

SAMSUNG

Instruction Manual

DVD-VR330



English

DVD
VIDEO

VHS

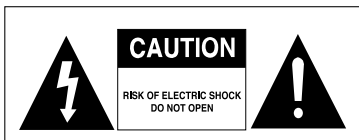
Hi-Fi

www.samsung.com

AK68-00995A-00

Warning

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



This symbol indicates "dangerous voltage" inside the product that presents a risk of electric shock or personal injury.



This symbol indicates important instructions accompanying the product.

Do not install this equipment in a confined space such as a bookcase or similar unit.

WARNING : To prevent damage which may result in fire or electric shock hazard, do not expose this appliance to rain or moisture.

CAUTION : This DVD Recorder & VCR USES AN INVISIBLE LASER BEAM WHICH CAN CAUSE HAZARDOUS RADIATION EXPOSURE IF DIRECTED. BE SURE TO OPERATE RECORDER CORRECTLY AS INSTRUCTED.

CAUTION

THIS PRODUCT UTILIZES A LASER. USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE. DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

CAUTIONS

Caution: To prevent electric shock, match wide blade of plug to wide slot, fully insert.

Attention: Pour éviter les chocs électriques, introduire la lame la plus large de la fiche dans la borne correspondante de la prise et pousser jusqu'au fond.

This product satisfies FCC regulations when shielded cables and connectors are used to connect the unit to other equipment. To prevent electromagnetic interference with electric appliances, such as radios and televisions, use shielded cables and connectors for connections.

FCC NOTE (for U.S.A):

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: FCC regulations state that any unauthorized changes or modifications to this equipment may void the user's authority to operate it.



Note

- This unit can be used only where the power supply is AC 120V, 60Hz. It cannot be used elsewhere.
- This DVD Recorder & VCR is designed and manufactured to respond to the Region Management Information. If the Region number of a DVD disc does not correspond to the Region number of this, the DVD Recorder & VCR cannot play the disc.
- This device is protected by U.S. Patent Nos.4,631,603;4,577,216;4,819,098;4,907,093; and 6,516,132. This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.
- This product is covered by one or more of the following U.S. patents:
5,034,830 5,060,200 5,457,669 5,561,649
5,691,858 5,705,762 5,987,417 6,043,912
6,222,983 6,272,096 6,377,524 6,377,531
6,385,587 6,389,569 6,389,570 6,408,408
6,466,532 6,473,736 6,477,501 6,480,829
6,556,520 6,556,521 6,556,522 6,594,208
6,674,697 6,674,957 6,721,493 6,728,474
6,741,535 09/610381 09/610695

DANGER	- VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
CAUTION	- VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ATTENTION	- RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.
ADVARSEL	- SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO !	- AVATTAESSA OLET ALTTIINA NÄKYVÄÄ JA NÄKYMÄTÖN LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING	- SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRÄKTA EJ STRÅLEN.
ADVARSEL	- SYNLIG OG USYNLIG LASERSTRÅLING NÄR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN.
VORSICHT	- SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET, NICHT DEM STRAHL AUSSETZEN.
注意	- 打开时有可见及不可见激光辐射。避免激光束照射。
注意	- ここを開くと可視及び不可視のレーザー光が出ます。ビームを直接見たり、触れたりしないでください。

Precaution



Important Safety Instructions

Read these operating instructions carefully before using the unit. Follow all the safety instructions listed below. Keep these operating instructions handy for future reference.

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Handling Cautions

- Before connecting other components to this recorder, be sure to turn them all off.
- Do not move the recorder while a disc is being played, or the disc may be scratched or broken, and the recorder's internal parts may be damaged.
- Do not put a flower vase filled with water or any small metal objects on the recorder.
- Be careful not to put your hand into the disc tray.
- Do not place anything other than the disc in the disc tray.

- Exterior interference such as lightning and static electricity can affect normal operation of this recorder. If this occurs, turn the DVD Recorder & VCR off and on again with the **POWER** button, or disconnect and then reconnect the AC power cord to the AC power outlet. The recorder will operate normally.
- Be sure to remove the disc and turn off the recorder after use.
- Disconnect the AC power cord from the AC outlet when you don't intend to use the recorder for long periods of time.
- Clean the disc by wiping in a straight line from the inside to the outside of the disc.

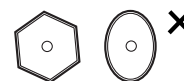
Maintenance of Cabinet

For safety reasons, be sure to disconnect the AC power cord from the AC outlet.

- Do not use benzene, thinner, or other solvents for cleaning.
- Wipe the cabinet with a soft cloth.

Disc Handling

- Use discs with regular shapes. If an irregular disc (a disc with a special shape) is used, this DVD Recorder & VCR may be damaged.



Holding discs

- Avoid touching the surface of a disc where recording is performed.



DVD-RAM, DVD-RW and DVD-R

- Clean with an optional DVD-RAM/PD disc cleaner. Do not use cleaners or cloths for CDs to clean DVD-RAM/DVD-RW/DVD-R discs.



DVD-Video, CD

- Wipe off dirt or contamination on the disc with a soft cloth.

Cautions on handling discs

- Do not write on the printed side with a ball-point pen or pencil.
- Do not use record cleaning sprays or antistatic. Also, do not use volatile chemicals, such as benzene or thinner.

- Do not apply labels or stickers to discs. (Do not use discs fixed with exposed tape adhesive or leftover peeled-off stickers.)
- Do not use scratch-proof protectors or covers.
- Do not use discs printed with label printers available on the market.
- Do not load warped or cracked discs.

Disc Storage

Be careful not to harm the disc because the data on these discs is highly vulnerable to the environment.

- Do not keep under direct sunlight.
- Keep in a cool ventilated area.
- Store vertically.
- Keep in a clean protection jacket.
- If you move your DVD Recorder & VCR suddenly from a cold place to a warm place, condensation may generate on the operating parts and lens and cause abnormal disc playback. In this case, do not connect the plug to the power outlet and wait for two hours. Then insert the disc and try to play back again. It will work properly when condensation has evaporated.

Disc Specifications

DVD-Video

- A digital versatile disc (DVD) can contain up to 135-minutes of images, 8 audio languages and 32 subtitle languages. It is equipped with MPEG-2 picture compression and Dolby 3D surround, allowing you to enjoy vivid and clear theater quality images in the comfort of your own home.
- When switching from the first layer to the second layer of a double-layered DVD Video disc, there may be momentary distortion in the image and sound. This is not a malfunction of the unit.
- Once a DVD-RW/-R recorded in Video Mode is finalized, it becomes DVD-Video.

Audio CD

- An audio disc on which 44.1kHz PCM Audio is recorded.
- Plays CD-DA format audio CD-R and CD-RW discs. This unit may not be able to play some CD-R or CD-RW discs due to the condition of the recording.

CD-R/-RW

MP3 CD-R/-RW

- Only CD-R discs with MP3 files recorded with ISO9660 or JOLIET format can be played back
- Only MP3 files with the "mp3" or "MP3" extension can be used.
- For MP3 files recorded with a VBR(Variable Bit Rates), from 32 Kbps to 320 Kbps, the sound may cut in out.
- Playable bitrate range is from 56Kbps to 320Kbps.
- The unit can handle a maximum of **1000** files and folders.

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JPEG CD-R/-RW

- Only JPEG files with the ".jpg", ".JPG" extension can be used.
- The unit can handle a maximum of **1000** files and folders.
- Maximum size of progressive JPEG is 3M pixels.
- MOTION JPEG is not supported.

Using CD-R/-RW

- Use a 700MB(80 minutes) CD-R/-RW disc. If possible, do not use a 800MB(90 minutes) or above disc, as the disc may not play back.
- If the CD-R/-RW disc was not recorded as a closed session, you may experience a delay in the early play-back time, and all recorded files may not play.
- Some CD-R/-RW discs may not be playable with this unit, depending on the device which was used to burn them. For contents recorded on CD-R/-RW media from CDs for your personal use, playability may vary depending on contents and discs.

DVD-R Disc Playback and Recording

- Once a DVD-R recorded in Video Mode is finalized, it becomes DVD-Video.
- You can record onto the available space on the disc and perform editing functions such as giving titles to discs and programs and erasing programs before finalizing.
- When programming is erased from a DVD-R, that space does not become available. Once an area on a DVD-R is recorded on, that area is no longer available for recording, whether the recording is erased or not.
- It takes about 30 seconds for the unit to complete recording management information after recording finishes.
- This product optimizes the DVD-R for each recording. Optimizing is carried out when you start recording after inserting the disc or turning on the unit. Recording onto the disc may become impossible if optimizing is carried out too many times.
- Playback may be impossible in some cases due to the condition of recording.
- This unit can play back DVD-R discs recorded and finalized with a Samsung DVD video recorder. It may not be able to play some DVD-R discs depending on the disc and the condition of the recording.

DVD-RW Disc Playback and Recording

- Recording and playback can be performed on DVD-RW discs in both Video and VR Modes.
- Once a DVD-RW recorded in VR Mode is finalized, you cannot perform additional recording.
- Once a DVD-RW recorded in Video Mode is finalized, it becomes DVD-Video.
- In both modes, playback can be performed before and after finalization, but additional recording, deleting and editing can not be performed after finalization.
- If you want to record the disc in VR Mode and then record in V Mode, be sure to execute Format. Be careful when executing Format because all the recorded data may be lost.
- A DVD-RW blank disc is initialized to VR Mode when first initialized.

• DVD-RW (VR mode)

- This is a format that is used for recording data on **DVD-RW disc**. You can record multiple titles, edit, delete, partial delete, create a playlist, etc.
- A disc that is recorded in this mode may not be played by existing DVD players.

• DVD-RW (Video mode)

- This is a format that is used for recording data on a DVD-RW or DVD-R disc. The disc can be played by an existing DVD player once it has been finalized.
- If a disc that has been recorded in Video mode by a different manufacturer's recorder but has not been finalized it cannot be played or additionally be recorded by this recorder.

DVD-RAM Disc Playback and Recording

- For cartridge type DVD-RAM discs, remove the cartridge and use the disc only.
- Ensure that the recording mode is set to VR mode. Otherwise, this product will not be able to play the recording.
- You cannot play a DVD-RAM in most DVD players due to compatibility issues.
- Only DVD-RAM standard Version 2.0 discs can be played in this unit.
- DVD-RAM recorded on this unit may not work with other DVD Players. To determine compatibility with these DVD-RAM discs, refer to the user's manual for the player.

COPY PROTECTION

- Many DVD discs are encoded with copy protection. Because of this, you should only connect your DVD Recorder & VCR directly to your TV, not to a VCR. Connecting to a VCR results in a distorted picture from copy-protected DVD discs.
- This product incorporates copyright protection technology that is protected by methods 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.

Protection

- Program-protected: See page 72 "Locking a Title"
- Disc-protected: See page 82 "Disc Protection"
- * DVD-RAM/DVD-RW/DVD-R discs that are incompatible with the DVD-VIDEO format cannot be played with this product.
- * For more information on DVD recording compatibility, consult your DVD-RAM/DVD-RW/DVD-R manufacturer.
- * Use of poor quality DVD-RAM/DVD-RW/DVD-R discs may cause following unexpected problems including, without limitation, recording failure, loss of recorded or edited materials or damage to the recorder.

Do not use the following discs!

- LD, CD-G, CD-I, CD-ROM and DVD-ROM discs should not be used in this product.

[Note]

Disc types that can be played : CD/CD-R/CD-RW/MP3/JPEG/DVD-Video/DVD-RAM/DVD-RW/ DVD-R.

DVD+R/+RW cannot record, but the finalized DVD +R/+RW can be played.

For a DVD-R/DVD-RW disc, which has been recorded in Video Mode on another component, it can play only when finalized.

- Some commercial discs and DVD discs purchased outside your region may not be playable with this product. When these discs are played, either "No Disc" or "Please check the regional code." will be displayed.
- If your DVD-RW disc is an illegal copy or is not in DVD video format, it may also not be playable.

Disc compatibility

- High Speed Recording discs can be used in this Recorder.
- Not all brands of discs will be compatible with this unit.
- The latest firmware upgrade to improve recording & playback quality can be downloaded from our web site. (Download Center at www.samsung.com)
- If disc compatibility problem continue, or there is an issue upgrading your recorder, contact the Call Center at 1-800-SAMSUNG.

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General Features

The **DVD-VR330** allows you to record and play high quality digital video on DVD-RAM/DVD-RW/DVD-R discs. You can record and edit digital video on DVD-RAM/DVD-RW/DVD-R discs as if they were VCR tapes.

High quality digital audio and video recording and playback

Record up to about 16-hour images with a double side 9.4 GB DVD-RAM disc, and up to about 8-hour images with a 4.7 GB DVD-RAM/DVD-RW/DVD-R disc, depending on the recording mode.

Creating DVD video titles using DVD-RW/DVD-R discs

With the **DVD-VR330**, you can create your own DVD video titles on 4.7 GB DVD-RW/DVD-R discs.

A Variety of Recording Options

Select an appropriate recording mode between XP, SP, LP and EP to meet your recording needs. (See page 60.)

- XP mode - High quality, about 1 hour
- SP mode - Standard quality, about 2 hours
- LP mode - Low quality, about 4 hours
- EP mode - Lower quality, about 6 or 8 hours

Copying digital camcorder content using DV input jack

Record digital camcorder images onto DVD-RAM/DVD-RW/DVD-R discs or video tape using the DV input jack (IEEE 1394-4pin). (See page 61.)

High quality progressive scan

Progressive scanning provides high resolution and flicker free video. The 10-bit 54-MHz DAC, 2D Y/C Separating circuitry and Time Base Corrector processor technology provide you with the highest image playback and recording quality. (See page 20.)

Component progressive scan output video is available in both DVD and VCR modes.

A variety of functions with easy-to-use user interface

Integrated menu system and messaging functionality allow you to perform the desired operations easily and conveniently. With a DVD-RAM/DVD-RW(VR mode) disc, you can edit recorded images, create playlist, and edit video in specific sequence according to your needs.

Before Reading the User's Manual

Make sure to check the following terms before reading the user's manual.

Icons that will be used in manual

Icon	Term	Definition
	DVD	This involves a function available in DVD or DVD-R/DVD-RW discs that have been recorded and finalized in Video Mode.
	RAM	This involves a function available in DVD-RAM.
	RW	This involves a function available in DVD-RW.
	R	This involves a function available in DVD-R.
	CD	This involves a function available in a data CD (CD-R or CD-RW).
	JPEG	This involves a function available in CD-R/-RW or DVD-R/-RW/-RAM discs.
	MP3	This involves a function available in CD-R/-RW or DVD-R/-RW/-RAM discs.
	Caution	This involves a case where a function does not operate or settings may be cancelled.
	NOTE	This involves tips or instructions on the page that help each function operate.
	One-Touch button	A function that can be operated by using only one button.
	ANYKEY button	A function that can be operated by using ANYKEY button.

