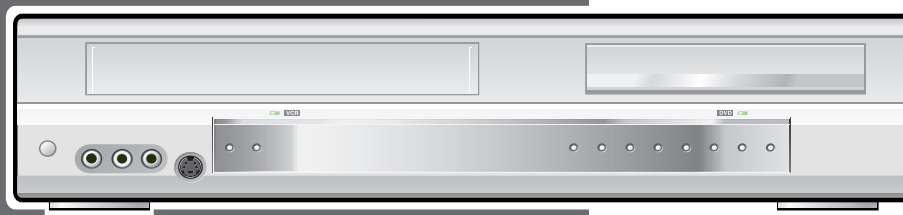


OWNER'S MANUAL

SANSUI®

DRAFT

DVD-RW RECORDER & VCR VRDVD4005



TV/CATV MODE SELECTION

When shipped from the factory, the TV/CATV menu option is set to the "CATV" (Cable Television) mode. If not using CATV (Cable TV), set this menu option to the "TV" mode.

ORION WEBSITE

FOR INFORMATION ON OUR OTHER PRODUCTS, PLEASE VISIT OUR WEBSITE AT WWW.ORIONSALESINC.COM

Before operating the unit, please read this manual thoroughly.

BEFORE USING
YOUR UNIT

DISC PLAYBACK

TAPE PLAYBACK

RECORDING

EDITING OF THE
DISC

DUBBING

VARIOUS SETTINGS

ADDITIONAL
INFORMATION

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Media mark

Each applicable media are indicated using the symbol shown below.

	DVD-Video
	DVD-RW in VR mode
	DVD-RW in video mode
	DVD-R
	Audio CD and CD-R/CD-RW
	Video tape



Sansui Dual Deck DVD Recorder

Warranty

One Year Full Warranty on Sansui Dual Deck DVD Recorder

If this product is defective in material or workmanship within one year from the date of purchase, RETURN IT TO YOUR NEAREST SEARS PARTS & REPAIR CENTER, and it will be repaired free of charge.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Sears, Roebuck and Co., Dept. 817WA, Hoffman Estates, IL 60179

Master Protection Agreements

Congratulations on making a smart purchase. Your new Dual Deck DVD Recorder is designed and manufactured for years of dependable operation. But like all products, it may require preventive maintenance or repair from time to time. That's when having a Master Protection Agreement can save you money and aggravation.

Purchase a Master Protection Agreement now and protect yourself from unexpected hassle and expense.

The Master Protection Agreement also helps extend the life of your new product. Here's what's included in the Agreement:

- ☑ **Expert service** by our 12,000 professional repair specialists
- ☑ **Unlimited service and no charge** for parts and labor on all covered repairs
- ☑ **"No-lemon" guarantee** – replacement of your covered product if four or more product failures occur within twelve months
- ☑ **Product replacement** if your covered product can't be fixed
- ☑ **Annual Preventive Maintenance Check** at your request – no extra charge
- ☑ **Fast help by phone** – phone support from a Sears technician on products requiring in-home repair, plus convenient repair scheduling
- ☑ **Power surge protection** against electrical damage due to power fluctuations
- ☑ **Rental reimbursement** if repair of your covered product takes longer than promised

Once you purchase the Agreement, a simple phone call is all that it takes for you to schedule service. You can call anytime day or night, or schedule a service appointment online.

Sears has over 12,000 professional repair specialists, who have access to over 4.5 million quality parts and accessories. That's the kind of professionalism you can count on to help prolong the life of your new purchase for years to come. Purchase your Master Protection Agreement today!

Some limitations and exclusions apply.
For prices and additional information call 1-800-827-6655.

Sears Installation Service

For Sears professional installation of home appliances, garage door openers, water heaters, and other major home items, in the U.S.A. call **1-800-4-MY-HOME®**



CAUTION



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



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.

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.

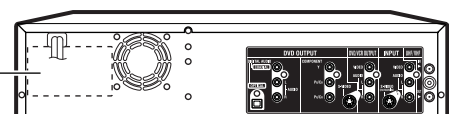
USE OF CONTROLS, ADJUSTMENTS OR THE PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

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 STANDARD, 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 SOURCES

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.

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.

PORTABLE CART WARNING
(symbol provided by RETAC)





IMPORTANT SAFEGUARDS

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.

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.



IMPORTANT SAFEGUARDS

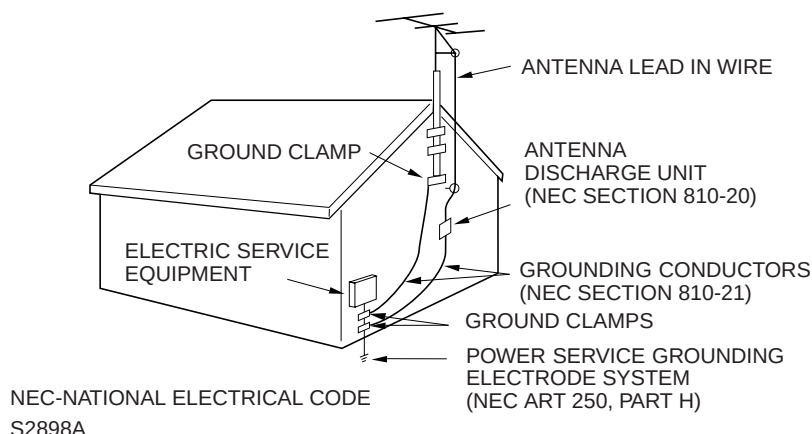
26. DISC

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 unit 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.

- * 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.
- * Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.
- * "DTS" and "DTS Digital Out" are trademarks of Digital Theater Systems, Inc.
- * Unauthorized recording of copyrighted television programs, films, video cassettes and other materials may infringe the rights of copyright owners and be contrary to copyright laws.
- * Certain audio features of this product manufactured under a license from Desper Products, Inc. Spatializer®, N-2-2™ and the circle-in-square device are trademarks owned by Desper Products, Inc.



Disc

Handling discs

Removing the Disc from its case

Be sure to hold the disc by its edges. Do not touch the surface of the disc.

Take the disc carefully from its case.



- Do not scratch the disc.
- Do not get dirt on the surface of the disc.
- Do not stick labels or adhesive tapes on the disc.
- Do not drop or bend the disc.

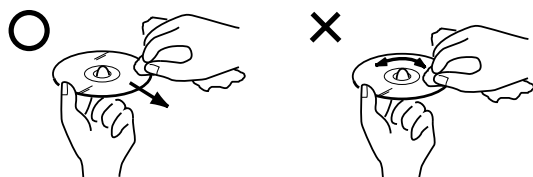
Storing discs

- Store the disc in the case to avoid any risk of scratches, dirt or damage.
- Do not leave the disc exposed to direct sunlight or in hot or humid places.

Cleaning discs

Wipe the disc with a clean, dry cloth from the center outward toward the edges.

- Do not wipe the disc in a circular motion around the center.
- Do not use liquid or aerosol cleaners.



Discs which can be played back

In this unit, use only discs that meet the standard, such as those bearing the below logo mark on the disc label surface. If you use the non-standardized disc, we cannot guarantee playback. Even if such a disc can be played back, we cannot guarantee the image or sound quality. The DVD logo is a registered trademark.

Media type	Logo mark
DVD-Video	
DVD-RW Ver.1.0 Ver.1.1 Ver.1.1CPRM support	
DVD-R Ver.2.0	
Audio CD*	
CD-R/CD-RW	

* This unit is designed to playback music Compact Discs (CD) that conform to the CD standard. CDs that contain (copy-restriction) signals to protect copyrights cannot be played back.

Region management information

This unit is designed and manufactured to support the Region management information that is recorded on a DVD disc. If the region number written on the DVD disc does not correspond to the region number of this unit, this unit cannot play that disc.

- The region number of this unit is "1".
- The unit will play DVD-Video discs marked with labels containing "1" or "ALL".

Example:



Operating DVD-Videos

- Some operations of DVD-Videos may be prohibited by the manufacturer, or some operation methods or functions of the DVD-Videos may be different from the description in this manual.
- If you attempt an operation that is prohibited by either the disc or the unit, a "W" mark will appear on the TV monitor. For operations prohibited by the disc, see the information that came with the disc.
- When the menu screen or the operation guide appears during disc playback, follow the displayed information.

Discs which cannot be played back

The discs listed below cannot be played back in general. Even if one of these can be played back, it may not be played back correctly. If a disc is played back by mistake, extensively loud sounds may blow the speakers or may damage the hearing of those in hearing range. Do not play back the below discs.

CDG, Photo-CD, CD-ROM, CD-TEXT, CD-EXTRA, VCD, SVCD, SACD, PD, CDV, DVD-ROM, DVD-RAM, DVD+R/RW, DVD audio, etc.

The below DVD-Videos may not be played back.

- DVD-Videos that do not have the region number "1" or "ALL".
- PAL/SECOM DVD-Videos.
- Prohibited or business-use DVD-Videos.

CD-R/CD-RWs cannot be played back for the following reasons.

- Compatibility of the disc and this unit.
- Compatibility of the disc and the recorder used.
- Unfinalized discs.

Do not playback the following discs. Playback of these discs may cause a failure.

- Discs on which paper, labels or stickers are affixed.
- Discs that have sticky areas left by adhesive tape.
- Special-shaped discs.



Disc

Discs on which video can be re-corded

To record video with this unit, use the below discs.

Media type	Logo mark
DVD-RW Ver.1.0 Ver.1.1 Ver.1.1 CPRM support	
DVD-R Ver.2.0	

DVD-RW

- The disc can repeatedly record about 1,000 times.
- Only the VR mode can be used for Ver.1.0 discs.
- With Ver.1.1 discs, you can record by selecting the VR mode or video mode.
- When you record in the VR mode, you can repeatedly record and erase. By erasing the unnecessary title, you effectively increase remaining time.
- When you record in the video mode, you can record until the disc becomes full.
- When you use the video mode, you can newly record on the disc by initializing the disc. However, if the disc is initialized, all the recorded content will be erased.

DVD-R

- You can record on the disc only in the video mode.
- You can record until the disc becomes full.
- Finalizing the discs allows playback on other DVD players. However, the finalized discs can no longer record or erase.
- Discs can be additionally recorded with this unit only until they are finalized.

NOTES:

- There are some players that cannot play back discs that were recorded with this unit. We cannot guarantee the playback on other units.
- This unit cannot record on DVD-R and DVD-RWs of 8 cm diameter.
- This unit cannot record on CD-R or CD-RW.

Recording format

This unit has two modes for formatting discs for recording: VR mode and video mode.

When an unused DVD-RW (Ver.1.1) is loaded into this unit, the automatic initialization function starts to initialize the disc. (For the disc format setting in this step, see page 73.)

VR mode

- This mode can be used for DVD-RWs.
- In this mode, the discs can be recorded and edited repeatedly.
- The disc recorded in this mode can be played back on other DVD-RW-supporting players.
- When a Ver.1.1 CPRM disc is used, you can record a TV program "One-time recordable".

Video mode

- This mode can be used for DVD-Rs and DVD-RWs (Ver.1.1).
- When you finalize the disc after recording, the disc recorded with this unit can be played back in other DVD players.
- Recording, editing or playback of an unfinalized disc can be done only with this unit. However, there is some limitation to editing operations.
- In this mode, you cannot record a TV program "one-time recordable".
- When you record a TV program of a bilingual broadcast, only the audio selected from main or sub can be recorded.

Format modes that can be used each disc

The usable format depends on the media type as shown in the below table.

Media type	Format	Available functions
DVD-RW (Ver.1.0)	VR mode	Playback, recording and editing (Original/playlist)
DVD-RW (Ver.1.1 and later)	VR mode	Playback, recording and editing (Original/playlist)
	Video mode	Playback and recording Editing (with limitation)
DVD-R (Ver.2.0 and later)	Video mode	Playback and recording Editing (with limitation)

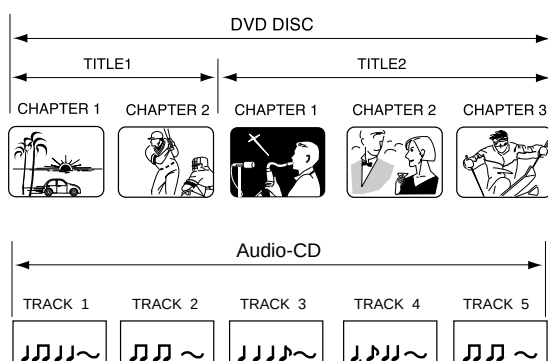


Disc

Title/Chapter/Track

A DVD-Video has a large partition called a “title” and a smaller partition called a “chapter”.

A music CD has another partition called a “track”. A number is allotted to each partition and these numbers are called “title numbers”, “chapter numbers” or “track numbers”.



When recording in the VR mode

One-time recording is set to 1 title (1 chapter). However, if you stop recording temporarily or erase scenes by editing, the chapter will automatically be partitioned. The interval between chapters can be specified. (See page 77.)

When recording in the video mode

One-time recording is set to 1 title. In recording, chapters are set automatically. The interval between chapters can be specified. (See page 77.)

NOTES:

- The title, chapter and track are numbered, but some discs may not record the numbers.
- Recording on DVD-R/RW in the video mode is a new standard approved at the 2000 DVD forum. Conformity to this standard varies with each DVD player manufacturer. Some models of DVD player or DVD-ROM drive, therefore, will not play back recorded videos.
- In the video mode, you can only change title names. Other editing operations cannot be performed.
- The number of chapters that can be created on one disc varies with the remaining memory space of the disc, the target number being 200. However, the number of chapter marks that cannot be erased (this chapter is automatically created when a scene is added or erased) is limited to 50 per title.

Disc playback in other players

A disc recorded in this unit can be finalized. The finalized disc can be played back in players other than this unit that can playback DVD-RWs and DVD-Rs.

For more information on finalization, see “Finalization” in “Disc setting” (page **).

When recording in the VR mode

A disc recorded in the VR mode can be recorded or edited in this unit after finalization.

When you playback the disc in another player, make sure that the DVD player supports DVD-RW and bears the following mark.

RW
COMPATIBLE

When recording in the video mode

When a disc recorded in the video mode is finalized, you cannot record the disc after that. Therefore, before finalization, be sure to perform the necessary recording. After finalization, a title menu that can be used by the DVD player is automatically created.

