



INSTRUCTION MANUAL

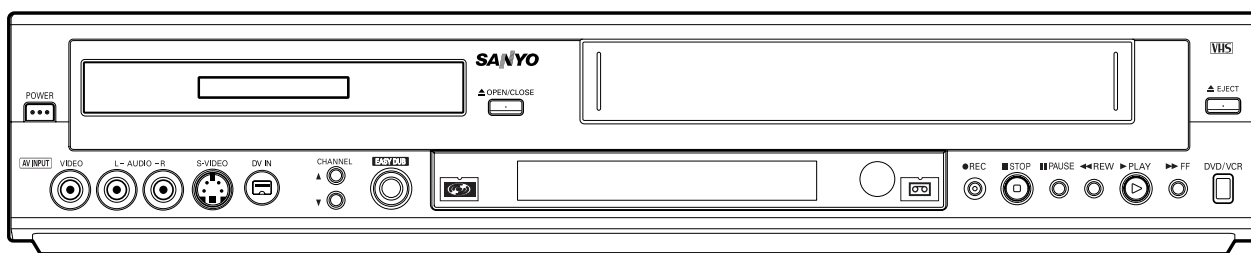
DRW-1000

DVD VIDEO RECORDER & 4 HEAD Hi-Fi STEREO VCR

English

GRABADORA DE DVDs Y VIDEOCASETERA ESTÉREO
DE ALTA FIDELIDAD DE 4 CABEZAS

Español



Only cassettes marked **VHS** can be used with this VCR/DVD Recorder.

SANYO'S HELP-LINE

Call the toll-free number below if you have any difficulties operating this product.
1-800-813-3435 (Weekdays: 7:30 AM - 4:00 PM Central Time)

Please read this manual carefully before connecting your VCR/DVD Recorder and operating it for the first time.
Keep the manual in a safe place for future reference.

Safety Precautions



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.



This 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 product.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION: POUR ÉVITER LES CHOC ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

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

NOTE TO CATV SYSTEM INSTALLER: This reminder is provided to call the CATV system installer's attention to Section 820-40 of the NEC which 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.

CLASS 1 LASER PRODUCT
KLASSE 1 LASER PRODUKT
LUOKAN 1 LASER LAITE
KLASS 1 LASER APPARAT
CLASSE 1 PRODUIT LASER

CAUTION:

This VCR/DVD Recorder employs a Laser System.

To ensure proper use of this product, please read this owner's manual carefully and retain for future reference. Should the unit require maintenance, contact an authorized service center.

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 when open. DO NOT STARE INTO BEAM.

CAUTION: The apparatus should not be exposed to water (dripping or splashing) and no objects filled with liquids, such as vases, should be placed on the apparatus.

FCC WARNING: This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

REGULATORY INFORMATION: FCC Part 15

This product 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 when the product is operated in a residential installation. This product generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this product does cause harmful interference to radio or television reception, which can be determined by turning the product 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 product and receiver.
- Connect the product 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.

SERIAL NUMBER: The serial number is found on the back of this unit. This number is for this unit only. You should record requested information here and retain this guide as a permanent record of your purchase.

Model No. DRW-1000

Serial No. _____

IMPORTANT SAFETY INSTRUCTIONS

CAUTION: PLEASE READ AND OBSERVE ALL WARNINGS AND INSTRUCTIONS IN THIS OWNER'S MANUAL. AND THOSE MARKED ON THE PRODUCT. RETAIN THIS MANUAL FOR FUTURE REFERENCE.

This product has been designed and manufactured to assure personal safety. Improper use can result in electric shock or fire hazard. The safeguards incorporated in this product will protect you if you observe the following procedures for installation, use, and servicing.

This product does not contain any parts that can be repaired by the user.

DO NOT REMOVE THE CABINET COVER, OR YOU MAY BE EXPOSED TO DANGEROUS VOLTAGE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL ONLY.


1. **Read these instructions.** - All these safety and operating instructions should be read before the product is operated.
2. **Keep these instructions.** - The safety, operating and use instructions should be retained for future reference.
3. **Heed all warnings.** - All warnings on the product and in the operating instructions should be adhered to.
4. **Follow all instructions.** - All operating and use instructions should be followed.
5. **Do not use this apparatus near water.** - For example: near a bath tub, wash bowl, kitchen sink, laundry tub, in a wet basement; or near a swimming pool; and like.
6. **Clean only with dry cloth.** - Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners.
7. **Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.** - Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from over heating. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
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 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.**

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About the symbols for instructions

-  Indicates hazards likely to cause harm to the unit itself or other material damage.
-  Indicates special operating features of this unit.
-  Indicates tips and hints for making the task easier.

Overview

Recordable Discs



DVD-RW

5 inch/3 inch (12cm/8cm), single-sided, single layer disc
Approx. max. recording time (LP mode): 240 minutes (4.7GB), 80 minutes (1.46GB)



DVD-R

5 inch/3 inch (12 cm/8 cm), single-sided, single layer disc
Approx. max. recording time (LP mode): 240 minutes (4.7GB), 80 minutes (1.46GB)

Notes

- This recorder cannot record CD-R or CD-RW discs.
- DVD-R/RW and CD-R/RW discs recorded using a personal computer or a DVD or CD recorder may not be played if the disc is damaged or dirty, or if there is dirt or condensation on the recorder's lens.
- If you record a disc using a personal computer, even if it is recorded in a compatible format, there are cases in which it may not be played because of the settings of the application software used to create the disc. (Check with the software publisher for more detailed information.)

Playable Discs



DVD
(5 inch/3 inch (12cm/8cm) disc)



Audio CD
(5 inch/3 inch (12cm/8cm) disc)

In addition, the VCR/DVD Recorder can play DVD±R/DVD±RW discs, CD-R/CD-RW discs that contain audio titles, MP3 files, or JPEG files and Kodak Picture CDs.

Notes

- Depending on the conditions of the recording equipment or the CD-R/RW (DVD-R/RW or DVD+R/RW) disc itself, some CD-R/RW (DVD-R/RW or DVD+R/RW) discs may not be played on the unit.
- Do not attach any seal or label to either side (the labeled side or the recorded side) of a disc.
- Do not use irregularly shaped CDs (e.g., heart-shaped or octagonal). Doing so may result in malfunctions.

Regional code of the VCR/DVD Recorder and DVDs

This VCR/DVD Recorder is designed and manufactured for playback of Region 1 encoded DVD



software. The region code on the labels of some DVD discs indicates which type of VCR/DVD Recorder can play those discs. This unit can play only DVD discs labeled 1 or ALL. If you try to play any other discs, the message "Incorrect region code. Can't playback" will appear on the TV screen. Some DVD discs may not have a region code label even though their playback is prohibited by area limits.



Notes on DVDs

Some playback operations of DVDs may be intentionally set by software manufacturers. As this VCR/DVD Recorder plays DVDs according to disc content designed by the software manufacturer, some playback features of the VCR/DVD Recorder may not be available or other functions may be added. Refer also to the instructions supplied with the DVDs. Some DVDs made for business purposes may not be played on the VCR/DVD Recorder.

Disc-related terms

Title (DVD only)

The main film content or accompanying feature content or music album.

Each title is assigned a title reference number enabling you to locate it easily.

Chapter (DVD only)

Sections of a picture or a musical piece that are smaller than titles. A title is composed of one or several chapters. Each chapter is assigned a chapter number to enable you to locate the chapter you want. Depending on the disc, chapters may not be labeled.

Track (Audio CD only)

Sections of a picture or a musical piece on an audio CD. Each track is assigned a track number, enabling you to locate the track you want.

Overview (Continued)

About DVD-R and DVD-RW disc

How are DVD-R and DVD-RW discs different?

The essential difference between DVD-R and DVD-RW is that DVD-R is a record-once medium, while DVD-RW is a re-recordable/erasable medium. You can re-record/erase a DVD-RW disc approximately 1,000 times.

Can I play my recordable discs in a regular DVD player?

Generally, DVD-R discs and DVD-RW discs recorded in Video mode are playable in a regular DVD player, but they must be 'finalized' first. This process fixes the contents of the disc to make them readable to other DVD players as DVD-Video discs.

DVD-RW discs recorded in VR (Video Recording) mode are playable in some players.



This indicates a product feature that is capable of playing DVD-RW discs recorded with Video Recording format.

What are "Recording modes"?

There are two recording modes available using this recorder: VR mode and Video mode. When recording to a DVD-R disc, recordings are always in Video mode. DVD-RW discs can be formatted for VR mode recording or Video mode recording.

VR mode recording

- 3 different picture quality/recording time settings are available (SP, LP, XP)
- Not playable on regular DVD players
- Recordings can be extensively edited

Video mode recording

- 3 different picture quality/recording time settings are available (SP, LP, XP)
- Playable on regular DVD players (after finalizing)
- Limited editing features

Many functions of this recorder are dependent on the recording mode. One or more of the symbols (**DVD-RW Video** , **DVD-RW VR** , **DVD-R** , **DVD-Video**) appear by each function explained in this manual so that you can see at a glance whether it's relevant for the disc loaded.

You can find more information on disc formats and recording modes on the next page.

Note

DVD-Video Format (Video mode) is a new format for recording on DVD-R/RW discs that was approved by the DVD Forum in 2000. You may therefore experience problems playing recordable DVD discs in some players. Symptoms include video artifacts, audio and/or video dropouts, and playback suddenly stopping. Our company cannot take responsibility for problems encountered on other players when playing discs recorded on this recorder.

Is editing a DVD like editing a video tape?

No. When you edit a video tape you need one video deck to play the original tape and another to record the edits. With DVD, you edit by making a 'Playlist' of what to play and when to play it. On playback, the VCR/DVD Recorder plays the disc according to the Playlist.

About the terms "Original" and "Playlist"

Throughout this manual, you will often see the terms Original and Playlist to refer to the actual content and the edited version.

- **Original content:** refers to what's actually recorded on the disc.
- **Playlist content:** refers to the edited version of the disc — how the Original content is to be played.

About DVD recording

Notes

- This recorder cannot make recordings on CD-R or CD-RW discs.
- SANYO takes no responsibility for recording failure due to power cuts, defective discs, or damage to the recorder.
- Fingerprints and small scratches on a disc can affect playback and/or recording performance. Please take proper care of your discs.

Disc types and recording formats, modes, and settings

This recorder can play three different kinds of DVD discs: pre-recorded DVD-Video discs, DVD-RW, and DVD-R discs. The disc format for DVD-R discs is always "Video format"—the same as pre-recorded DVD-Video discs. This means that once finalized, you can play a DVD-R in a regular DVD player.

By default, the DVD-RW disc format is Video Recording format, though you can change this to Video format, if required. (Reinitializing the disc will erase the contents of the disc.)

The recording mode is closely related to the disc format. If the disc format is Video Recording format, then the recording mode is VR mode. If the disc format is Video mode, then the recording mode is Video mode (except for DVD-Video, which is not recordable, and so does not have a recording mode).

Within the recording modes (which are fixed for the whole disc) are the record settings. These can be changed as required for each recording, and determine the picture quality and how much space the recording will take up on the disc.

Overview (Continued)

Notes for recording

- The recording times shown are not exact because the recorder uses variable bit-rate video compression. This means that the exact recording time will depend on the material being recorded.
- When recording a TV broadcast, if the reception is poor or the picture contains interference, the recording time may be shorter.
- If you record still pictures or audio only, the recording time may be longer.
- The displayed times for recording and time remaining may not always add up to exactly the length of the disc.
- The recording time available may decrease if you heavily edit a disc.
- If using a DVD-RW disc, make sure you change the recording format (Video mode or VR mode) before you record anything on the disc. See page 24 (Disc Initialize) for details on how to do this.
- When using a DVD-R disc, you can keep recording until the disc is full, or until you finalize the disc. Before you start a recording session, check the amount of recording time left on the disc.
- When using a DVD-RW disc in Video mode, recording time available will only increase if you erase the last title recorded on the disc.
- The Erase Title option in the Original-Title menu only hides the title, it does not actually erase the title from the disc and increase the recording time available (except for the last recorded title on a DVD-RW disc in Video mode).

Recording TV audio channels

This recorder can record one or two channel audio. For TV broadcasts, this usually means mono or stereo, but some programs are broadcast with a main and a SAP (Secondary Audio Program) audio channel. If you're recording in Video mode (or in VR mode), you can record either the main audio or the SAP audio.

Restrictions on video recording

- You cannot record copy-protected video using this recorder. Copy-protected video includes DVD-Video discs and some satellite broadcasts. If copy-protected material is encountered during a recording, recording will pause or stop automatically and an error message will be displayed on-screen.
- Video that is "copy-once only" can only be recorded using a DVD-RW disc in VR mode with CPRM (see below).

What is "CPRM"?

CPRM is a copy protection system (utilizing a scramble system) that only allows the recording of "copy-once" broadcast programs. CPRM stands for Content Protection for Recordable Media.

