speakers may be damaged by a sudden high volume sound.
- Turn off the amplifier before you connect or disconnect the DVD/VCR's power cord. If you leave the amplifier power on, the speakers may be damaged.



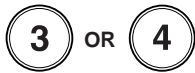
Setting the video channel

When a TV is connected with the 75 ohm coaxial cable only. To view playback of a recorded tape or DVD disc, or to watch a program selected by the VCR's channel selector, the TV must be set to channel 3 or 4 (video channel).

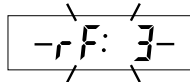


Setting the video channel

1 Press and hold 3 or 4 on the remote for 3 seconds in standby mode.



The video channel will start to flash for 3 seconds in the display window.



2 Press POWER to turn on the DVD/VCR.



3 Press DVD/VCR to select the VCR mode.



The VCR indicator on the front panel will light.

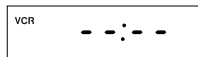


4 Turn ON the TV and set to CH 3 or 4 to correspond with the channel selected in step 1.

5 Press TV/VCR to select the VCR position.



The VCR indicator will appear in the display window.



6 Select any channel to receive a TV station in your area. The channel number will appear on the screen for about 4 seconds.

For a push-button TV tuner

If CH 3 or 4 corresponding to the video channel cannot be tuned on your TV, proceed as follows: set the VCR 3/4 channel selector and the TV to CH 3 or 4, play back a prerecorded tape and tune the TV to receive a sharp color picture from the video cassette recorder. Refer to your TV owner's manual for details.

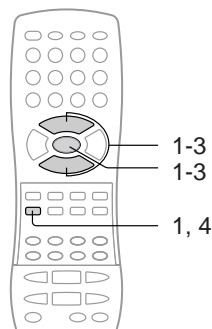
Notes:

- If the unit does not operate properly, or No key operation (by the unit and/or the remote control): Static electricity, etc., may affect the player's operation. Disconnect the AC power cord once, then connect it again.
- During the DVD playback if you change the operating mode from DVD to VCR, the DVD will continue to play back the disc and stop after about 5 minutes.



Setting the language

You can choose from three different languages (English, French and Spanish) for the on-screen displays.



Setting the language

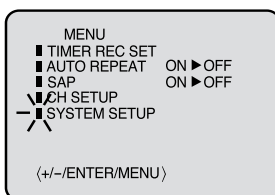
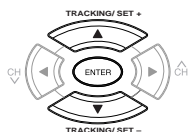
Preparation:

- Turn ON the TV and select to the corresponding video input.
- Press **DVD/VCR** to select the VCR mode. (The VCR indicator will light.)

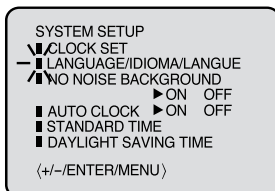
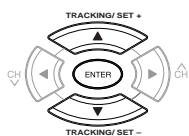
1 Press VCR MENU.



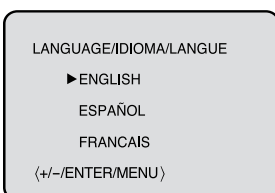
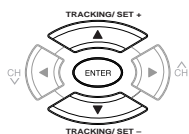
The VCR menu screen will appear. Press **SET +** or **-** to select "SYSTEM SETUP", then press **ENTER**. If you use the unit for the first time and press **VCR MENU**, instead of the main menu screen the "SYSTEM SETUP" menu screen in step 2 may appear.



2 Press SET + or - to select "LANGUAGE", then press ENTER.



3 Press SET + or - to select the desired language: English (ENGLISH), Spanish (ESPAÑOL) or French (FRANCAIS), then press ENTER.



4 Press VCR MENU until the MENU screen is cleared.

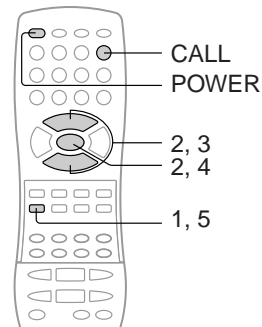


Notes:

- Both the VCR and the DVD have their own player menus **57**.
- If no buttons are pressed for more than 60 seconds, the VCR MENU screen will return to normal TV-operation automatically.

Clock setting

The AUTO CLOCK function will automatically set the built-in clock (Month, Day, Year and Time) when the DVD/VCR is connected to an Antenna or Cable system and it is turned off. The DVD/VCR searches for a station in your area containing the necessary AUTO CLOCK setting signals. Once received, it will take approximately 4 minutes for the clock to set itself automatically.



AUTO CLOCK setting

Preparation:

- Turn ON the TV and select the corresponding video input.
- Press **DVD/VCR** to select the VCR mode. (The VCR indicator will light.)

1 Connect the Antenna or Cable system.
• If you use a cable box, turn it on.

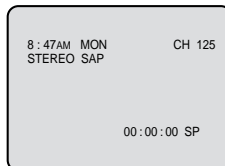
2 Plug the AC Power cord to the AC outlet.