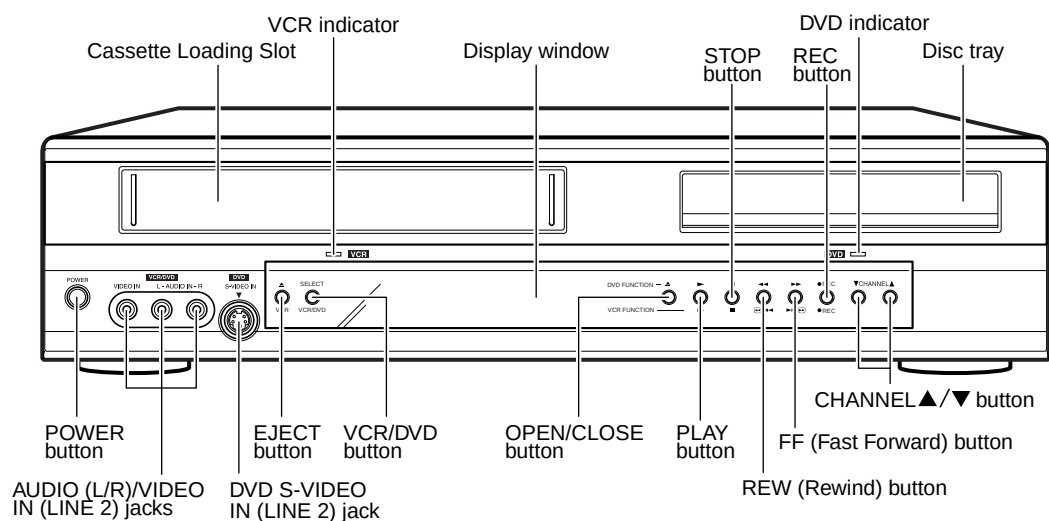
NOTES:

- The finalization process requires a few minutes to about 1 hour. (If there is much remaining space on the disc, the process will take more time.)
- A DVD-RW Ver.1.1 recorded in the video mode cannot be recorded or edited after finalization, but if you initialize the disc by erasing all the content, you can record on this disc.
- A finalized disc may not play because of its condition or the DVD player used for playback.
- Some players may not playback the discs recorded with this unit. We cannot guarantee the playback using other players.

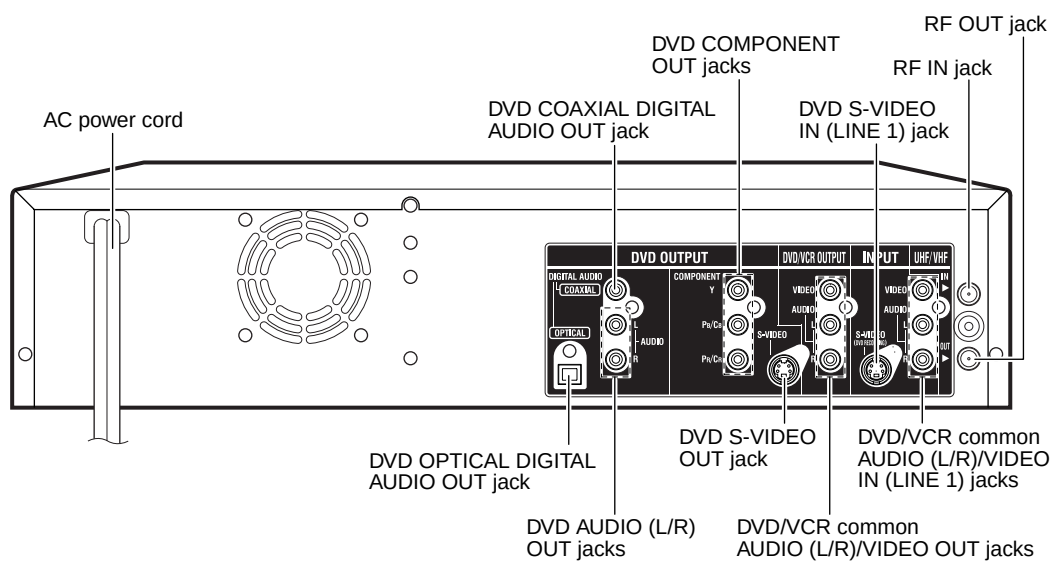


Parts and functions

Front



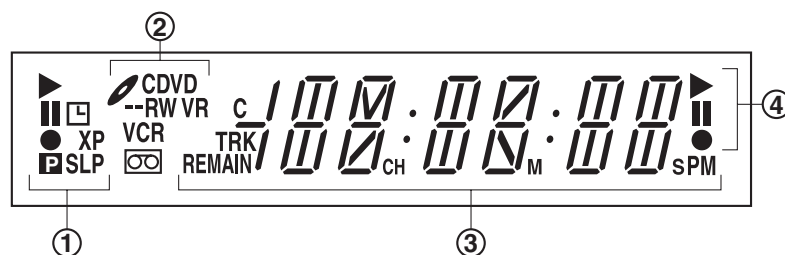
Rear





Parts and functions

Display window



No.	Display	Description
①	▶	Lights during video tape playback.
	⏸	Video tape is temporarily stopped.
	●	Lights during video tape recording.
	P	Progressive scanning mode.
	L	Timer recording display.
	XP/SP/LP/EP	4 DVD recording modes. XP, SP, LP or EP is selected in turn by pressing the REC MODE/SPEED each time.
	SP/SLP	2 VCR recording modes. SP or SLP is selected in turn by pressing the REC MODE/SPEED each time.
②	CD	Appears when a CD is inserted.
	CD-R	Appears when a CD-R is inserted.
	DVD	Appears when a DVD video is inserted.
	DVD-R	Appears when a DVD-R is inserted.
	DVD-RW	Appears when a DVD-RW is inserted.
	VR	Appears when a DVD-RW in VR mode is inserted. When the disc is set to video mode, VR does not appear.
	VCR	Always appears when the disc is set to VCR or DVD mode. When you press TV/VCR to select TV mode, VCR disappears.
③	⏻	Video tape is in the unit.
	10:00	Clock display (Colon [:] flashes.)
	01H00M00s	Counter display in hour/minute/second for VCR/DVD, minute/second for CD
	C 36CH	CATV channel display
	2CH	TV channel display for VCR
	TRK 2	Track number display for CD
	REMAIN	Display for remaining time
	PM	Display for afternoon (out in the morning)
	L1/L2	The external input channel (L1 or L2) display
④	Err	Error display
	▶	Lights during playback of DVD and CD. Flashes in auto resume.
	⏸	DVD or CD is temporarily stopped.
④	●	Lights during DVD recording.

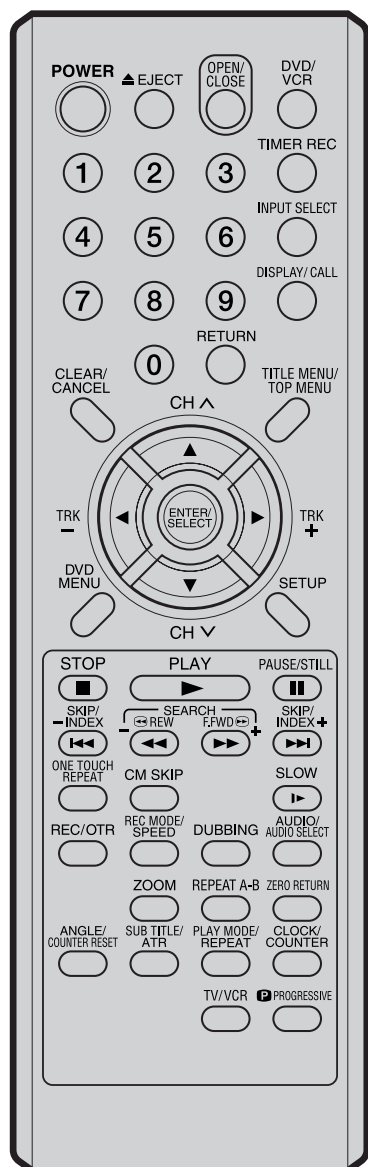
NOTE:

Some discs may be displayed wrong or e.g. chapter number, playback time, etc. may not be displayed.



Parts and functions

Remote control



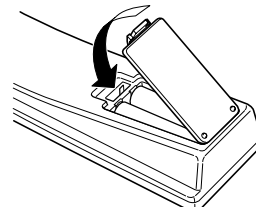
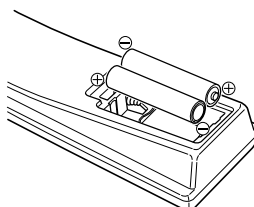
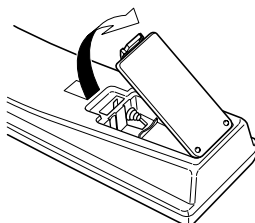
		Page
POWER	Turns power on/off.	00
EJECT	Ejects the cassette tapes.	00
OPEN/CLOSE	Opens or Closes the tray.	00
DVD/VCR	Switches to operation between VCR and DVD.	00
0-9	Direct channel selection of TV	00
	Setting input	00
	Entering a password	00
TIMER REC	Sets the unit to start recording at a preset time.	00
INPUT SELECT	Switches the connected TV to external mode.	00
DISPLAY/CALL	Displays VCR or DVD operation status.	00
RETURN	Removes the DVD setup menu.	00
CLEAR/CANCEL	Deletes the Timer program.	00
	Cancels input data in the setting mode.	00
TITLE MENU/TOP MENU	Selects titles of a DVD disc.	00
CH ^/v	Channel selection for the connected TV or VCR	00
▲ / ▼	Cursor buttons	00
TRK +/-	Manual tracking buttons in the playback mode	00
◀ / ▶	Cursor buttons	00
ENTER/SELECT	Option selection in the menu	00
DVD MENU	Displays the menu of the DVD disc.	00
SETUP	Displays the setup menu.	00
STOP	Stop	00
PLAY	Playback	00
PAUSE/STILL	Still picture/Recording pause on/off	00
SKIP ◀/▶	Skips tracks in the forward or reverse direction	00
INDEX ◀/▶	Searches for the INDEX mark of a tape	00
REW/SEARCH	Rewind/Review playback	00
F.FWD/SEARCH	Fast Forward/Forward search playback	00
ONE TOUCH REPEAT	Repeats playback between the section played	00
	10 seconds before and present section.	00
CM SKIP	Skips commercial breaks.	00
SLOW	Slow motion playback	00
REC/OTR	Recording	00
REC MODE/SPEED	Selects the recording mode.	00
DUBBING	Copies VCR to DVD or DVD to VCR.	00
AUDIO/AUDIO SELECT	Switches sound between mono and stereo.	00
	Changes the language of the DVD.	00
ZOOM	Zoom	00
REPEAT A-B	Repeats playback between A and B.	00
ZERO RETURN	Stops the tape when the counter reaches 00:00m00s.	00
ANGLE	Changes playback angle.	00
COUNTER RESET	Resets the counter to 00:00m00s.	00
SUB TITLE	Resets subtitles of the DVD disc.	00
ATR	Digital AUTO TRACKING	00
PLAY MODE	Selects the playback mode.	00
REPEAT	Repeats playback.	00
CLOCK/COUNTER	Changes the front panel display mode.	00
TV/VCR	Switches input between the TV and VCR.	00
PROGRESSIVE	Activates the progressive scanning mode.	00



Parts and functions

Inserting Batteries

- 1 Open the battery compartment cover in the direction of the arrow.
- 2 Install two “AAA” batteries (not 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:

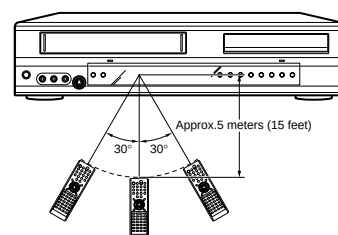
1. Use only the size and type of batteries specified.
2. Be sure to follow the correct polarity when installing the batteries as indicated in the battery compartment. Reversed batteries may cause damage to the device. To avoid a potential short circuit, insert the “–” end first.
3. Do not mix different 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

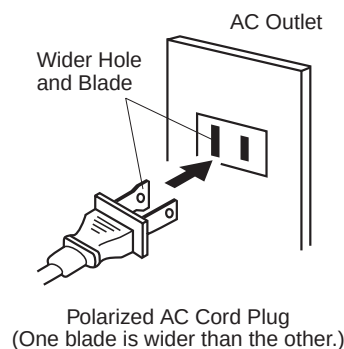
- Press **POWER** to turn the DVD/VCR on or off.
- Press **CH ^** or **CH v** to move through the channels one channel at a time.
- The **▲/▼/◀/▶** are also used to navigate on-screen menu system.
- You can directly access specific channels using **numeric keys**.
- Each press of **DVD/VCR** on the remote control, switches the screen between the DVD screen (DVD mode) and the VCR screen (VCR 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. 5 meters (15 feet).



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.



Basic connections

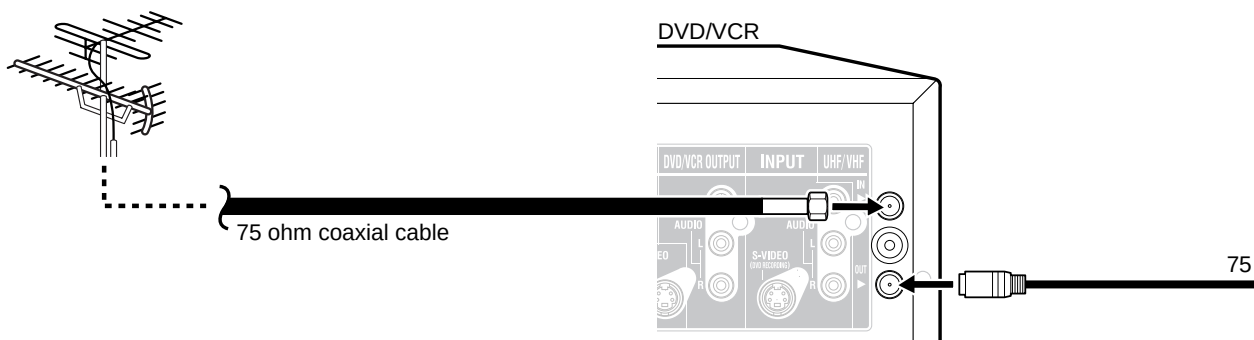
If you are using an antenna system, follow these instructions. If you are a cable (CATV) subscriber, skip ahead to page 18 for the proper connections.

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.