This recorder is CPRM compatible, which means that you can record copy-once broadcast programs, but you cannot then make a copy of those recordings. CPRM recordings can only be made on DVD-RW discs formatted in VR mode, and CPRM recordings can only be played on players that are specifically compatible with CPRM.

Copyright

- Audio and video recordings you make using this recorder are for your personal use only. You may not sell, lend, or rent them to other people.
- 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.

Disc type	Disc format	Recording mode	Functions
DVD-Video	Video format	n/a	Playback only
DVD-RW	Video Recording format (default)	VR mode	Playback, recording, Original/Playlist editing
	Video format	Video mode	Playback, limited recording, limited editing
DVD-R	Video format	Video mode	Playback, limited recording, limited editing
DVD+R	Video format	n/a	Playback only
DVD+RW	Video format	n/a	Playback only

Overview (Continued)

Precautions

Handling the unit

When shipping the unit

The original shipping carton and packing materials come in handy. For maximum protection, re-pack the unit as it was originally packaged at the factory.

When setting up the unit

The picture and sound of a nearby TV, VCR, or radio may be distorted during playback. In this case, position the unit away from the TV, VCR, or radio, or turn off the unit after removing the disc.

To keep the surface clean

Do not use volatile liquids, such as insecticide spray, near the unit. Do not leave rubber or plastic products in contact with the unit for a long period of time. They will leave marks on the surface.

Cleaning the unit

To clean the cabinet

Use a soft, dry cloth. If the surfaces are extremely dirty, use a soft cloth lightly moistened with a mild detergent solution. Do not use strong solvents such as alcohol, benzene, or thinner, as these might damage the surface of the unit.

To obtain a clear picture

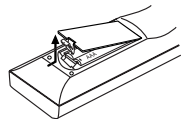
The VCR/DVD Recorder is a high-tech, precision device. If the optical pick-up lens and disc drive parts are dirty or worn, the picture quality will be poor. Regular inspection and maintenance are recommended after every 1,000 hours of use. (This depends on the operating environment.)
For details, please contact your nearest dealer.

Remote Control Operation Range

Point the remote control at the remote sensor and press the buttons.

- **Distance:** Approx. 23 ft (7 m) from the front of the remote sensor.
- **Angle:** Approx. 30° in each direction from the front of the remote sensor.

Remote Control Battery Installation



Detach the battery cover on the rear of the remote control, and insert two AAA batteries with the **+** and **-** ends aligned correctly.



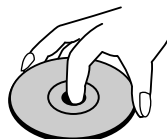
Caution
Do not mix old and new batteries. Never mix different types of batteries (standard, alkaline, etc.).

SPENT OR DISCHARGED BATTERIES MUST BE RECYCLED OR DISPOSED OF PROPERLY IN COMPLIANCE WITH ALL APPLICABLE LAWS. FOR DETAILED INFORMATION, CONTACT YOUR LOCAL COUNTY SOLID WASTE AUTHORITY.

Notes on Discs

Handling discs

Do not touch the playback side of the disc. Hold the disc by the edges so that fingerprints will not get on the surface. Do not stick paper or tape on the disc.



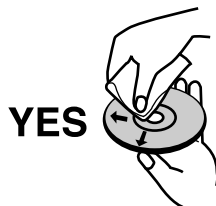
Storing discs

After playing, store the disc in its case.

Do not expose the disc to direct sunlight or sources of heat, or leave it in a parked car exposed to direct sunlight, as there may be considerable heat build-up inside the car.

Cleaning discs


Fingerprints and dust on the disc can cause poor picture quality and sound distortion. Before playing, clean the disc with a clean cloth. Wipe the disc from the center outward.



Do not use strong solvents such as alcohol, benzene, thinner, commercially available cleaners, or anti-static spray intended for older vinyl records.









About Symbols

About the symbol display

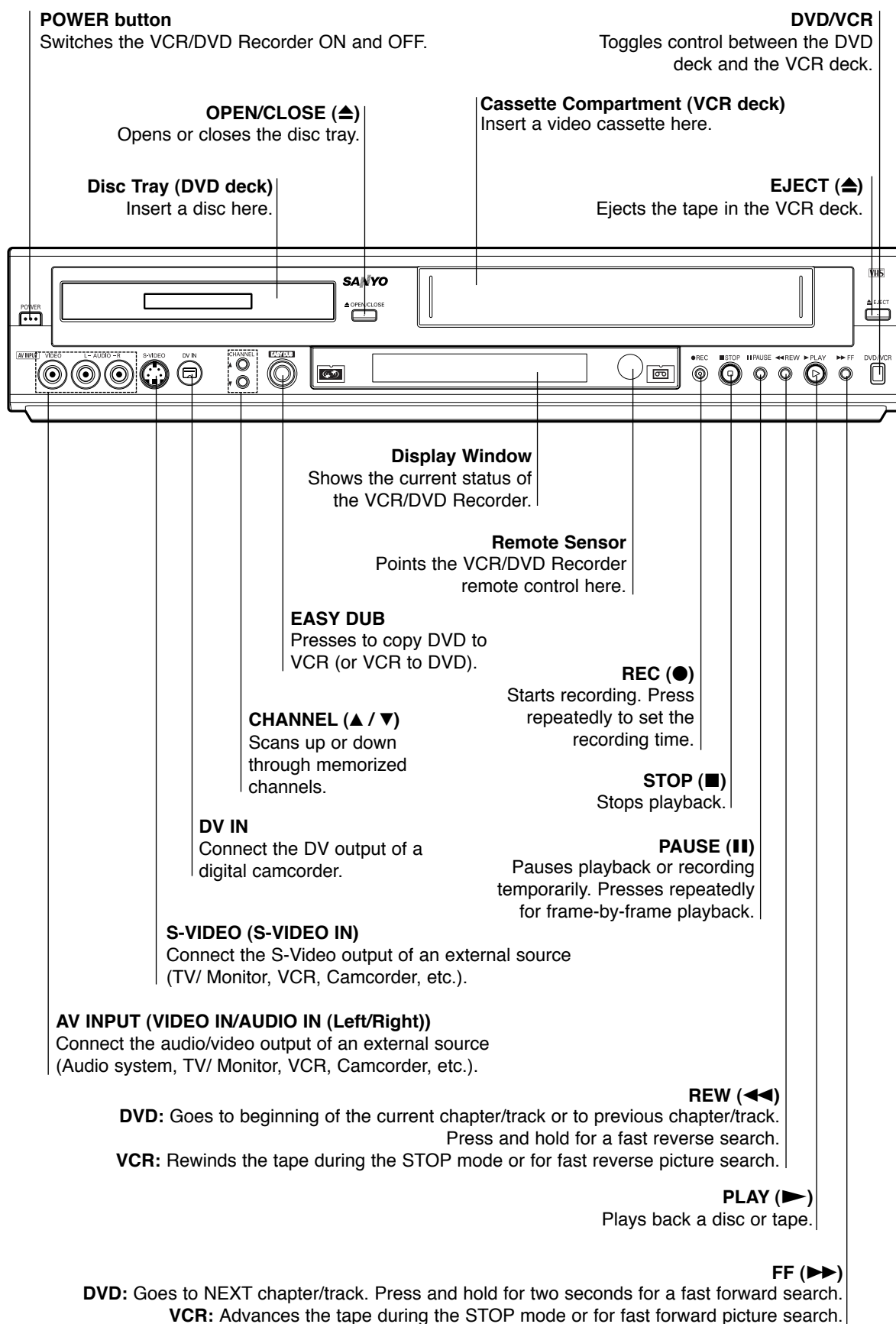
“” may appear on the TV screen during operation. This icon means the function explained in this owner's manual is not available on that specific disc.

About the disc symbols for instructions

A section whose title has one of the following symbols is applicable only to those discs represented by the symbol.

	DVD-RW with VR recording mode
	DVD-RW with Video recording mode
	DVD-R discs
	DVD-Video discs
	Audio CDs
	MP3 Discs
	JPEG Discs
	VHS Tape

Front Panel



Function Display Window

Disc type indicators

Indicates the type of disc loaded.

⊙ Indicates when the recorder is in timer recording mode, or a timer recording is programmed.

REC The recorder is recording.

PRG Programmed playback active

TTL Indicates current title.

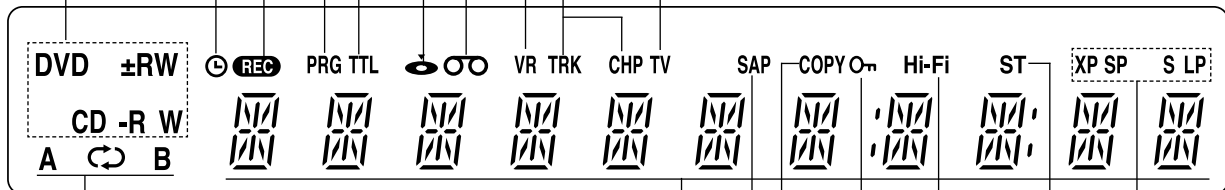
A disc is inserted in the DVD deck.

A VHS tape is inserted in the VCR deck.

Indicates a DVD-RW disc (VR mode only) is inserted in the DVD deck.

CHP/TRK Indicates current chapter or track number

TV The unit's functions are available and channels are selected for the TV.



REPEAT Indicates repeat mode.

Character indicators

Indicates clock, total playing time, elapsed time, remaining time, title number, chapter/track number, channel, etc.

SAP Indicates when a SAP BILINGUAL broadcast is being received.

COPY DVD to VHS (or VHD to DVD) copy is in progress.

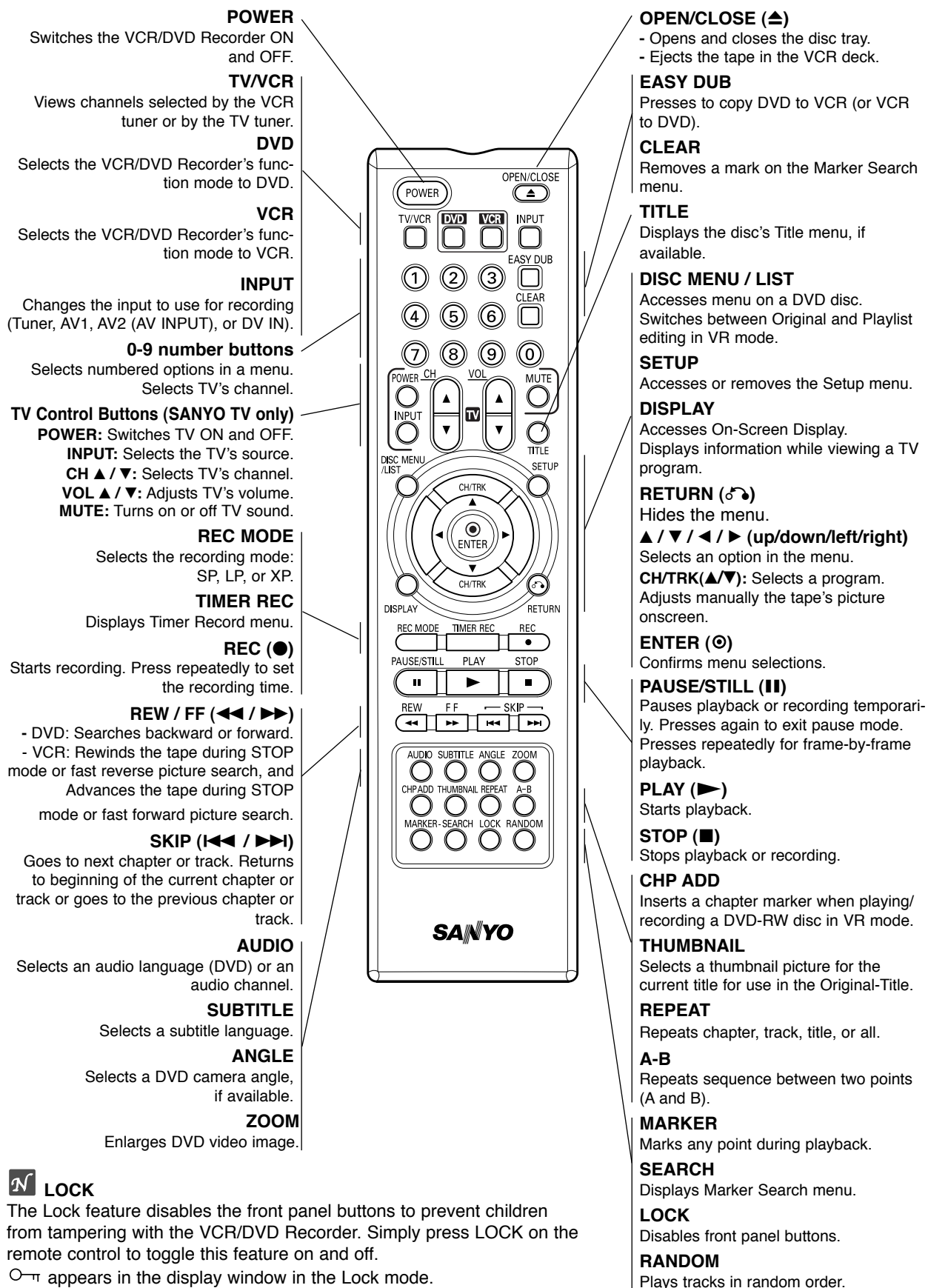
Indicates when the VCR/DVD Recorder is Locked.