3 Make sure the DVD/VCR is turned off.
• If you press **POWER**, the Auto Clock set is not programmed.

4 Wait at least three minutes and press **POWER**.

5 Press **CALL** to check the clock setting on the on screen display.

DISPLAY/CALL



6 If the clock is not set, check the antenna condition. The **AUTO CLOCK** may not function properly if the reception condition is not good.

AUTO CLOCK adjustment

The auto clock adjustment will be updated at **6:00 AM, 12:00 PM and 6:00 PM** everyday when the DVD/VCR turned off.

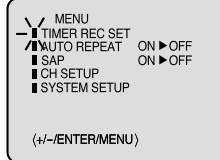
- If you use a cable box and you want **AUTO CLOCK** adjustment to be performed, the cable box must be left on.
- The **AUTO CLOCK** adjustment is not effective when there is a difference of more than 5 minutes exists between the built-in clock time and the actual time.

To set AUTO CLOCK to off

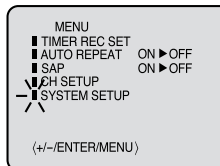
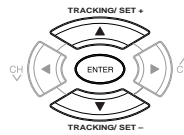
When shipped from factory the **AUTO CLOCK** is set to "ON". But if you do not want **AUTO CLOCK** setting:

1 Press **VCR MENU**.

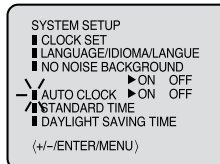
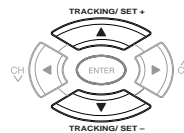
SETUP
VCR MENU



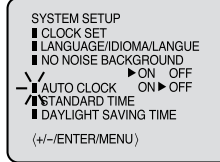
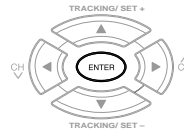
2 Press **SET +** or **-** to select "**SYSTEM SETUP**", then press **ENTER**.



3 Press **SET +** or **-** to select "**AUTO CLOCK**".



4 Press **ENTER** to select "**OFF**".



5 Press **VCR MENU** repeatedly to return to the normal screen.

SETUP
VCR MENU



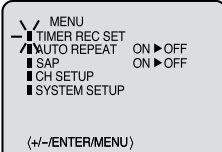
- When the **AUTO CLOCK** is set to "OFF", the **AUTO CLOCK** adjustment does not function.
- Set the clock manually **[26]**.



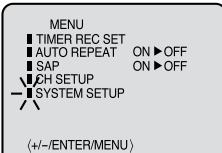
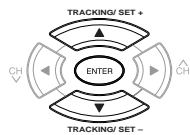
To set STANDARD TIME

In the rare event that you live within broadcast range of two stations in two different time zones, the DVD/VCR may recognize the wrong station for the AUTO CLOCK setting. To correct the situation:

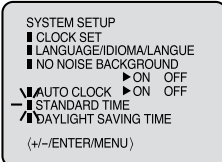
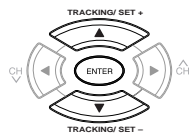
1 Press VCR MENU.



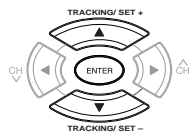
2 Press SET + or - to select "SYSTEM SET UP", then press ENTER.



3 Press SET + or - to select "STANDARD TIME", then press ENTER.



4 Press SET + or - to select your time zone, then press ENTER.



ATLANTIC	: GMT-4hours
EASTERN	: GMT-5hours
CENTRAL	: GMT-6hours
MOUNTAIN	: GMT-7hours
PACIFIC	: GMT-8hours
ALASKA	: GMT-9hours
HAWAII	: GMT-10hours
AUTO	: AUTO SET

(GMT: Greenwich Mean Time)

5 Press VCR MENU twice to return to the normal screen.



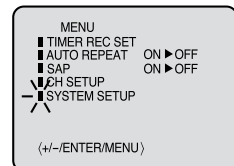
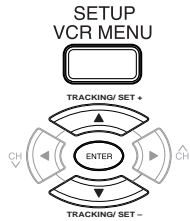
Notes:

- To be able to select the standard time, the clock must first be set by AUTO CLOCK once.
- If you live in Newfoundland and the AUTO CLOCK does not function properly, set the AUTO CLOCK menu option to "OFF" and set the clock manually.

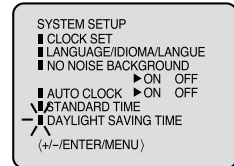
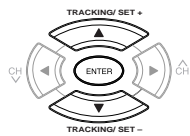
To set DAYLIGHT SAVING TIME

You can set the DAYLIGHT SAVING TIME automatically or manually.

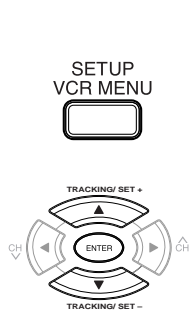
1 Press VCR MENU. Press SET + or - to select "SYSTEM SETUP", then press ENTER.