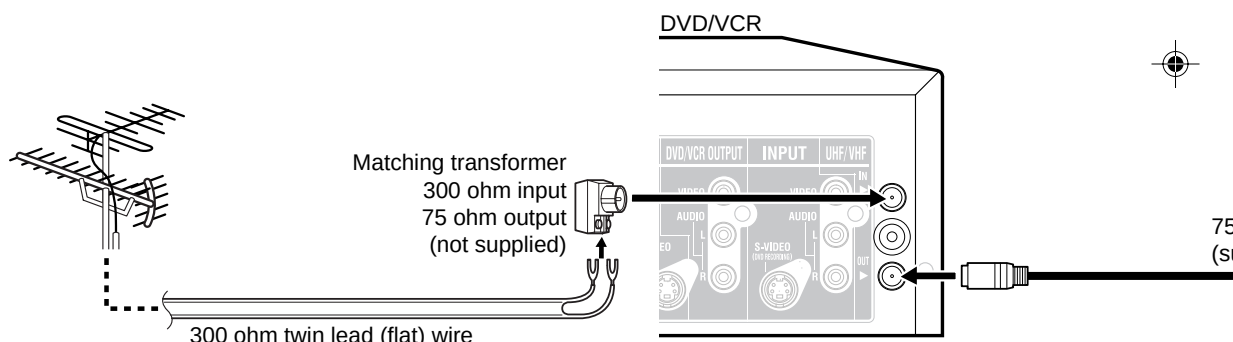
1

Combination VHF/UHF antenna with 75 ohm coaxial cable



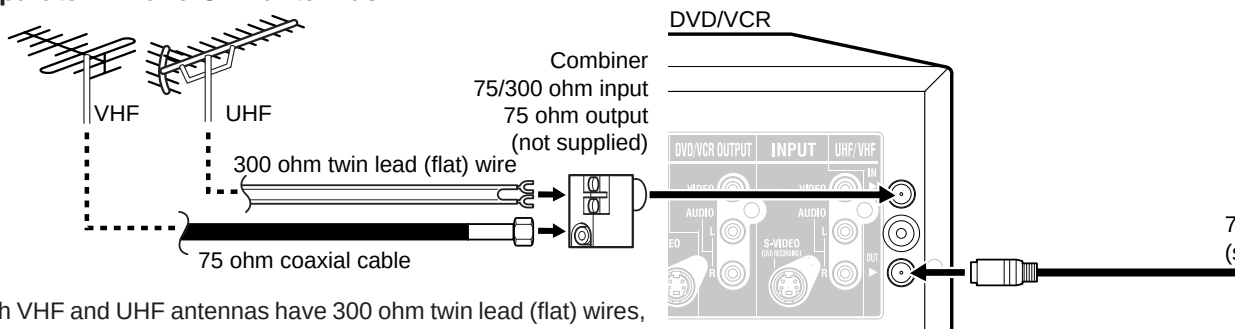
2

Combination VHF/UHF antenna with 300 ohm twin lead (flat) wire



3

Separate VHF and UHF antennas



NOTE: If both VHF and UHF antennas have 300 ohm twin lead (flat) wires, use a combiner having two 300 ohm inputs and one 75 ohm output.

- 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.



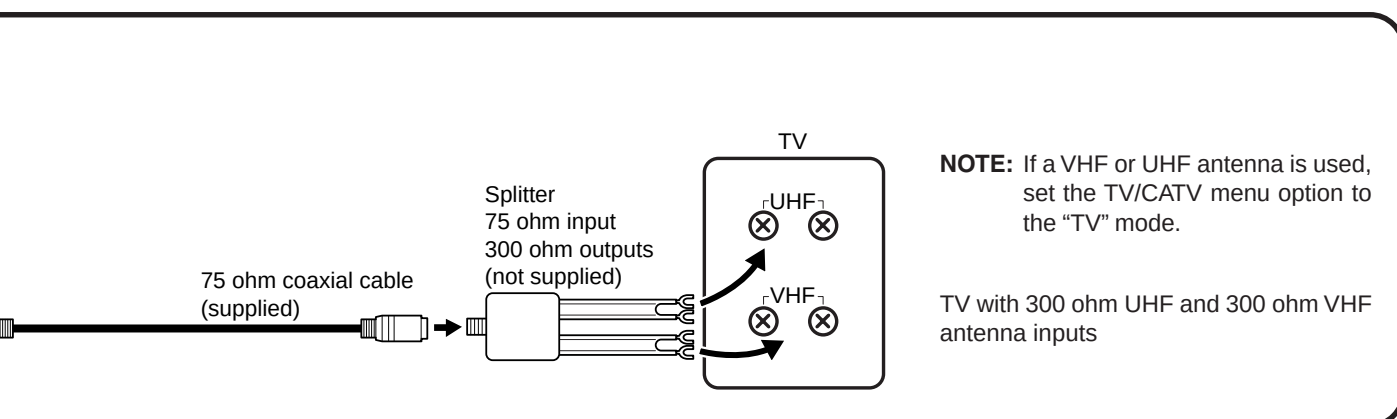
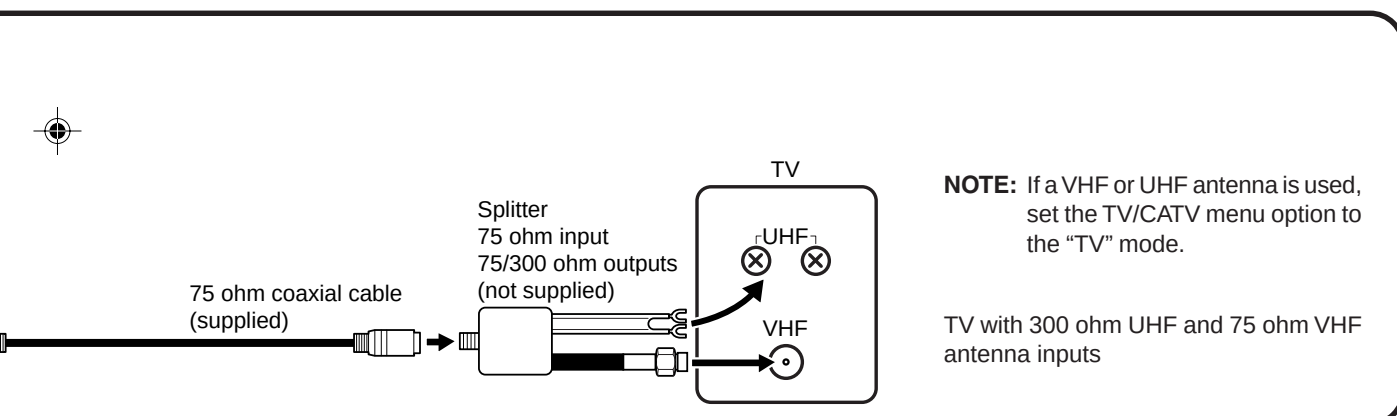
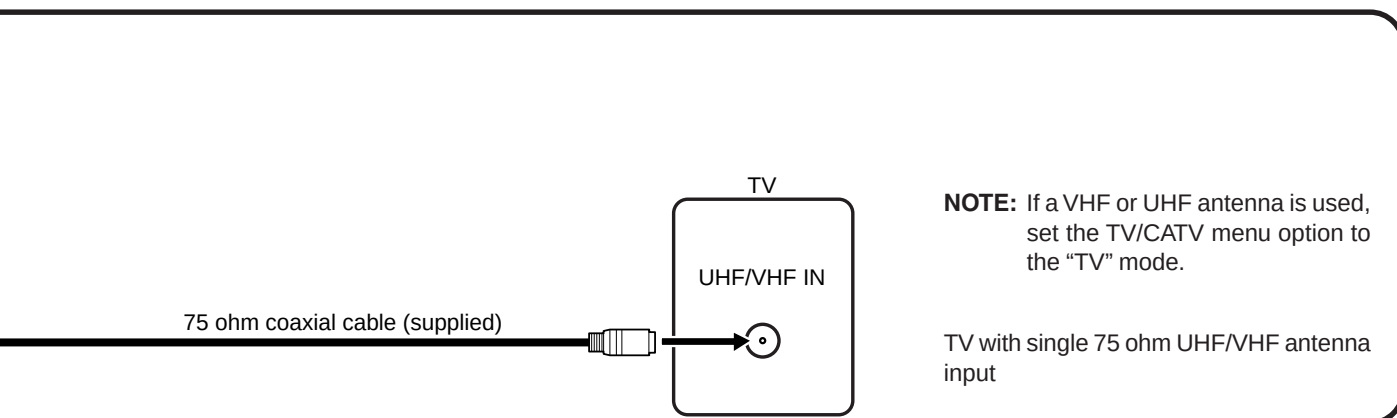


Basic connections

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.

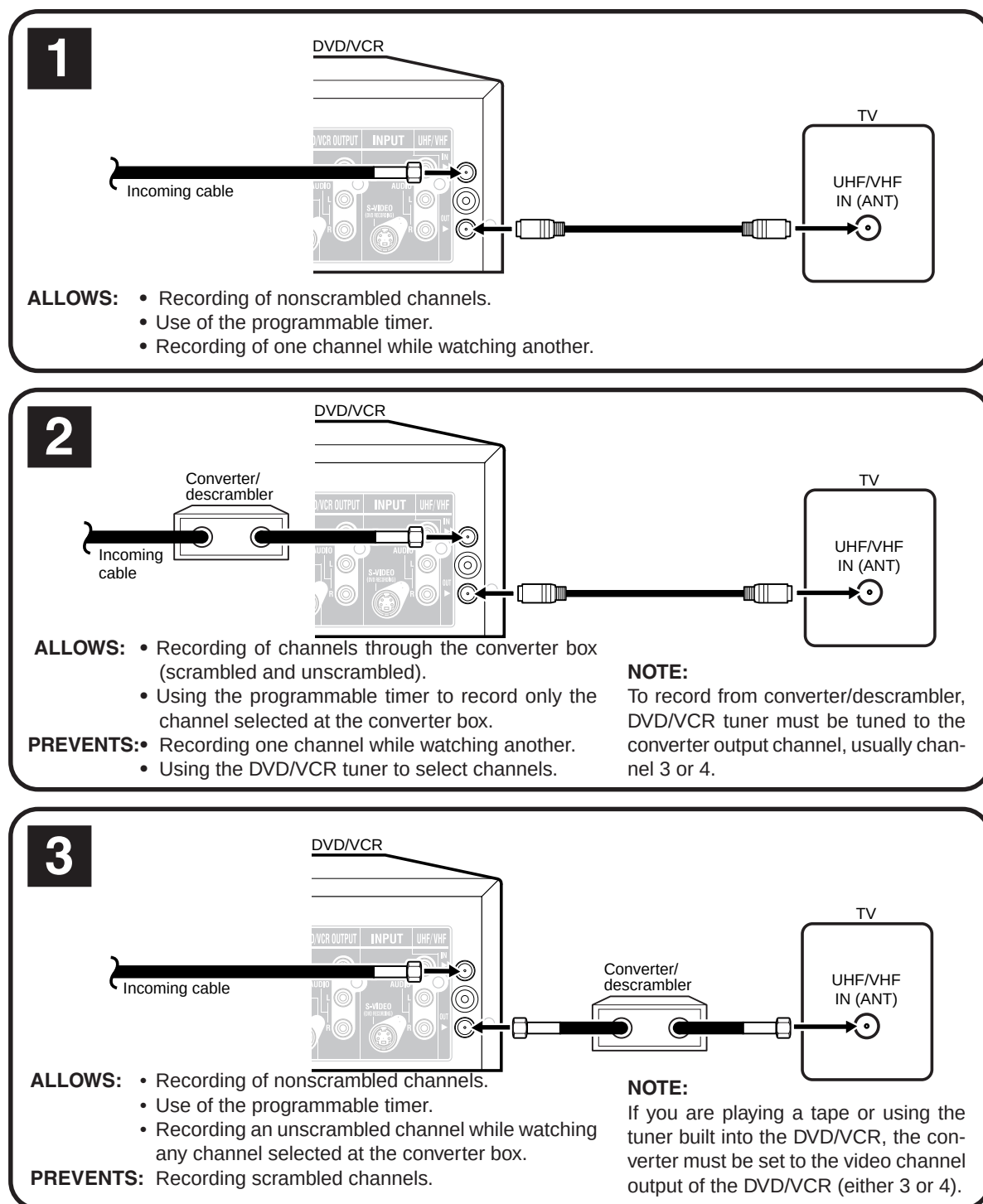
This DVD/VCR has a single 75 ohm output for connection to a TV. If your TV has separate VHF and UHF antenna inputs (numbers 2 and 3 below), use a splitter to connect the DVD/VCR to the TV for VHF and UHF reception.





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 channels which are intentionally scrambled. If you subscribe to a special channel which is scrambled, you must have a descrambler box for proper reception.



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.

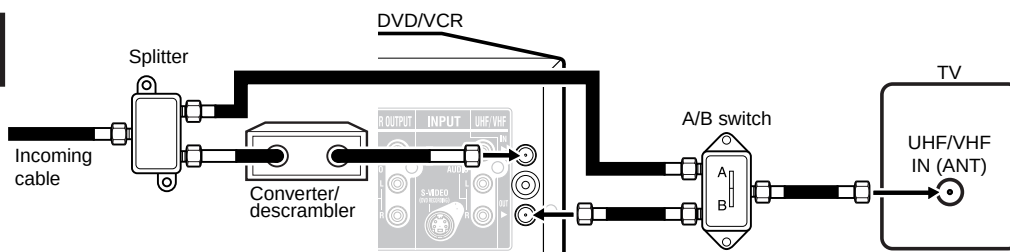


CATV (CABLE TV) connections

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.

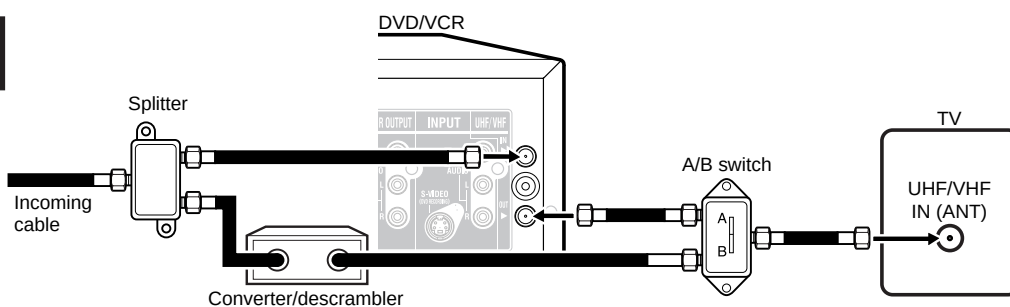
4



- 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.

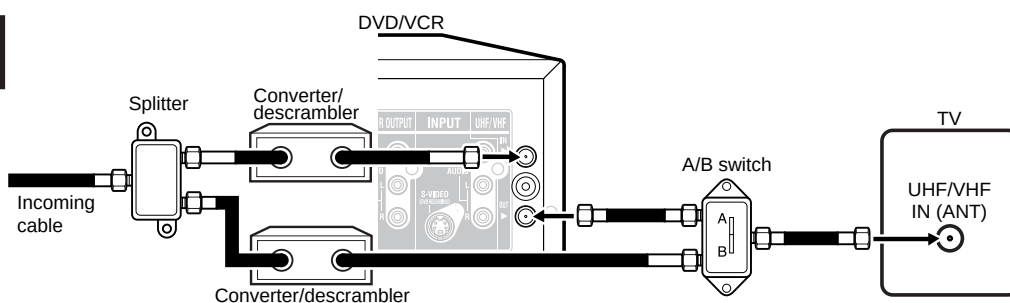
5



- 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.