About the use of this user's manual

- 1) Be sure to be familiar with Safety Instructions before using this product. (See pages 2~5)
- 2) If a problem occurs, check the Troubleshooting.
(See pages 87~89)

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How to use the DVD Recorder & VCR

Step 1 Select the disc type

This unit can record on the following types of discs. If you want to repeatedly record on the same disc or you want to edit the disc after recording, select a rewritable DVD-RW or DVD-RAM type disc. If you want to save a recording without any changes, choose a non-rewritable DVD-R.



Step 2 Format the disc to start recording

Unlike a VCR, the recorder automatically starts formatting when an unused disc is inserted. This is required for the preparation of recording on a disc.

Using a DVD-RAM

This type of disc can be formatted in DVD-Video Recording format (VR mode). You can edit recorded images and create a playlist in a specific sequence according to your requirements.

Using a DVD-RW

This type of disc can be formatted in either DVD-Video format (Video mode) or DVD-Video Recording format (VR mode). For an unused disc, a message that asks whether to format in VR Mode or not is displayed. You can play a video mode disc on various DVD components. A VR mode disc allows more varied editing.

Using a DVD-R

This type of disc can be formatted in DVD Video format. After formatting is complete, you can record on the disc. You can play this type of disc on various DVD components only when they have been finalized.



Note

- You can only use either the VR or Video mode on a DVD-RW, but not both at the same time.
- You can change the DVD-RW format to another format by reinitializing. It should be noted that the disc's data will be lost when changing formats.

Step 3 Recording

There are two different recording methods: Direct Recording and Timer Recording. Timer recording is classified as a Date : Once, Daily or Weekly. Recording mode : XP (high quality mode), SP (standard quality mode), LP (long recording mode), and EP (extended mode).

Step 4 Playing

You can select the title you want to play in a displayed menu and then immediately start playback. A DVD consists of sections called titles, and sub sections called chapters. During recording, a title is created between two points where you start and stop recording. Chapters will be created automatically when you finalize recording on DVD-R / DVD-RW discs in Video mode. The chapter's length (interval between chapters) varies according to the recording mode.

Step 5 Editing a recorded disc

Editing on discs is easier than conventional video tapes. The recorder supports many different edit functions, possible only with DVDs. With a simple and easy edit menu, you can operate various edit functions, such as delete, copy, rename, lock, etc., on a recorded title.

Creating a playlist (DVD-RAM/-RW in VR mode)

With this recorder, you can create a new playlist on the same disc and edit it without the change of the original recording.

Step 6**Finalizing & Playing on
other DVD components**

To play your DVD on other DVD components, finalizing may be necessary. First, finish all editing and recording operations, then finalize the disc.

When using a DVD-RW disc in VR Mode

Although finalizing is generally unnecessary when playing the disc on a VR Mode compatible component, a finalized disc should be used for playback.

When using a DVD-RW disc in Video Mode

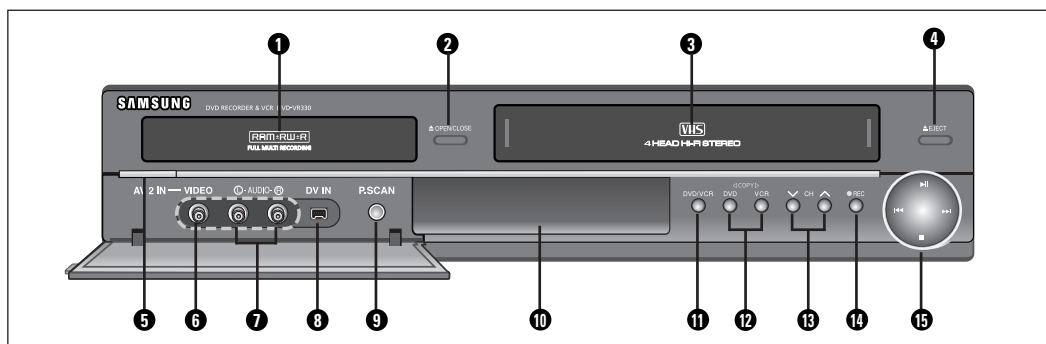
The disc should be finalized first to enable playback on anything other than this recorder. No more editing or recording can be made on the disc once it has been finalized.

When using a DVD-R disc

You should finalize the disc to play it on a component other than this recorder. You cannot edit or record on the disc once it has been finalized.

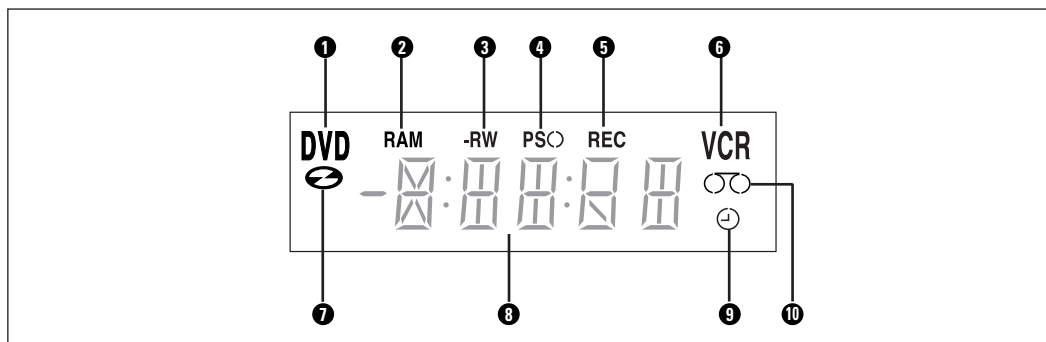
Description

Front Panel



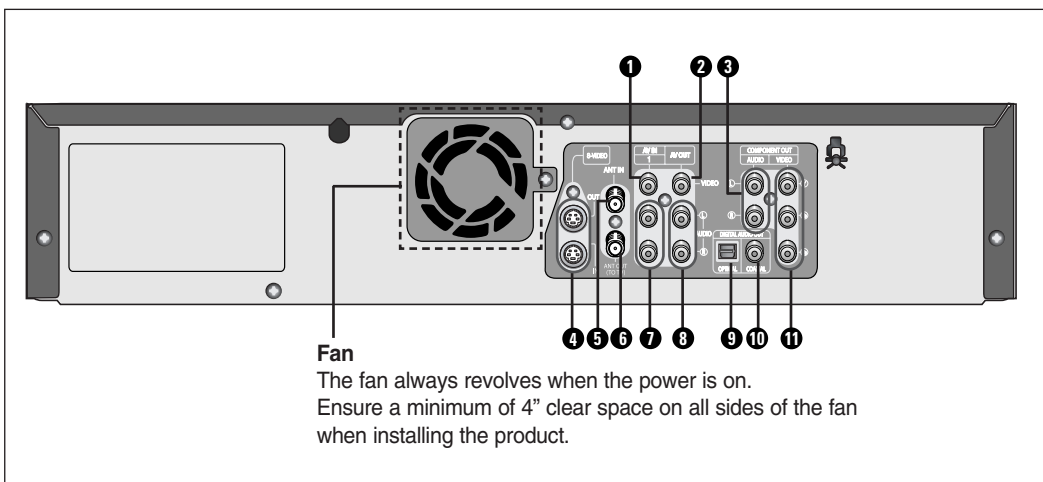
- | | |
|-------------------------------------|--|
| 1. DVD DECK | 9. P.SCAN BUTTON |
| 2. DVD OPEN/CLOSE BUTTON | 10. FRONT PANEL DISPLAY |
| 3. VCR DECK | 11. DVD/VCR SELECT BUTTON |
| 4. VCR EJECT BUTTON | 12. COPY BUTTON |
| 5. POWER BUTTON | 13. CHANNEL $\wedge$ / $\vee$ BUTTONS |
| 6. VIDEO INPUT JACK (AV 2 IN) | 14. RECORD BUTTON |
| 7. AUDIO L, R INPUT JACKS (AV 2 IN) | 15. PLAY/STILL, REW/SKIP, F.F/SKIP, STOP |
| 8. DV INPUT JACK | BUTTONS |

Front Panel Display



- | | |
|--|---|
| 1. DVD is activated. | 7. DVD or CD media is loaded. |
| 2. DVD-RAM is activated. | 8. The time, counter position or current deck |
| 3. DVD-R or DVD-RW is activated. | status is indicated. |
| 4. Progressive Scan mode is activated. | 9. When you set a Timer recording, |
| 5. Record function is activated. | this indicator appears. |
| 6. VCR is activated. | 10. VHS videotape is loaded. |

Rear Panel



- | | |
|------------------------------------|--------------------------------------|
| 1. VIDEO INPUT JACK (AV IN 1) | 6. ANT OUT (TO TV) JACK |
| 2. VIDEO OUT JACK (AV OUT) | 7. AUDIO INPUT JACKS (AV IN 1) |
| 3. AUDIO OUT JACKS (COMPONENT OUT) | 8. AUDIO OUT JACKS (AV OUT) |
| 4. S-VIDEO IN/OUT JACKS | 9. DIGITAL AUDIO OUT JACK (OPTICAL) |
| 5. ANT IN JACK | 10. DIGITAL AUDIO OUT JACK (COAXIAL) |
| | 11. VIDEO OUT JACKS (COMPONENT OUT) |

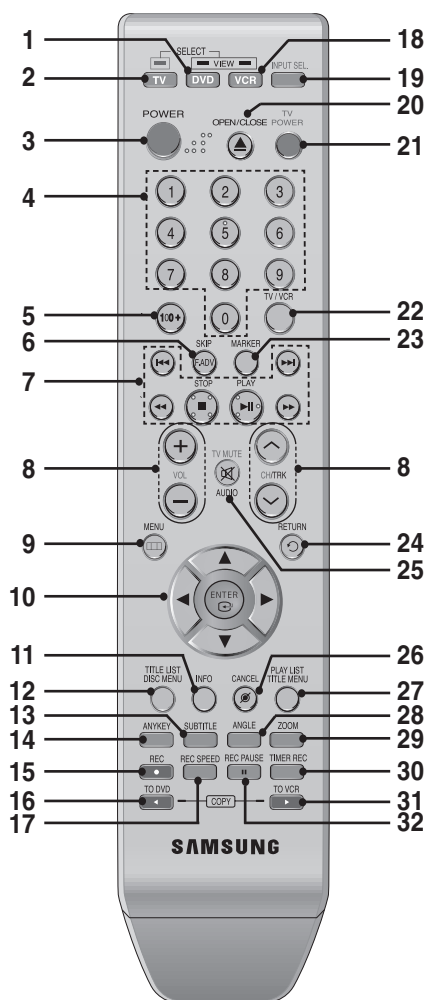
Unpacking

Accessories

Check for the supplied accessories below.

- Audio/Video Cable
- RF Cable for TV
- Remote Control
- Batteries for Remote Control (AAA Size)
- User's Manual
- Quick Guide

Tour of the Remote Control



- 1. DVD Button**
Press this when you use a DVD.
- 2. TV Button**
Press this to operate TV.
- 3. POWER Button**
- 4. NUMBER Button**
- 5. 100+ Button**
Press this to select channel 100 or higher.
- 6. F.ADV/SKIP Button**
- 7. Playback-related Buttons**
Forward/Rewind, Search, Skip, Stop, Play/Pause
- 8. TV Control Buttons**
 - **VOLUME Button**
TV volume adjustment
 - **CHANNEL Button**
Press this to select a TV channel.
 - **TRK Button**
Press this to remove the white line.
- 9. MENU Button**
Press this to bring up the DVD Recorder & VCR's setup menu.
- 10. ENTER/DIRECTION Buttons**
(UP/DOWN or LEFT/RIGHT Buttons)
This button functions as a toggle switch.

- 11. INFO. Button**
Press this to display current setting or disc status.
- 12. TITLE LIST (DISC MENU) Button**
Press this to enter the TITLE LIST/Disc menu.
- 13. SUBTITLE Button**
Press this to switch the DVD's subtitle language.
- 14. ANYKEY Button**
Press this to view the status of the disc that is being played.
- 15. REC Button**
Press this to make a recording on VCR, DVD-RAM/-RW/-R discs.
- 16. DVD COPY Button**
Press this when you copy from the VCR to the DVD.
- 17. REC SPEED Button**
Press this to set the desired recording time and picture quality.
- 18. VCR Button**
Press this when you use a VCR.
- 19. INPUT SEL. Button**
Press this to select AV input signal in external input mode. (Tuner, AV input, DV input)
- 20. OPEN/CLOSE Button**
Press this to open and close the disc tray.
- 21. TV POWER Button**
- 22. TV/VCR Button**
- 23. MARKER Button**
Press this to bookmark or mark a position while playing a disc.
- 24. RETURN Button**
Returns to a previous menu.
- 25. AUDIO/TV MUTE Button**
Press this to access various audio functions. This operates as sound mute. (TV mode)
- 26. CANCEL Button**
- 27. PLAY LIST(TITLE MENU) Button**
Press this to enter the Edit playlist/Title menu.
- 28. ANGLE Button**
Press this to access various camera angles on a disc (if the disc contains multiple camera angles).
- 29. ZOOM Button**
Zooms in on screen.
- 30. TIMER REC Button**
Press this when you use Timer Recording.
- 31. VCR COPY Button**
Press this when you copy from the DVD to the VCR.
- 32. REC PAUSE Button**
Press this to pause during recording.

Key Lock Function

If you do not want others to operate the DVD Recorder & VCR (for example if you have programmed a timer recording) you can set the equipment to lock out all button controls.

- Press and hold the **INFO.** button on the remote control for 5 seconds.
The display will show "SAFE" when the feature is activated.
- To resume normal mode, press and hold the **INFO.** button again for 5 seconds.
"SAFE" will disappear and the DVD Recorder & VCR will operate normally.

Connecting & Setting Up

Quick Overview	14
Step 1: Connecting the Antenna Cable	15
Step 2: Connecting the Video Cable	18
Step 3: Connecting the Audio Cable	21
Step 4: Connecting External Devices	24
Step 5: Connecting the Power Cord	27
Step 6: Preparing the Remote Control	27

Quick Overview

A Quick overview presented in this guide will give you enough information to start using the recorder.