2 Press SET + or - to select "DAYLIGHT SAVING TIME", then press ENTER.

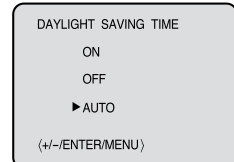


3 Press SET + or - to select one of the options, then press ENTER. Press VCR MENU until the MENU screen is cleared.



- ON:** for manual setting (forward one hour)
- OFF:** for manual setting (back one hour)
- AUTO:** for automatic setting (read XDS in the signal)

When you want to set the DAYLIGHT SAVING TIME manually, on the first Sunday in April you set to "ON", and on the last Sunday in October you set to "OFF".

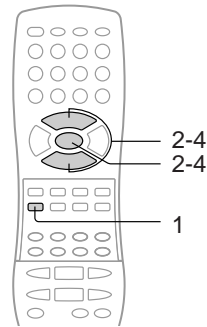


Notes:

- When shipped from factory, the DAYLIGHT SAVING TIME is set to "AUTO" position.
- When the clock is not set, DAYLIGHT SAVING TIME setting is not available.
- When there is no DAYLIGHT SAVING TIME in your area, always select "OFF" position in step 3.

Clock setting (continued)

If the AUTO CLOCK process did not set the date and time correctly, you must set them manually for timer recording and DAYLIGHT SAVING TIME.



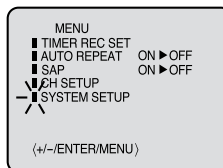
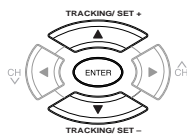
Manual clock Setting

EXAMPLE: Setting the clock to "8:30 AM" March, 26 (WED), 2003.

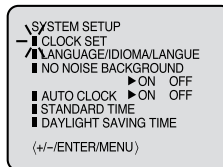
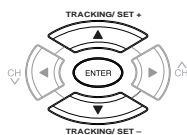
1 Press VCR MENU.



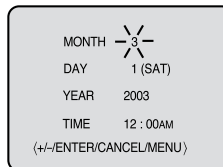
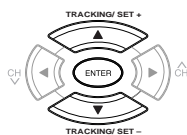
2 Press SET + or – to select "SYSTEM SETUP", then press ENTER.



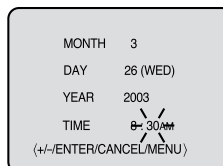
3 Press SET + or – to select "CLOCK SET", then press ENTER.



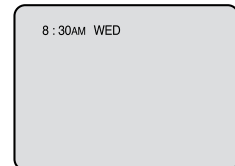
4 Press SET + or – to set the month, then press ENTER.



5 Set the day, year and time as in step 4.



6 After setting the clock, date and time starts functioning automatically.



To make corrections any time during the process
Press **CANCEL** repeatedly until the item you want to change blinks, then press **SET + or –**.

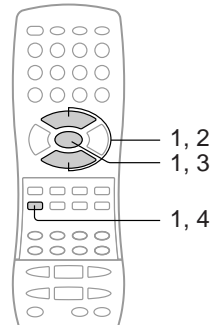
Note:

After a power failure or disconnection of the power, the timer settings will be lost. In this case, reset the present time.



Tuner setting

This DVD/VCR is equipped with a channel memory feature which allows channels to skip up or down to the next channel set into memory, skipping over unwanted channels. Before selecting channels, they must be programmed into the DVD/VCR's memory. In addition to normal VHF and UHF channels, this DVD/VCR can receive up to 113 Cable TV channels. To use this DVD/VCR with an antenna, set the TV/CATV menu option to the TV mode. When shipped from the factory, this menu option is in the CATV mode.

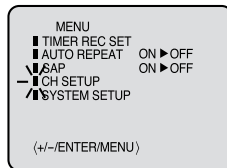
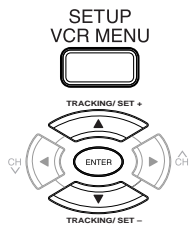


TV/CATV selection

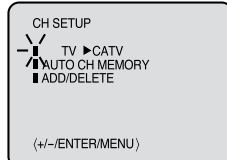
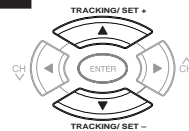
Preparation:

- Turn ON the TV and set to the video input mode.
- Press **DVD/VCR** to select the VCR mode. (The VCR indicator will light.)

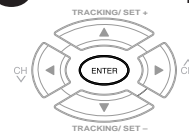
1 Press VCR MENU. Press SET + or - to select "CH SETUP", then press ENTER.



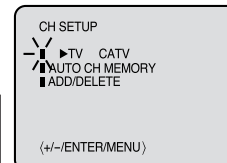
2 Press SET + or - to select "TV/CATV".