Hi-Fi Indicates when the VCR/DVD Recorder is playing or recording a tape in Hi-Fi.

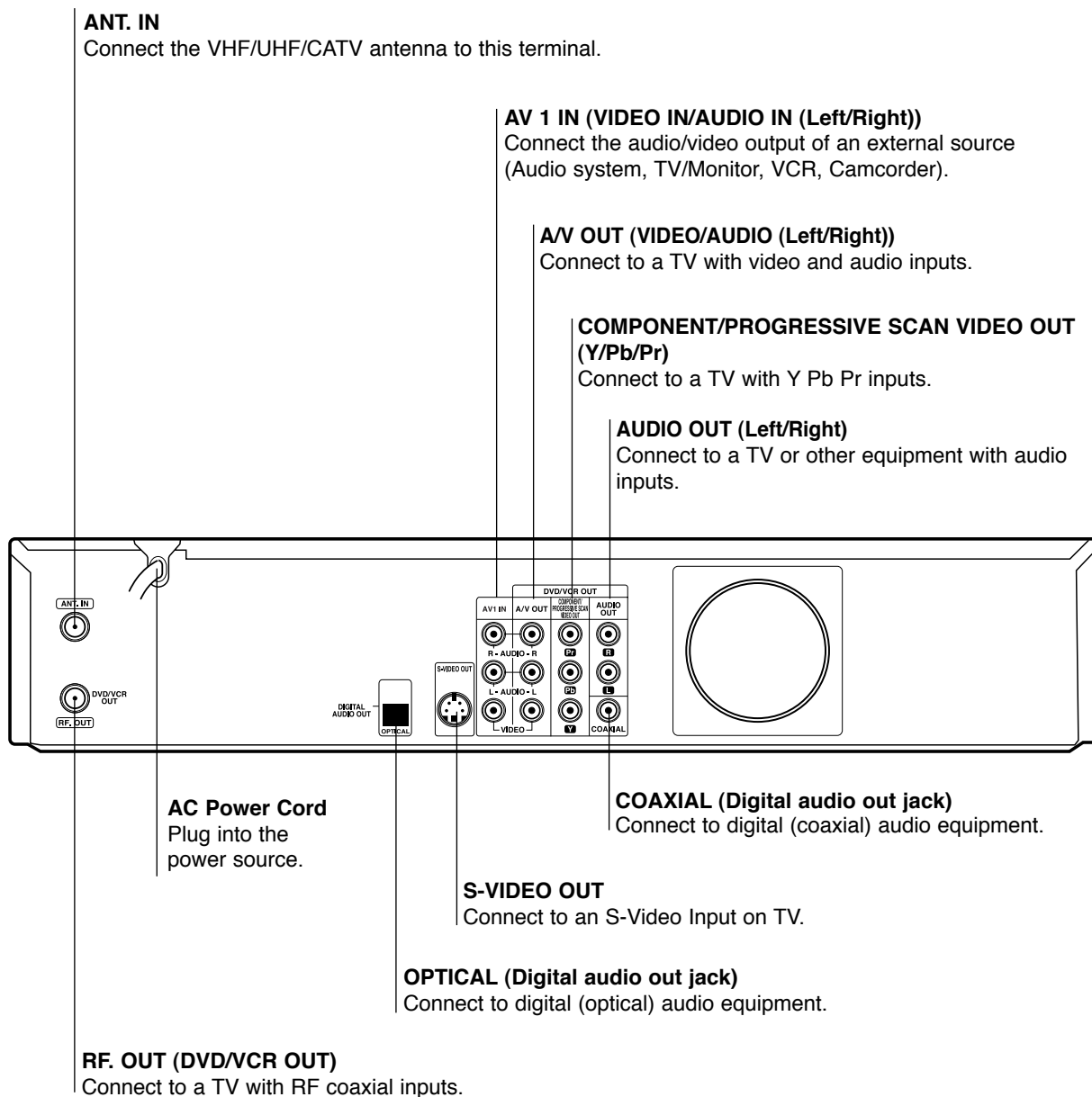
ST Indicates a stereo broadcast is being received.

SP, SLP, LP, XP Indicates the current Recording mode.

Remote Control Overview



Rear Panel



Caution

Do not touch the inner pins of the jacks on the rear panel. Electrostatic discharge may cause permanent damage to the unit.

Connections

Tips

- Depending on your TV and other equipment you wish to connect, there are various ways you could connect the VCR/DVD Recorder. Use only one of the connections described below.
- Please refer to the manuals of your TV, VCR, Stereo System, or other devices as necessary to make the best connections.
- For better sound reproduction, connect the recorder's AUDIO OUT jacks to the audio in jacks of your amplifier, receiver, stereo, or audio/video equipment. See "Connecting to Optional Equipment" on page 16.

Caution

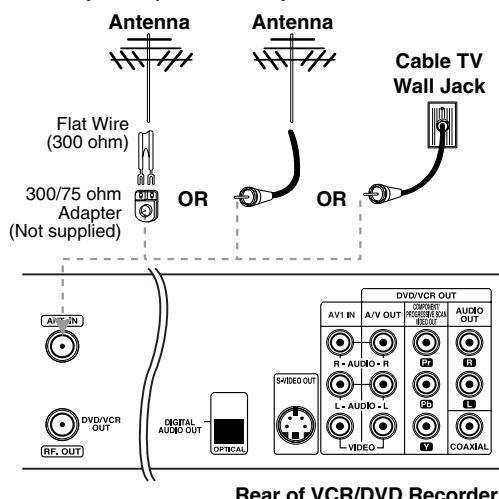
- Make sure the VCR/DVD Recorder is connected directly to the TV. Tune the TV to the correct video input channel.
- Do not connect the VCR/DVD Recorder's AUDIO OUT jack to the phono in jack (record deck) of your audio system.
- Do not connect your VCR/DVD Recorder via your VCR. The DVD image could be distorted by the copy protection system.

Connecting Antenna/Cable TV to VCR/DVD Recorder

- 1 Disconnect the antenna leads from the rear of the TV.
- 2 Identify the type of cable from your antenna. If it is a round cable as illustrated, it is a 75 ohm coaxial antenna cable. This cable will connect directly to the jack marked ANT. IN on your VCR/DVD Recorder.

Tip

If your antenna lead wire is a flat type antenna cable, connect it to an Antenna Adapter (300-ohm to 75-ohm) (not supplied) and slip the Adapter onto the ANT. IN jack. The Adapter does not screw on to the VCR/DVD Recorder, it just slips over the jack.



Rear of VCR/DVD Recorder

Cable Service Without Cable Box

If your cable wire is connected to your TV without a converter or descrambler box, unscrew the wire from your TV and attach it to the ANT. IN jack on the VCR/DVD Recorder. Use the supplied round coaxial cable to connect between the VCR/DVD Recorder's RF. OUT jack and the 75 ohm antenna input jack on the TV. With this connection, you can receive all midband, super band, and hyperband channels (all cable channels).

Cable Service With Cable Box

If a converter is required in your cable system, follow the instructions below:

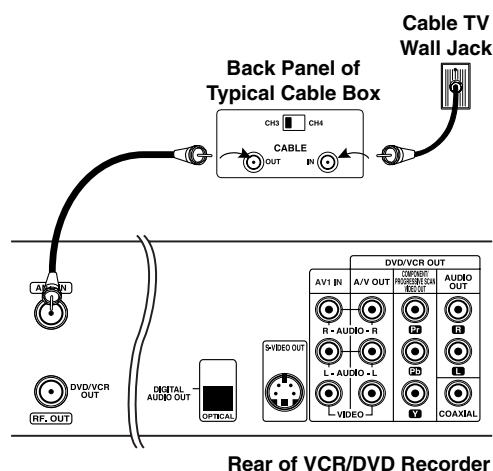
The cable hookup permits both TV and VCR/DVD Recorder operation.

To view or record a CATV channel

- 1 Tune the TV to the correct video input channel.
- 2 Set the VCR/DVD Recorder channel selector to the output channel of the Cable Converter box using the CH/TRK (▲ / ▼) or number (0-9) buttons of your VCR/DVD Recorder (example: CH3).
- 3 Select the channel to view at the Cable Converter Box.

Note

If you are using a cable box to tune channels, it is not necessary to do Auto Channel Set as indicated on page 18.



Rear of VCR/DVD Recorder



**Need help? Call
1-800-813-3435**

Connections (Continued)

Connecting to a TV

- Make one of the following connections, depending on the capabilities of your equipment.

RF coaxial connection

Connect the RF. OUT jack on the VCR/DVD Recorder to the antenna in jack on the TV using the 75-ohm Coaxial Cable supplied (**R**).

Note

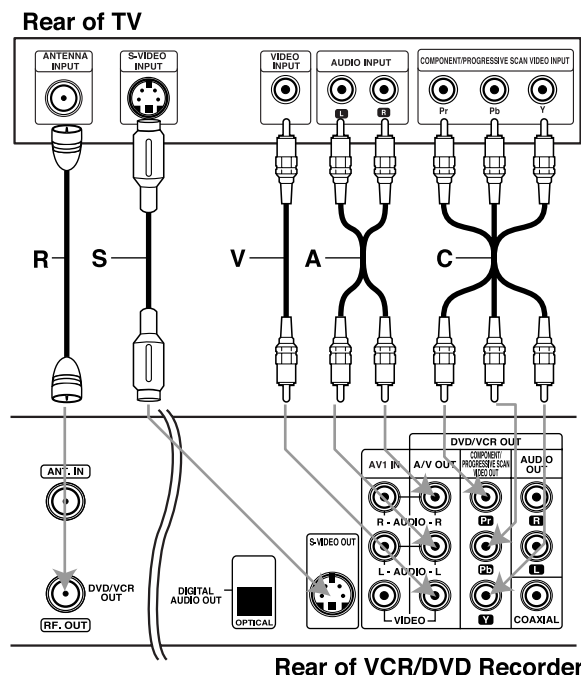
If you use this connection, tune the TV to the VCR/DVD Recorder's RF output channel (CH 3 or 4).

How to set the VCR/DVD Recorder's RF output channel

When the VCR/DVD Recorder is turned off, press and hold CHANNEL (▲/▼) on the front panel for about five seconds to change the RF output channel (CH 03 or CH 04). "RF 03" or "RF 04" appears in the display window.

Audio/Video connection

- 1 Connect the VIDEO OUT jack on the VCR/DVD Recorder to the video in jack on the TV using the video cable (**V**).
- 2 Connect the Left and Right AUDIO OUT jacks on the VCR/DVD Recorder to the audio left/right in jacks on the TV using the audio cables (**A**).



S-Video connection

- 1 Connect the S-VIDEO OUT jack on the VCR/DVD Recorder to the S-Video in jack on the TV using the S-Video cable (**S**).
- 2 Connect the Left and Right AUDIO L/R of A/V OUT jacks on the VCR/DVD Recorder to the audio left/right in jacks on the TV using the audio cables (**A**).

Component Video (Color Stream®) connection

- 1 Connect the COMPONENT/PROGRESSIVE SCAN VIDEO OUT jacks on the VCR/DVD Recorder to the corresponding in jacks on the TV using a Y Pb Pr cable (**C**).
- 2 Connect the Left and Right AUDIO L/R of A/V OUT jacks on the VCR/DVD Recorder to the audio left/right in jacks on the TV using the audio cables (**A**).

Progressive Scan (Color Stream® pro) connection

- If your television is a high-definition or "digital ready" television, you may take advantage of the VCR/DVD Recorder's progressive scan output for the highest video resolution possible.
- 1 Connect the COMPONENT/PROGRESSIVE SCAN VIDEO OUT jacks on the VCR/DVD Recorder to the corresponding in jacks on the TV using an optional Y Pb Pr cable (**C**).
 - 2 Connect the Left and Right AUDIO L/R of A/V OUT jacks on the VCR/DVD Recorder to the audio left/right in jacks on the TV using the supplied audio cables (**A**).

Notes

- Set Progressive Scan option to "ON" in the menu, see page 20.
- Progressive scan does not work with the analog video connection (yellow VIDEO OUT jack or S-VIDEO OUT jack). In the case, the interlaced scanning image is output from the yellow VIDEO OUT or S-VIDEO OUT jack.

Connections (Continued)

Connecting to Optional Equipment

Connecting to an amplifier equipped with two channel analog stereo or Dolby Pro Logic II/ Pro Logic

Connect the Left and Right AUDIO L/R of A/V OUT jacks on the VCR/DVD Recorder to the audio left and right in jacks on your amplifier, receiver, or stereo system using the audio cables (A).