Step 1 : Connecting the Antenna Cable



Step 2 : Connecting the Video Cable



Step 3 : Connecting the Audio Cable



Step 4 : Connecting External Devices



Step 5 : Connecting the Power Cord



Step 6 : Preparing the Remote Control

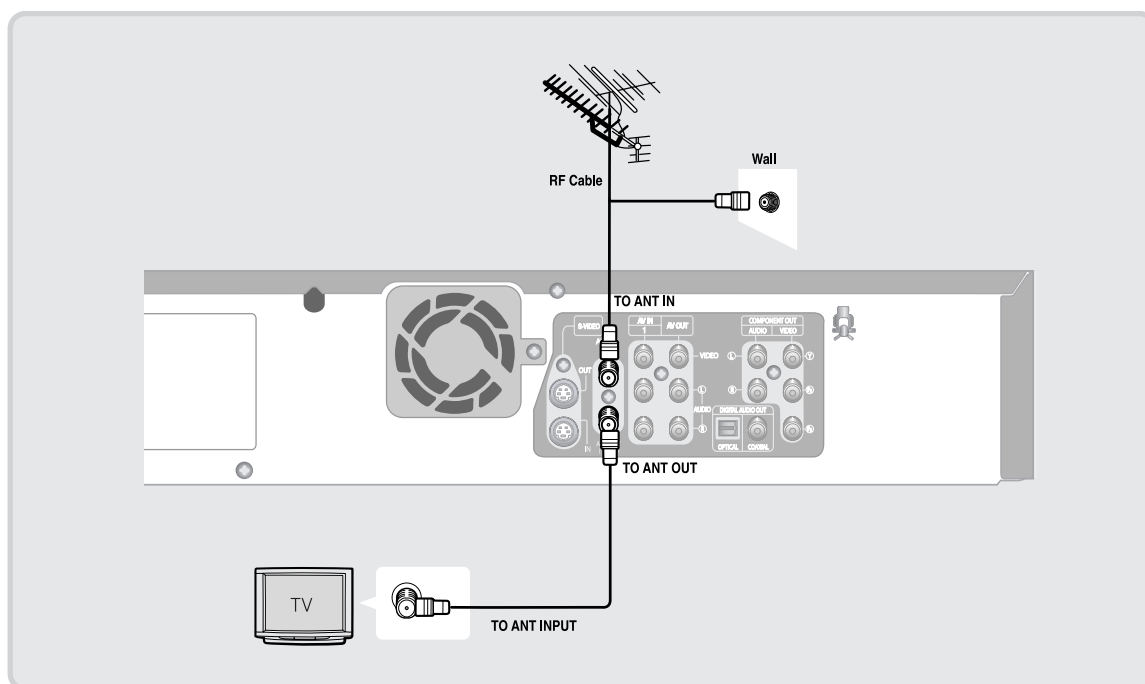
- **Note to CATV system installer :** This reminder is to call CATV system installer's attention to Article 820-40 of the National Electrical Code (Section 54 of Canadian Electrical Code, Part I), that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable title as practical.

Step 1: Connecting the Antenna Cable

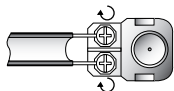
There are several ways to connect your DVD Recorder & VCR. Select one of the following antenna connections that best suits you below.

Antenna + DVD Recorder & VCR + TV : No Cable box

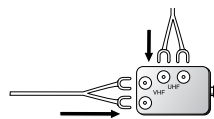
You can record non-scrambled channels by selecting the channel on the DVD Recorder & VCR. Also use this method if you watch channels without cable box.



- If you are using an off-air antenna that has 300-ohm twin flat leads, use an external antenna connector (300-75 ohm adaptor : not supplied) to connect the antenna to the DVD Recorder & VCR.

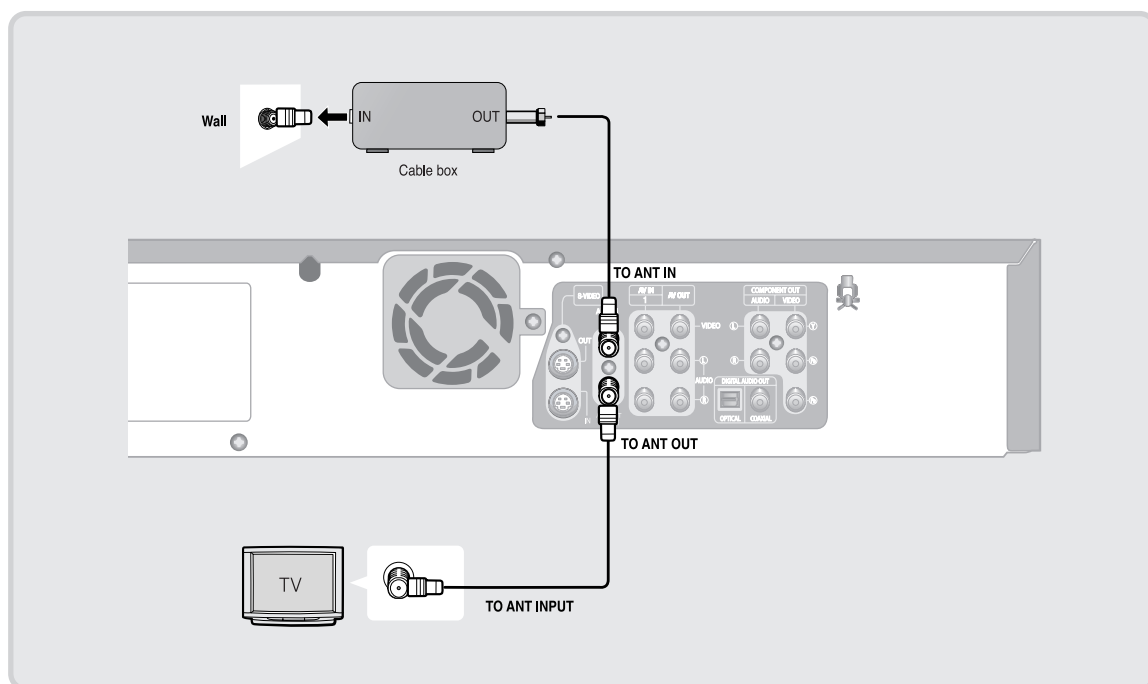


- If you have two separate antennas (one VHF and the other UHF), use a UHF/VHF combiner-adaptor (available at most electronics shops) to connect the antenna to the DVD Recorder & VCR.



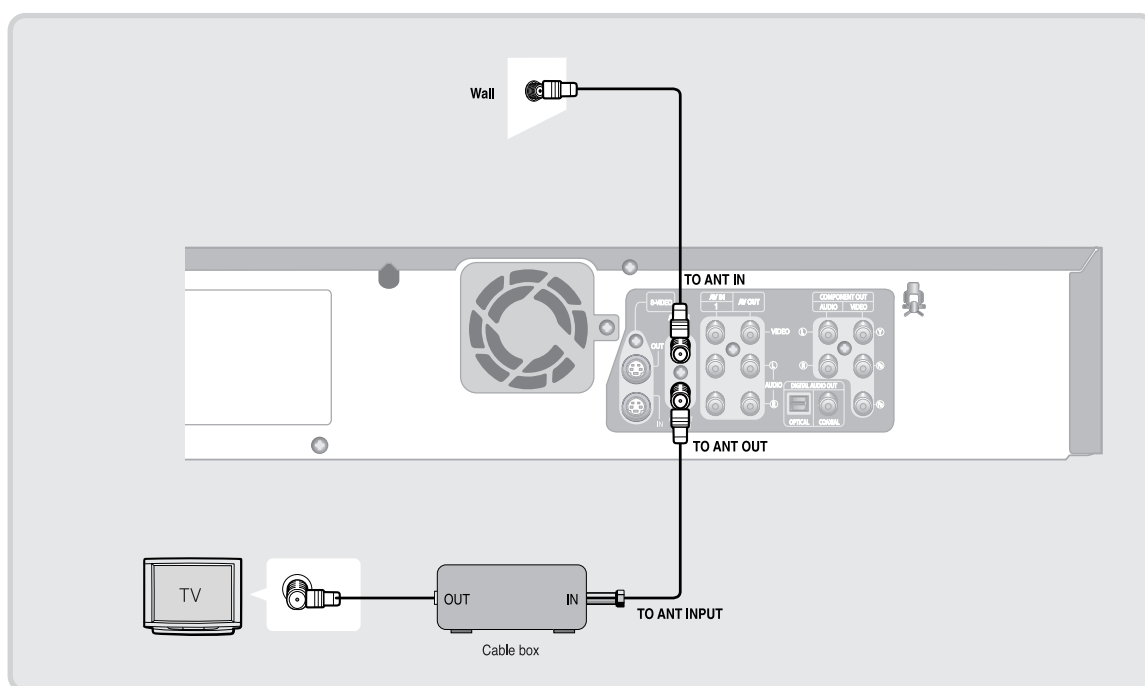
Antenna + Cable box + DVD Recorder & VCR + TV : Cable box with many scrambled channels

You can record channels by selecting the channel on the cable box. You cannot record one channel while watching another channel. Be sure that the cable box is turned on.



Antenna + DVD Recorder & VCR + Cable box + TV : Cable box with a few scrambled channels

You can record non-scrambled channels by selecting the channel on the cable box. You cannot record scrambled channels that require a cable box.



Step 2 : Connecting the Video Cable

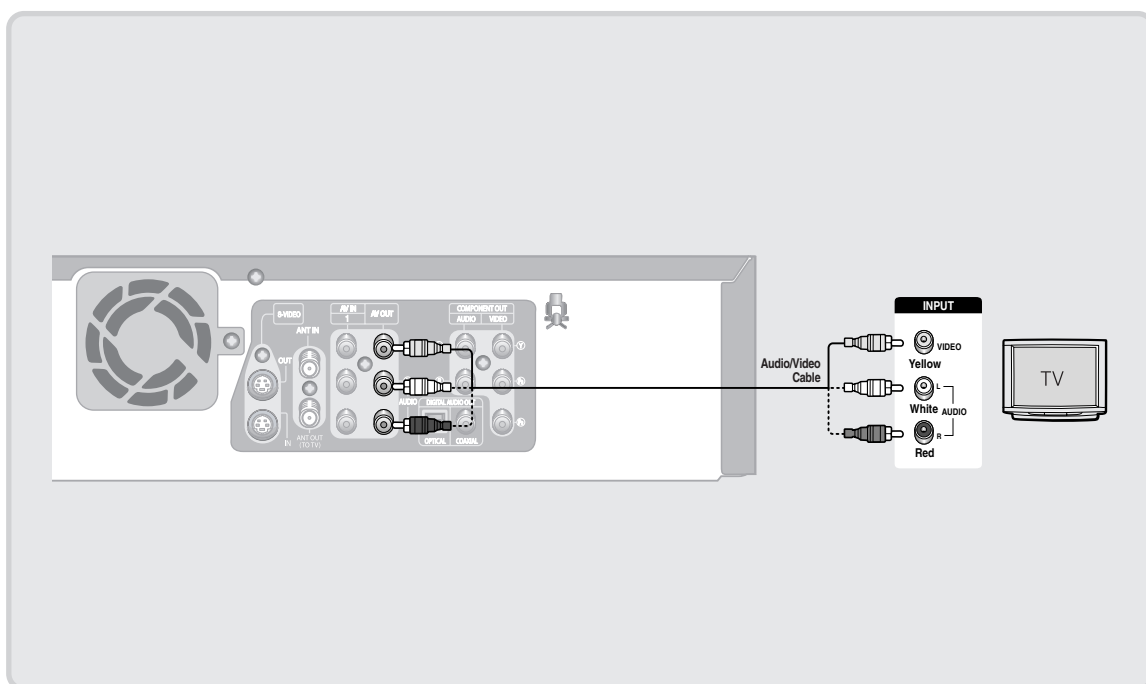


There are several ways to connect your DVD Recorder & VCR. Select one of the video connections on the following pages. The VHF/UHF RF OUT jack of this product sends only signals received through the antenna. It does not output audio/video signals. You must use one of the following audio/video connections on this unit.

Connecting to a Video input jack

Connect a video(yellow) cable between the VIDEO(yellow) OUT jack on DVD Recorder & VCR and VIDEO(yellow) IN jack on the TV (or AV amplifier).

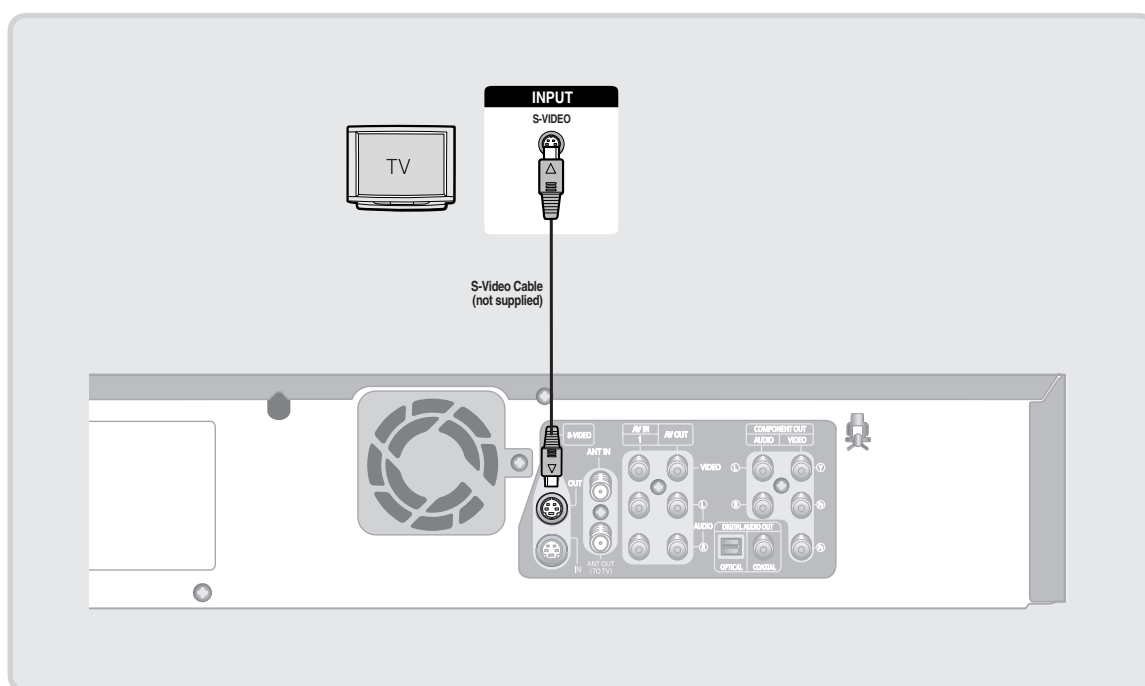
Connections



- You will enjoy regular quality images.
- Connect audio cables(white and red) between the AUDIO OUT jacks on the DVD Recorder & VCR and AUDIO IN jacks on TV(or AV amplifier).
(See pages 21 ~ 23)

Connecting to an S-Video input jack

Connect an S-Video cable(not supplied) between the S-VIDEO OUT jack on DVD Recorder & VCR and S-VIDEO IN jack on your TV (or AV amplifier).