3 Press ENTER to select the TV or CATV mode. The arrow indicates the selected mode.



TV - VHF/UHF channels
CATV - CABLE TV channels



4 Press VCR MENU until the menu screen is cleared.

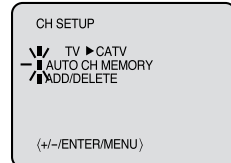
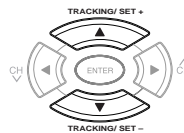


Note:

You can't select "CH SETUP" if you set the channel to "L1" or "L2".

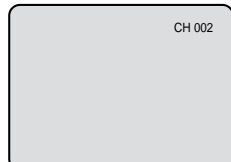
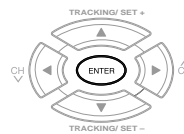
Setting channels automatically

1 Repeat left step 1 and press SET + or - to select "AUTO CH MEMORY".



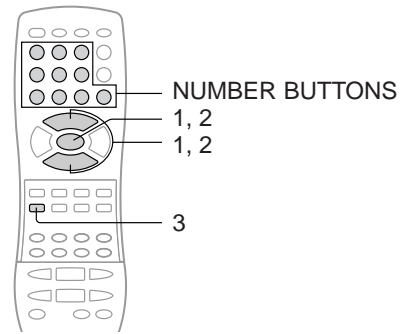
2 Press ENTER.

Auto tuning will begin. The channel display will count up and when finished, the screen returns to normal.



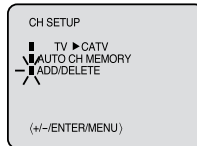
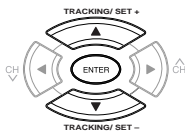
Basic setup

Tuner setting (continued)



To ADD/DELETE channels

1 Repeat the step 1 on page 27. Then press **SET +** or **-** to select the “ADD/DELETE” and press **ENTER**.



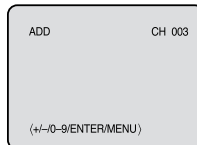
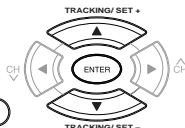
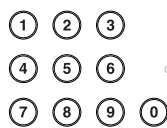
2 To Add or Delete desired channels

1 Press **Number buttons** or **SET +** or **-** to select a channel number you want to add or delete.

2 To add channels
Press **ENTER** until “ADD” appears on the screen.

To delete channels
Press **ENTER** until “DELETE” appears on the screen. The channel number will blink.

3 Repeat **1** to **2** to add or delete other channel.



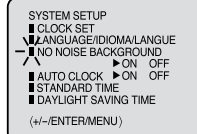
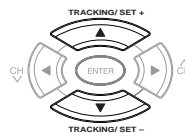
3 Press **VCR MENU** until the menu screen is cleared.



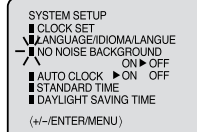
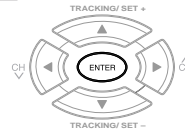
Noise elimination

When you don't want to receive a weak signal broadcast, a Blue back screen can be obtained by selecting the NO NOISE BACKGROUND “ON”. When the unit is shipped from the factory, the NO NOISE BACKGROUND is set to “ON”.

1 Repeat the steps 1~2 on page 26 and press **SET +** or **-** to select “NO NOISE BACKGROUND”.



2 Press **ENTER** to select “ON” or “OFF” position.

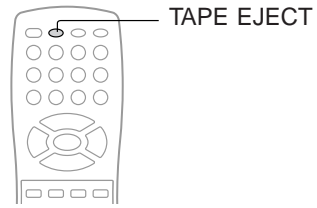


3 Press **VCR MENU** until the menu screen is cleared.



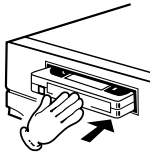
Loading and unloading a cassette tape

Use only video cassette tapes marked **VHS** and **SVHS**.



Loading

Push the center of the tape until it is automatically inserted.



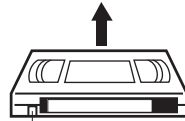
Automatic power ON

When you insert a cassette tape the DVD/VCR power will turn ON automatically.

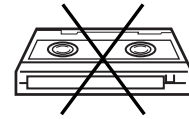
Automatic playback

When loading a cassette tape without an erase prevention tab, playback will start automatically.

Insert the cassette tape with its labeled side facing up and the erase prevention tab positioned at your left. An inverted cassette tape cannot be inserted.

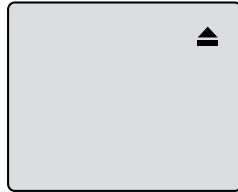


Erase prevention tab

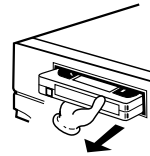


Unloading

1 Press **EJECT** on the front panel or **TAPE EJECT** on the Remote.



2 Remove the cassette tape.



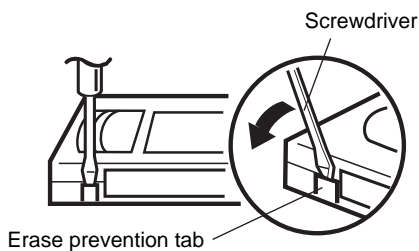
Automatic tape eject

This DVD/VCR will automatically rewind the tape when the tape has ended. Once the tape is rewound to its beginning, the cassette tape will be ejected automatically.