Connecting to an amplifier equipped with two channel digital stereo (PCM) or to an Audio/Video receiver equipped with a multi-channel decoder (Dolby Digital™, MPEG 2, or DTS)

1 Connect one of the VCR/DVD Recorder's DIGITAL AUDIO OUT jacks (OPTICAL **O** or COAXIAL **X**) to the corresponding in jack on your amplifier. Use an optional digital (optical **O** or coaxial **X**) audio cable.

2 You will need to activate the recorder's digital output. (See "AUDIO" on page 21).

Digital Multi-channel sound

A digital multi-channel connection provides the best sound quality. For this you need a multi-channel Audio/Video receiver that supports one or more of the audio formats supported by your VCR/DVD Recorder (MPEG 2, Dolby Digital, and DTS). Check the receiver manual and the logos on the front of the receiver.



Caution:

Due to the DTS Licensing agreement, the digital output will be in DTS digital out when DTS audio stream is selected.

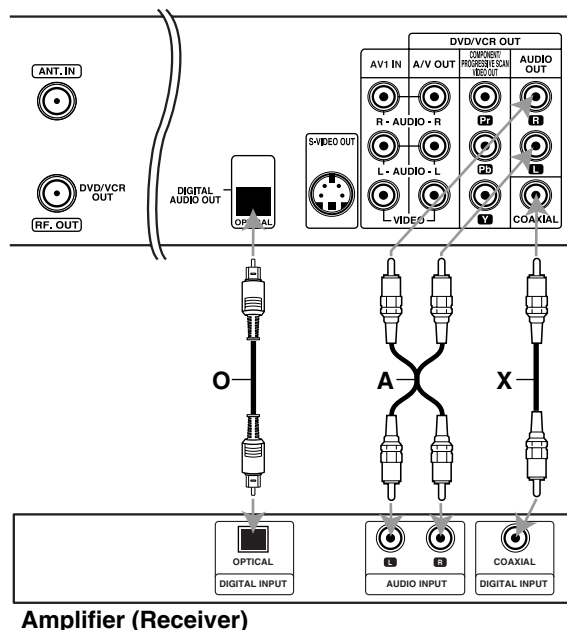
Notes

- If the audio format of the digital output does not match the capabilities of your receiver, the receiver will produce a strong, distorted sound or no sound at all.
- Six Channel Digital Surround Sound via digital connection can be obtained only if your receiver is equipped with a Digital Multi-channel decoder.
- To see the audio format of the current DVD in the on-screen display, press AUDIO.

Note

This VCR/DVD Recorder does not perform internal (2 channel) decoding of a DTS sound track. To enjoy DTS multi-channel surround, you must connect this VCR/DVD Recorder to a DTS compatible receiver via one of this VCR/DVD Recorder's digital audio outputs.

Rear of VCR/DVD Recorder



Amplifier (Receiver)



**Need help? Call
1-800-813-3435**

Connections (Continued)

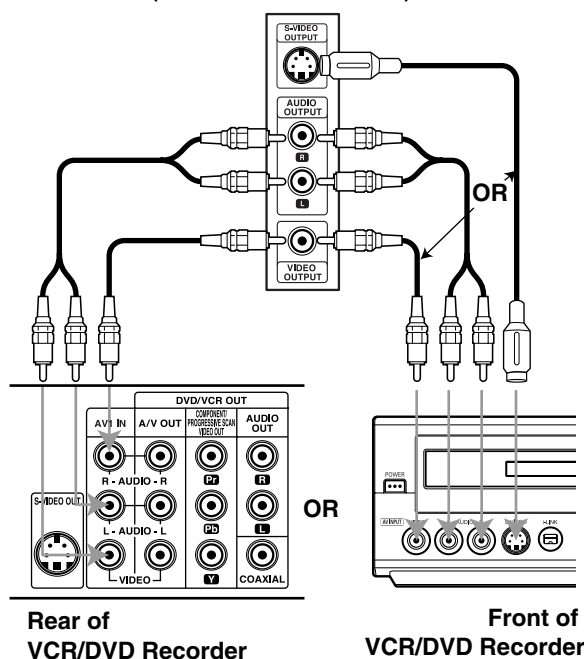
Accessory Audio/Video (A/V) Connections to VCR/DVD Recorder

Connect the AV1 IN or AV INPUT (AV2) jacks on the VCR/DVD Recorder to the audio/video out jacks on your accessory component, using optional audio/video cables.

Note

If you use the S-VIDEO in jack on the front panel, the VIDEO in jack on the front panel is not available.

Jack panel of Accessory Component
(VCR, Camcorder, etc.)



Connecting a Digital Camcorder

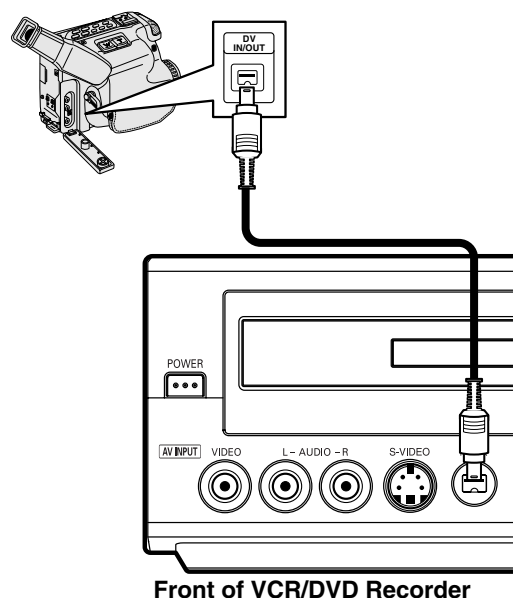
Using the front panel DV IN jack, it is possible to connect a DV digital camcorder, video deck, or DVD-R/RW recorder and digitally transfer DV tapes or DVD-R/RW discs to DVD-R/RW.

Use a DV cable (not supplied) to connect the DV in/out jack of your DV Digital Camcorder to the front panel DV IN jack of this VCR/DVD Recorder.

Note

This jack is for connection to DV equipment only. It is not compatible with digital satellite tuners or D-VHS video decks.

DV Digital Camcorder



Before Operating

Initial Settings

In this menu system, there are several ways to customize the settings provided. Most menus consist of three levels to set up the options, but some require greater depth for the variety of settings. If you press **SETUP**, only the first and second level of the menu system will appear on the TV screen. The third level can be displayed by pressing **►**. For navigating the menu levels, you will see "►" on the right side of the menu label to help you go to the next level.

To bring up and exit the Menu:

Press **SETUP** to bring up the menu. A second press of **SETUP** will take you back to initial screen.

To go to the next level:

Press **►** on the remote control.

To go back to the previous level:

Press **◀** on the remote control.

General Operation

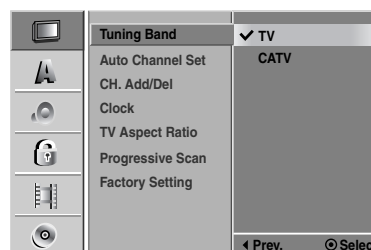
- 1 Press SETUP.**
The Setup menu appears.
- 2 Use ▲ / ▼ to select the desired option.**
- 3 While the selected item is highlighted, press ► to move to the second level.**
- 4 Use ▲ / ▼ to select the second desired option.**
- 5 Press ► to move to the third level.**
- 6 Use ▲ / ▼ to select the desired setting then press ENTER to confirm your selection.**
Some items require additional steps.
- 7 Press SETUP to exit the Setup menu.**

GENERAL

Tuning Band Select

- 1 Press SETUP.**
The Setup menu appears.
- 2 Use ▲ / ▼ to select the GENERAL option.**
- 3 While the GENERAL option is highlighted, press ► to move to the second level.**
- 4 Use ▲ / ▼ to select the Tuning Band option.**
- 5 Press ► to move to the third level.**
- 6 Use ▲ / ▼ to select the tuning band option (TV or CATV) then press ENTER.**

TV: If you are using a standard antenna to receive channels.
CATV: If you are using basic cable to receive channels.



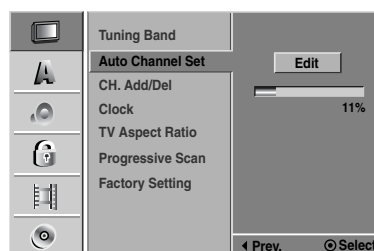
Auto Channel Set

This VCR/DVD Recorder is equipped with a frequency synthesized tuner capable of receiving up to 181 channels. These include VHF channels 2-13, UHF channels 14-69 and CATV channels 1-125.

Preparation:

- Connect the VCR/DVD Recorder to the desired type of antenna or cable TV system, as shown in "Connecting Antenna/Cable TV to VCR/DVD Recorder" on page 14.

- 1 Press SETUP.**
The Setup menu appears.
- 2 Use ▲ / ▼ to select the GENERAL option.**
- 3 While the GENERAL option is highlighted, press ► to move to the second level.**
- 4 Use ▲ / ▼ to select the Auto Channel Set option.**
- 5 Press ► to move to the third level.**
The **Start** icon is highlighted.
- 6 Press ENTER to begin the channel search.**
The tuner will automatically cycle through all available channels in the area and place them in the tuner's memory.
- 7 Press SETUP to exit the Setup menu.**



Note

After the Auto Channel Set proceeding is complete, make sure the Tuning Band is set appropriately (TV or CATV) on tuning band, follow steps 1~6 as shown previous (Tuning Band Select) to choose the correct Tuning Band (TV or CATV).

Before Operating (Continued)

To Add or Erase Channels from Memory

This feature allows you to add to or erase channels from memory manually.

- 1** Follow steps 1-3 as shown on the previous page (Auto Channel Set).
- 2** Use ▲ / ▼ to select the CH. Add/Del option.
- 3** Press ► to move to the third level.
The Edit icon is highlighted.
- 4** Press ENTER.
The channel edit menu appears.



- 5** Use ▲ / ▼ or number buttons to select a channel to add or delete then press ENTER.
The Add or Delete icon is highlighted.
- 6** Press ENTER to confirm your setting.
- 7** Repeat steps 5-6 to add or erase additional channels.
- 8** Press SETUP to exit the Setup menu.

Auto Clock Set

The VCR/DVD Recorder gives you two ways to set the time and date: the Auto Clock Feature or Manual Clock set. The Auto Clock Feature enables the VCR/DVD Recorder to set up the clock when the VCR/DVD Recorder is turned off.

The Clock Set feature is set to Auto at the factory. In the ON setting, the VCR/DVD Recorder looks for a channel carrying XDS (Extended Data Services) information. XDS updates the clock using the Coordinated Universal Time.



- 1** Press SETUP.
The Setup menu appears.
- 2** Use ▲ / ▼ to select the GENERAL menu.
- 3** While the GENERAL option is highlighted, press ► to move to the second level.

- 4** Use ▲ / ▼ to select the Clock option.

- 5** Press ► to move to the third level.

- 6** Use ▲ / ▼ to select the Auto option then press ENTER.

The Auto option is set at the factory. In the Auto option, the VCR/DVD Recorder looks for a channel carrying XDS (Extended Data Services) information. XDS updates the clock using the Coordinated Universal Time.

- 7** Use ▲ / ▼ to choose your Time Zone.

You can set your local Time Zone manually. When Time zone is set to Auto, the VCR/DVD Recorder will use XDS information to determine the proper setting.

- 8** Use ► to choose the Daylight Savings option. Use ▲ / ▼ to choose Auto, On, or Off.

You can turn Daylight Savings On or Off manually. When it is set to Auto, the VCR/DVD Recorder will use XDS information to determine the proper setting.

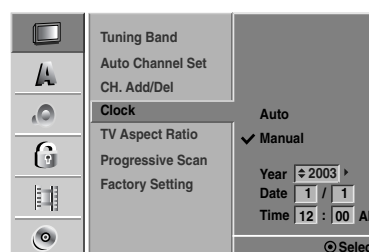
- 9** Press ENTER to confirm your setting, then press SETUP to exit the Setup menu.

Note

If your local TV station does not send date and time information, or sends incorrect information, you can set the clock manually.

Manual Clock Set

- 1** Follow steps 1-5 as shown previously on this page (Auto Clock Set).
- 2** Use ▲ / ▼ to select the Manual option then press ENTER.



- 3** Enter the necessary information for date and time.

◀ / ▶ (left/right): Moves the cursor to the previous or next column.

▲ / ▼ (up/down): Changes the setting at the current cursor position.

- 4** Press ENTER to confirm your setting, then press SETUP to exit the Setup menu.

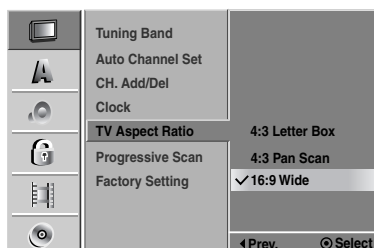
Before Operating (Continued)

TV Aspect Ratio

4:3 Letter Box: Select when a standard 4:3 TV is connected. Displays theatrical images with masking bars above and below the picture.