- You will enjoy high quality images. S-Video separates the picture element into black and white (Y) and color (C) signals to present clearer images than regular video input mode.
- Connect audio cables(white and red) between the AUDIO OUT jacks on the DVD Recorder & VCR and AUDIO IN jacks on TV(or AV amplifier).
(See pages 21 ~ 23)

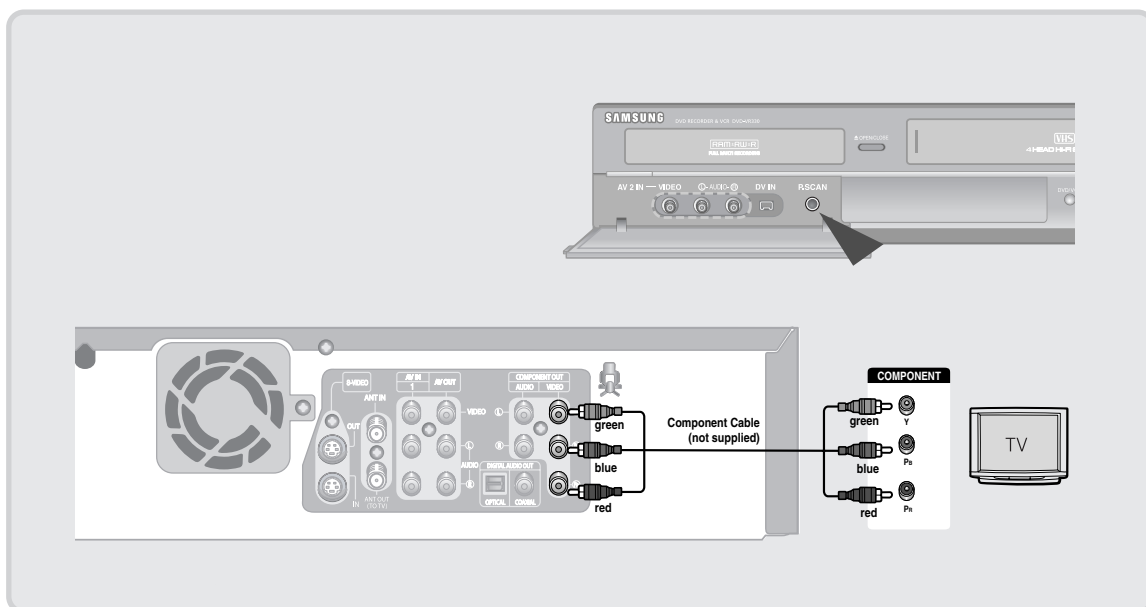


Note

- S-Video and Component video output are available only if your TV supports S-Video input or Component video input, respectively. If S-Video or Component video output does not work, check the TV connections and the TV input selection settings.

Connecting to Component video input jacks (Y,P_B,P_R)

Connect Component video cables (not supplied) between the COMPONENT OUT (Y,P_B,P_R) jacks on DVD Recorder & VCR and COMPONENT IN (Y,P_B,P_R) jacks on your TV (or AV amplifier).



- You will enjoy high quality accurate color reproduction images. Component video separates the picture element into black and White(Y), blue(P_B), red(P_R) signals to present most clear and clean images.
- Connect audio cables(white and red) between the AUDIO OUT jacks on the DVD Recorder & VCR and AUDIO IN jacks on TV(or AV amplifier). (See pages 21 ~ 23)
- Progressive scan
 - If the your TV supports Progressive Scan, you can enjoy higher quality video by pressing the P.SCAN button. (The component cable has to be connected.)
 - With the unit in stop mode, press the P.SCAN button on the front of the DVD Recorder & VCR.
 - The message 'Press "Yes" to confirm Progressive scan mode. Otherwise press "No" will appear. Press the ◀ ▶ buttons to select Yes, and then press the ENTER button.



Note

- Compared to standard interlaced video, progressive scan doubles the amount of video lines fed to your TV, resulting in a more stable, flicker-free, and clear image than interlaced video. The progressive scan video output jack is used in progressive output mode. This is only available with TVs that support progressive scan.
- Progressive Scan Output (480p) Consumers should note that not all high definition television sets are fully compatible with this product and may cause artifacts to be displayed in the picture. If you experience 480p progressive scan picture problems, it is recommended that you switch the connection to the 'standard definition' output. If there are questions regarding TV set compatibility with this model, please contact our customer service center at 1-800-SAMSUNG.
- Do not press the P.SCAN button if your TV does not support Progressive scan mode. Nothing will be displayed on the screen. To release the Progressive scan mode, press the P.SCAN button on the front panel.

Step 3 : Connecting the Audio Cable

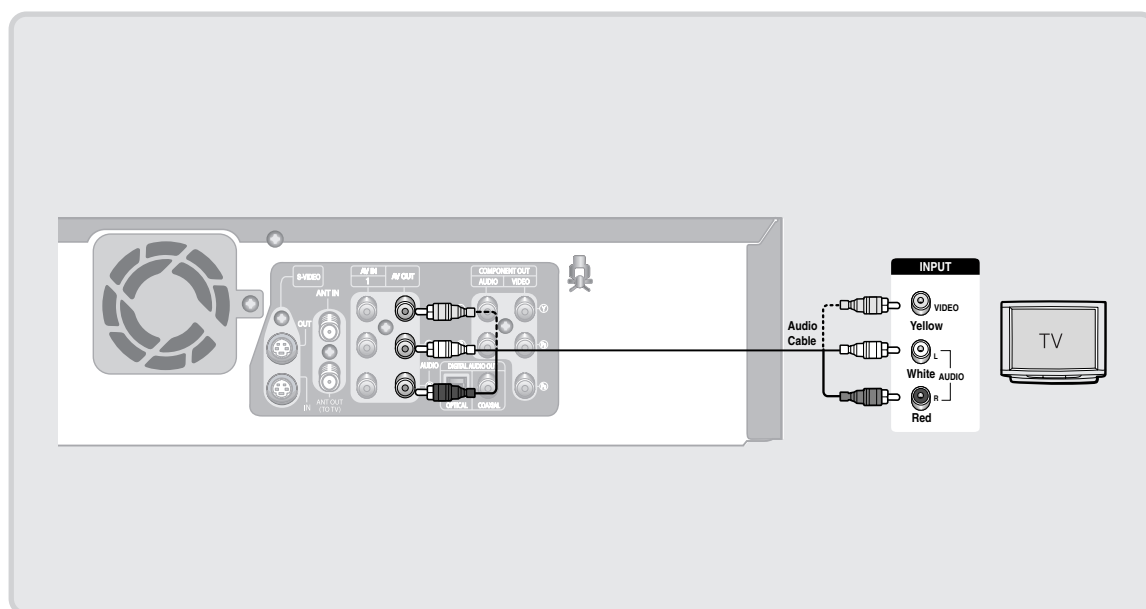


There are several ways to connect your DVD Recorder & VCR. Select one of the Audio connections on the following pages.

Connecting to your TV

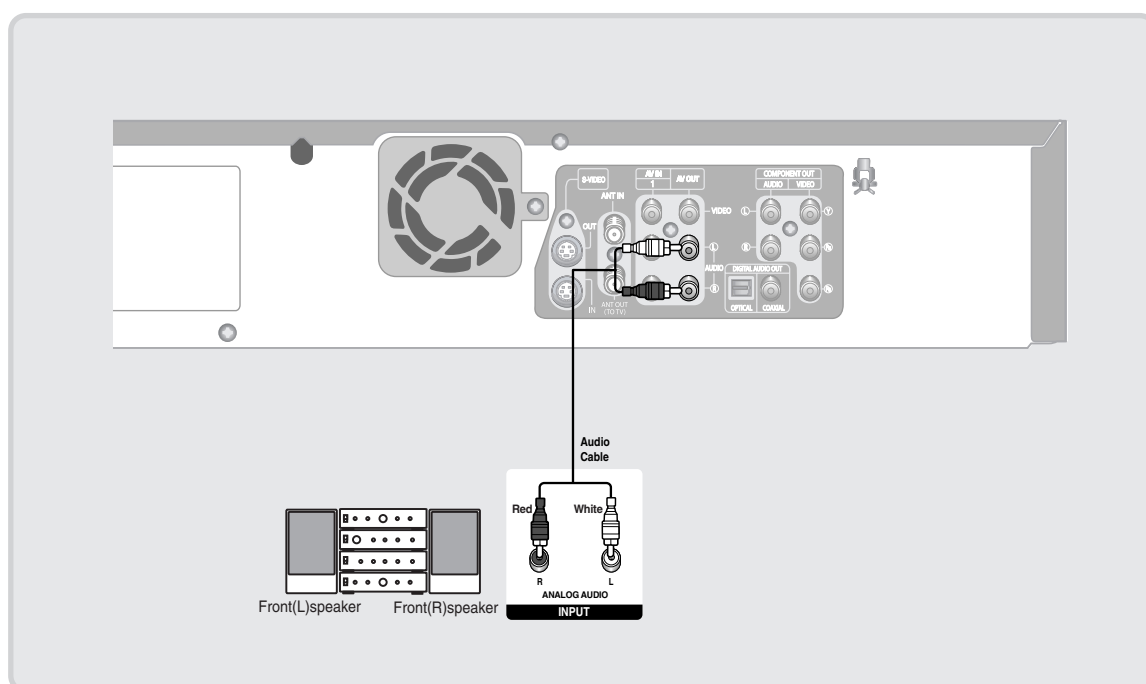
This connection will use your TV's speakers.

Connections



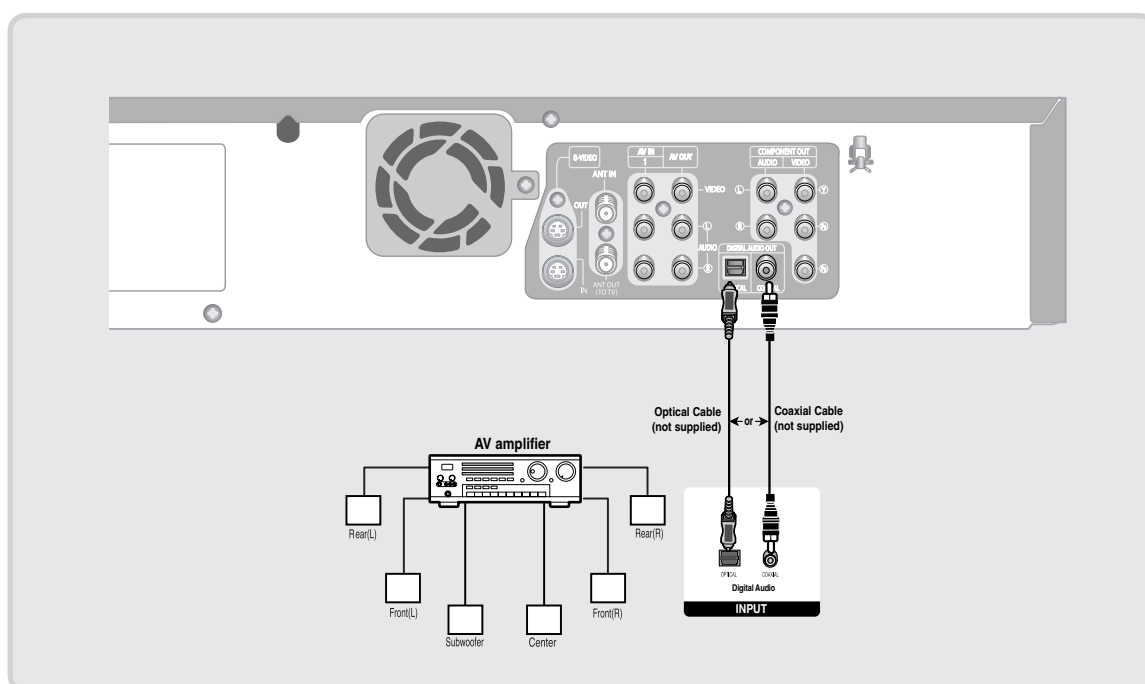
Connecting to a stereo amplifier with analog input jacks

If your stereo amplifier only has AUDIO INPUT jacks(L and R), use the AUDIO OUT jacks.



Connecting to an AV amplifier with a digital input jack

If your AV amplifier has a Dolby Digital or DTS decoder and a digital input jack, use this connection. To enjoy Dolby Digital or DTS sound, you will need to set up the audio settings. (See pages 35)



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.

Step 4 : Connecting External Devices



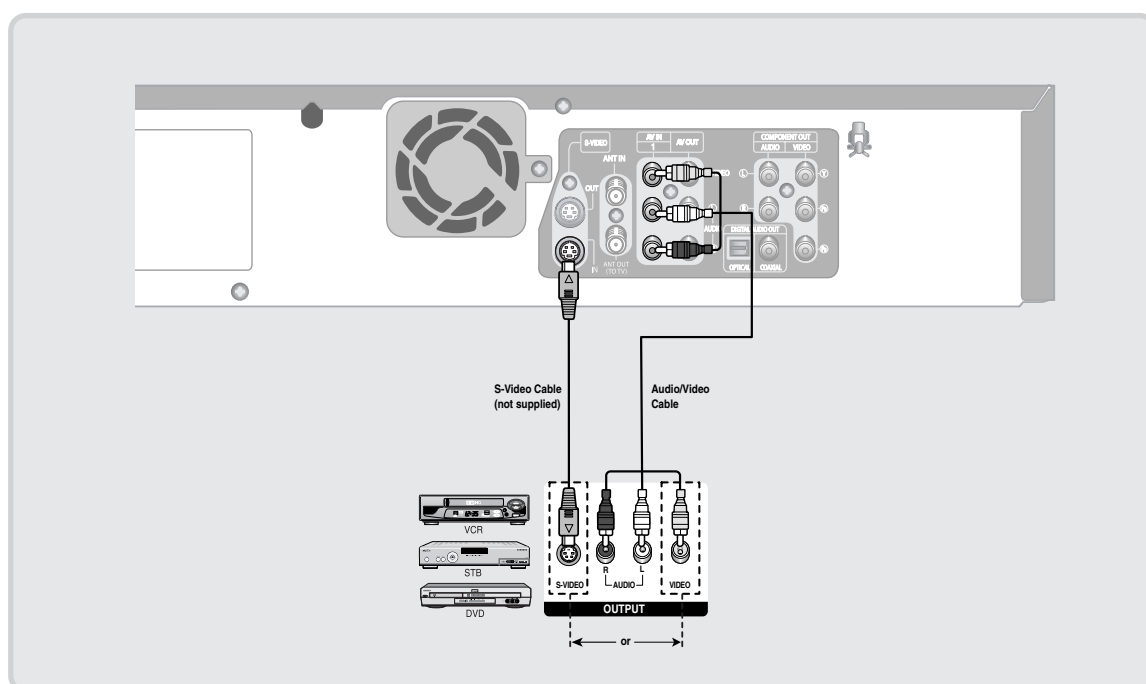
This allows you to connect your DVD Recorder & VCR to other external devices and view or record their outputs.

Connections

Connecting a VCR, Set-Top Box(STB) or DVD player to the AV IN 1 jacks

Connecting a VCR or external device to AV IN 1 jacks of the DVD Recorder & VCR.

You can record from connected equipment (VCR, STB or DVD).