To prevent accidental erasure

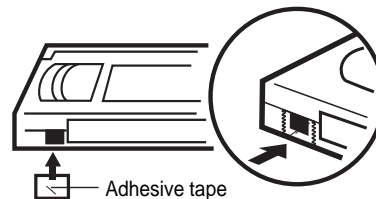
To prevent accidental erasure

Remove the erase prevention tab with a screwdriver.



To record again

Cover the hole with a piece of adhesive tape.



Tape speed and maximum recording time

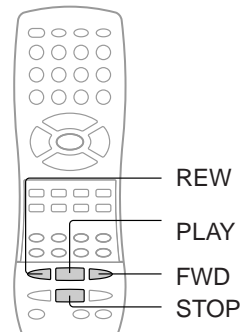
Tape Speed	Video cassette tape				
	T-160	T-120	T-90	T-60	T-30
SP (Standard Play)	2-2/3 hours	2 hours	1-1/2 hours	1 hour	30 minutes
SLP (Super Long Play)	8 hours	6 hours	4-1/2 hours	3 hours	1-1/2 hours



Playback (VCR)

Cassette tape playback

To play a prerecorded tape.



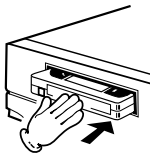
Playback

Preparation:

- Turn ON the TV and select the corresponding video input.
- Press **DVD/VCR** to select the VCR mode. (The VCR indicator will light).

1 Load a prerecorded tape

(When loading a cassette tape without the erase prevention tab, playback will start automatically).



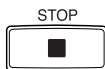
2 To start playback

Press **PLAY**.
Playback will start. "▶" will appear on the screen for about 4 seconds.



To stop playback

Press **STOP** once.
The tape will stop but remain fully loaded and ready to play.
"■" will appear on the screen for about 4 seconds.



Notes:

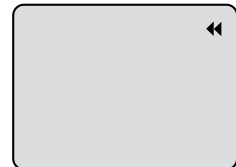
- This VCR selects the playback tape speed SP, LP or SLP automatically.
- The Cassette tape and DVD disc can be played back simultaneously. If you press **DVD/VCR**, the tape playback and DVD playback alternate with each other on the screen (via CH3, 4 or video connection).
- When you select the VCR mode during DVD playback, DVD playback will stop automatically after approx. 5 minutes.

Rewind or forward the tape

Stop the playback or recording via **STOP** on remote.

To rewind the tape:

Press **REW**.



To forward the tape:

Press **FWD**.



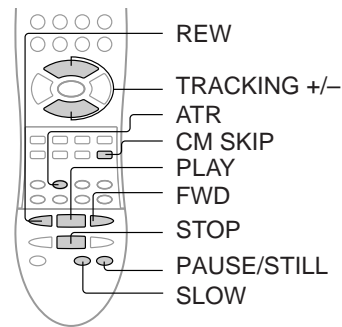
To discontinue the tape-winding, press **STOP**. To switch to playback directly (without **STOP**), press **PLAY**.

■ Forward/Reverse picture search mode

When the tape is being winded, you can switch to picture search mode (see next page). To do this, press **REW** or **FWD** and hold it down. The unit will resume the tape advance or rewinding as soon as the button is released.



Special playback



Picture search

Reverse picture search function

Press **REW** once or twice during playback.

Forward picture search function

Press **FWD** once or twice during playback.

To return to playback, press **PLAY**.

SPEED SEARCH TIMES

TAPE SPEED	PICTURE SEARCH SPEED	
	PRESS ONCE	PRESS TWICE
SP (Standard Play)	3 X	5 X
LP (Long Play)	7 X	9 X
SLP (Super Long Play)	9 X	15 X

Still picture

Press **PAUSE** during playback.

To resume normal playback, press **PLAY** or **PAUSE/STILL**.

Slow motion

During playback press **SLOW**.

To return to playback, press **PLAY** or **SLOW**.

Slow tracking and vertical lock adjustment

If noise bars appear in the picture during slow motion, press the **TRACKING +/-** to reduce the noise bars.

If the still picture jitters excessively, press **TRACKING +/-** to stabilize the still picture.

Frame by frame picture

Press **PAUSE/STILL** during playback.

Press **SLOW** repeatedly: The picture advances frame by frame.

To return to playback, press **PLAY** or **PAUSE/STILL**.

CM skip

Press **CM SKIP** during playback. The DVD/VCR will search forward through approximately 30 seconds of the tape (e.g. unwanted commercial time) for each press of **CM SKIP** (maximum six presses) and then resume normal playback.