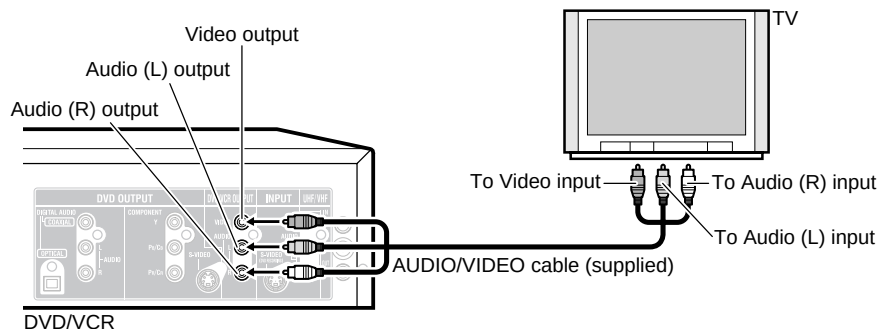
Connections with the TV or audio component

The exact arrangement you use to interconnect various video and audio components to the DVD/VCR is dependent on the model and features of each component. Check the Owner's Manual provided with each component for the location of video and audio inputs and outputs.

Connect to a TV with Audio/Video output

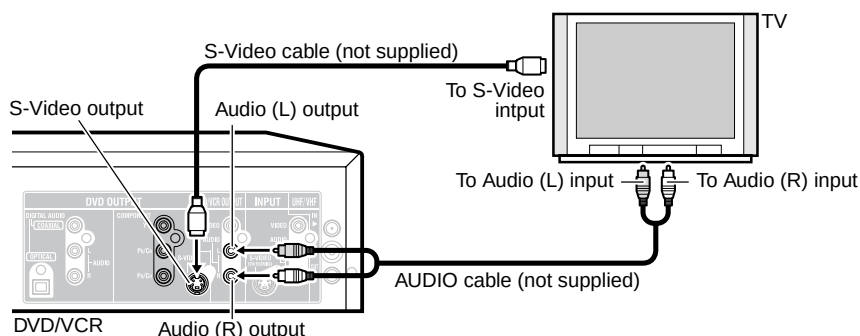
You can enjoy playback by connecting the unit to a TV.

Connect the unit to a TV equipped with audio input (L/R) and video input jacks using the supplied audio/video cable.



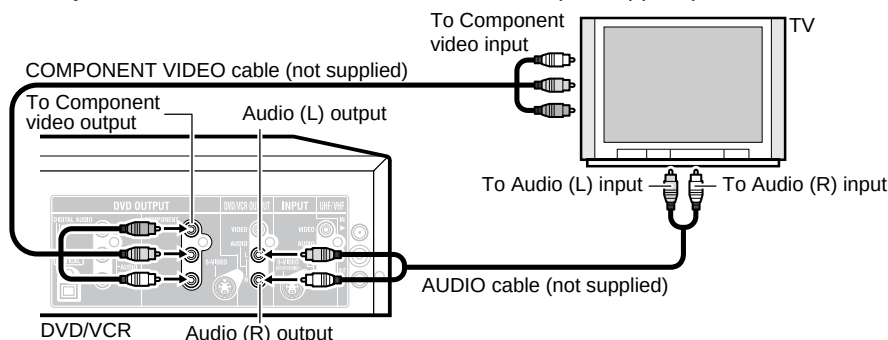
Connect to a TV with S-Video output (for DVD/CD playback)

If your TV has an S-VIDEO input, you can get higher quality by connecting it with the S-VIDEO output of the unit using the S-video cable instead of connecting the video input of the TV to the VIDEO jack of the unit.



Connect to a TV with Component video output (for DVD/CD playback)

You can enjoy high quality picture by connecting the unit's COMPONENT VIDEO OUT jacks to the COMPONENT VIDEO IN jacks of your TV with the COMPONENT video cables (not supplied).



NOTES:

- When connecting to a TV using the VIDEO or S-VIDEO jack, make sure that the PROGRESSIVE indicator on the display window is not lit. If it is lit, the VIDEO and S-VIDEO outputs do not feed the correct signals and you cannot see any picture. To turn off the PROGRESSIVE indicator, make the Progressive scanning mode inactive (see page 37).
- When the component video input jacks on a TV is of the BNC type, use an adapter to convert a pin jack to a BNC jack (not supplied).



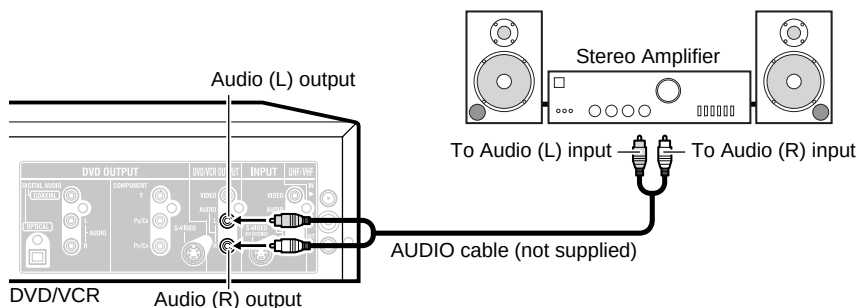


Connections with the TV or audio component

Connect to a stereo amplifier with audio output

You can enjoy high quality audio by connecting the audio output to your amplifier.

Connect the AUDIO OUT jacks to any line-level inputs (such as AUX, DVD, CD, etc.) of an audio amplifier.



Connect to an AV Amplifier with built-in digital surround

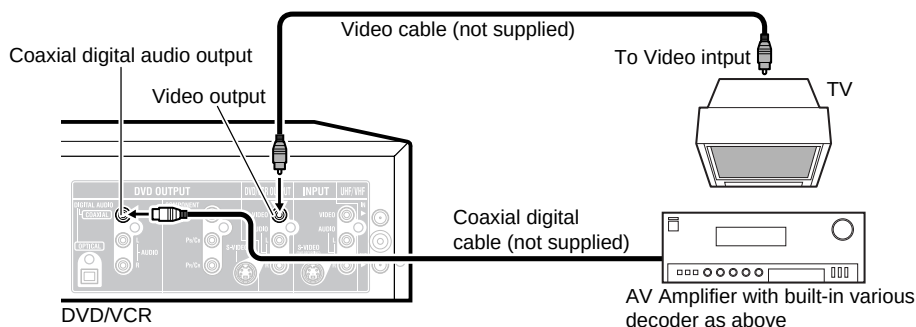
If you are using an Amplifier with a built-in digital surround as follows, you can enjoy the various audio systems such as Dolby Digital and DTS by using the Optical or Coaxial Digital Output.

Use this connection to connect an:

- AV amplifier with built-in *Dolby Digital decoder
- AV amplifier with built-in *DTS decoder

NOTE:

You may connect to a TV with a Component video cable (not supplied) or S-Video cable (not supplied) instead of a video cable (not supplied).



Connecting the optical digital cable

You may connect to an AV Amplifier with an Optical digital cable (not supplied) instead of a Coaxial digital cable.

When you connect the optical digital cable (not supplied), remove the dust protection cap from the rear panel. When not using the optical digital cable, attach the dust protection cap to protect against dust.

NOTES:

- The DVD OUTPUT jacks (OPTICAL, COAXIAL, AUDIO L/R, S-VIDEO and COMPONENT) are useful only for DVD section. The VHS signal is output only from the composite jacks (DVD/VCR OUTPUT) and UHF/VHF OUT.
- When you make the connections above, do not set DOLBY DIGITAL to DOLBY DIGITAL or DTS to ON on the AV amplifier. If you do, a loud noise will suddenly come out from the speakers, affecting your ears or causing the speakers to be damaged.
- Caution for the optical digital audio output connector: Do not connect to an amplifier (with an optical digital input connector) which does not contain a Dolby Digital or DTS decoder. Otherwise, any attempt to play DVDs may cause such a high level of noise that it may be harmful to your ears and damage your speakers.
- DTS audio will be output only from the COAXIAL or OPTICAL output. To hear DTS audio, DTS-Decoder is necessary.
- When playing DTS-encoded CDs, only noise will be heard from the speakers or analogue stereo outputs.
- Some DTS decoders which do not support DVD-DTS interface may not work properly with the unit.



Setting the video channel

Auto clock setting

Preparation:

You must set the antenna connection before the AC cord plug is inserted into the AC outlet.

WAIT 30 MINUTES! when the power switch is off, after the connections of the antenna and the power plug. Because the auto clock setting feature is activate.

After the clock is set automatically, you may have to set the time zone and daylight saving time.

Press **POWER** to turn on the DVD/VCR after the auto clock operation completed.

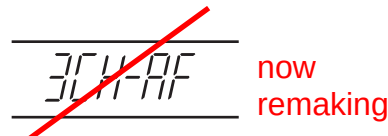
- When shipped from factory, the "AUTO CLOCK" option is set to "ON" position.
- If you turn the DVD/VCR on during auto clock setting, the clock is not set.
- With cable box connection, if the auto clock setting is unsuccessful, please select the PBS channel carrying the XDS information, then turn the DVD/VCR off. After 30 minutes, turn the DVD/VCR on, and if the clock is not set automatically, set the clock manually. (See page 72.)

Setting the video channel

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).

When a TV is connected with the 75 ohm coaxial cable only.

- 1 Press and hold **3** or **4** on the remote control for 3 seconds **in the standby mode** to select CH **3** or **4**. The selected channel number will flash on the display for about 4 seconds.
- 2 Turn ON the TV and set to CH **3** or **4** to correspond with the channel selected in step 1.
- 3 Press **POWER** to turn on the DVD/VCR.
- 4 Press **DVD/VCR** to select the VCR mode. The VCR indicator on the front panel will light.
- 5 Press **TV/VCR** to select the VCR position. The VCR indicator will appear in the display.
- 6 Select any channel to receive a TV station in your area. The channel number will appear on the screen for about 4 seconds.



NOTES:

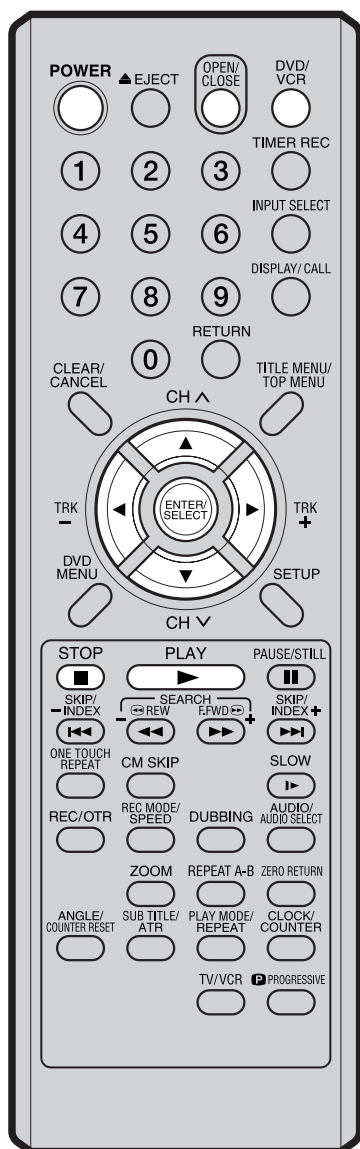
- When shipped from factory, the video channel is set to CH 3.
- If the unit does not operate properly, or No key operation (by the unit and/or the remote control): Static electricity, etc., may affect the operation. Disconnect the AC power cord once, then connect it again.
- If no buttons are pressed for more than 60 seconds, the MENU screen will return to normal TV operation automatically.

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**, playback 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.



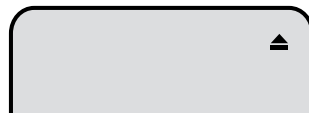
Playback procedure



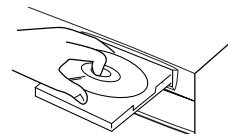
Preparation:

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

- 1 Press **OPEN/CLOSE**.
The disc tray will open.



- 2 Place a disc onto the tray.
Hold the disc, position it with the printed label side up, align it with the guides, and place it in its proper position.



- 3 Press **OPEN/CLOSE** to close the disc tray.
"READING" appears on the screen and some discs start playback automatically.
 - A menu screen may appear on the TV screen, if the disc has a menu feature. In this case, press **▲**, **▼**, **◀**, **▶** or **ENTER** to operate a menu feature.



- 4 Press **PLAY** to start playback.

- 5 Press **STOP** to end playback.
 - The DVD/VCR memorizes the stopped point, depending on the disc. "■" appears on the screen for approx. 4 seconds. "▶" keep blinking in the display until the playback is stopped completely. Press **PLAY** to resume playback (from the scene point).
 - If you press **STOP** again ("■" appears on the screen) or unload the disc, the DVD/VCR will clear the stopped point.

- 6 Then press **OPEN/CLOSE**.
The disc tray opens.
Remove the disc and press **POWER**.
The disc tray closes automatically and DVD/VCR turns off.

NOTES:

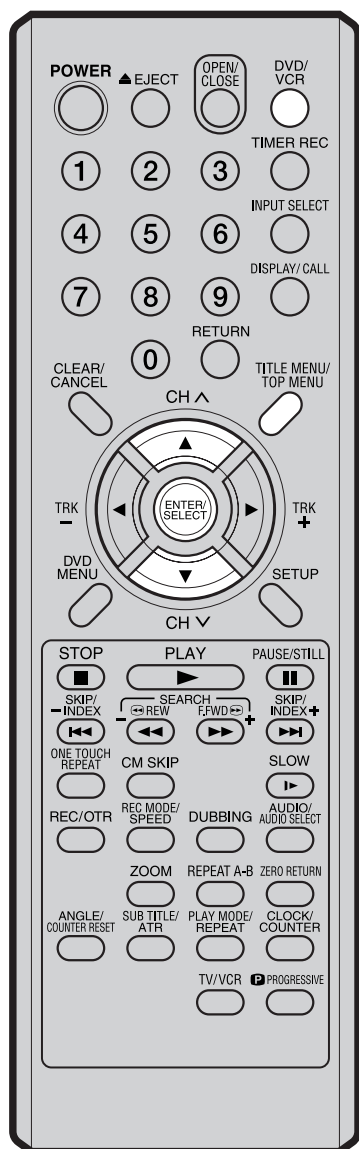
- If a non-compatible disc is loaded, "Incorrect Disc", "Region Code Error" or "Parental Error" will appear on the TV screen according to the type of loaded disc. In this case, check your disc again (See pages 9 and 22).
- Some discs may take a minute or so to start playback.
- A Prohibition symbol (hand with slash) may appear at the upper right of the screen. This symbol means either the feature you tried is not available on the disc, or the DVD/VCR can not access the feature at this time. This does not indicate a problem with the DVD/VCR.
- When you set a single-faced disc label downwards (ie. the wrong way up) and press **PLAY** or **OPEN/CLOSE**, "READING" will appear and remain on the screen for approx. 40 seconds and then it will change to "Incorrect Disc".
- Some playback operations of DVDs may be intentionally fixed by software producers. Since this DVD/VCR plays DVDs according to the disc contents the software producers designed, some playback features may not be available. Also refer to the instructions supplied with the DVDs.
- When playing DTS-encoded Audio CDs, excessive noise will be heard from the analog stereo outputs. To avoid possible damage to the audio system, the consumer should take proper precautions when the analog stereo outputs of the DVD/VCR are connected to an amplification system.