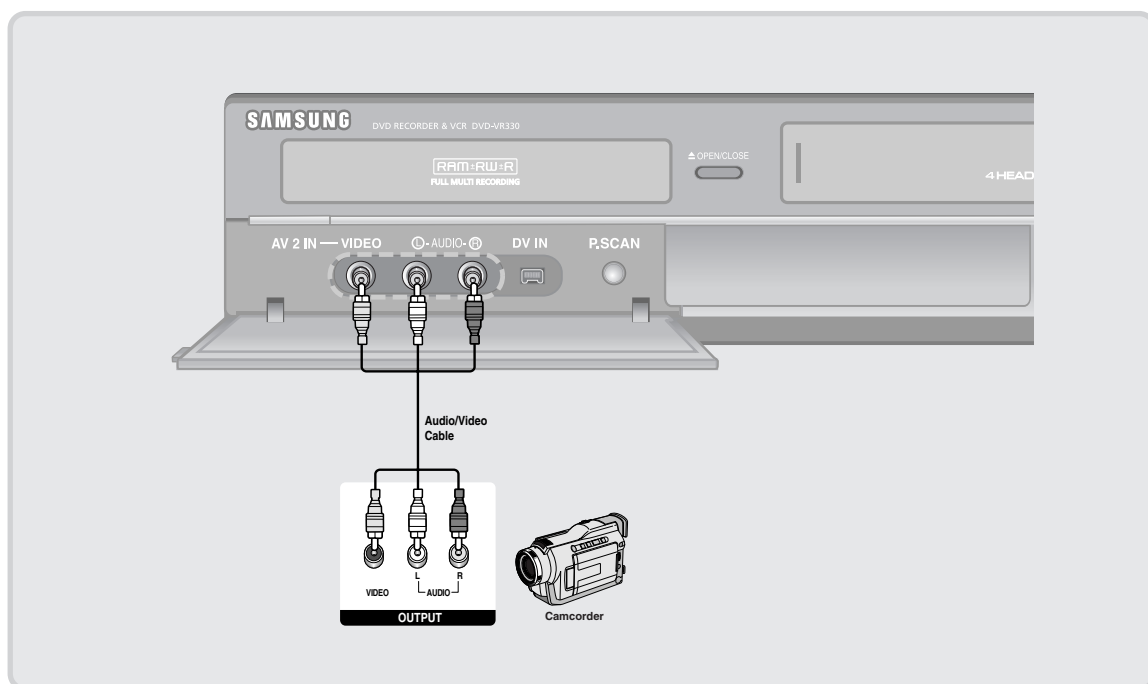


Note

- You can also use the **AV 2 IN** jacks on the front panel of the DVD Recorder & VCR.
- Copy protected content cannot be recorded.

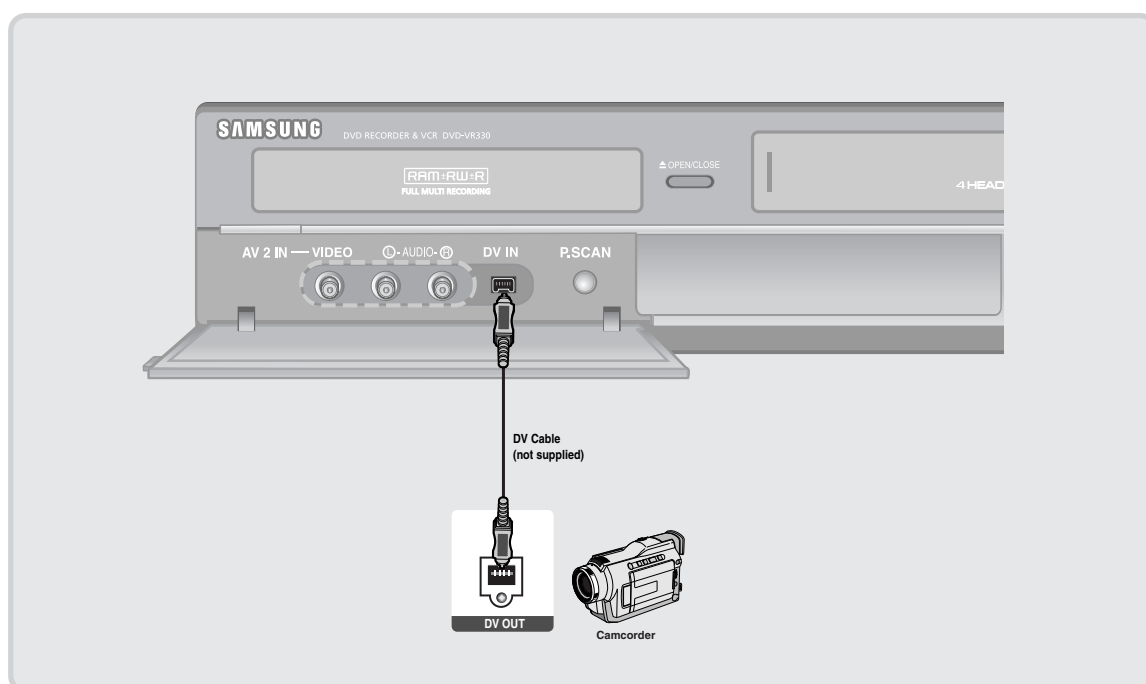
Connecting a Camcorder to the AV 2 IN jacks

You can also use the **AV 2 IN** jacks on the front panel of the DVD Recorder & VCR. You can record from connected equipment, such as a camcorder. When an input source is inserted into **AV 2 IN** while viewing TV, the input will be switched to **AV 2 IN** automatically.



Connecting a Camcorder to the DV IN jack

If your camcorder has a DV output jack, connect it to the DV input jack of your DVD Recorder & VCR.



Note

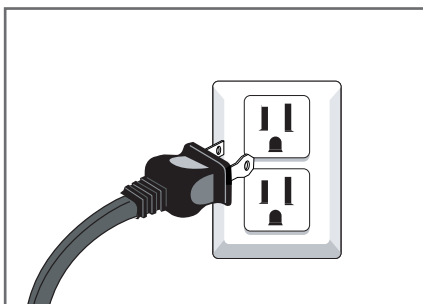
■ If the input is not selected automatically, use **INPUT SEL.** button to select proper input.

Step 5 : Connecting the Power Cord

After all connections are complete, plug the power cord in the wall outlet.

“Auto” appears in the front panel display. This means that the current time is being set automatically through the antenna under connection(Auto Program). The setup may take several minutes.

When the DVD Recorder & VCR operates normally, the current time is automatically set and displayed in the front panel display.



Step 6 : Preparing the Remote Control

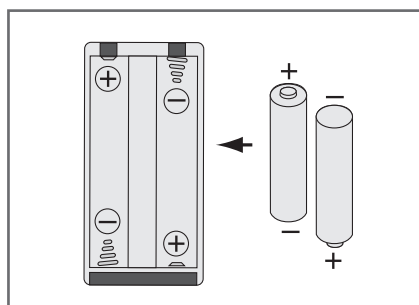
Install Batteries in the Remote Control

- Open the battery cover on the back of the remote control.
- Insert two AAA batteries. Make sure that the polarities (+ and -) are aligned correctly.
- Replace the battery cover.

If the remote control does not operate properly:

- Check the polarity + - of the batteries (Dry-Cell)
- Check if the batteries are drained.
- Check if the remote sensor is blocked by obstacles.
- Check if there is any fluorescent lighting nearby.

Dispose of batteries according to local environmental regulations. Do not put them in the household trash.



Setting the Remote Control

You can control part of another manufacturer's TV functions with this remote control.

- Control function buttons involve : **TV POWER**, **INPUT SEL.**, **VOL +/-**, **CH/TRK** ($\wedge/\vee$), **TV MUTE**, **0~9**, **100+**.



To determine whether your television is compatible, follow the instructions below.

1. Switch your television on.
2. Point the remote control towards the television.
3. Press the TV button and enter the two-figure code corresponding to the brand of your television, by pressing the appropriate number button.

Brand	Codes	Brand	Codes
SAMSUNG	01,14,15,23,31	NEWSAN	27
DAEWOO	19	NOBLEX	25
EMERSON	21	PANASONIC	12,24
GRADIENTE	30	RCA	07,29
HITACHI	10	SANYO	05,20
JVC	11	SHARP	02,16,22
LG	06,08,18	SONY	03
LOEWE	28	TELEFUNKEN	26
MAGNAVOX	04	TOSHIBA	09
MITSUBISHI	13	ZENITH	17

Result: If your television is compatible with the remote control, it will switch off.

It is now programmed to operate with the remote control.



Note

- If several codes are indicated for your television brand, try each one in turn until you find one that works. If you replace the remote control's batteries, you must set the brand code again.

You can then control the television using the following buttons.

Button	Function
TV POWER	Used to switch the television on and off.
INPUT SEL.	Used to select an external source.
VOL +/-	Used to adjust the volume of the television.
CH/TRK ($\wedge/\vee$)	Used to select the desired channel.
TV MUTE	Used to toggle the sound on and off.
0~9	Used to input number directly.
100+	Used to select channels over 100.



Note

- The various functions may not necessarily work on all televisions. If you encounter problems, operate the television directly.

System Setup

On-Screen Menu Navigation.....	29
Auto Clock Set	30
Manual Clock Set	31
Channel Set	32
Auto Channel Memory.....	32
Channel Add/Delete	33
RF Output Channel.....	33
Setting Up the Language Options	34
Setting Up the Audio Options	35
Setting Up the Display (Video) Options	36
Setting Up the Parental Control.....	37
VCR Setting	38
Video Input	39
DVD EP Mode Time	40
Automatic Chapter Creator	40
Quick Recording.....	41

On-Screen Menu Navigation

The on-screen menus allow you to enable or disable various functions on your DVD Recorder & VCR. Use the following buttons to open and navigate through the on-screen menus.



1 MENU Button

Press this button on the remote control to open the on-screen **MENU**. Press again to exit the on-screen **MENU**.

2 ▲/▼,◀/▶ Buttons

Press these buttons on the remote control to move the selection bar ▲/▼,◀/▶ to cycle through the menu options.

3 ENTER Button

Press this button on the remote control to confirm any new settings.

4 RETURN Button

Press this button on the remote control to return to the previous **MENU** screen displayed or to exit the on-screen **MENU**.

Auto Clock Set

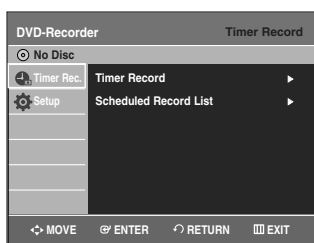
This menu is used to set the current time. You need to set the time to use timer recording.



Note

- You must have the antenna connected to set the Auto Clock. See pages 15~17 for Antenna Connections.
- The Clock will be automatically set when you turn off the recorder.

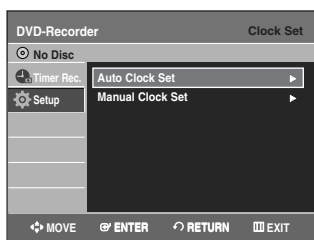
- 1 With the unit in Stop mode/No Disc mode, press the **MENU** button.



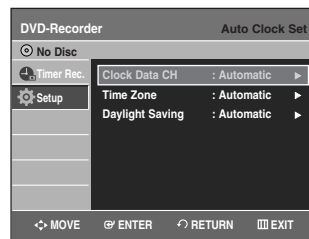
- 2 Press the **▲▼** buttons to select **Setup**, then press the **ENTER** or **▶** button.



- 3 Press the **▲▼** buttons to select **Clock Set**, then press the **ENTER** or **▶** button.



- 4 Press the **▲▼** buttons to select **Auto Clock Set**, then press the **ENTER** or **▶** button.



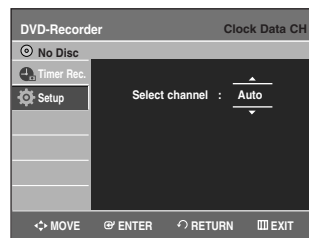
Note

- If your clock is set to the wrong time zone or daylight saving, you can adjust these settings without turning off the Auto Clock Set function.

- 5 Press the **▲▼** buttons to select the sub menu (Clock Data CH, Time Zone or Daylight Saving), then press the **ENTER** or **▶** button.

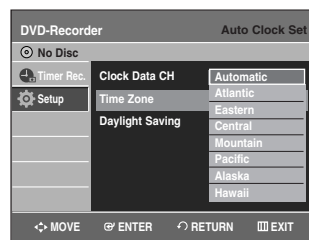
Clock Data CH

Press the **▲▼** buttons to select a channel that carries a time signal, then press the **ENTER** button. Select **Auto** to set the channel automatically.



Time Zone

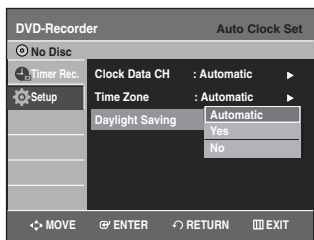
Press the **▲▼** buttons to select the time zone of your area, then press the **ENTER** or **▶** button. Select **Automatic** to set the time zone automatically.



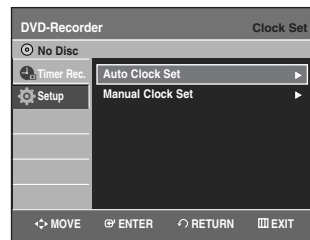
Daylight Saving

Press the **▲▼** buttons to select **Yes** or **No**, then press the **ENTER** or **▶** button.

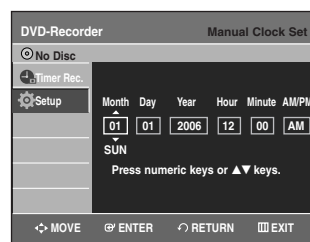
Select **Automatic** to set the daylight saving automatically.



- 3** Press the **▲▼** buttons to select **Clock Set**, then press the **ENTER** or **▶** button.



- 4** Press the **▲▼** buttons to select **Manual Clock Set**, then press the **ENTER** or **▶** button.



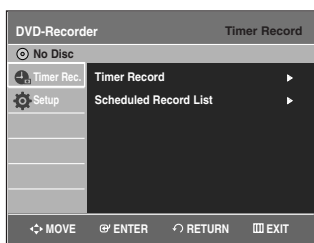
Manual Clock Set

If Auto Setup fails to set the DVD Recorder & VCR's internal clock by locating a local TV station, follow these steps to set the date and time manually.



For accurate Timer Recording, your DVD Recorder & VCR's internal clock must be set correctly.

- 1** With the unit in Stop mode/No Disc mode, press the **MENU** button.



- 2** Press the **▲▼** buttons to select **Setup**, then press the **ENTER** or **▶** button.



- 5** Press the **▲▼◀▶** buttons to select the Current Date and Current Time, then press the **ENTER** button. When the current time is stored in memory and then the set is powered off, the current time will appear in the front panel display.

▲▼ : Sets the value

You can set the value using the number (0~9) buttons.

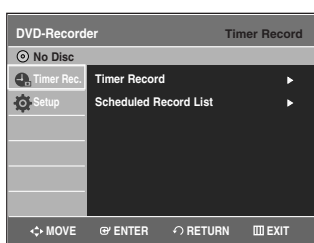
◀▶ : Moves to items

Channel Set

This feature allows you to manually set the DVD Recorder & VCR's tuner band to Antenna or Cable, whichever you connected to the Antenna In jack during initial setup.