For example : 1 press: 30 seconds of tape
2 press: 60 seconds of tape
3 press: 90 seconds of tape

Adjusting tracking condition

Automatic tracking adjustment

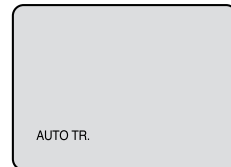
Whenever you insert a tape and start playback, the automatic tracking feature continuously analyzes the signal to enable optimum picture quality during playback.

Manual tracking adjustment

If automatic tracking cannot eliminate noises well during playback, press **TRACKING +/-** to eliminate the noise. "MANUAL TR." will appear on the screen. Press it briefly for a fine adjustment, or press and hold for a coarse adjustment.

Press **ATR** to reactivate automatic tracking again.

"AUTO TR." will appear on the screen.



Notes:

- The audio output is muted during SPEED SEARCH, STILL, FRAME ADVANCE and SLOW MOTION.
- During picture search mode there will be noise bars. This is not a defect.
- Playback will commence after approx. 5 minutes to protect the video tape against excessive wear during pause mode.

Video head cleaning

Video head clogging

The video heads are the means by which the DVD/VCR reads the picture from the tape during playback. In the unlikely event that the heads become dirty enough to be clogged, no picture will be displayed. This can easily be determined if, during playback of a known good tape, there is good sound, but no picture (picture is extremely snowy). If this is the case, have the DVD/VCR checked and cleaned by qualified service personnel.



Good Picture



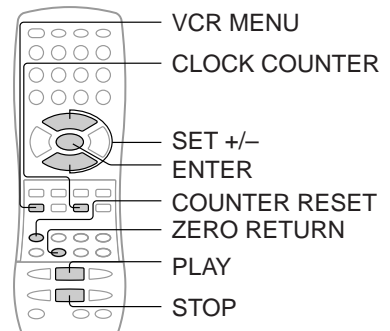
Snowy Picture

Notes:

- DO NOT ATTEMPT TO CLEAN THE VIDEO HEADS OR SERVICE THE UNIT BY REMOVING THE REAR COVER.
- Video heads may eventually wear out and should be replaced when they fail to produce clear pictures.
- To help prevent video head clogging, use only good quality VHS tapes. Discard worn out tapes.

Playback (VCR)

Convenience function

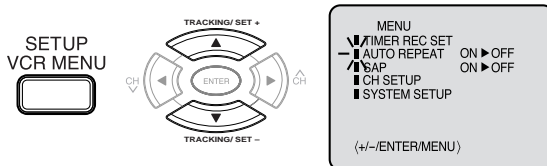


Repeat playback

The entire video tape will play until its end. The tape will automatically rewind to the beginning and the playback will be repeated.

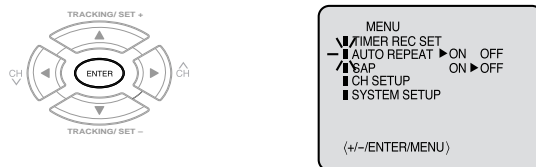
1 Press VCR MENU.

Press **SET +** or **-** to select "AUTO REPEAT".



2 Press ENTER to select "ON" or "OFF".

If "ON" is selected, the playback will be repeated endlessly.



3 Press VCR MENU until the menu screen is cleared.

If you press **CALL**, "11" will appear on the screen.



4 To commence playback, press PLAY.

The playback will be repeated endlessly.

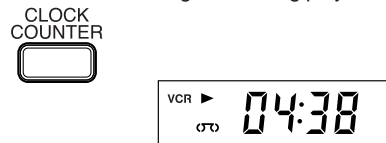


Zero return function

This function rewinds the tape to the "00:00:00" counter position automatically.

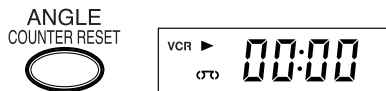
1 Press CLOCK/COUNTER.

The counter display shows the tape running time during playback or recording.



2 Press COUNTER RESET at the desired tape position.

The counter display will be reset to "00:00:00" position (e.g. the beginning of recording).



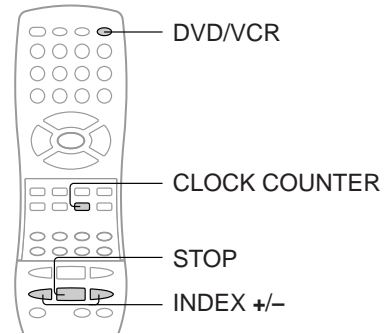
3 Press STOP when playback or recording is completed. Press ZERO RETURN.

The tape will automatically rewind or fast forward to the "00:00:00" counter position.



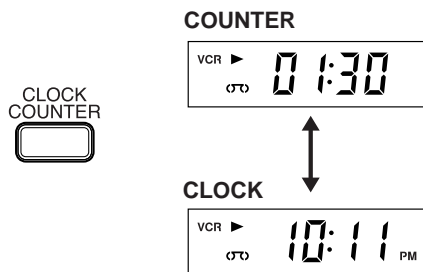
To cancel repeat mode:

Follow the above step 1, then press **ENTER** to select "OFF" position. Press **VCR MENU** to return to the TV.