4:3 Pan Scan: Select when a standard 4:3 TV is connected. Displays pictures cropped to fill your TV screen. Both sides of the picture are cut off.

16:9 Wide: Select when a 16:9 wide TV is connected.

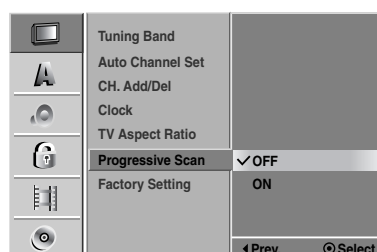


Progressive Scan

Progressive Scan Video provides the highest quality pictures with less flickering.

If you are using the COMPONENT/PROGRESSIVE SCAN VIDEO OUT jacks, but are connecting the VCR/DVD Recorder to a standard (analog) television, set Progressive Scan to OFF.

If you are using the COMPONENT/PROGRESSIVE SCAN VIDEO OUT jacks for connection to a TV or monitor that is compatible with a progressive scan signal, set Progressive Scan to ON.



Caution

Once the setting for Progressive Scan output is entered, an image will only be visible on a Progressive Scan compatible TV or monitor. If you set Progressive Scan to ON in error, you must reset the VCR/DVD Recorder. First, remove the disc in the VCR/DVD Recorder. Next, press STOP (■) and hold it for five seconds before releasing it. The video output will be restored to the standard setting, and a picture will once again be visible on a conventional analog TV or monitor.

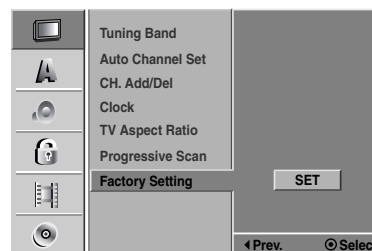
Factory Setting

If you wish, you can reset the VCR/DVD Recorder to its original factory settings. Select “SET” then press ENTER.

The Initialize menu will appear. Use the ◀ ▶ buttons to select “Yes” and press ENTER.

Note

Some options cannot be reset (Movie Rating, Password, Country Code).



LANGUAGE

Display Menu

Select a language for the Setup menu and on-screen display.



Disc Language

Select a language for the disc's Menu, Audio, and Subtitle.

Original : The original language set for the disc is selected.

Other : To select another language, select the “Other” option then press ENTER. Use the number buttons to key-in the corresponding 4-digit number according to the language code list on page 52. If you enter the wrong number, press ◀ repeatedly to delete each digit, then correct it.



Before Operating (Continued)

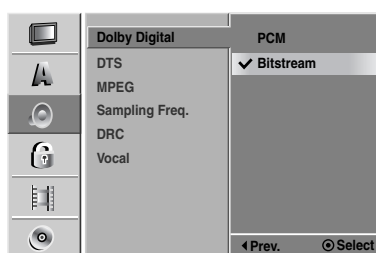
AUDIO

Each DVD disc has a variety of audio output options. Set the VCR/DVD Recorder Audio Output according to the type of audio system you use.

Dolby Digital

PCM: Select when connected to a 2-channel digital stereo amplifier. The VCR/DVD Recorder's digital audio is output in PCM 2ch format when you play a DVD video disc recorded on the Dolby Digital recording system.

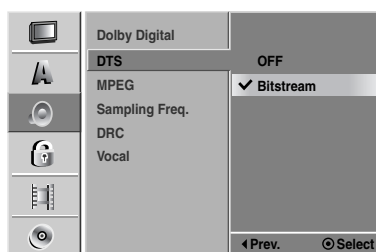
Bitstream: Select when connected to a Dolby Digital decoder (or an amplifier or other equipment with a Dolby Digital decoder).



DTS

OFF: The DTS signal will not be output from the DIGITAL AUDIO OUT jack.

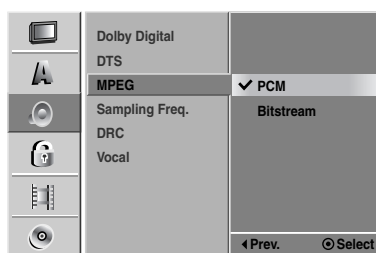
Bitstream: Select when connected to a DTS decoder (or an amplifier or other equipment with a DTS decoder).



MPEG

PCM: Select when connected to a 2-channel digital stereo amplifier. The VCR/DVD Recorder's digital audio is output in PCM 2ch format when you play a DVD video disc recorded on the MPEG1, or MPEG2 recording system.

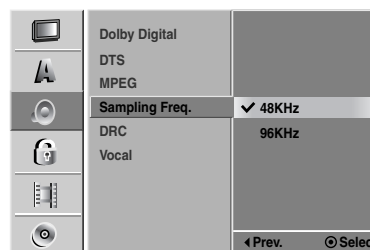
Bitstream: Select when connected to an MPEG decoder (or an amplifier or other equipment with an MPEG decoder).



Sampling Freq. (Frequency)

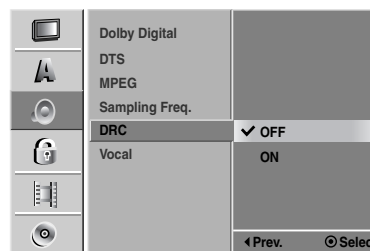
If your receiver or amplifier is NOT capable of handling 96 kHz signals, select 48 kHz. When this choice is made, this unit will automatically convert any 96 kHz signals to 48 kHz so your system can decode them.

If your receiver or amplifier is capable of handling 96 kHz signals, select 96 kHz.



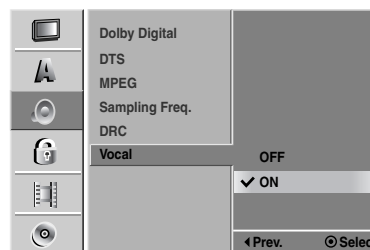
DRC (Dynamic Range Control)

The DVD format provides program soundtracks as accurately as possible, thanks to digital audio technology. However, you may wish to compress the dynamic range of the audio output (the difference between the loudest sounds and the quietest ones). This allows you to listen to a movie at a lower volume without losing clarity of sound. Set DRC to ON for this effect.



Vocal

Set Vocal to ON only when a multi-channel karaoke DVD is playing. The karaoke channels on the disc will mix into normal stereo sound.

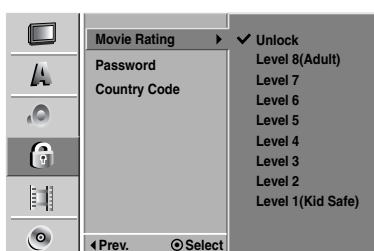


Before Operating (Continued)

LOCK (Parental Control)

Movie Rating

Movies on DVDs may contain scenes not suitable for children. Therefore, discs may contain Parental Control information that applies to the complete disc or to certain scenes on the disc. These scenes are rated from Level 1 to 8. Alternate, more suitable scenes are available for selection on some discs. Ratings are country-dependent. The Parental Control feature allows you to prevent your children from viewing certain discs, or to play alternate scenes for some discs.



- 1 Press SETUP.**
The Setup menu appears.
- 2 Use ▲ / ▼ to select the LOCK option.**
- 3 While the LOCK option is highlighted, press ► to move to the second level.**
- 4 Use ▲ / ▼ to select the Movie Rating option.**
- 5 Press ► to move to the third level.**
- 6 When you have not entered a password yet:**
Enter a 4-digit password using the number buttons to create a personal 4-digit security password. Enter the 4-digit password again to confirm.
When you have already entered a password:
Enter a 4-digit password using the number buttons to confirm the personal 4-digit security password.

Tip

If you enter the wrong number, press ◀ repeatedly to delete password numbers one by one, then correct it.

- 7 Select a rating from 2 to 8 using the ▲ / ▼ buttons. One (1) has the least playback restrictions, and eight (8) has the most playback restrictions.**
Unlock: If you select Unlock, Parental Control is not active. The disc will play in full.

Note

The rating level one (1) cannot be set in this VCR/DVD Recorder.

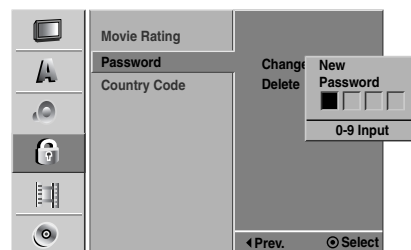
Level 1 to 8: Some discs contain scenes not suitable for children. If you set a rating for the VCR/DVD Recorder, all disc scenes with the same rating or lower will be played. Higher rated scenes will not be played unless an alternative scene is available on the disc. The alternative must have the same rating or a lower one. If no suitable alternative is found, playback will stop. You must enter the 4-digit password or change the rating level in order to play the disc.

- 8 Press ENTER to confirm your rating selection, then press SETUP to exit the menu.**

Set Password

Changing the 4-digit code

- 1 Follow steps 1-3 as shown previously on this page (Movie Rating).**
- 2 Use ▲ / ▼ to select the Password option.**
- 3 Press ► to move to the third level.**
- 4 While "Change" is highlighted, press ENTER.**
If you want to delete, select "Delete" then press ENTER.
- 5 Follow step 6 as shown previously on this page (Movie Rating).**
- 6 Enter a 4-digit password using the number buttons to create a personal 4-digit security password.**



- 7 Enter the 4-digit password again.**

Tip

If you enter the wrong number, press ◀ repeatedly to delete password numbers one by one, then correct it.

If you forget your 4-digit code

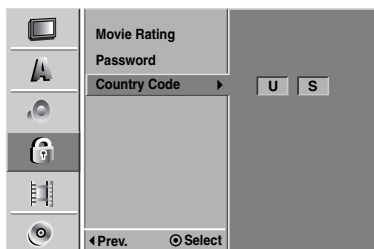
If you forget your password, to clear the current password, follow the procedure below.

- 1 Press SETUP to display the Setup menu.**
- 2 Use the number buttons to enter the 5-digit number "21019".**
A message appears on the TV screen.
- 3 Select "yes", then press ENTER.** The 4-digit password is cleared. Enter a new code as shown previously on this page (Movie Rating).

Before Operating (Continued)

Country Code

Enter the code of the country/area whose standards were used to rate the DVD video disc, referring to the list (see "Country Code List", page 53).



- 1 Press SETUP.**
The Setup menu appears.
- 2 Use ▲ / ▼ to select the LOCK option.**
- 3 While the LOCK option is highlighted, press ► to move to the second level.**
- 4 Use ▲ / ▼ to select the Country Code option.**
- 5 Press ► to move to the third level.**
- 6 When you have not entered a password yet:**
Enter a 4-digit password using the number buttons to create a personal 4-digit security password.
Enter the 4-digit password again.
When you have already entered a password:
Enter a 4-digit password using the number buttons to confirm the personal 4-digit security password.



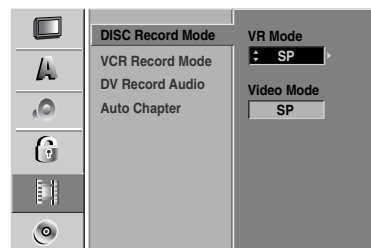
Tip
If you enter the wrong number, press ◀ repeatedly to delete password numbers one by one, then correct it.

- 7 Select the first character using the ▲ / ▼ buttons.**
- 8 Shift the cursor using the ► button and select the second character using the ▲ / ▼ buttons.**
- 9 Press ENTER to confirm your country code selection, then press SETUP to exit the menu.**

RECORD

Disc Record Mode

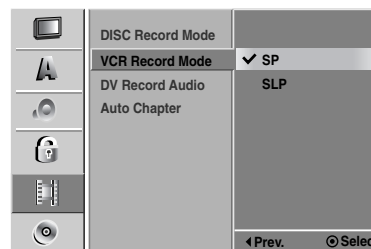
You can set the picture quality for DVD recording: SP (Standard quality), LP (Low quality), XP (High quality).



- 1 Press SETUP.**
The Setup menu appears.
- 2 Use ▲ / ▼ to select the RECORD option.**
- 3 While the RECORD option is highlighted, press ► to move to the second level.**
- 4 Use ▲ / ▼ to select the DISC Record Mode option.**
- 5 Press ► to move to the third level.**
- 6 Use ◀ / ► to select the VR Mode or Video Mode.**
- 7 Use ▲ / ▼ to select a desired DISC Record Mode (SP, LP, or XP).**
- 8 Press ENTER to confirm your selection, then press SETUP to exit the menu.**

VCR Record Mode

You can set the picture quality for VCR recording: SP (Standard Play) or SLP (Super Long Play).