- Use this setting only if Auto Setup detected the incorrect tuner band, i.e. channels are coming in on the wrong channel numbers.

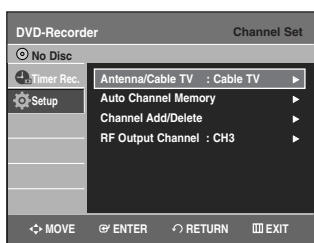
- 1 With the unit in Stop mode/No Disc mode, press the **MENU** button.



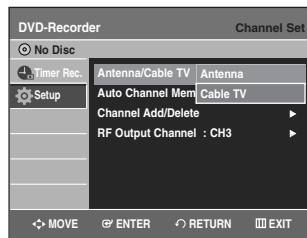
- 2 Press the **▲▼** buttons to select **Setup**, then press the **ENTER** or **▶** button.



- 3 Press the **▲▼** buttons to select **Channel Set**, then press **ENTER** or **▶** button.



- 4 Press the **▲▼** buttons to select **Antenna/Cable TV**, then press the **ENTER** or **▶** button.



Select the Antenna or Cable TV(Signal Source) that matches the antenna connection you selected on pages 15~17.

- **Antenna** - Select this if the DVD Recorder & VCR is connected to an indoor or outdoor VHF/UHF antenna.
- **Cable TV** - Select this if the DVD Recorder & VCR is connected to a cable TV.

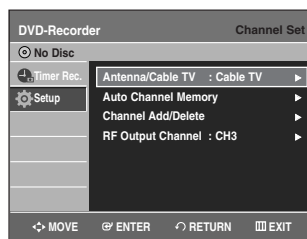
Auto Channel Memory

Auto Channel Memory will automatically seek and store all active channels in your area.

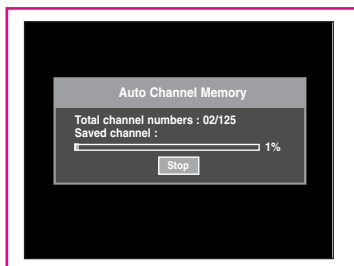
- 1 With the unit in Stop mode/No Disc mode, press the **MENU** button.

- 2 Press the **▲▼** buttons to select **Setup**, then press the **ENTER** or **▶** button.

- 3 Press the **▲▼** buttons to select **Channel Set**, then press the **ENTER** or **▶** button.



- 4** Press the **▲▼** buttons to select **Auto Channel Memory**, then press the **ENTER** or **▶** button.

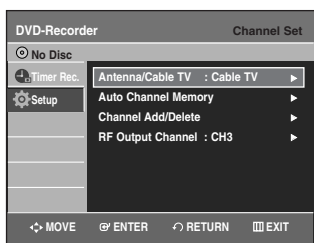


- The DVD Recorder & VCR will automatically search for all available channels in the selected tuner band. This procedure may take a few minutes to complete.
- When finished, the lowest channel will be displayed.
- Press **ENTER** button to stop or cancel scanning.

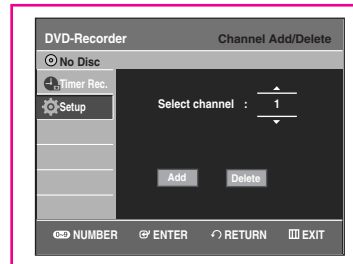
Channel Add/Delete

Use this feature if Auto Channel Memory missed a channel that you would like to add or if you wish to remove a channel.

- 1** With the unit in Stop mode/No Disc mode, press the **MENU** button.
- 2** Press the **▲▼** buttons to select **Setup**, then press the **ENTER** or **▶** button.
- 3** Press the **▲▼** buttons to select **Channel Set**, then press the **ENTER** or **▶** button.

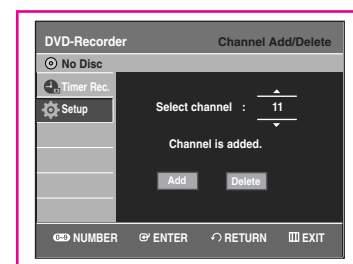


- 4** Press the **▲▼** buttons to select **Channel Add/Delete**, then press the **ENTER** or **▶** button.



- 5** Press the **▲▼** or number buttons to select the channels you want to add or delete on the Select channel screen. Then, press the **ENTER** button.
 - Using **▲▼** buttons for channel selection allows the user to add/delete one channel at a time.
 - Using **CH/TRK** (**▲/▼**) buttons for channel selection jumps to the next channel memorized in Auto Channel Memory.

- 6** Press the **◀▶** buttons to select **Add** or **Delete**, then press the **ENTER** button.

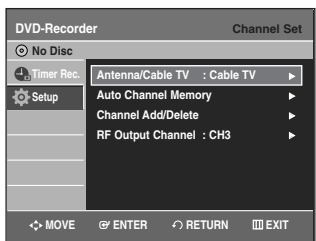


RF Output Channel

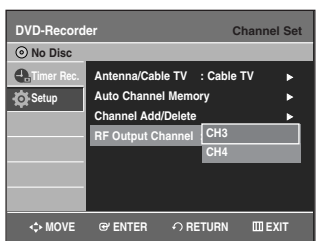
When you connect the DVD Recorder & VCR to TV with RF Antenna Cable, follow the steps below to set the RF Output Channel.

- 1** With the unit in Stop mode/No Disc mode, press the **MENU** button.
- 2** Press the **▲▼** buttons to select **Setup**, then press the **ENTER** or **▶** button.

- 3** Press the ▲▼ buttons to select **Channel Set**, then press **ENTER** or ► button.



- 4** Press the ▲▼ buttons to select **RF Output Channel**, then press the **ENTER** or ► button.



- 5** Press the ▲▼ buttons to select **CH3** or **CH4**, then press the **ENTER** or ► button.

The related message will appeared on your TV screen. Change your TV channel to CH3 or CH4 to match the RF Output Channel of the recorder.

Setting Up the Language Options

If you set audio, subtitle, disc menu and on-screen menu language in advance, they will come up automatically every time you watch a movie. If the selected language is not recorded on the disc, the original pre-recorded language is selected.

- 1** With the unit in Stop mode/No Disc mode, press the **MENU** button.

- 2** Press the ▲▼ buttons to select **Setup**, then press the **ENTER** or ► button.



- 3** Press the ▲▼ buttons to select **Language**, then press the **ENTER** or ► button. Language setup menu will be displayed.



- 4** Press the ▲▼ buttons to select the desired language option, press the **ENTER** or ► button.



- **Audio:** For the disc audio language.
- **Subtitle:** For the disc subtitles.
- **Disc Menu:** For the disc menu contained on the disc.
- **On-Screen Menu:** For the on-screen menu of your DVD Recorder & VCR.

- 5** Press the ▲▼ buttons to select the desired language, then press the **ENTER** or ► button.



Note

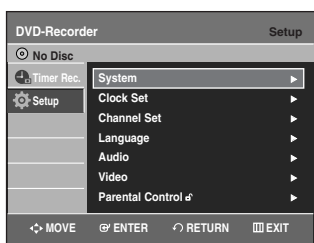
- Press the **RETURN** or ◀ button to return to the previous menu. Press the **MENU** button to exit the menu.
- The selected language will only appear if it is supported on the disc.

Setting Up the Audio Options

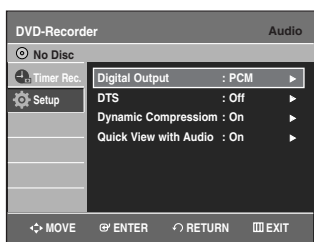
Allows you to setup the audio device and sound status settings depending on the audio system in use.

1 With the unit in Stop mode/No Disc mode, press the **MENU** button.

2 Press the **▲▼** buttons to select **Setup**, then press the **ENTER** or **▶** button.



3 Press the **▲▼** buttons to select **Audio**, then press the **ENTER** or **▶** button. Audio setup menu will be displayed.



4 Press the **▲▼** buttons to select the desired audio option, then press the **ENTER** or **▶** button.

5 Press the **▲▼** buttons to select the desired item, then press the **ENTER** or **▶** button.

Note ■ Press the **RETURN** or **◀** button to return to the previous menu. Press the **MENU** button to exit the menu.

Digital Output

- PCM** : Converts to PCM(2CH) 48kHz audio. Select PCM when using the Analog Audio Outputs.
- Bitstream** : Converts to Dolby Digital Bitstream (5.1CH). Select Bitstream when using the Digital Audio Outputs.



■ Be sure to select the correct Digital Output or no audio will be heard.

DTS

- Off** : Doesn't output digital signal.
- On** : Outputs DTS Bitstream via digital output only. Select DTS when connecting to a DTS Decoder.



■ When DTS soundtrack is played, sound is not output from Analog Audio Output.

Dynamic Compression

This is only active when a Dolby Digital signal is detected.

- Off** : You can enjoy the movie with the standard Dynamic Range.
- On** : When the Movie soundtracks are played at low volume or from **small** speakers, the system can apply appropriate compression to make low-level content more intelligible and prevent dramatic passages from getting too loud.

Quick View with Audio

This function enables you to hear the DVD sound during fast playback (1.5X speed) or slow playback (X1/2).

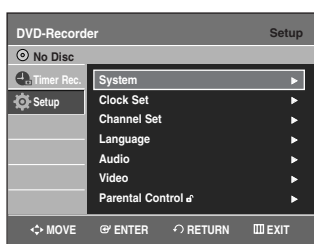
- On** : Enables to hear the sound during fast playback (1.5X speed) or slow playback(X1/2).
- Off** : Disables to hear the sound during fast playback (1.5X speed) or slow playback(X1/2).

Setting Up the Display(Video) Options

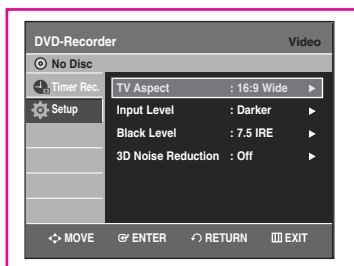
This function allows you to setup the TV screen settings.

1 With the unit in Stop mode/No Disc mode, press the **MENU** button.

2 Press the **▲▼** buttons to select **Setup**, then press the **ENTER** or **▶** button.



3 Press the **▲▼** buttons to select **Video**, then press the **ENTER** or **▶** button. Video option menu will be displayed.



4 Press the **▲▼** buttons to select the desired video option, then press the **ENTER** or **▶** button.

5 Press the **▲▼** buttons to select the desired item, then press the **ENTER** or **▶** button.



Note

- Press the **RETURN** or **◀** button to return to the previous menu.
Press the **MENU** button to exit the menu.

TV Aspect

Depending on the type of television you have, you may want to adjust the screen setting. (aspect ratio)

- **4:3 Letter Box** : Select when you want to see the total 16:9 ratio screen DVD supplies, even though you have a TV with a 4:3 ratio screen. Black bars will appear at the top and bottom of the screen.
- **4:3 Pan & Scan** : Select this for a conventional size TV when you want to see the central portion of the 16:9 screen. (Extreme left and right side of movie picture will be cut off.)
- **16:9 Wide** : You can view the full 16:9 picture on your wide-screen TV.

Input Level

Adjusts the level of the input signal.

- **Darker** : If you feel the screen is too light and you want to make the screen darker.
- **Lighter** : If you feel the screen is too dark and you want to make the screen lighter.

Black Level

Adjusts the black level of the screen.

- **7.5 IRE** : This will enhance the black level for increased brightness/contrast when viewing DVDs.
Select this when you want to make the screen lighter.
- **0 IRE** : This is the standard NTSC reference black level for consistent brightness/contrast across all sources.
Select this when you want to make the screen darker.

3D Noise Reduction

- **Off** : Normal
- **On** : *Select to remove noise from the screen.*



Note

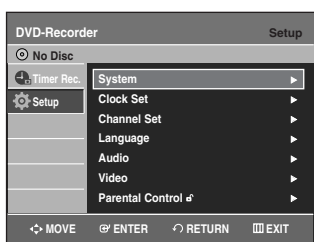
- This function depends on disc type. It may not work for some disc types.
- IRE: Short for the Institute of Radio Engineers. An IRE unit is a relative unit of measure equaling 1/140th of the peak-to peak (p-p) video amplitude.

Setting Up the Parental Control

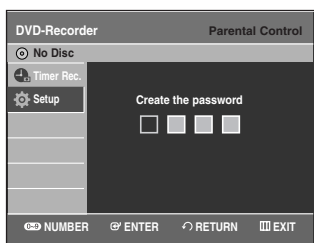
The Parental Control function works in conjunction with DVDs that have been assigned a rating - which helps you control the types of DVDs that your family watches. There are up to 8 rating levels on a disc.

1 With the unit in Stop mode/No Disc mode, press the **MENU** button on the remote control.

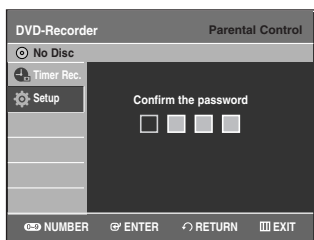
2 Press the **▲▼** buttons to select **Setup**, then press the **ENTER** or **▶** button.



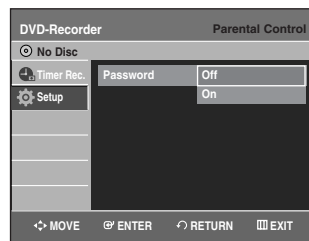
3 Press the **▲▼** buttons to select **Parental Control**, then press the **ENTER** or **▶** button.



4 Create a 4-digit password using the 0 to 9 buttons on the remote control.



5 The Re-enter Password screen appears to confirm the password. Enter your password again, and then press the **ENTER** or **▶** button.



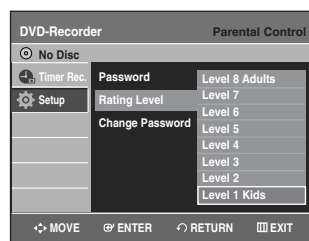
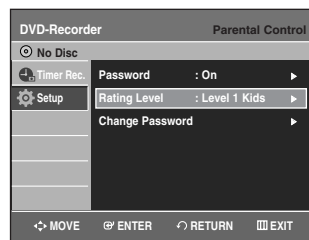
6 Press the **▲▼** buttons to select **On**, then press the **ENTER** or **▶** button. The Parental Control screen appears.



- Press the **RETURN** or **◀** button to return to the previous menu. Press the **MENU** button to exit the menu.
- Refer to Troubleshooting if you forget your password. (See page 87)

About the Rating Level

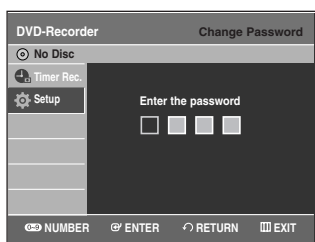
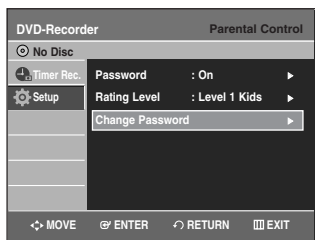
1 Press the **▲▼** buttons to select **Rating Level**, then press the **ENTER** or **▶** button.