Playback by selecting a title



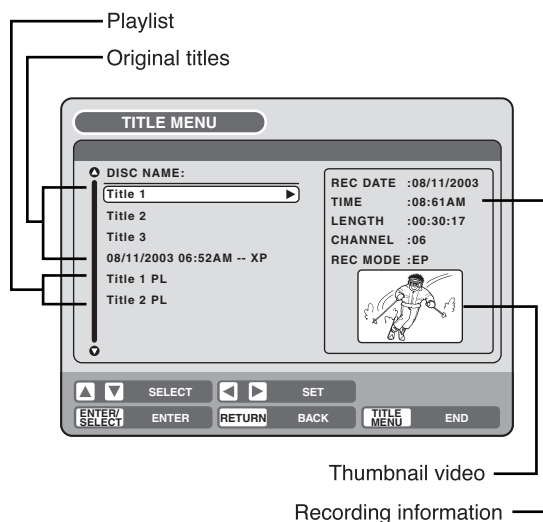
When playing back a recorded disc, you can display the title menu and select the title to be played back.



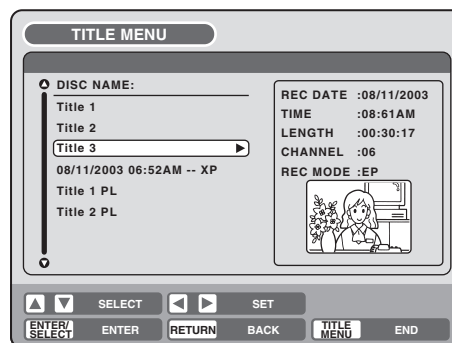
Preparation:

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

- 1 Press **TITLE MENU**.
The title menu will appear.



- 2 Press **▲** or **▼** to select the title you want to playback.



- 3 Press **ENTER**.
The selected title is played back.

NOTES:

- When a disc that has been recorded in the video mode is finalized, the title menu doesn't appear. When a disc that has been recorded in the VR mode is finalized, the title menu appears.
- If you don't display the title menu and press **PLAY**, the first title is played back.
- The title menu is used not only for playing back titles but also for editing various discs and titles. For details of editing operation, see page 51.
- If you create a playlist, an original title and playlist appear in the title menu. For creating a playlist, see page 52.

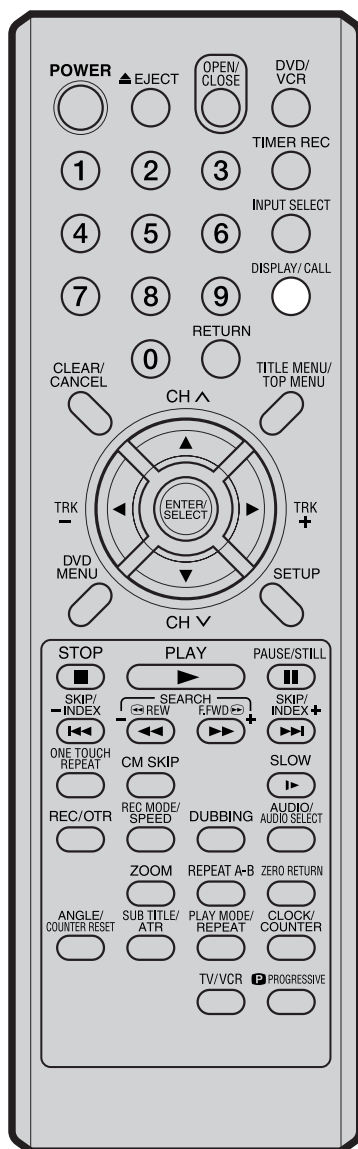




Checking media information



Various information on the loaded disc can be displayed on the TV screen.

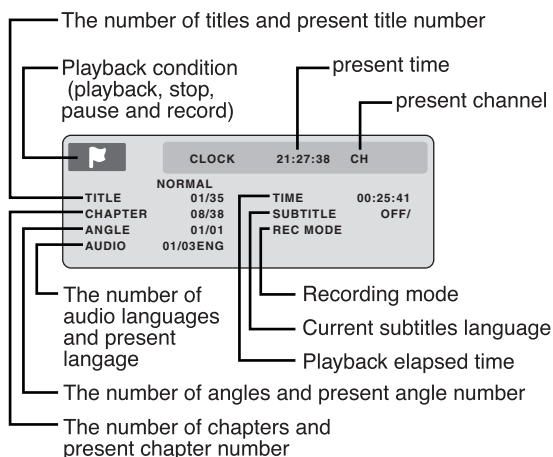


Preparation:

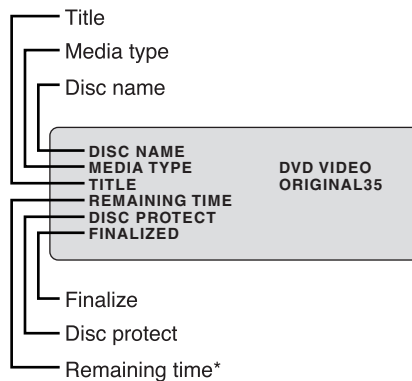
- Turn ON the TV and set it to the video input mode.
- Load the disc.
- Press DVD/VCR to select the DVD mode. (The DVD indicator will light.)

1 Press **DISPLAY/CALL**.

Media information will appear. This media information is displayed for about 50 seconds, and then automatically goes out.



2 Press **DISPLAY/CALL** while the media information above is displayed. The next media information will appear.



NOTES:

- The displayed information varies with the type of media.
- Some information may not appear due to media type or operating conditions.

*The remaining time displayed during recording may be different from the actual remaining time. When you want to check the correct remaining time, stop recording and display the media information again.

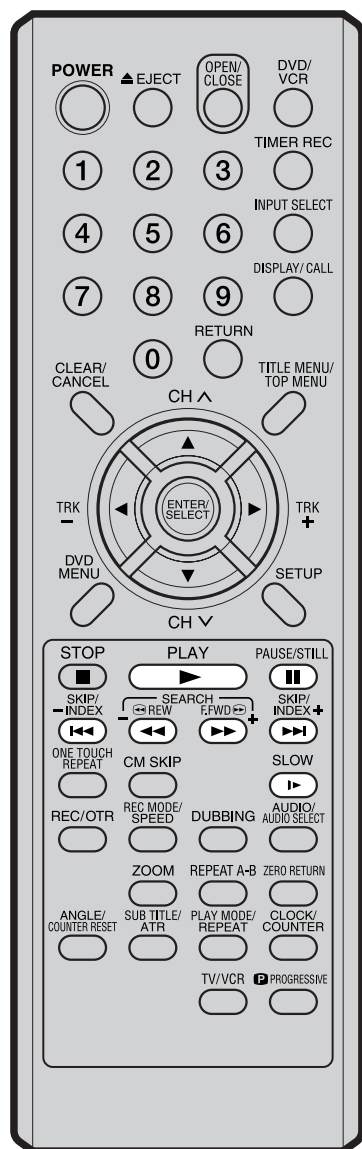
3 Press **DISPLAY/CALL** again while the media information above is displayed. The media information will disappear.



Special playback



NOTE: There may be a slight delay between pressing the button and the function activation.



NOTE:

The unit is capable of holding a still video image or On screen display image on your television screen indefinitely. If you leave the still video image or On screen display image displayed on your TV for an extended period of time, you risk permanent damage to your television screen. Projection televisions are very susceptible.

Fast forward playback

Press **F.FWD** during normal playback.

Each press of **F.FWD** will increase the speed of the search **▶▶** (x2), **▶▶▶** (x4), **▶▶▶▶** (x8), **▶▶▶▶▶** (x20).

- To resume normal playback, press **PLAY**.

Review playback

Press **REW** during normal playback.

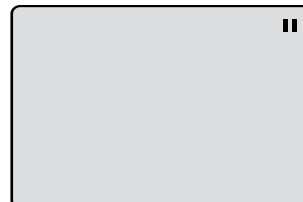
Each press of **REW** will increase the speed of the search **◀◀** (x2), **◀◀◀** (x4), **◀◀◀◀** (x8), **◀◀◀◀◀** (x20).

- To resume normal playback, press **PLAY**.

Still playback

Press **PAUSE/STILL** during normal playback.

To resume normal playback, press **PLAY**.

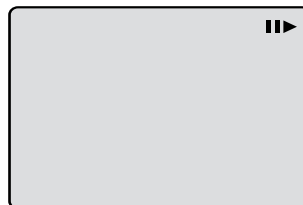


Frame advance

Press **PAUSE/STILL** during still playback.

One frame is advanced each time you press **PAUSE/STILL**.

To resume normal playback, press **PLAY**.



Slow motion playback

Press **SLOW** during normal playback or still playback.

Each press of **SLOW** will change the speed of the slow x1/2, x1/4, x1/8.

- To resume normal playback, press **PLAY**.
- To resume the still playback, press **PAUSE/STILL**.

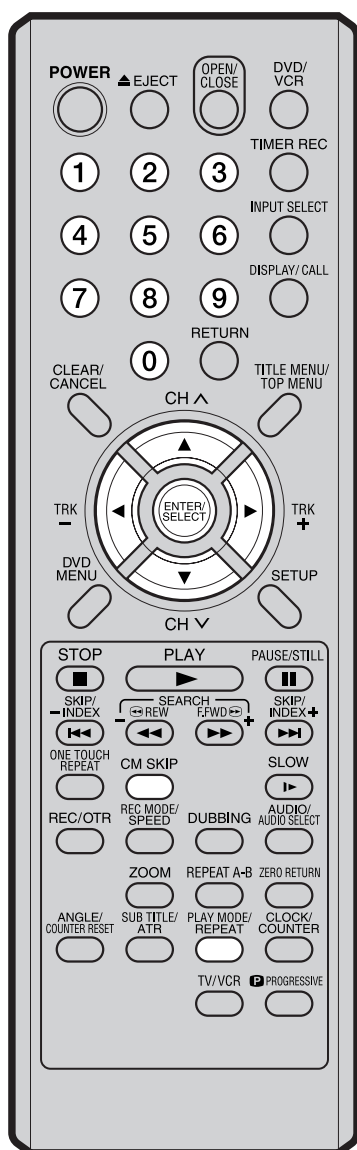
Locating a chapter or track

Press **SKIP (▶▶)** Forward or **SKIP (◀◀)** Reverse during playback to locate a chapter that you want to watch.

Each time you press the button, a chapter or track is skipped.



Commercial skip/ Locating a specific scene



NOTE:

For "REPEAT", see "Title, Chapter repeat playback" (page 28).

Commercial skip



Use this function to skip commercials while you playback the recorded video.

Press **CM SKIP** during playback.

During DVD playback, the time jumps to a point 29 seconds later and playback resumes.

During video playback, the video is rapidly forwarded for 29 seconds and playback resumes.

NOTES:

- When you press **CM SKIP** during A-B repeat playback or Chapter repeat playback, Repeat Playback is cancelled.
- When you press **CM SKIP** during Title repeat playback, Commercial skip is not carried out and Title repeat playback remains active.
- With some DVD-Videos, the Commercial skip operation may not work because of the scene being played back.

Locating a specific scene



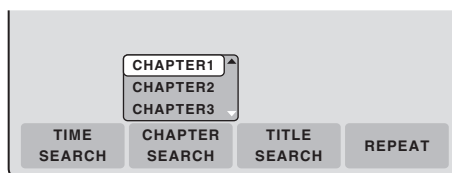
Specify the time recorded on the disc, chapter or title to playback.

- 1 Press **PLAY MODE**.
The play mode screen will appear.



- 2 Press **◀** or **▶** to select "TIME SEARCH", "CHAPTER SEARCH" or "TITLE SEARCH".

TIME SEARCH: Input the time until the playback is restarted.
CHAPTER SEARCH: Select the chapter number to be played back.
TITLE SEARCH: Select the title number to be played back.

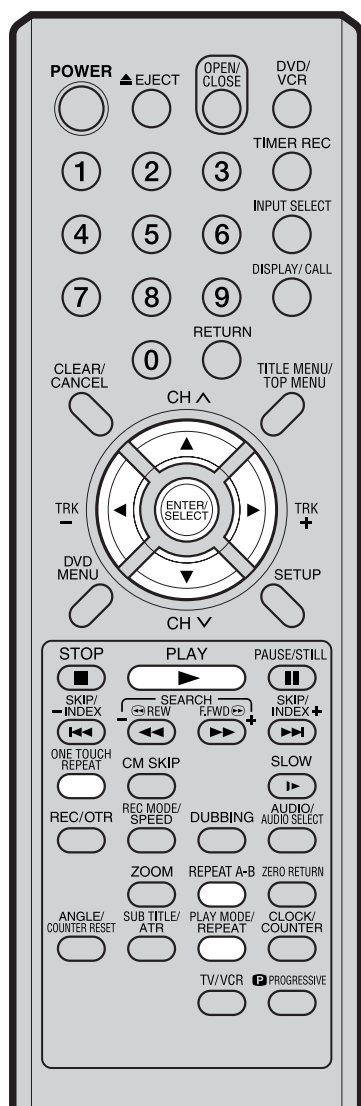


The screen above shows the display when "CHAPTER SEARCH" is selected.

- 3 When selecting "TIME SEARCH", input the time until the playback is restarted with the **numeric keys**. When selecting "CHAPTER SEARCH" or "TITLE SEARCH", press **▲** or **▼** to select the chapter number or title number.
- 4 Press **ENTER**.
The playback starts at the point you selected.



Repeat playback



NOTES:

- Some discs may not work with the repeat operation.
- In A-B repeat mode, subtitles near point A or B may not appear.
- During the A-B repeat playback the ANGLE feature will not operate.
- You may not be able to set A-B repeat, depending on the scenes of the DVD.
- A-B repeat does not work with an interactive DVD and MP3/WMA/JPEG-CD.
- When the CD or CD-R is selected, you cannot use Title and Chapter playback.

One touch repeat

This feature repeats playback on a recent section during playback by returning the video to a recently viewed point.

Press **ONE TOUCH REPEAT** during playback.

The video returns to a point 10 seconds before and playback resumes.