HOOKUP

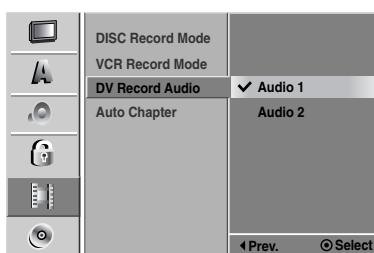


Need help? Call
1-800-813-3435

Before Operating (Continued)

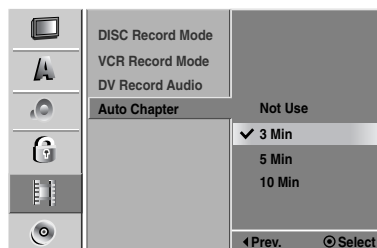
DV Record Audio

Set this if you have a camcorder using 32kHz/12-bit sound connected to the front panel DV IN jack. Some digital camcorders have two stereo tracks for audio. One is recorded at the time of shooting. The other is for overdubbing after shooting. On the Audio 1 setting, the sound that was recorded while shooting is used. On the Audio 2 setting, the overdubbed sound is used.



Auto Chapter

When recording in Video Mode, chapter markers are put at specified intervals. You can change this interval to 3 minutes, 5 minutes, or 10 minutes. To select "Not Use", switch the automatic chapter marking off and select the No Separation setting.



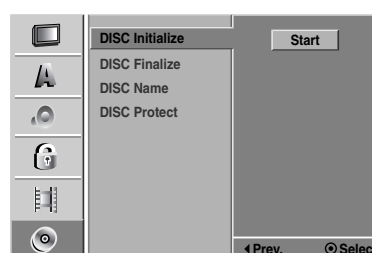
Note

Chapter markers' interval time may not be accurate.

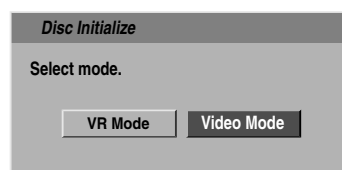
DISC

Disc Initialize

- If you load a blank DVD-R disc, it will always be initialized in Video mode, which allows the disc to be played in most standard DVD players.
- If you load a blank DVD-RW disc, you will be prompted to initialize the disc in Video mode (for maximum compatibility) or VR mode (to enable advanced editing features).
- If you load a DVD-RW that has already been used, you can change between Video mode and VR mode by erasing the disc using the DISC Initialize feature.



- 1 Press SETUP.**
The Setup menu appears.
- 2 Use ▲ / ▼ to select the DISC option.**
- 3 While the DISC option is highlighted, press ► to move to the second level.**
- 4 Use ▲ / ▼ to select the DISC Initialize option.**
- 5 Press ► to move to the third level.**
The Start icon is highlighted.
- 6 Press ENTER.**
The Disc Initialize menu appears.



- 7 Use ◀ / ▶ to select a desired DISC Initialize Mode (VR Mode or Video Mode) then press ENTER.**
- 8 Use ◀ / ▶ to select OK, and press ENTER.**
It takes a few moments to initialize the disc.
- 9 Press ENTER.**

Caution

If you want to change the disc format, everything recorded on the disc will be erased.

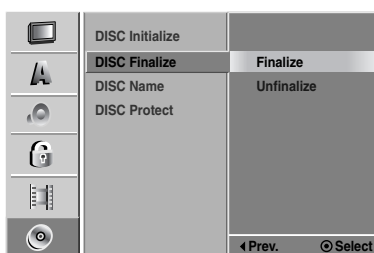
Before Operating (Continued)

DISC Finalize

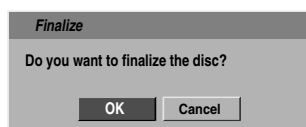
Finalizing fixes the recordings in place so that the disc can be played on a regular DVD player or computer equipped with a suitable DVD-ROM drive. Finalizing a Video mode disc creates a menu screen for navigating the disc. This is accessed by pressing DISC MENU/LIST or TITLE.

Caution

Once you have finalized a DVD-R disc, you cannot edit or record anything else on that disc. However, you can record and edit a DVD-RW disc by choosing Unfinalize.



- 1** Follow steps 1-3 as shown on page 24 (DISC Initialize).
- 2** Use **▲** / **▼** to select the DISC Finalize option.
- 3** Press **▶** to move to the third level. Finalize is highlighted.
- 4** Press **ENTER**. Finalize menu appears.



- 5** Use **◀** / **▶** to select OK then press **ENTER**. The VCR/DVD Recorder starts finalizing the disc.

Note

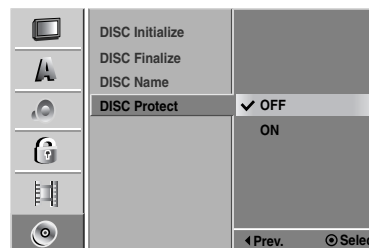
The amount of required time for finalization depends on the type of disc, the volume of recorded contents, and the number of title on the disc. A recorded disc can take up to 3-4 minutes to finalize.

Tip

If you load a DVD-RW that has already been finalized on a different DVD Recorder, you can “un-finalize” it by choosing Unfinalize from the DISC Finalize menu. After doing this, you can edit and re-record onto the disc.

DISC Protect

When recording in VR mode, set to ON to prevent accidental recording, editing, or erasing of the disc loaded. If you need to unlock the disc to make edits, select OFF.



HOOKUP



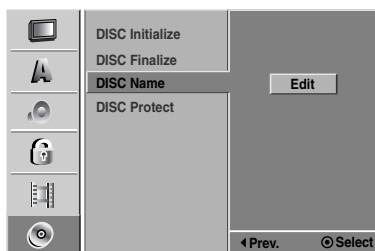
Need help? Call
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Before Operating (Continued)

Disc Name

Use this to enter a name for the disc. This name appears when you load the disc and when you display disc information on-screen.

- The disc name can be up to 32 characters long.
- For discs formatted on a different DVD Recorder, you will see only a limited character set.



- 1 Follow steps 1-3 as shown in DISC Initialize on page 24.
- 2 Use ▲ / ▼ to select the DISC Name option.
- 3 Press ► to move to the third level.
The Edit icon is highlighted.
- 4 Press ENTER.
The Keyboard menu appears.



- 5 Enter a name for the disc. Use ▲ / ▼ / ◀ / ▶ to select a character then press ENTER to confirm your selection.
 - **English/Latin Capital:** Switches the keyboard to upper case characters.
 - **English/Latin Lowercase:** Switches the keyboard to lower case characters.
 - **Symbols:** Switches the keyboard to symbols.
 - **OK:** Selects to finish.
 - **Cancel:** Selects to exit the menu.
 - **Space:** Inserts a space at the cursor position.
 - **Delete:** Deletes the previous character at the cursor position.
 - **◀ / ▶:** Moves the cursor left and right.

Tip on Remote control buttons for entering a name

- **(PLAY):** Inserts a space at the cursor position.
- ⏏ **(PAUSE/STILL):** Deletes the character after the cursor position.
- **(STOP), CLEAR:** Deletes the character before the cursor position.
- ◀◀ / ▶▶ **:** Moves the cursor left or right.
- Numbers (0~9):** Enters the corresponding character of the selected column.
- DISC MENU/LIST, DISPLAY:** Switches the keyboard type (English/Latin Capital, English/Latin Lowercase, Symbols).

6 Choose OK then press ENTER to set the name and return to the DISC menu.

7 Press SETUP to exit the menu.




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Before Operating (Continued)

On-Screen Display

General Explanation of the On-Screen Display

This manual gives basic instructions for operating the VCR/DVD Recorder. Some DVDs require specific operations or allow only limited operations during playback. When this occurs, the symbol  appears on the TV screen indicating that the operation is not permitted by the VCR/DVD Recorder or is not available on the disc.



Displaying Information on-screen

You can display various information on-screen about the disc or tape loaded.

On-screen display operation

- 1** Press **DISPLAY** repeatedly to display/change the information displayed on-screen.
- 2** To remove the on-screen display, press **DISPLAY** or **RETURN** repeatedly until it disappears. See the following descriptions for detailed explanations while playing a disc.

Temporary Feedback Field Icons

-  Resume play from this point
-  Action prohibited or not available

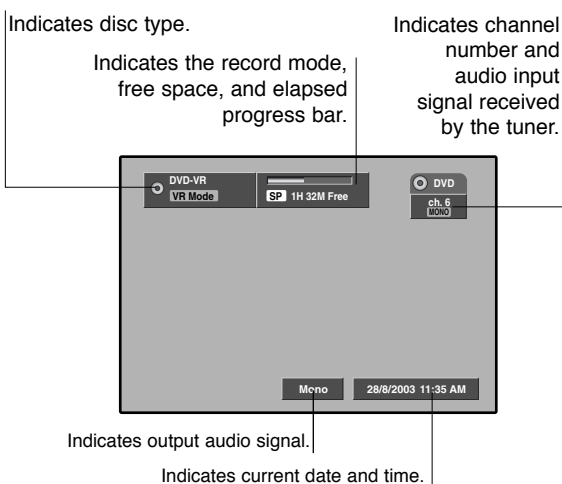
Notes

- Some discs may not provide all of the features on the on-screen display example shown below.
- If no button is pressed for 7 seconds, the on-screen display disappears.





Displaying OSD While Watching TV

While viewing the TV, press **DISPLAY** to display/remove the information displayed on-screen.

Example- when a DVD-RW in VR mode is inserted:



Changing TV Channels

If no disc is playing, you can change TV channels using the number or CH/TRK ( / ) buttons on the remote control, or the CHANNEL ( / ) buttons on the front panel.

Note

Antenna channels are numbered 2 through 69. Cable channels are numbered 1 through 125.

Changing TV Audio Channel

Some TV programs are broadcast with both a main and a Secondary Audio Program (SAP). You can change the TV audio using the **AUDIO** button.

Press AUDIO repeatedly to change the TV audio according to Broadcast audio signal as shown below.

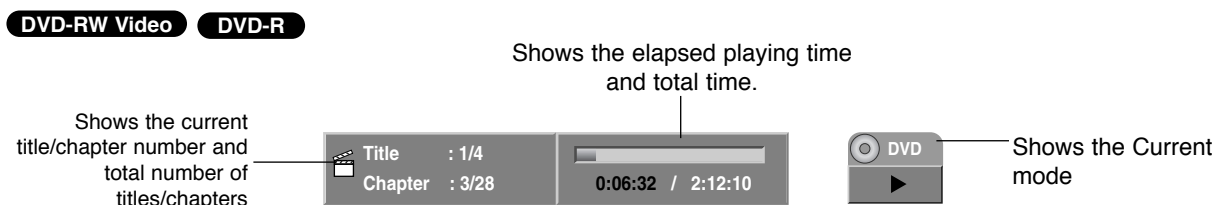
- **STEREO+SAP Audio Signal**
Stereo → SAP → Mono → Stereo
- **STEREO Audio Signal**
Stereo → L → R → Mono Stereo
- **SAP Audio Signal**
Mono → SAP → Mono
- **MONO Audio Signal**
Mono

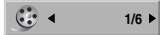
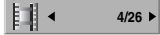

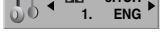



The current audio channel is displayed on-screen.

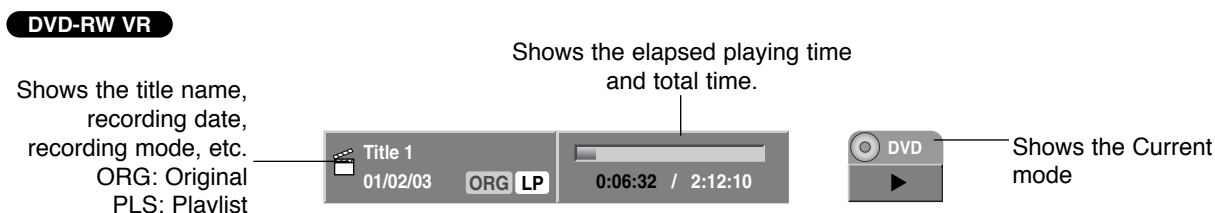
- If SAP is selected, but there is no SAP channel being broadcast, you will still hear the main audio (mono or stereo) channel.
- If the sound is of poor quality when set to Stereo, you can improve it by changing to Mono.
- When an external input is selected, the audio channel can be switched only to Stereo.