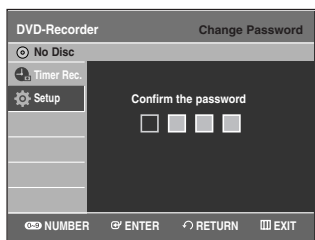
2 Press the **▲▼** buttons to select the rating level you want, then press the **ENTER** or **▶** button. For example, if you select up to Level 6, discs that contain Level 7, 8 will not play. A larger number indicates that the program is intended for adult use only.

About the Change Password

- 1 Press the ▲▼ buttons to select **Change Password**, then press the **ENTER** or ► button.



- 2 Enter the 4-digit password using the **number** buttons on the remote control. The 'Confirm the password' message will be displayed.



- 3 Enter your password again.



Note

- Press the **RETURN** or ◀ button to return to the previous menu. Press the **MENU** button to exit the menu.

VCR Setting



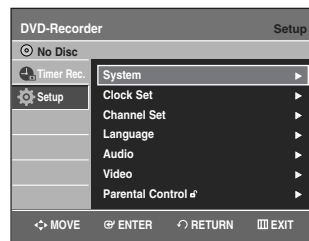
If you want your videotapes to play automatically when you insert them, turn on Auto Play.



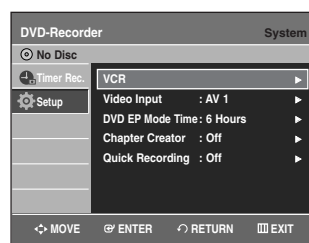
Note

- Only tapes of which the Record Safety Tab are removed will play automatically when inserted.

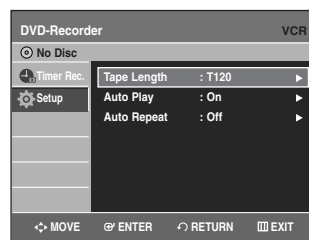
- 1 With the unit in Stop mode/No Disc mode, press the **MENU** button.
- 2 Press the ▲▼ buttons to select **Setup**, then press the **ENTER** or ► button.



- 3 Press the ▲▼ buttons to select **System**, then press the **ENTER** or ► button.



- 4 Press the ▲▼ buttons to select **VCR**, then press the **ENTER** or ► button.

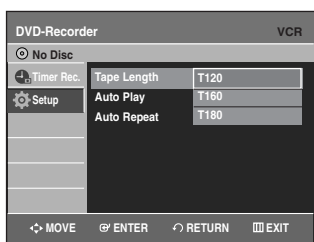


5 Press the **▲▼** buttons to select the desired VCR option, then press the **ENTER** or **▶** button.

6 Press the **▲▼** buttons to select the desired item, then press the **ENTER** or **▶** button.

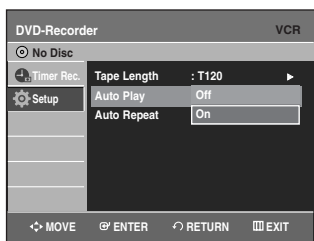
Tape Length

This information is usually printed on the tape box. The menu cycles through: T-120, T-160 or T-180. Once the type of cassette is set, the VCR can display the amount of time remaining on the tape when you press the **INFO.** button.



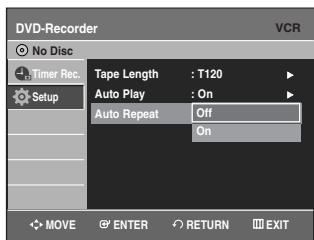
Auto Play

- **Off** : Auto play is disabled.
- **On** : The VCR will automatically begin playing a video tape when it is inserted, as long as the safety tab of the cassette has been removed.



Auto Repeat

It sets the VCR to play a tape repeatedly (unless a tape control is activated :Stop, Fast Forward or Rewind).

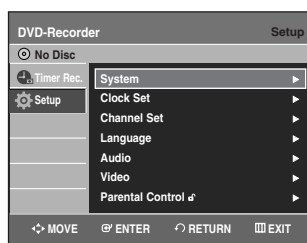


Video Input

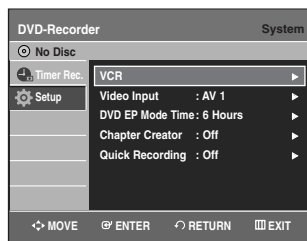
If you watch video through AV IN 1, you can choose AV 1(Composite) or S-video.

1 With the unit in Stop mode/No Disc mode, press the **MENU** button.

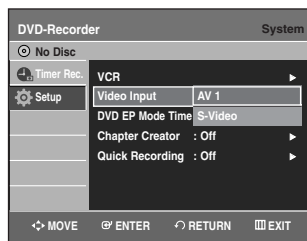
2 Press the **▲▼** buttons to select **Setup**, then press the **ENTER** or **▶** button.



3 Press the **▲▼** buttons to select **System**, then press the **ENTER** or **▶** button.



4 Press the **▲▼** buttons to select **Video Input**, then press the **ENTER** or **▶** button.



5 Press the **▲▼** buttons to select **AV 1** or **S-Video**, then press the **ENTER** or **▶** button.

DVD EP Mode Time

You can set the EP(Extended Play)mode's time setting to 6 or 8hours.

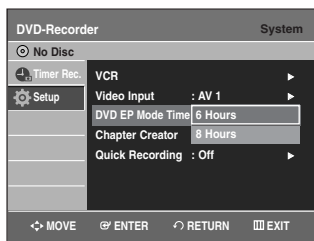
1 With the unit in Stop mode/No Disc mode, press the **MENU** button.

2 Press the **▲▼** buttons to select **Setup**, then press the **ENTER** or **▶** button.



3 Press the **▲▼** buttons to select **System**, then press the **ENTER** or **▶** button.

4 Press the **▲▼** buttons to select **DVD EP Mode Time**, then press the **ENTER** or **▶** button.



5 Press the **▲▼** buttons to select **6 Hours** or **8 Hours**, then press the **ENTER** or **▶** button.

Automatic Chapter Creator

A DVD-Video consists of 'Titles' and 'Chapters'. When you record one program, it makes one Title. If you use this function, the Title will be divided into Chapters.



1 With a disc inserted and the unit in Stop mode, press the **MENU** button.

2 Press the **▲▼** buttons to select **Setup**, then press the **ENTER** or **▶** button.



3 Press the **▲▼** buttons to select **System**, then press the **ENTER** or **▶** button.

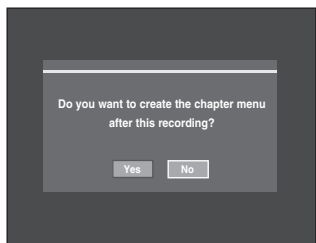
4 Press the **▲▼** buttons to select **Chapter Creator**, then press the **ENTER** or **▶** button.



5 Press the **▲▼** buttons to select **On**, then press the **ENTER** or **▶** button. Press the **MENU** button to exit the menu.

6 Set the recording speed by pressing the **REC SPEED** button on the remote control (see page 59 for more information on recording speeds).

- 7** Press the **REC** button to start recording.
The message "Do you want to create the chapter menu after this recording?" is displayed.



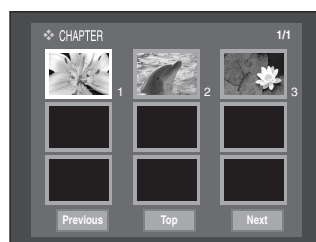
- 8** Press the **◀▶** buttons to select **Yes** and press the **ENTER** button and recording begins.
In XP and SP mode, you must record at least 5 minutes to create a chapter. In LP and EP mode, 15 minutes.

- 9** Press the **STOP** button to stop recording.

- 10** To display the created titles, finalize the disc (see page 84) and then press the **TITLE MENU** button. The title menu will be displayed.



- 11** To display the created chapters, select the desired Title and then press the **DISC MENU** button. The chapter menu for the selected Title will be displayed.



Note

- On DVD-RW discs, additional chapters and titles can be added to a finalized disc by unfinalizing and recording again. On DVD-R discs, once finalized, no additional chapters or titles can be recorded.



CAUTION

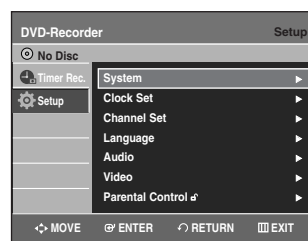
- The Automatic Chapter Creator function does not work during Timer Recording or when you turn the power off.
- DVD-R discs cannot be unfinalized.

Quick Recording

If this function is set to on, both the DVD Recorder & VCR and the TV will power on at the same time, which enables you to immediately record a desired channel.

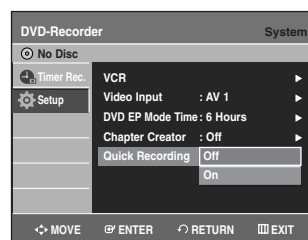
- 1** With the unit in Stop mode/No Disc mode, press the **MENU** button.

- 2** Press the **▲▼** buttons to select **Setup**, then press the **ENTER** or **▶** button.



- 3** Press the **▲▼** buttons to Select **System**, then press the **ENTER** or **▶** button.

- 4** Press the **▲▼** buttons to select **Quick Recording**, then press the **ENTER** or **▶** button.



- 5** Press the **▲▼** buttons to Select **On**, then press the **ENTER** or **▶** button.

- **On** : The TV screen will immediately turn on when the DVD Recorder & VCR is powered on.
- **Off** : The TV screen will turn on after 4 to 5 seconds as the DVD Recorder & VCR recognizes the inserted disk when it is powered on.

Playback

This section introduces basic functions of playback by disc type.



Dolby Digital



DTS



Digital Audio



Stereo



NTSC broadcast system in U.S.A, Canada, Korea, Japan, etc.



MP3

◆ DVD Playback

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◆ VCR Playback

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Before Playing

Read the following information before playing a disc.

Region code (DVD-Video only)



Both the DVD Recorder & VCR and the discs are coded by region. These regional codes must match in order for the disc to play. If the codes do not match, the disc will not play. The Region Number for this DVD Recorder & VCR is described on the rear panel of the DVD Recorder & VCR.

Disc types that can be played

Disc Types	Disc Logo	Recorded content	Disc Shape	Max. Playing Time
DVD-VIDEO		AUDIO + VIDEO	Single sided(5")	240
			Double sided(5")	480
			Single sided(3.5")	80
			Double sided(3.5")	160
AUDIO-CD		AUDIO	Single sided(5")	74
			Single sided(3.5")	20
JPEG CD-R/RW		JPEG Images	Single sided(5")	-
			Single sided(3.5")	-
MP3 CD-R/RW		MP3 Audio	Single sided(5")	-
			Single sided(3.5")	-
DVD-RAM		AUDIO + VIDEO	Single-sided 5" (4.7GB)	1 (XP: Excellent Quality)
				2 (SP: Standard Quality)
			Double-sided 5" (9.4GB)	4 (LP: Long Playback)
				6 or 8 (EP: Extended)
DVD-RW		AUDIO + VIDEO	5" (4.7GB)	1 (XP: Excellent Quality)
				2 (SP: Standard Quality)
				4 (LP: Long Playback)
				6 or 8 (EP: Extended)
DVD-R		AUDIO + VIDEO	5" (4.7GB)	1 (XP: Excellent Quality)
				2 (SP: Standard Quality)
				4 (LP: Long Playback)
				6 or 8 (EP: Extended)

Discs that cannot be played

- DVD-Video with a region number other than "1" or "ALL"
- 3.9 GB DVD-R Disc for Authoring.
- DVD-RAM not recorded following the Video Recording Standard
- Unfinalized DVD-R, unfinalized DVD-RW(V mode)
- PAL discs
- DVD-RAM/DVD-ROM/DVD+R/DVD+RW/PD/MV-Disc/DivX Video Disc, etc
- Video CD/CVD/SVCD/CD-ROM/CDV/CD-G/CD-I



- This DVD Recorder & VCR can only operate with discs that are compatible with DVD-RAM Standard Version 2.0.
- Playback and/or recording may not work for some types of discs or when specific operations, such as angle change and aspect ratio adjustment, are being performed. Information about the disc is written in detail on the box. Please refer to this if necessary.
- Do not allow the disc to become dirty or scratched, fingerprints, dirt, dust, scratches and deposits of cigarette smoke on the recording surface may make it impossible to use the disc for recording.
- DVD-RAM/-RW/-R discs may not be able to play on some DVD players, depending on the player, disc and the condition of the recording.
- Discs with PAL programs recorded on them cannot be recorded using this product.

Playing a Disc



1

Press the **OPEN/CLOSE** button.

2

Place a disc gently into the tray with the disc's label facing up.

3

- Press **OPEN/CLOSE** button to close the disc tray.
- Your DVD Recorder & VCR closes the disc tray and plays the disc automatically.
 - The recorder does not play discs automatically after **being powered on initially**.
 - When the recorder is powered on and a disc is in the tray, the unit will be activated and wait in stop status. **Press the PLAY button to start playback.**
 - If you insert an MP3 Disc, your DVD Recorder & VCR will display the file list on the screen and start playing.
 - If you insert a JPEG Disc, folders and files are displayed in the thumbnail picture.

4

Press the **STOP** button to stop playback.



- When you stop **playing the disc**, the DVD Recorder & VCR remembers where you stopped. When you press **PLAY** button again, it will pick up where you left off. (unless the disc is removed or the DVD Recorder & VCR is unplugged, or if you press the **STOP** button twice.) This function is only applicable to DVD-VIDEO, DVD-RAM, DVD-RW, DVD-R or Audio CDs (CD-DA).



- Do not move your DVD Recorder & VCR while playing, as this may cause damage to the disc.
- Make sure to press the **OPEN/CLOSE** button to open or close the disc tray.
- Do not push the disc tray while it is being opened or closed, as this may cause a product malfunction.
- Do not place foreign materials on or in the disc tray.
- Some functions may perform differently or be disabled depending on the disc type. If this occurs, refer to the instructions written on the disc case.
- Be especially careful that children's fingers are not caught between the disc tray and the tray chassis when it closes.
- After turning power on, it will take a few seconds until the DVD Recorder & VCR operates.

Using the Disc Menu and Title Menu

Some discs contain a dedicated menu system that allows you to select special functions for title, chapters, audio track, subtitles, film previews, information on characters, etc.

For DVD-VIDEO disc



- 1 Press the **DISC MENU** button to enter the disc menu of the disc.
 - Move to the setup menu related to playback operation.
 - You can select audio language and subtitle etc., provided by the disc.

- 2 Press the **TITLE MENU** button to move to the title menu of the disc.
 - Use this button if the disc contains more than one title. Some discs may not support the title menu functionality.

For DVD-RAM/DVD-RW/DVD-R disc



- 1 Press the **TITLE LIST** button to display title list.