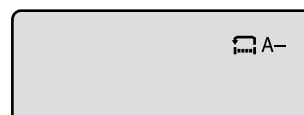
NOTES:

- If the time from the title top is less than 10 seconds when **ONE TOUCH REPEAT** is pressed, the title top is repeated and then the video is played back.
- If you press **ONE TOUCH REPEAT** during A-B repeat playback or Chapter repeat playback, Repeat playback is cancelled.
- If you press **ONE TOUCH REPEAT** during Title repeat playback, one touch repeat is not carried out and Title repeat playback remains active.
- With some DVD-Videos, the one touch repeat operation may not be performed because of the scene being played back.

A-B repeat playback

A-B repeat playback allows you to repeat material between two selected points.

- 1 Press **REPEAT A-B** during playback.
The start point is selected.



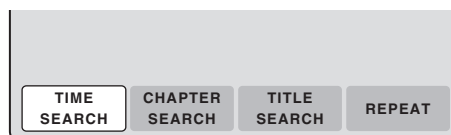
- 2 Press **REPEAT A-B** again.
The end point is selected. Playback starts at the point that you selected. Playback stops at the end point, returns to Point A automatically, then starts again.



To resume normal playback press **REPEAT A-B** again.
“OFF” appears on the screen.

Title, Chapter repeat playback

- 1 Press **REPEAT**.



- 2 Press **◀** or **▶** to select “REPEAT” and press **ENTER**.



- 3 Press **▲** or **▼** to select “OFF”, “CHAPTER” or “TITLE” from the list.

OFF: Playback is not repeated.

CHAPTER: The chapter in playback is repeatedly played back.

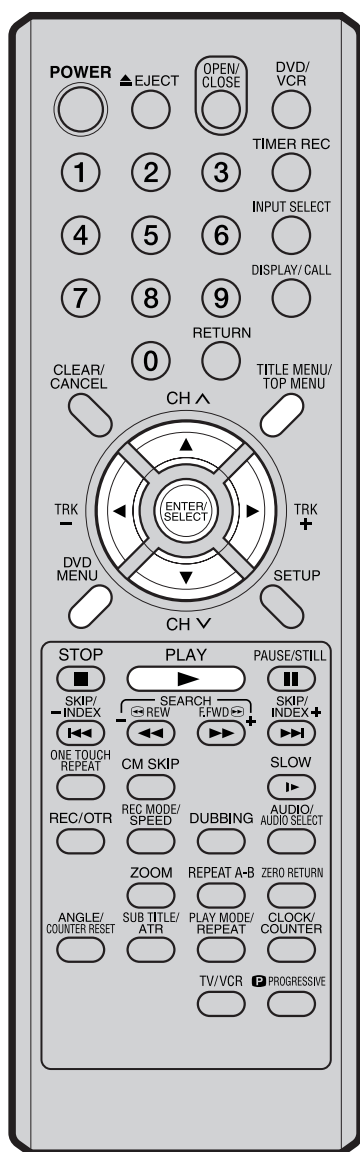
TITLE: The title in playback is repeatedly played back.

- 4 Press **ENTER**.

- When you perform the steps 1 to 3 in the playback or temporarily stop of the disc, the chapter and the title in the playback or temporarily stop of the disc are repeatedly played back. When you press **PLAY** in the temporarily stop of the disc, the playback restarts.
- When you perform the steps 1 to 3 in the stop of the disc and press **PLAY**, the first chapter and the title is repeatedly played back.
- To cancel the repeat playback, select “OFF” in step 3.



Title selection / DVD menu



Title selection

Two or more titles are recorded on some discs. If the title menu is recorded on the disc, you can select the desired title.

- 1 Press **TITLE MENU/TOP MENU** during playback.
The title menu appears on the screen.
 - Press **TITLE MENU/TOP MENU** again to resume playback at the scene when you pressed **TITLE MENU/TOP MENU**.
- 2 Press **▲/▼** or **◀/▶** to select the desired title.
- 3 Press **ENTER** or **PLAY**.
The playback of the selected title will start.

DVD menu

Some DVDs allow you to select the disc contents using the menu. When you playback these DVDs, you can select the subtitles language and soundtrack language, etc. using the DVD menu.

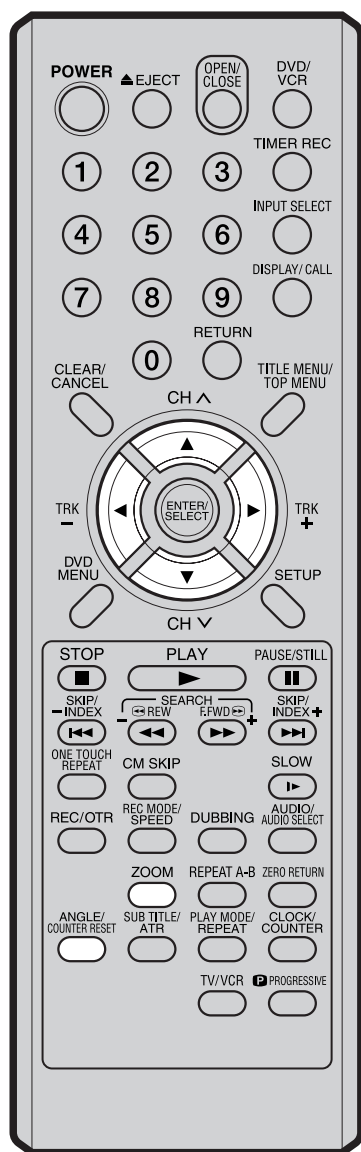
- 1 Press **DVD MENU** during playback.
The DVD menu appears on the screen.
 - Press **DVD MENU** again to resume playback at the scene when you pressed **DVD MENU**.
- 2 Press **▲/▼** or **◀/▶** to select the desired item.
- 3 Press **ENTER**.
The menu continues to another screen. Repeat steps 2 and 3 to set the item completely.

NOTE:

Depending on the DVD, you may be unable to select the title, and a "title menu" may simply be called a "menu" or "title" in the instructions supplied with the disc.



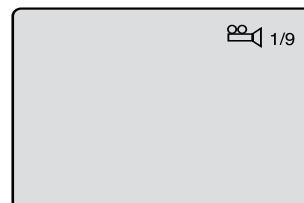
Changing angles / Zooming



Changing angles

When playing back a disc recorded with multi-angle facility, you can change the angle that you are viewing the scene from.

- 1 Press **ANGLE** during playback.
The current angle will appear.

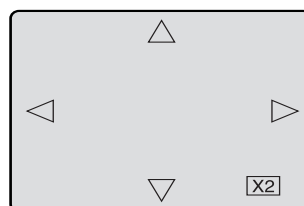


- 2 Press **ANGLE** repeatedly until the desired angle is selected.

Zooming

This unit will allow you to zoom in on the frame image. You can then make selections by switching the position of the frame.

- 1 Press **ZOOM** during playback.
The center part of the image will be zoomed in.
Each press of **ZOOM** will change the ZOOM "X2" (x 1.3), "X3" (x 1.5) and "X4" (x 2.0).



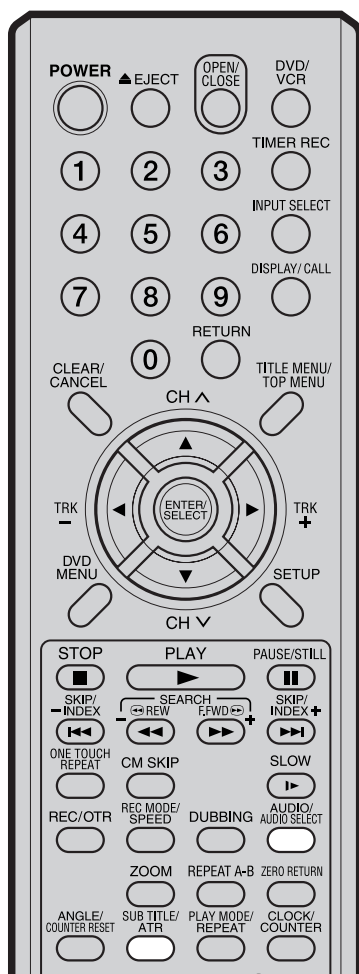
- 2 Press **▲/▼** or **◀/▶** to view a different part of the frame.
You may move the frame from the center position to UP, DOWN, LEFT or RIGHT direction.
- 3 In the zoom mode press **ZOOM** repeatedly to return to a 1:1 view "X1".

NOTES:

- Depending on the DVD, you may not be able to change the angles even if multi-angles are recorded on the disc.
- You can use the Pause, Slow, Search or Skip feature in the zoom mode.



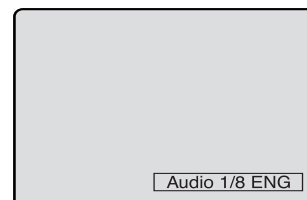
Changing soundtrack language / Subtitles



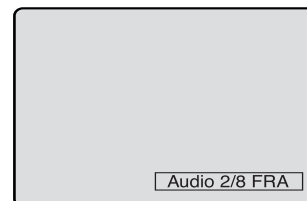
Changing soundtrack language

You can select the language when you play a multilingual disc.

- 1 Press **AUDIO** during playback.
The current soundtrack language will appear.



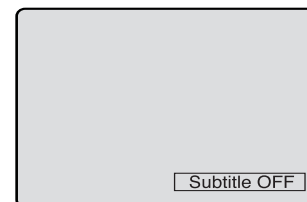
- 2 Press **AUDIO** repeatedly until the desired language is selected.
The on-screen display will disappear after a few seconds.



Turning the subtitles On and Off

When playing back a disc recorded with subtitles, you can turn the subtitles on or off.

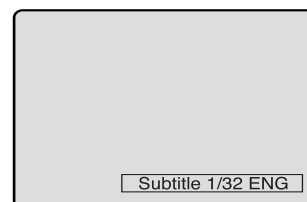
Press **SUB TITLE** during playback until "Subtitle OFF" appears.



Changing the subtitles language

You can select the language when playing back a disc recorded with multi-lingual subtitles.

Press **SUB TITLE** repeatedly during playback until your desired language appears.
The on screen display will disappear after a few seconds.



NOTES:

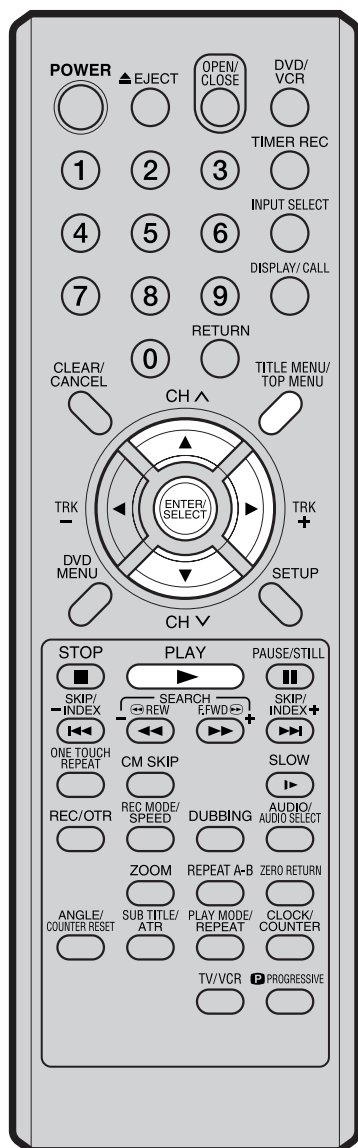
- If the desired language is not heard after pressing the button several times, the language is not recorded on the disc.
- Changing soundtrack or subtitles language is cancelled when you open the disc tray or turn the power off. The initial default language or available language will be heard and seen if the disc is played back again.
- Depending on the DVD you may be unable to turn on, turn off, or change the subtitles, even if they are recorded on the disc. While playing the DVD, the subtitles may change while opening or closing the disc tray, or while changing the title.
- In some cases, the subtitles language is not changed to the selected one immediately.



Various operations on CD



This section describes the play music screen where music CDs can be played back using the various operations.

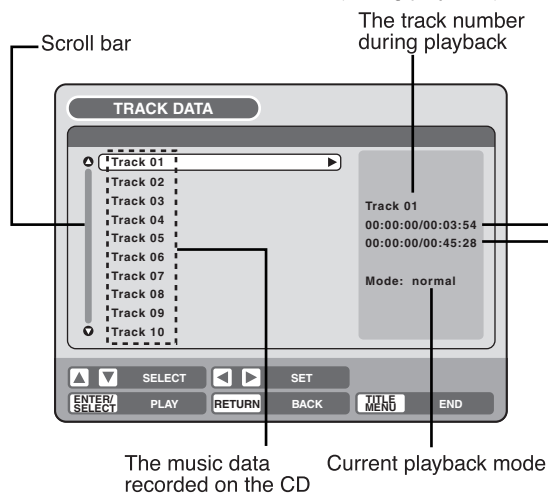


Preparation:

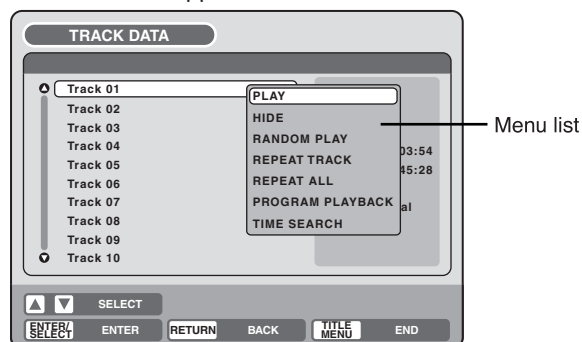
- Turn ON the TV and set to the video input mode.
- Load the music CD.
- Press DVD/VCR to select the DVD mode. (The DVD indicator will light.)

Press **TITLE MENU/TOP MENU**.
The play music screen will appear.

The elapsed time and total time of the music data (during playback)



Press **▶**. The menu list will appear.



Playing back a selected track

- 1 Press **▲** or **▼** to select the track number you want to playback with the cursor and press **▶**.
- 2 Press **▲** or **▼** to select "PLAY" from the menu list and press **ENTER**. The selected track will be played back.

Excluding specified track

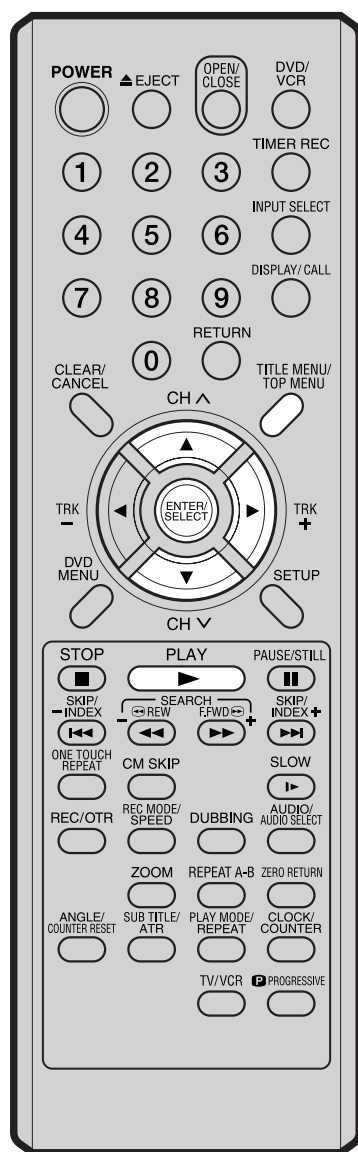
- 1 Press **▲** or **▼** to select the track number you do not want to playback with the cursor and press **▶**.
- 2 Press **▲** or **▼** to select "HIDE" from the menu list and press **ENTER**. The selected music will not be played back. ("H" appears at the side of the track number.)