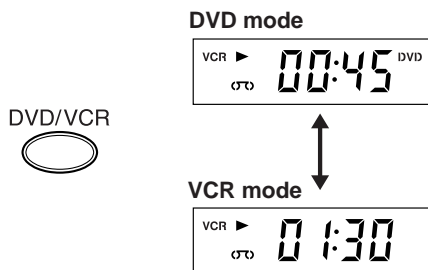


Clock/counter display

Press **CLOCK/COUNTER**. The clock and tape counter alternate with each other in the display window.



Press **DVD/VCR**. The DVD mode and the VCR mode alternate with each other in the display.



Notes:

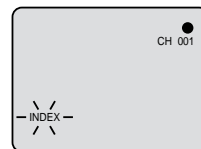
- If you rewind the tape beyond "00:00:00", a minus sign ("–") will be displayed in front of the time.
- When you load a tape, the counter will reset to "00:00:00".
- The counter does not function on nonrecorded (blank) sections of the tape. When you rewind, fast forward or play tapes through blank sections, the counter stops.

Video index search system

This function enables you to locate the beginning of any recording made on the VCR.

Recording an INDEX mark

The Index Search function automatically records an INDEX mark on the tape whenever a recording is initiated.



Index search

Press **INDEX +** or **-** during stop or play mode.

For Succeeding programs: Press **INDEX +**.

For Preceding programs: Press **INDEX -**.

(As many as 9 index points can be accessed via this method.)

When the **INDEX +** or **-** is pressed, the unit starts searching the INDEX NO. selected and finds the portion, then playback starts automatically. To stop the Index Search, press **STOP**.



– INDEX/SKIP STOP SKIP/INDEX + ►► or ◀◀ is displayed INDEX NO. (up to 9)

Notes:

- When you record an INDEX mark at the very beginning of the tape, the mark may not be found.
- During INDEX search, the tape may stop and begin to play at a slightly different location.
- INDEX may not function properly with old or worn out video tapes.
- INDEX marks may not be found if it is extremely close to the point where the search began.
- In recording, if you stop recording temporarily, the INDEX mark is not recorded on the tape.

SQPB (S-VHS Quasi Playback)

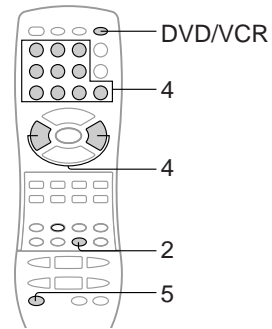
You can playback video cassette tapes recorded in the S-VHS system. However, the picture will not have the high resolution of S-VHS system.

Note: You cannot record S-VHS video format with this VCR.

Playback (VCR)

Recording a TV program

Recording and viewing the same TV program.



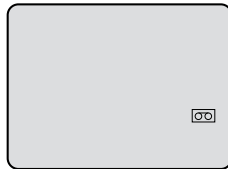
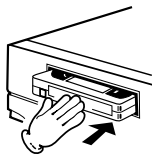
Recording a TV program

Preparation:

- Turn ON the TV and set to the video input mode.
- Press **DVD/VCR** to select the VCR mode. (The VCR indicator will light.)

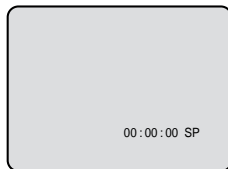
1 Load a cassette tape with the erase prevention tab intact.

The DVD/VCR will automatically turn on.



2 Press SP/SLP to select the desired tape speed SP or SLP.

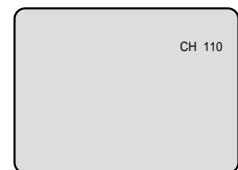
The tape counter and "SP" or "SLP" will appear on the screen for about 4 seconds.



3 Select "TV" or "CATV" to the appropriate position **27**.

TV - VHF/UHF channels
 CATV - CABLE TV channels

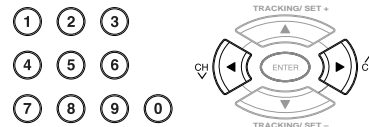
4 Press Number button or CH ^/∨ to select the channel to be recorded.



- 1-9 Press **0** twice and then **1-9** as required.
 Example: To select 2, Press "**002**".
- 10-12 Press **0** first and then the remaining 2 digits in order from left to right.
 Example: Press **012** for "12".
- 13-99 Press 2 digits in order.
 Example: Press **22** for "22".
- 100-125 Press the 3 digits in order.
 Example: Press **110** for "110".