Before Operating (Continued)

List of On-Screen Display



Menu Options	Function (Use ▲ / ▼ to select desired option)	Selection Method
Title Number 	Shows the current title number and total number of titles, and skips to the desired title number.	◀ / ▶, or Numbers, ENTER
Chapter Number 	Shows the current chapter number and total number of chapters, and skips to the desired chapter number.	◀ / ▶, or Numbers, ENTER
Time search 	Shows the elapsed playing time, and searches for a point by the elapsed time.	Numbers, ENTER
Audio language and Digital Audio Output mode 	Shows the current audio soundtrack language, encoding method, and channel number, and changes the setting.	◀ / ▶
Subtitle language 	Shows the current subtitles language and changes the setting.	◀ / ▶
Angle 	Shows the current angle number and total number of angles, and changes the angle number.	◀ / ▶
Sound 	Shows the current sound mode, and changes the setting.	◀ / ▶



Menu Options	Function (Use ▲ / ▼ to select desired option)	Selection Method
Title Number 	Shows the current title number and total number of titles, and skips to the desired title number.	◀ / ▶, or Numbers, ENTER
Chapter Number 	Shows the current chapter number and total number of chapters, and skips to the desired chapter number.	◀ / ▶, or Numbers, ENTER
Time search 	Shows the elapsed playing time, and searches for a point by the elapsed time.	Numbers, ENTER
Sound 	Shows the current sound mode, and changes the setting.	◀ / ▶

Before Operating (Continued)

DVD-Video

Shows the title name,
recording date,
recording mode, etc.
ORG: Original
PLS: Playlist



Shows the elapsed playing time
and total time.



Shows the Current
mode.

Menu Options	Function (Use ▲ / ▼ to select desired option)	Selection Method
Title Number 	Shows the current title number and total number of titles, and skips to the desired title number.	◀ / ▶, or Numbers, ENTER
Chapter Number 	Shows the current chapter number and total number of chapters, and skips to the desired chapter number.	◀ / ▶, or Numbers, ENTER
Time search 	Shows the elapsed playing time, and searches for a point by the elapsed time.	Numbers, ENTER
Sound 	Shows the current sound mode and changes the setting.	◀ / ▶

VHS

Shows playing speed,
recording tape information
and the elapsed playing
progress bar.



Shows the Current
mode

Menu Options	Function (Use ▲ / ▼ to select desired option)	Selection Method
Time 	Shows the elapsed playing time (Display only).	—
Audio Channel 	Shows the audio channel and changes the audio channel.	◀ / ▶



**Need help? Call
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HOOKUP

Operations with DVD

Playing a DVD

Playback Setup

- Before using the remote control, press the **DVD** button to select the device to be operated.
- Turn the TV on and select the video input source connected to the VCR/DVD Recorder.
- Audio system: Turn the audio system on and select the input source connected to the VCR/DVD Recorder.

1 Press **OPEN/CLOSE** (▲) to open the disc tray.

2 Load a disc in the tray with the playback side down.

3 Press **OPEN/CLOSE** (▲) to close the tray. **READING** appears on the display window and playback starts automatically. If playback does not start, press **PLAY** (▶).
In some cases, the disc menu might appear instead.

Tip

If a menu screen is displayed

The menu screen may be displayed first after loading a DVD which contains a menu.

DVD-Video

- Use the ◀ / ▶ / ▲ / ▼ buttons to select the title/chapter you want to view, then press **ENTER** to start playback. Press **TITLE** or **DISC MENU/LIST** to return to the menu screen.
- Menu settings and the exact operating procedures for using the menu may differ depending on the disc. Follow the instructions on each menu screen.

Notes

- If Parental Control is set and the disc is not within the Movie Rating settings (not authorized), the 4-digit code must be entered and/or the disc must be authorized (see "Movie Rating", on page 22).
- DVDs may have a Region Code. Your VCR/DVD Recorder will not play discs that have a region code different from your VCR/DVD Recorder. The region code for this VCR/DVD Recorder is 1 (one).

Note

Unless stated otherwise, all operations described use the remote control. Some features may also be available on the Setup menu.

Moving to another TITLE

DVD-Video

DVD-RW VR

DVD-RW Video

DVD-R



When a disc has more than one title, you can move to another title as follows:

- Press **DISPLAY** twice and use ▲ / ▼ to select the title icon. Then, press the appropriate number button (0-9) or ◀ / ▶ to select a title number and press **ENTER** to confirm.

Moving to another CHAPTER

DVD-Video

DVD-RW VR

DVD-RW Video

DVD-R



When a title on a disc has more than one chapter, you can move to another chapter as follows:

- Press **SKIP** (◀◀ or ▶▶) briefly during playback to select the next chapter or to return to the beginning of the current chapter/track.
- Press **SKIP** (◀◀) twice briefly to go back to the previous chapter.
- To go directly to any chapter during playback, press **DISPLAY** twice. Then, use ▲ / ▼ to select the chapter icon. Then, enter the chapter number using the number buttons (0-9) or press ◀ / ▶ and press **ENTER**.

Slow Motion

DVD-Video

DVD-RW VR

DVD-RW Video

DVD-R

- 1 Press **REW** (◀◀) or **FF** (▶▶) during pause mode. The VCR/DVD Recorder will enter **SLOW** mode.
- 2 Use the **REW** (◀◀) or **FF** (▶▶) to select the required speed: ◀◀ 1/16, ◀◀ 1/8, ◀◀ 1/4, ◀◀ 1/2, or ▶▶ 1/16, ▶▶ 1/8, ▶▶ 1/4, ▶▶ 1/2.
- 3 To exit Slow Motion mode, press **PLAY**.

Operations with DVD (Continued)

Playing a DVD (continued)

Still Picture and Frame-by-Frame Playback

DVD-Video **DVD-RW VR** **DVD-RW Video**

DVD-R

- 1 Press PAUSE/STILL (II) during playback.
The VCR/DVD Recorder will enter PAUSE mode.
- 2 You can advance or back up the picture frame-by-frame by pressing ◀ / ▶ repeatedly during PAUSE mode.

Search **DVD-Video** **DVD-RW VR**

DVD-RW Video **DVD-R**

- 1 Press REW (◀◀) or FF (▶▶) during playback.
The recorder will enter SEARCH mode.
- 2 Press REW (◀◀) or FF (▶▶) to select the required speed: ▶▶X2, ▶▶X4, ▶▶X8, ▶▶X16, ▶▶X100, ▶ (forward) or ◀, ◀◀X2, ◀◀X4, ◀◀X8, ◀◀X16, ◀◀X100 (backward).
- 3 To exit SEARCH mode, press PLAY (▶).

Note

- When you press REW or FF during Search mode to go to normal speed, search mode is canceled.
- Search speed may vary by the condition of a disc, though the search speed is displayed in the TV screen.

Random **Karaoke DVD**

- 1 Press RANDOM during playback.
The VCR/DVD Recorder automatically begins Random Playback and "RANDOM" appears on the display window.
- 2 To return to normal playback, press RANDOM until "NORMAL" appears on the display window.

Tip

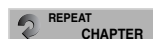
By pressing SKIP (▶▶I) during Random playback, the VCR/DVD Recorder selects another title (track) and resumes Random playback.

Note

This function only works with DVD Karaoke discs.

Repeat **DVD-Video** **DVD-RW VR**

DVD-RW Video **DVD-R**

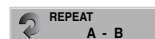


DVD Video Discs - Repeat Chapter/Title/All/Off

- 1 To repeat the chapter currently playing, press REPEAT.
The REPEAT CHAPTER appears on the TV screen.
- 2 To repeat the title currently playing, press REPEAT a second time.
The REPEAT TITLE appears on the TV screen.
- 3 To repeat the whole disc, press REPEAT a third time (only for DVD-RW VR mode).
- 4 To exit Repeat mode, press REPEAT a third time or a fourth time (for DVD-RW VR mode).
The REPEAT OFF icon appears on the TV screen.

Repeat A-B **DVD-Video** **DVD-RW VR**

DVD-RW Video **DVD-R**



To repeat a sequence in a title:

- 1 Press A-B at your chosen starting point.
REPEAT A- appears on the TV screen.
- 2 Press A-B again at your chosen end point.
REPEAT A-B appears briefly on the TV screen, and the repeat sequence begins.
- 3 To cancel the sequence, press A-B repeatedly to select REPEAT OFF.

PLAYBACK



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Operations with DVD (Continued)

Playing a DVD (continued)

Time Search **DVD-Video** **DVD-RW VR**

DVD-RW Video **DVD-R**

The Time Search function allows you to start playing at any chosen time on the disc.

- 1 Press DISPLAY twice during playback. The on-screen display appears on the TV screen.
The Time Search box shows the elapsed playing time of the current disc.
- 2 Within 7 seconds, use ▲ / ▼ to select the Time Search icon in the on-screen display.
The “-:--:--” appears in the Time Search box.
- 3 Within 7 seconds, use the number buttons to enter the required start time. Enter hours, minutes, and seconds from left to right in the box.
You cannot enter an invalid time.
If you enter the wrong numbers, press ◀ / ▶ to move the under bar () to the wrong number. Then enter the correct numbers.
- 4 Within 7 seconds, press ENTER to confirm the start time.
Playback starts from the selected time on the disc.

Zoom **DVD-Video** **DVD-RW VR**

DVD-RW Video **DVD-R**

The Zoom function allows you to enlarge the video image and to move to different areas within it.

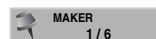
- 1 Press ZOOM during playback or still playback to activate the Zoom function.
A square frame will be displayed in the right bottom of the picture. If no button is pressed for more than 5 seconds, the square frame will disappear.
Each press of the ZOOM button changes the image on the TV screen in the following sequence:
X1(normal size) → X2 size → X4 size → X1(normal size)
- 2 Use the ◀ / ▶ / ▲ / ▼ buttons to move to different areas within the picture.
- 3 To resume normal playback, press CLEAR or ZOOM repeatedly until the normal picture appears.

Note

The Zoom function may not work for some DVDs.

Marker Search **DVD-Video** **DVD-RW VR**

DVD-RW Video **DVD-R**



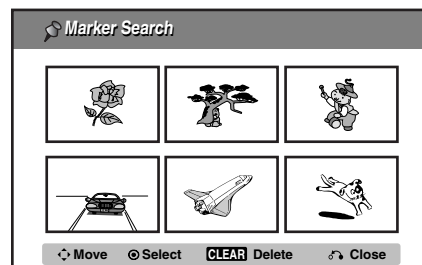
You can start playback from a memorized point. Up to six points can be memorized.

To enter a mark, follow these steps.

- 1 During disc playback, press MARKER when playback reaches the spot that you want to memorize.
The Marker icon will appear on the TV screen briefly.
- 2 Repeat step 1 to enter up to six Marker points on a disc.

To Recall a Marked Scene

- 1 During disc playback, press SEARCH.
The Marker Search menu will appear on the TV screen.



- 2 Use the ◀ / ▶ / ▲ / ▼ buttons to select a Marked scene that you want to recall.
- 3 Press ENTER.
Playback will start from the Marked scene.
- 4 To remove the Marker Search menu, press RETURN.

To clear a Marked Scene

- 1 During disc playback, press SEARCH.
The Marker Search menu will appear on the TV screen.
- 2 Use ◀ / ▶ / ▲ / ▼ to select the Marked scene that you want to erase.
- 3 Press CLEAR.
“Delete selected marker. Continue?” message appears.
- 4 Use ◀ / ▶ to select “Yes”, then press ENTER.
- 5 Repeat steps 2-4 to erase additional Marked scenes.
- 6 To remove the Marker Search menu, press RETURN (↵).

Note

Memorized marker points are deleted when the VCR/DVD Recorder is turned off.

Operations with DVD (Continued)

Playing a DVD (continued)

Playing a DVD (continued)

Disc Menus **DVD-Video**

Many DVDs contain Disc menus that allow you to access special features. To open a Disc menu, press DISC MENU/LIST. Then use the 0-9 buttons to directly select the desired option, or use the ◀ / ▶ / ▲ / ▼ buttons to highlight your selection and press ENTER.

- 1 Press DISC MENU/LIST.
The Disc menu is displayed.
- 2 To exit the Disc menu, press RETURN (↵).

Title Menus **DVD-Video**

- 1 Press TITLE.
If the current title has a menu, the Title menu will appear on the TV screen. Otherwise, the Disc menu may appear.
- 2 The Title menu may contain camera angles, spoken languages and subtitle options, as well as the chapters for the title.

Camera Angle **DVD-Video**

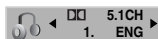


If the disc contains scenes recorded at different camera angles, you can change to a different camera angle during playback.

- Press ANGLE then press ◀ / ▶ repeatedly during playback to select a desired angle.
The number of the current angle appears on the TV screen.

Changing the Audio Language

DVD-Video



Press AUDIO then press ◀ / ▶ repeatedly during playback to hear a different audio language or audio track.

3D Surround **DVD-Video** **DVD-RW VR**

DVD-RW Video

DVD-R



This unit can produce a 3D Surround effect, which simulates multi-channel audio playback from two conventional stereo speakers, instead of the five or more speakers normally required to listen to multi-channel audio from a home theater system.

- 1 Press DISPLAY twice then use ▲ / ▼ to select the sound icon. Then, use ◀ / ▶ to select "3D SUR".
- 2 To turn off the 3D Surround effect, select "NORMAL".

Subtitles **DVD-Video**



Press SUBTITLE then press ◀ / ▶ repeatedly during playback to see the different subtitle languages.