When you want to cancel "HIDE", Press **▲** or **▼** to select the track number with "H" and press **▶**.

Press **▲** or **▼** to select "SHOW" from the menu list and press **ENTER**, "HIDE" will be cancelled.



Various operations on CD



NOTE:

When recording on a CD-R/CD-RW in the MP3 or WMA modes, "RANDOM PLAY" and "TIME SEARCH" will not appear in the menu list.

Random playback

- 1 Select "RANDOM PLAY" from the menu list and press **ENTER**.
The order of music tracks is automatically changed.
- 2 Press **PLAY**.
Music is played back in random order.

To cancel random playback, select "RANDOM PLAY" from the menu list again, and press **ENTER**.

Repeat playback of selected track

- 1 Press **▲** or **▼** to select the track number you want to repeat playback and press **▶**.
- 2 Select "REPEAT TRACK" from the menu list and press **ENTER**.
- 3 Press **PLAY**.
The selected track will be played back repeatedly.

To cancel repeat track playback, select "REPEAT TRACK" from the menu list again, and press **ENTER**.

Repeat playback of all tracks

- 1 Select "REPEAT ALL" from the menu list and press **ENTER**.
- 2 Press **PLAY**.
All tracks on CD will be played back repeatedly.

To cancel the repeat all playback, select "REPEAT ALL" from the menu list again, and press **ENTER**.

Playing back programs

You can specify the playback order yourself.

- 1 Select "PROGRAM PLAY" from the menu list and press **ENTER**.
- 2 Press **▲** or **▼** to select to the track number that you want to change the order of and press **ENTER**.
The "▶" mark will appear at the right side of the track number.
- 3 Press **▲** or **▼** to select to the track number that you want to specify and press **ENTER**.
The track number that you select in step 2 moves to the position that you specified.
- 4 Repeat steps 2 and 3 to change the playback order.
- 5 Press **PLAY**.
The tracks will be played back in the changed order.

To cancel program playback, select "EXIT PROGRAM PLAY" from the menu list and press **ENTER**.

Playing back track by specifying the time

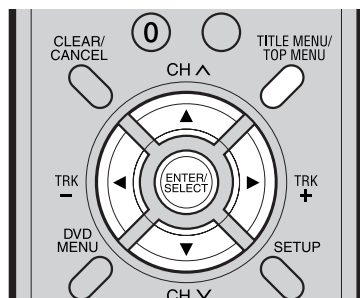
- 1 Press **▲** or **▼** to select "TIME SEARCH" from the menu list during playback and press **ENTER**.
- 2 Press **▲** or **▼** to specify the elapsed time of the track (this will be the starting point of playback) and press **ENTER**.
- 3 Press **PLAY**.
Playback will start from the specified elapsed time.



MP3/WMA/JPEG playback



MP3 and WMA files can be played back. Also, you can display JPEG files on the TV screen and enjoy their slide show.



Limitations on MP3/WMA CD playback:

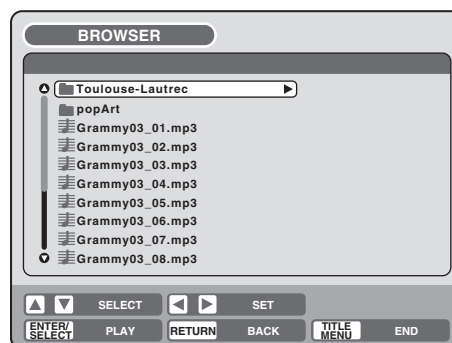
- MP3/WMA CD is the disc that is standardized by ISO9660.
- The directory and file names of the MP3/WMA CD must correspond to the ISO standardized files.
- This unit can read 200 files per disc. If one directory has more than 200 files, it reads up to 200 files, the remaining files will be omitted.
- The unit is able to recognize up to a maximum of 50 directories per disc.
- MP3/WMA CDs may be used for playback, but not for recording .
- If the CD has both audio tracks and MP3/WMA files, only audio tracks are played.
- It may take more than one minute for this unit to read MP3/WMA files depending on its structure.
- Music recorded by "Joliet Recording Specification" can be played back, the file name is displayed (within 16 letters) on the screen. Long file names will be condensed.
- The music files recorded by "Hierarchical File System" (HFS) can not be played.

Preparation:

- Turn ON the TV and set to the video input mode.
- Load the disc storing MP3, WMA or JPEG.
- Press DVD/VCR to select the DVD mode. (The DVD indicator will light.)

Using the BROWSER screen

- 1 Press **TITLE MENU**.
The BROWSER screen will appear.

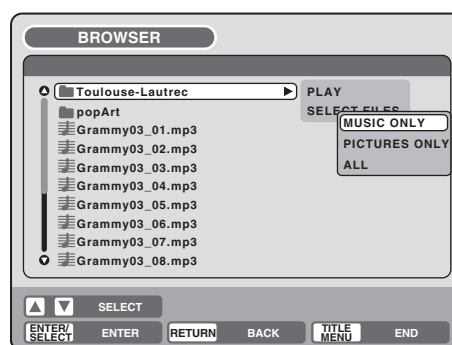


- 2 The MP3, WMA and JPEG files and folders stored in the disc are displayed on the BROWSER screen.
 - Select a folder and press **ENTER**. The files in the folder appear.

When the file to be displayed is selected

You can select the file types to be displayed on the BROWSER screen.

- 1 Press **▶** to select "SELECT FILES" and press **ENTER**.
The following list will appear.

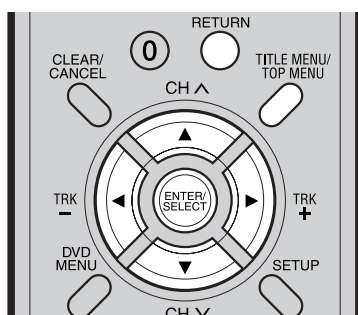


- MUSIC ONLY:** Only the MP3 and WMA files, and the folders including the MP3 and WMA files appear.
- PICTURES ONLY:** Only the JPEG files and the folders including the JPEG files appear.
- ALL:** All files and folders appear.

- 2 Select one item in the above list and press **ENTER**.
The display will be changed to the selected display type.



MP3/WMA/JPEG playback



MP3 CD

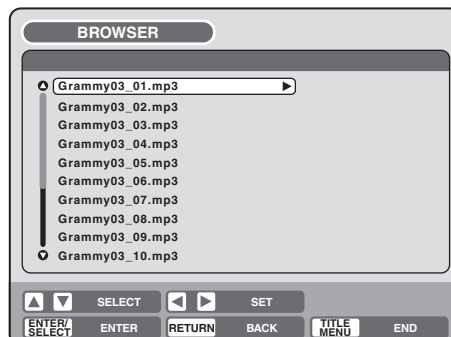
- MP3 files must have the extension letters, ".MP3" or ".mp3".
- Standard, sampling frequency, and the bit rate:
MPEG-1 Audio
32kHz, 44.1kHz, 48kHz
32kbps to 320kbps (constant bit rate or variable bit rate)
- The recommend recording setting for a high quality sound is 44.1kHz of sampling frequency and 128kbps of constant bit rate.

WMA CD

- When creating a WMA disc, make sure that the copyright function is off. DRM files cannot be played back.
- WMA files must have the extension letters, ".WMA" or ".wma".
- Standard, sampling frequency, and the bit rate:
WMA version 7 and 8
32kHz, 48kbps
44.1kHz, 48kbps to 192kbps
48kHz, 128kbps to 192kbps
- The file recorded by mono, 48kHz, 48 kbps is not available to this unit.

Playing back MP3/WMA files

- 1 Press **▲** or **▼** to select MP3 or WMA file.

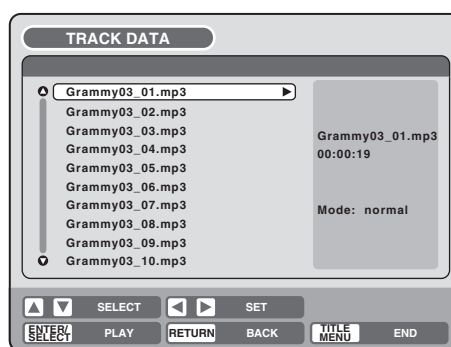


- 2 Carry out either of the item a or b below.

a: Press **ENTER**.

b: Press **▶** to select "PLAY" and press **ENTER**.

The TRACK DATA screen appears to playback the selected file.
For the details of the TRACK DATA screen, see "Various operations of CD" on page 32.



- 3 To return to the BROWSER screen, press **RETURN**.
- To stop playback of the MP3 or WMA files, press **TITLE MENU**.

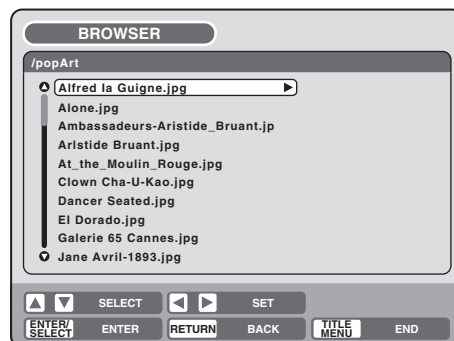
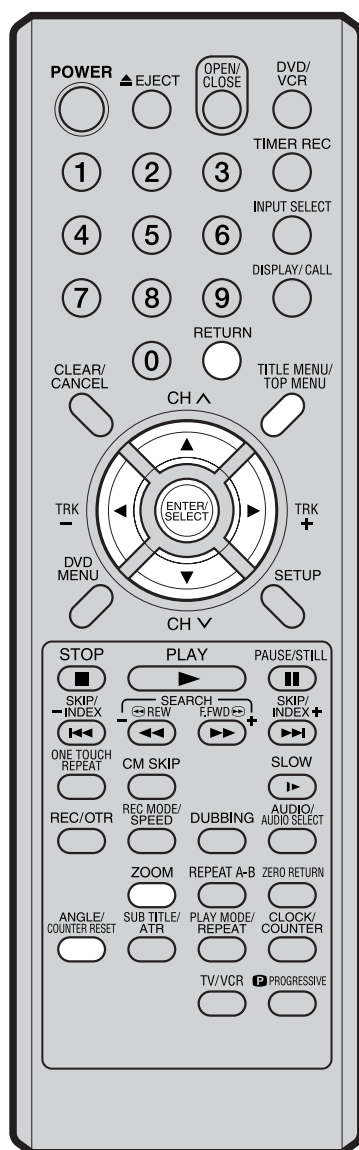


MP3/WMA/JPEG playback



Playing back JPEG files

- 1 Press **▲** or **▼** to select JPEG file.

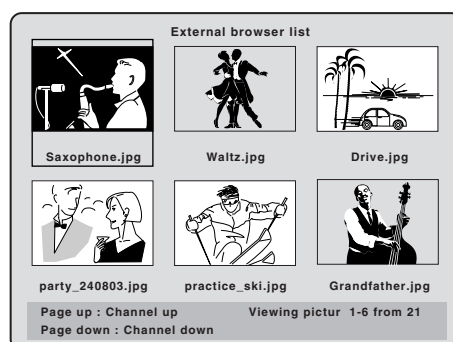


- 2 Carry out either of the item a or b below.
a: Press **ENTER**.
b: Press **▶** to select "PLAY" and press **ENTER**.

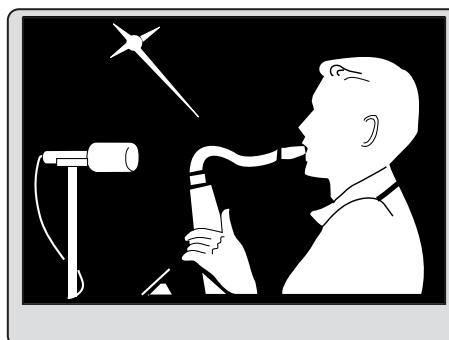
External browser list appears.

The thumbnail images of the JPEG files stored in the route directory or the folder appear.

Press **▲**, **▼**, **◀** or **▶** to select the pages of the thumbnail images, or select the JPEG file to be displayed at first for the slide show.



- 3 Press **ENTER** to start the slide show.
 - Press **ZOOM** to enlarge the displayed image.
 - Press **ANGLE** to rotate the image by 90 degrees each time.



- 4 To return to the BROWSER screen, press **RETURN**.
 - To stop the slide show, press **TITLE MENU**.

NOTE:

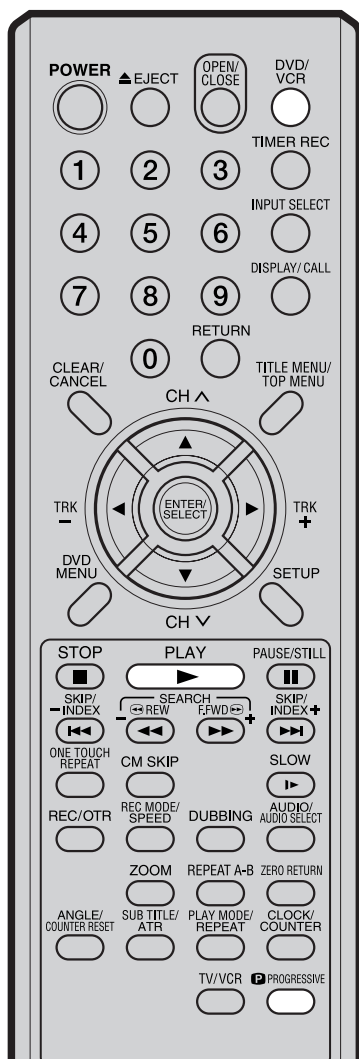
The picture menu is displayed when the FUJICOLOR CD or the Kodak Picture CD are played. To display the picture menu, press **TITLE MENU**.



Progressive scan



The unit supports the progressive scanning system as well as the conventional interlaced scanning system. If your TV is equipped with component jacks which support the progressive video input, you can enjoy high quality picture by making the progressive scanning mode active.



Preparation:

- Connect to a TV equipped with component jacks which support the progressive video input.
- Turn ON the TV and set it to the corresponding video input mode.
- Press **DVD/VCR** to select the DVD mode. (The DVD indicator will light.)