- **Title List** : Title List shows a list to help you select a title. Since the title list consists of the information on video that is actually recorded, if a title is deleted, that title cannot be played again.
- **Playlist** : This refers to a unit of playback, which is made by selecting a desired scene in the entire Title List. When one playlist is played, only the scene selected by the user will play and then stop. Since only the information necessary for playing a desired scene is included in a playlist, even if that playlist is deleted, the original recording will not be deleted.

Using the Search & Skip Functions

Searching through a Chapter or Track



During the playback, press the **SEARCH** ◀◀ or ▶▶ button on the remote control. Each time you press the **SEARCH** button, the playback speed will change as follows.

DVD-VIDEO/ DVD-RAM/DVD-RW DVD-R	FF1/FR1→FF2/FR2→FF3/FR3→ FF4/FR4→FF5/FR5→FF6/FR6
AUDIO CD(CD-DA)	→ X2 → X4 → X8 →

- You can scan the program in reverse order. To return to normal speed playback, press the **▶II** button.



- No sound is heard during Scan(Search) mode, except CDs (CD-DA). But if 'Quick View with Audio' function is set to on, you can hear the sound during FF1(1.5X speed) playback in disc.

Skipping Chapters or Tracks

During the playback, press the **I◀◀** or **▶▶I** button on the remote control.

• If you press the **I◀◀** button

If you press the **I◀◀** button, it moves to the beginning of the chapter, track or marker(DVD-RAM, DVD-RW(VR mode)). Pressing the button once again within 3 seconds returns to the beginning of the previous chapter, track or marker(DVD-RAM, DVD-RW(VR mode)).

• If you press the **▶▶I** button

If you press the **▶▶I** button, it moves to the next chapter, track or marker(DVD-RAM,DVD-RW (VR mode))

Skipping ahead 30 seconds

During the playback, press **F.ADV/SKIP** button to skip ahead exactly 30 seconds.

Slow Motion Play/ Step Motion Play

Slow Motion Play (DVD-VIDEO / DVD-RAM / DVD-RW / DVD-R)



During pause mode, press the **SEARCH** ◀◀ or ▶▶ button on the remote control for more than 1 second.

- Each time you press the ▶▶ button :
▶▶ X 1/2 → ▶▶ X 1/4 → ▶▶ X 1/8
- Each time you press the ◀◀ button :
◀◀ X 1/2 → ◀◀ X 1/4 → ◀◀ X 1/8

To return to normal speed playback, press the ▶II button.

Step Motion Play (DVD-VIDEO / DVD-RAM / DVD-RW / DVD-R)



During pause mode, press the **F.ADV** button on the remote control.

- Each time the button is pressed, a new frame will appear.

To return to normal speed playback, press the ▶II button.



Note

- No sound is heard during Step or Slow mode. But if 'Quick View with Audio' function is set to on, You can hear the sound during forward slow(1/2) motion playback.

About ANYKEY

The **ANYKEY** functions allows you to easily search for a desired scene by accessing title, chapter or time. You can also change the subtitle and audio settings and set some features including Repeat, Angle and Zoom.

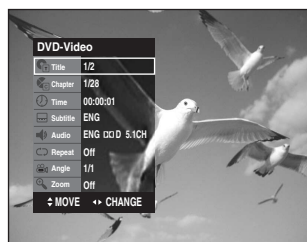
Moving to a scene directly using the ANYKEY

- If you want to move to a title or a chapter to find a desired scene.



1 Press the **ANYKEY** button during playback.

2 Press the ▲▼ buttons to select **Title**, **Chapter**.



3 Press the ◀▶ buttons or number (0-9) buttons to select the desired scene. Then, press the **ENTER** button.

- If you want to move to a desired time to help you find a scene.

1 Press the **ANYKEY** button during playback.

2 Press the **▲▼** buttons to select **Time**.



3 Enter the time in the sequence of hours, minutes, and seconds using the number buttons, then press the **ENTER** button.



Note

- This may not work for some discs. When an Audio CD(CD-DA) or an MP3 disc is inserted, according to the disc type, the information display may not appear.
- The Time Search function does not operate in some discs.
- To make the screen disappear, press the **ANYKEY** button again.

Repeat Playback

Playing Repeatedly(Repeat Playback)



1 Press the **ANYKEY** button during playback.

2 Press the **▲▼** buttons to select **Repeat**.



3 Select repeat mode using **◀▶** button. Press the **ENTER** button.

- To make the screen disappear, press the **ANYKEY** or **RETURN** button.



Note

- DVD-RAM/DVD-RW(VR mode), unfinalized DVD-R and unfinalized DVD-RW (Video mode) do not repeat a chapter.

Playing a Certain section Repeatedly (A-B Repeat Playback)



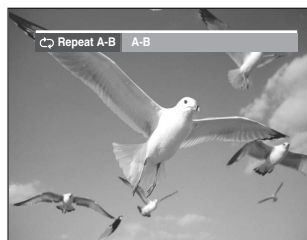
1 Press the **ANYKEY** button during playback.

2 Press the **▲▼** buttons to select **Repeat**.



3 Press the **◀▶** button to select **A-B**, then press the **ENTER** button.

4 Press the **ENTER** button at the point where you want the repeat play to start (A) and press it again at the point where you want the repeat play to stop (B). Repeat playback of the A-B section starts.



- To return to normal playback -

5 Press the **CANCEL** button to return to normal playback.



Note

- If you set point (B) before five seconds has lapsed, the prohibition mark (⊘) will appear.
- CDs do not support the Repeat A-B function.

Selecting the Subtitle & Audio Language



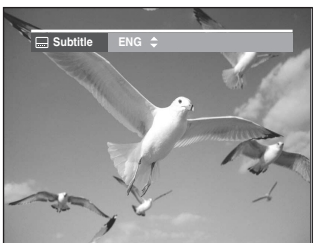
Selecting the SUBTITLE language

Subtitle languages may not work depending on the disc type. This is only available during playback.



Using the SUBTITLE button

- 1 Press the **SUBTITLE** button during playback.



- 2 Press the **▲▼** buttons to select the desired subtitle language.
 - To make the screen disappear, then press the **CANCEL** or **RETURN** button.



Using the ANYKEY button

- 1 Press the **ANYKEY** button during playback.
- 2 Press the **▲▼** buttons to select **Subtitle**, then press the **◀▶** buttons to select the desired subtitle language.



Note

- The subtitle display may be different depending on the disc type.
- If the subtitles overlap, disable the caption function on your TV.
- Some discs allow you to select the language for the disc menu only.

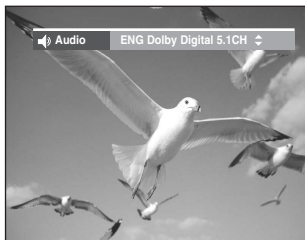
Selecting the Audio language

Audio languages may not work depending on the disc type. This is only available during playback.



Using the AUDIO button

- 1 Press the **AUDIO** button during playback.

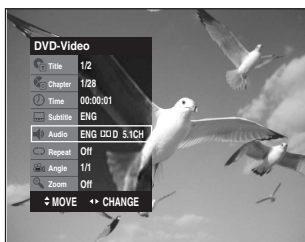


- 2 Press the **AUDIO** or **▲▼** buttons to select the desired audio language.



Using the ANYKEY button

- 1 Press the **ANYKEY** button during playback.
- 2 Press the **▲▼** buttons to select **Audio**, then press the **◀▶** buttons to select the desired audio language.



Note

- Audio languages may be different because they are disc-specific.
- Some discs allow you to select the audio language for the disc menu only.

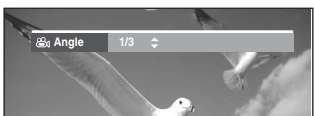
Changing the Camera Angle

If a DVD-VIDEO contains multiple angles of a particular scene, you can **use** the Angle function. If the disc contains multiple angles, the **ANGLE** appears on the screen.



Using the ANGLE button

- 1 Press the **ANGLE** button, during playback.



- 2 Press the **▲▼** button to select the desired angle.



Using the ANYKEY button

- 1 Press the **ANYKEY** button during playback.
- 2 Press the **▲▼** buttons to select **Angle**, then press the **◀▶** buttons or number (0~9) buttons to select the desired angle scene.



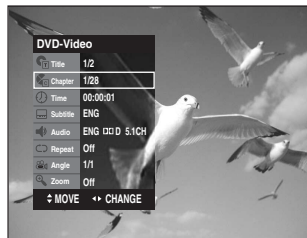
Note

- This function is disc-dependent, and may not work all DVDs.
- This function does not work when a DVD has not been recorded with a multi-camera angle system.

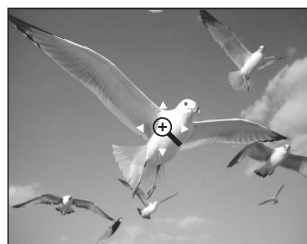
Zooming-In



- 1 Press the **ANYKEY** button during playback.



- 2 Press the **▲▼** buttons to select **Zoom**, then press the **ENTER** button. (Ⓚ) will be displayed.



- 3 Press **▲▼**, **◀▶** buttons to move to the area you want to enlarge.

- 4 Press the **ENTER** button.
Each time the **ENTER** button is pressed, the picture is enlarged up to 4X(four times the normal size).

DVD-VIDEO/
DVD-RAM/DVD-RW/
DVD-R

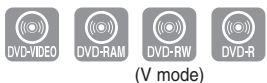
normal size → 2X → 4X → 2X
→ normal size



Note

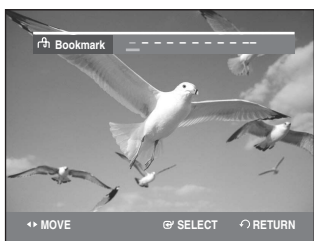
- When recording is done in the EP mode, the Zoom function will not be supported. (except when the recording has been done in V mode)
- You can also select Zoom function directly using **ZOOM** button on the remote control.

Using the Bookmarks



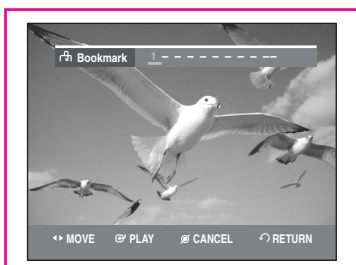
Set marks at scenes you want to see again so that you can start playback from the marked position.

- 1 Press the **MARKER** button during playback.



- 2 Press the **ENTER** button when the desired scene appears.

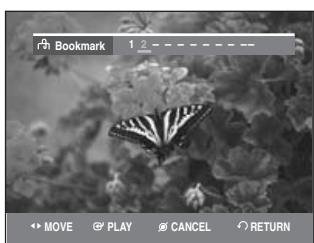
- The number 1 is displayed and the scene is memorized.



- 3 Press the **◀▶** button to move to the next position.

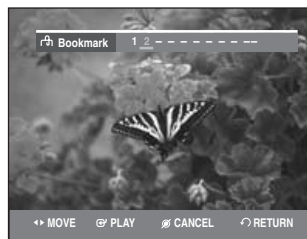
- 4 Press the **ENTER** button again when the desired scene appears.

- The number 2 is displayed and the scene is memorized. Repeat above to bookmark other positions. You can bookmark up to 10 scenes.



Playing back a Bookmark

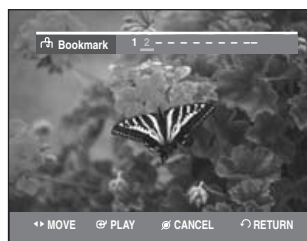
- 1 Press the **MARKER** button.
- 2 Press the **◀▶** buttons to select a bookmarked scene.



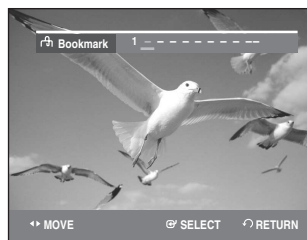
- 3 Press the **ENTER** or **▶II** button to start playing from the selected scene.

Clearing a Bookmark

- 1 Press the **MARKER** button.
- 2 Press the **◀▶** buttons to select a bookmarked scene.



- 3 Press the **CANCEL** button to delete the selected bookmark.

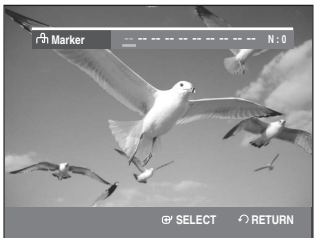


■ When the disc tray is opened and then closed, bookmarks will disappear.

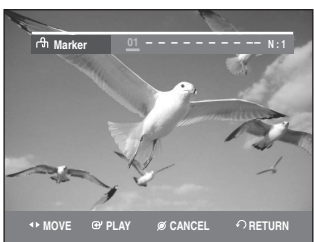
Using the Markers



- 1 Press the **MARKER** button during playback.



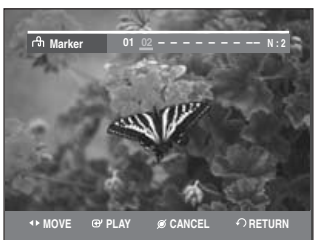
- 2 Press the **ENTER** button when the desired scene appears.



- The number 01 is displayed and the scene is memorized.

- 3 Press the **◀▶** button to move to the next position.

- 4 Press the **ENTER** button again when the desired scene appears.

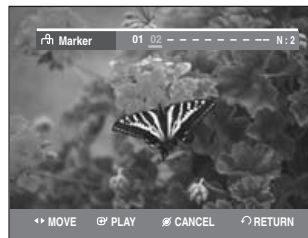


- The number 02 is displayed and the scene is memorized.
- DVD-RAM or DVD-RW (VR Mode) discs have the Marker function instead of the Bookmark function. The Marker function allows you to mark up to 99 scenes. Since the scenes may be displayed as many different pages, numbering is necessary. If a disc in use is encoded with Disc Protect, Markers cannot be set or deleted. Only playback is available.

Playing back a Marker

- 1 Press the **MARKER** button during playback.

- 2 Press the **◀▶** buttons to select a marked scene.



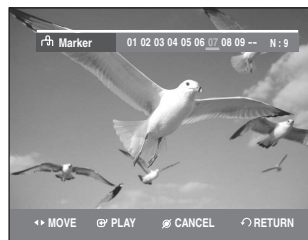
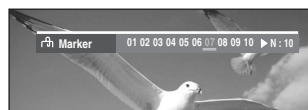
- 3 Press the **ENTER** or **▶II** button to start playing from the selected scene.

- If you press the **NEXT SKIP (▶II)** button or the **PREVIOUS SKIP (◀II)** button in marker mode, and the next or current marked point plays for shorter than three seconds, playback starts from the previous marked point.

Clearing a Marker

- 1 Press the **MARKER** button during playback.

- 2 Press the **◀▶** buttons to select a marked scene. Press the **CANCEL** button to delete the selected mark.



- When a marker is cleared while DVD-RAM/ DVD-RW(VR mode) is playing, marker numbers will change. For example, if the 7th marker is cleared after ten markers are registered, the marker numbers after the eighth will automatically move ahead by one and the 8th marker becomes the 7th.