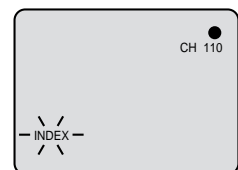
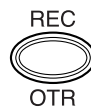
VHF/UHF/CATV CHANNELS

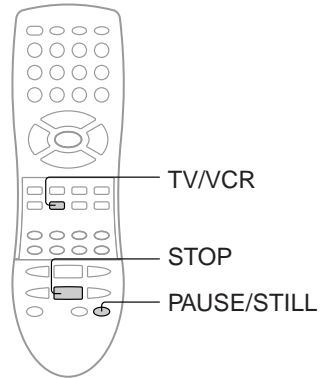
TV	CATV
VHF 2-13	VHF 2-13
UHF 14-69	STD/HRC/IRC 14-36 (A) (W) 37-59 (AA) (WW) 60-85 (AAA) (ZZZ) 86-94 (86) (94) 95-99 (A-5) (A-1) 100-125 (100)(125) 01 (5A)



5 Press REC.

"●" will appear on the screen for about 4 seconds and "REC" will appear on the display window.

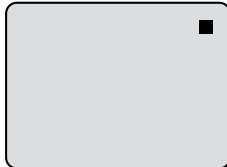
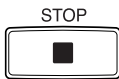




To stop recording

Press **STOP** to stop recording.

"■" will appear on screen for about 4 seconds.



■ Auto Rewind feature

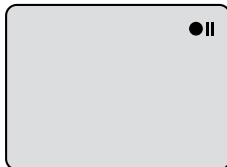
This VCR will automatically rewind the tape when the tape has ended (except during OTR and timer recording). It will also eject the tape.

Recording (VCR)

To stop recording temporarily

Press **PAUSE/STILL** to avoid recording unwanted material. Press again to continue the recording.

"●||" will appear on screen for about 4 seconds.



Notes:

- The pause function will be released after 5 minutes to prevent damage to the tape or the VCR. The VCR will change to the STOP mode.
- You can select a recording channel in the recording pause mode.

Recording one program while watching another

While the VCR is recording, select your desired channel on the TV.

When a TV is connected with an antenna cable only, press TV/VCR to select the TV position.

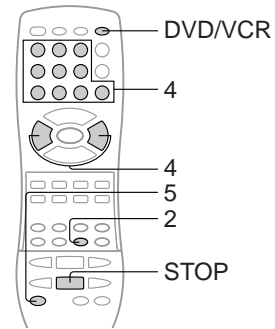
The "VCR" display will go off and recording will continue. Select the TV channel you want to watch by using the TV channel selector.

Note:

Some CATV hookups do not permit viewing one channel while recording another. See pages [16](#) and [17](#).

One-touch Timer Recording (OTR)

The One-touch Timer Recording feature provides a simple and convenient way to make a timed recording.



One-touch Timer Recording (OTR)

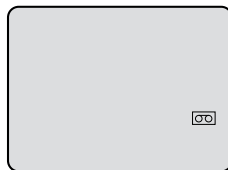
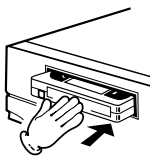
Preparation:

- Turn ON the TV and select the corresponding video input.
- Press **DVD/VCR** to select the VCR mode. (The VCR indicator will light.)

Example: One-touch Timer Recording for 30 minutes.

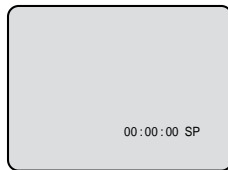
1 Load a cassette tape with the erase prevention tab intact.

The VCR will automatically turn on.



2 Press SP/SLP to select the desired tape speed SP or SLP.

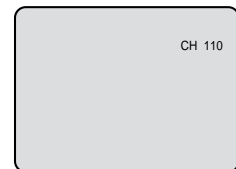
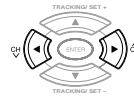
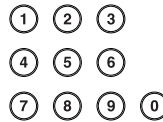
The tape counter and "SP" or "SLP" will appear on the screen for about 4 seconds.



3 Set "TV" or "CATV" option to the appropriate position 27.

TV - VHF/UHF channels
CATV - CABLE TV channels

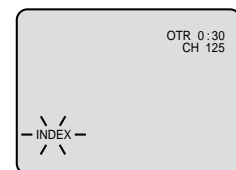
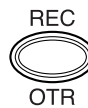
4 Press Number button or CH ^/∇ to select the channel to be recorded.



5 Press OTR. Recording begins. Press the button again to stop recording after 30 minutes. Each additional press of OTR will increase recording time as shown in the chart below, up to a maximum of 6 hours.

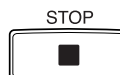
The OTR and recording time will appear on the screen for about 4 seconds. And, "●" will appear on the display.

Press	Recording time	Press	Recording time
once	NORMAL REC	6 times	3:00
twice	0:30	7 times	4:00
3 times	1:00	8 times	5:00
4 times	1:30	9 times	6:00
5 times	2:00	10 times	NORMAL REC



To cancel OTR

Press **STOP** or turn off the power.



"■" will appear on screen for about 4 seconds.

Note:

If you wish to watch the DVD playback during OTR or standard recording, press **DVD/VCR** to change to DVD mode and perform the DVD playback 43.