1 Press **PROGRESSIVE** in the stop mode. The PROGRESSIVE indicator “P” on the display window will light.

- The unit recognizes the picture source (film or video) of the current disc according to the disc information.

2 Press **PLAY** to start playback.



- To make the progressive scanning mode inactive, press **PROGRESSIVE** in the stop mode. The PROGRESSIVE indicator “P” on the display window will go off.

Different scanning modes

Interlaced scan

Technology that alternately displays odd-numbered scanning lines and even-numbered scanning lines. Also called “525I”, “I” meaning “interlace”.

Progressive scan

Technology that simultaneously displays odd-numbered scanning lines and even-numbered scanning lines from top to bottom. Also called “525P”, “P” meaning “progressive”.

NOTES:

- Some discs may not be played back with the progressive scanning mode correctly because of the disc characteristics or recording condition.
- There are some progressive TV and High-Definition TV sets that are not fully compatible with the unit, resulting in the unnatural picture when playing back a DVD disc in the progressive scanning mode. In such a case, use the interlaced scanning mode.
- You cannot make the progressive scanning mode active in following cases.
 - The unit is in the VCR mode.
 - The disc is played back in the DVD mode.



Loading and unloading a cassette tape

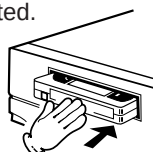
Use only video cassette tapes marked **VHS** and **S-VHS**.

SQPB

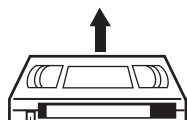
- Cassettes marked "VHS" (or "S-VHS") can be used with this video cassette recorder. However, S-VHS recording is not possible with this model.
- This model is equipped with SQPB (S-VHS QUASI PLAYBACK) that makes it possible to playback S-VHS recordings with regular VHS resolution.
- HQ VHS is compatible with existing VHS equipment.

Loading

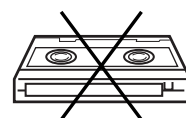
Push the center of the tape until it is automatically inserted.



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



Automatic power ON

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

Automatic playback

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

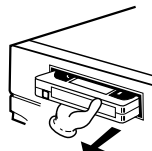
Unloading

You can eject the video tape while the unit is turned off.

- 1 Press **EJECT** on the unit or the remote control.



- 2 Remove the cassette tape.

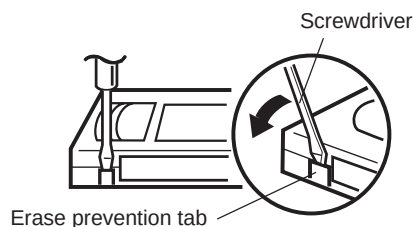


Automatic tape eject

This VCR will automatically rewind the tape when the tape has ended. And when the tape is rewinded to its beginning, the cassette tape will be ejected automatically.

To prevent accidental erasure

Remove the erase prevention tab with a screwdriver.



To record again

Cover the hole with a piece of adhesive tape.

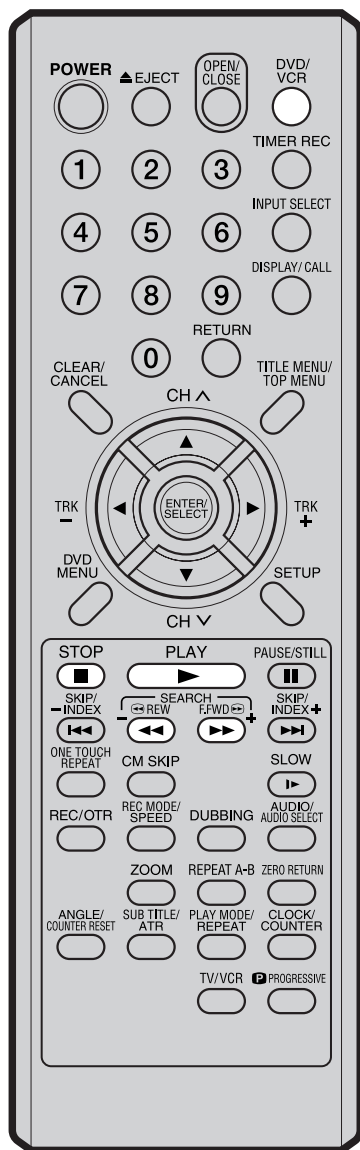


Tape speed and maximum recording time

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



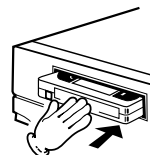
Cassette tape playback



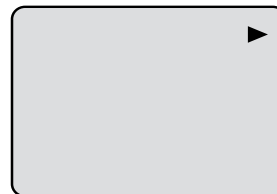
Preparation:

- 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 prerecorded tape
(When loading a cassette tape without the erase prevention tab, playback will start auto-matically).



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

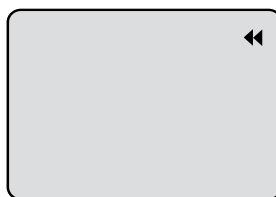


- To stop playback**
Press **STOP** once.
The tape will stop but remain fully loaded and ready to play.
"■" will appear on the screen for about 4 seconds.



- To rewind the tape or forward it rapidly**
Press **STOP**.

- To rewind the tape:**
Press **REW**.



- To forward the tape:**
Press **F.FWD**.



NOTES:

- This VCR selects the playback tape speed SP, LP or SLP auto-matically.
- 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.
- When you select the VCR mode during DVD playback, DVD playback will stop automatically after approx. 5 minutes.

To stop 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 **F.FWD** and hold it down. The unit will resume the tape winding as soon as the button is released.



Special playback



Picture search

Reverse picture search function

Press **REW** x 1 or x 2 during the playback.

Forward picture search function

Press **F.FWD** x 1 or x 2 during the 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**.

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 **TRK +** or **-** to reduce the noise bars.

If the still picture jitters excessively, press **TRK +** or **-** to stabilize the still picture.

Frame by frame picture

Press **PAUSE** during playback.

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

To return to playback: Press **PLAY** or **PAUSE**.

Adjusting tracking condition

Automatic tracking adjustment

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

Manual tracking adjustment

If automatic tracking cannot eliminate noises well during playback, press **TRK +/-** to eliminate the noises. "MANUAL TR." will appear. 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.

NOTES:

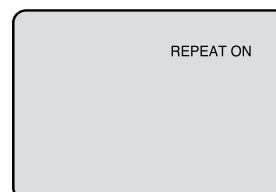
- The audio output is muted during SPEED SEARCH, STILL, FRAME ADVANCE and SLOW MOTION.
- During picture search mode there will be noise bars which are caused by the system.
- The Special Playback will automatically change to playback after approx. 5 minutes to protect the video tape against excessive wear.

Repeat playback

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

1 Press **REPEAT** while VCR is played back.

2 By pressing **REPEAT** each time, "REPEAT ON" or "REPEAT OFF" is selected in turn.



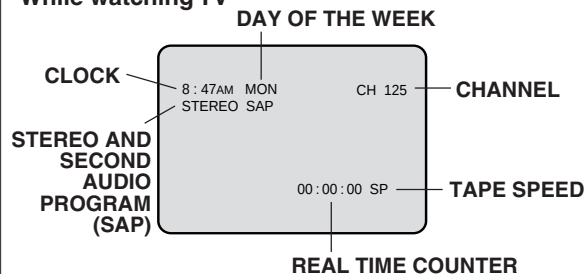
3 When "REPEAT ON" is selected, the tape is played back to the end, and then, it is automatically re-wound to the starting point and played back again. The display "REPEAT ON" goes out in about 3 seconds.

To cancel repeat playback: Press **REPEAT** to select "REPEAT OFF".

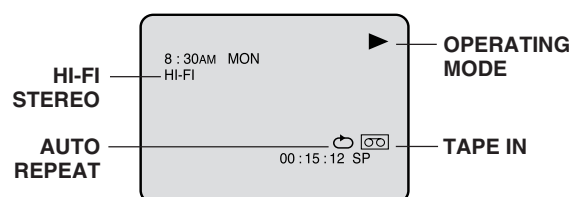
To display VCR operation status

Press **DISPLAY/CALL**. The clock, day of the week and more information will be indicated.

While watching TV



While operating a tape



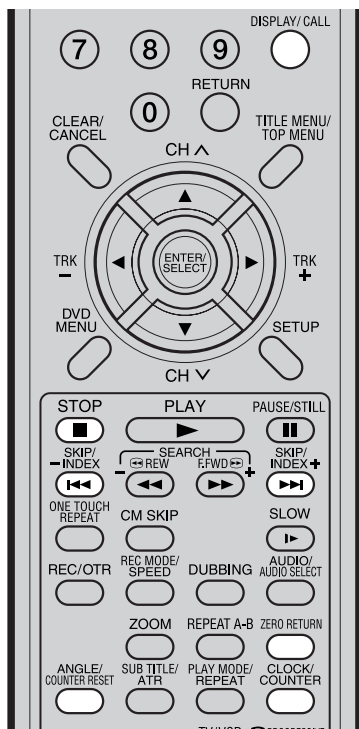
To cancel the display: Press **DISPLAY/CALL** until all indicators disappear.



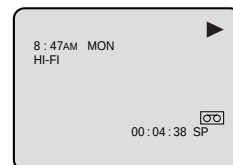
ZERO RETURN function / Video index search system



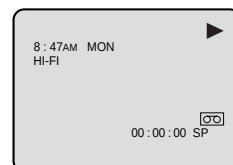
ZERO RETURN function
This function makes tape rewinding stop at the counter “00:00:00” position automatically.



1 Press **DISPLAY/CALL**.
The counter display shows the tape running time during playback or recording.



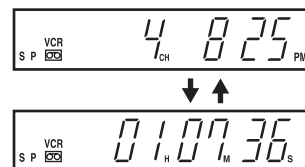
2 Press **COUNTER RESET** at the desired tape position. The counter display will be reset to the “00:00:00” position (e.g. the beginning of recording).



3 Press **STOP** when playback or recording is finished.
Press **ZERO RETURN**.
The tape will be rewinded or fast forwarded and automatically stop at the “00:00:00” position.

The CLOCK/COUNTER button

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



Video index search system

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

NOTES for Counter Display:

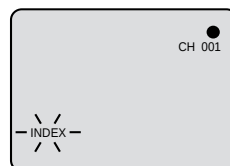
- If you rewind the tape beyond “00:00:00”, a minus sign (“-”) will be displayed in front of the time.
- When you load a tape, the counter will reset to “00:00:00”.
- The counter does not function on nonrecorded (blank) sections of the tape. When you rewind, fast forward or play tapes through blank sections,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

NOTES for Video index search system:

- 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.

Recording an INDEX MARK

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



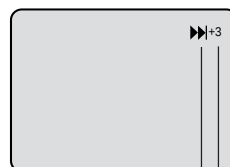
Index search

Press **INDEX** ►► or ◀◀ during stop or play mode.

For Succeeding programs: Press **INDEX** ►►.
For Preceding programs: Press **INDEX** ◀◀.
(Additional press increases the INDEX NO. up to 9.)

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**.



►► or ◀◀ is displayed
INDEX NO. (up to 9)



Read this before recording on disc

This section explains things you must know to record on disc. Read it before attempting to record.

NOTES:

- When use one touch recording to record on a DVD disc, it takes some time from when you press **REC/OTR** until recording actually starts. (With a DVD-RW it takes about 2 seconds, while with a DVD-R it takes about 10 seconds.) Press **REC/OTR** a little before your preferred starting point.
- Because of characteristics peculiar to digital video compression technology, scenes with fast motion may appear as a matrix of larger blocks.

NOTES:

Recording time can change for the following reasons.

- When image quality is poor as during poor TV reception
- When recording on a disc that has been edited before
- When the video is followed with recordings of still images or just audio

Types of disc

You can use DVD-RW and DVD-R discs to record video.

DVD-RW discs

- Ver.1.1 discs can be formatted for recording in one of two modes: the VR mode or the video mode. Ver.1.0 discs can only be formatted for recording in the VR mode.
- High quality images and sound can be repeatedly recorded about 1,000 times.
- A disc initialized in the VR mode can have as many as 99 original titles and playlist titles each. Discs formatted in the video mode can have up to 99 original titles.

DVD-R discs

- Discs can only be recorded in the video mode
- Discs can be recorded only once.
- Up to 99 titles can be created.

For more information on recording format, see “Recording format” (page 10).

Notes on recording in the video mode

- The video mode cannot be selected for Ver. 1.0 DVD-RW discs.
- The remaining available area on the disc decreases as recording progresses. Additional contents can be recorded in the remaining time area, but it cannot be overwritten in the recorded area.
- To initialize a new DVD-RW in the video mode, set the automatic initialization feature to the video mode. (See page 73.)
- To record a bilingual broadcast, select either main or sub as the audio in advance.
- Even if **STOP** is pressed during recording, recording does not stop instantly. Recording may continue for as long as 30 seconds (60 seconds in the LP mode) maximum.

Recording modes

There are 4 modes for recording on disc. Recording time and quality vary according to mode.

Recording mode	Recording time	Quality
XP	Approx. 60 min	Can record high quality images.
SP	Approx. 120 min	Can record normal quality images.
LP	Approx. 240 min (Approx. 300 min in VR mode)	Quality deteriorates slightly, but recording time is longer.
SLP	Approx. 360 min	Recording time is prioritized over quality.

- Recording time above is based on a 4.7GB disc.
- SLP can be selected only in the VR mode.



Read this before recording video on disc

In DVD recording with VBR (Variable Bit Rate), recording time can vary except with some recording modes.
To know the correct recording time, stop recording and check the media information. (See page 25.)

Disc remaining time

VR mode

- Recording is possible as long as there is available space on the disc. (Recording is also possible with a finalized disc.)
- Erasing unnecessary title frees up available space on the disc. (Finalized discs can be erased, too.)

Video mode

- Up until the disc is finalized, recording is possible as long as there is available space on the disc. (Once the disc has been finalized, additional recording and erasing are not possible.)
- The remaining time cannot be increased, nor can recorded title be overwritten.
- Titles cannot be erased.

Images that cannot be recorded

Some DVD-Videos and CS broadcasts contain copy-restriction signals to protect copyrights. There are 3 types of copy-restriction signals: unrestricted recording, recording prohibited and one-time recordable.

“Unrestricted recording”

Land-based TV broadcasts and images you record yourself with a video camera allow unrestricted recording. There are no restrictions on recording.

“Recording prohibited”

- Images that contain the recording prohibited signal cannot be recorded.
- If the recording prohibited signal appears halfway through an image you are recording, recording is paused at that instant. When the recording prohibited signal ends, recording resumes.
- This unit incorporates a built-in copy guard. It cannot record software or broadcasted programs that contain copy restriction signals designed to protect copyright, etc.

“One-time recordable”

Programs (images) that contain the one-time recordable signal can be recorded only in the VR mode using a DVD-RW disc that supports CPRM Ver. 1.1.