Disc Menus **DVD-Video**

Last Condition Memory

DVD-Video

DVD-RW Video

DVD-R

This recorder memorizes the user settings for the last disc that you viewed. Settings remain in memory even if you remove the disc from the VCR/DVD Recorder or switch off the VCR/DVD Recorder. If you load a disc that had its settings memorized, the latest stop position is automatically recalled.



Notes

- Settings are stored in memory for use any time.
- This VCR/DVD Recorder does not memorize settings of a disc if you switch off the VCR/DVD Recorder before commencing to play it.
- The Last Condition Memory function may not work depending on the setting condition of the VCR/DVD Recorder or kinds of DVDs used.
- SD Surround setting is not stored in memory.



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Audio CD and MP3 Operations

Playing an Audio CD or MP3 Disc

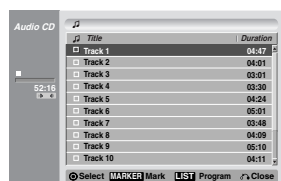
CD

MP3

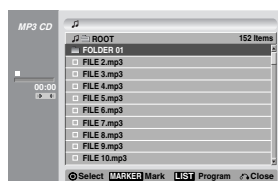
The VCR/DVD Recorder can play audio CDs and MP3 formatted recordings on CD-ROM, CD-R, or CD-RW discs. Before playing MP3 recordings, read the “Notes on MP3 Recordings” on the right.

1 Insert a disc and close the tray.

The AUDIO CD or MP3 CD menu appears on the TV screen.



AUDIO CD Menu



MP3 CD Menu

2 Use ▲ / ▼ to select a track, then press PLAY (▶).


Playback starts.

During playback, the current track's elapsed playing time will appear on the display window and menu.

Playback will stop at the end of the disc.



tips

- On the MP3 CD menu, you can display the folders on the disc. Use ▲ / ▼ / ◀ / ▶ to select the “Folder” icon on the MP3 CD menu, then press ENTER twice. You can only display tracks in the folders. Use ▲ / ▼ / ◀ / ▶ to select a folder, then press ENTER.
- On a mixed CD with audio titles and MP3 files, you can switch the AUDIO CD menu and the MP3 CD menu by pressing the TITLE button repeatedly in STOP mode.
- If you select a track and press DISPLAY, the file information is displayed. If you select a folder and press DISPLAY, the number of subfolders and MP3 files in the folder are displayed.
- If you are in a file list on the MP3 menu and want to return to the Folder list, use ▲/▼ to highlight  and press ENTER to return to the previous menu screen.
- You can view TV channel or video input source by pressing RETURN. If you want to return to the MP3 or AUDIO CD menu, press DISC MENU/LIST.

3 To stop playback at any time, press STOP (■).

Notes on MP3 Recordings

About MP3

- An MP3 file is compressed audio data using the MPEG1 audio layer-3 file-coding scheme. We call files that have the “.mp3” file extension “MP3 files”.
- The VCR/DVD Recorder cannot read an MP3 file that has a file extension other than “.mp3”.

MP3 Disc compatibility with this recorder is limited as follows:

1. CD-R/RW physical format should be “ISO 9660” and “JOLIET”.
2. If you record MP3 files using software which cannot create a FILE SYSTEM (e.g., “Direct-CD” etc.), then you cannot playback MP3 files. We recommend that you use “Easy-CD Creator”, which creates an ISO9660 or JOLIET file system.
3. The total number of files and folders on the disc are free but the total number of files and folders on the folder should be less than 1999.

This VCR/DVD Recorder requires discs/recordings to meet certain technical standards in order to achieve optimal playback quality. Pre-recorded DVDs are automatically set to these standards. There are many different types of recordable disc formats (including CD-R containing MP3 files) that require certain pre-existing conditions (see above) to insure compatible playback.

Customers should also note that permission is required in order to download MP3 files and music from the Internet. SANYO has no right to grant such permission. Permission should always be sought from the copyright owner.

Audio CD and MP3 Operations (Continued)

Pause **CD** **MP3**

- 1 Press PAUSE/STILL during playback.
- 2 To return to playback, press PAUSE/STILL again.

Moving to Another Track **CD** **MP3**

- Press SKIP (◀◀ / ▶▶) briefly during playback to go to the next track or to return to the beginning of the current track.
- Press SKIP (◀◀) twice briefly to go to the previous track.
- On an Audio CD, to go directly to any track, enter the track number using the number buttons (0-9) during playback.

Repeat **CD** **MP3**

Press REPEAT to select a desired repeat mode.

- Audio CD
 - TRACK: repeats the current track.
 - ALL: repeats all the tracks on a disc.
 - OFF (no display) : no repeat play.
- MP3 Disc
 - TRACK: repeats the current track.
 - FOLDER: repeats all the tracks on a current folder.
 - OFF (no display) : no repeat play.

Random **CD** **MP3**

- 1 Press RANDOM during playback or when playback has stopped.
The VCR/DVD Recorder automatically begins Random Playback and RANDOM appears on the left side of menu screen.
- 2 To return to normal playback, press RANDOM again, then RANDOM disappears from the menu screen.

Search **CD**

- 1 Press REW (◀◀) or FF (▶▶) during playback.
The recorder will enter SEARCH mode.
- 2 Press REW or FF to select the required speed:
◀◀X2, ◀◀X4, ◀◀X8 (backward), or ▶▶X2, ▶▶X4, ▶▶X8 (forward).
Search speed and direction are indicated on the menu screen.
- 3 To exit SEARCH mode, press PLAY.

Repeat A-B **CD**

To repeat a sequence in a title:

- 1 Press A-B at your chosen start point.
The Repeat icon and "A-" appear on the menu screen.
- 2 Press A-B again at your chosen end point.
The Repeat icon and "A - B" appear on the left side of menu screen and the repeat sequence begins.
- 3 To exit the sequence and return to normal play, press A-B again.
The Repeat icon disappears from the menu screen.

PLAYBACK



Need help? Call
1-800-813-3435

Programmed Playback with Audio CD and MP3

The Program function enables you to store your favorite tracks from any disc in the recorder memory. Programs can contain 99 tracks (Audio CD) or 256 tracks (MP3).

1 Insert an Audio CD or MP3 disc.

The Audio CD or MP3 CD menu will appear.

2 Use ▲ / ▼ to select a track or folder on the List, then press ENTER.

The options appear on the left side of the menu.

Note

- Press and hold ▼ to quickly move to the following tracks or folders.
- Press and hold ▲ to quickly move to the preceding tracks or folders.

3 Use ▲ / ▼ to highlight the "Program Add" icon then press ENTER.

The selected track is added to the Program List.

4 Repeat steps 2-3 to place additional tracks on the Program list.

Tip

You can add multiple tracks from the List to the Program List.

1. Select a track then press MARKER.
2. Repeat step 1 to mark additional tracks.
3. Select any track then press ENTER.
The options appear on the left side of the menu.
4. Use ▲ / ▼ to highlight the "Program Add" icon, then press ENTER.
All the marked tracks are added to the Program List.

Notes

- By using CLEAR, you can select all tracks, or cancel all marked tracks.
- If you select a folder for Programmed Playback, all the tracks in the folder are added to the program list.

5 Use ► to move the tracks to the Program list.

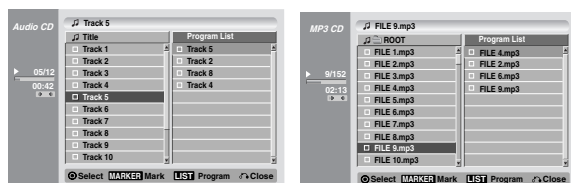
The programmed track you selected last is highlighted on the program list.

6 Use ▲ / ▼ to select the track you want to start playing.

7 Press PLAY to start.

Playback begins in the order in which you programmed the tracks and the "PRG" indicator appears on the display window.

Playback stops after playing the last programmed track on the program list.



8 To resume normal playback from programmed playback, select a track on the List and press PLAY.

The "PRG" indicator disappears from the display window.

Repeat Programmed Tracks

Press REPEAT to select a desired repeat mode.

- TRACK : repeats the current track.
- ALL : repeats all the Programmed tracks.
- OFF (no display) : no repeat play

Erasing a Track from the Program List

- 1 Select the track you want to erase from the Program List and press ENTER.
The options appear on the left side of the menu.
- 2 Select the Delete icon and press ENTER.
The selected track is deleted on the Program List.
- 3 Repeat steps 1-2 to delete additional tracks on the Program List.

Erasing multiple tracks from the Program List

1. Select a track on the Program List and press MARKER.
2. Repeat step 1 to mark additional tracks.
3. Select any track and press ENTER.
The options appear on the left side of the menu.
4. Use ▲ / ▼ to highlight the "Delete" icon and press ENTER.
All the marked tracks are deleted from the Program List.

Changing the order of the Program List

- 1 Select the track you wish to move on the Program List then press ENTER.
The options appear on the left side of the menu.
- 2 Select Move then press ENTER.
A yellow bar appears in the Program List.
- 3 Use ▲/▼ to move the yellow bar to the desired location, then press ENTER.
The selected track is moved.
- 4 If you wish to move other tracks repeat stages 1 - 3.

Tip

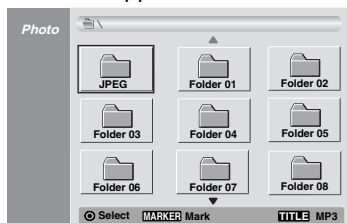
Use MARKER to move multiple tracks.

Photo Disc Operations

Viewing a Photo Disc **JPEG**

This VCR/DVD Recorder can play discs with JPEG files. Before playing JPEG files, read the notes on JPEG files at right.

- 1 Insert a disc and close the tray.**
The Photo menu appears on the TV screen.



- 2 Use ▲ / ▼ / ◀ / ▶ to select a folder and press ENTER.**
The Open icon is highlighted on the left side of the menu.

- 3 Press ENTER.**
A list of files in the folder appears.



Note

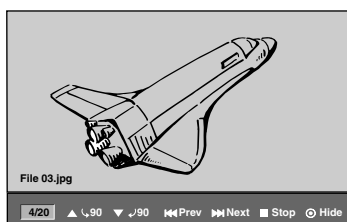
If the icon displays in a JPEG file list, it means you cannot see those JPEG files.

- 4 Use ▲ / ▼ / ◀ / ▶ to select a file and press ENTER.**
The options appears on the left side of the menu.

Tip

If you are in a file list and want to return to the Folder list, use the ▲ / ▼ buttons on the remote to highlight the icon and press ENTER.

- 5 Use ▲ / ▼ to select the Full Screen option then press ENTER.**



- 6 To stop viewing at any time, press STOP or RETURN (↵).**
The Photo menu appears.

Selecting other Files

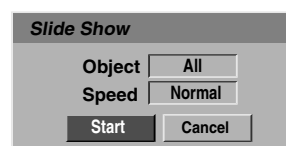
While viewing a picture, press SKIP (◀◀/▶▶) or ◀ / ▶ once to advance to the next file or return to the previous file.

To rotate the picture

Use ▲ / ▼ while showing a picture to flip the picture clockwise or counterclockwise.

To view Slide Show

- Select the Slide Show option on the menu.
- Press ENTER.
The Slide Show menu appears.



- Use ▲ / ▼ / ◀ / ▶ to set the options.
Object: All files or a Selected file.
Speed: Selects Slide Show speed (Slow, Normal, Fast).
- Select START, then press ENTER to start Slide Show.

Note

Use the MARKER button to select multiple files.

Notes on JPEG Files

- Depending on the size and number of the JPEG files, it could take a long time for the DVD player to read the disc's content. If you don't see an on-screen display after several minutes, some of the files are too big — reduce the resolution of the JPEG files to less than 4 mega pixels and burn another disc.
- The total number of files and folders on the disc are free but the total number of files and folders on the folder should be less than 1999.
- Some discs may be incompatible due to different recording formats or the condition of the disc.
- When you are using software such as "Easy CD Creator" to burn jpeg files on a CD-R, ensure that all the selected files have the ".jpg" extension before copying onto the CD.
- If the files have ".jpe" or ".jpeg" extensions, rename them as ".jpg" files.
- File names without the ".jpg" extension will not be read by this VCR/DVD Recorder, even if the files are shown as JPEG image files in Windows Explorer.
- On a mixed CD with audio titles, MP3 files, and JPEG files, you can switch the AUDIO CD menu, MP3 CD menu, and Photo CD menu by pressing the TITLE button repeatedly in STOP mode.


VCR Mode Tape Playback

Preparation

- Before using the remote control, press the **VCR** button to select the device to be operated.
- Turn the TV on and select the video input source connected to the VCR/DVD Recorder.
- Audio system: Turn the audio system on and select the input source connected to the VCR/DVD Recorder.

Normal Playback **VHS**

1 Insert a prerecorded video cassette.

The  indicator will light and the VCR/DVD Recorder will power-up automatically.

- Make sure that the **TIMER** indicator in the display window is not lit. If it is, press **POWER** once.
- If a tape without a safety tab is inserted, the unit will start playback automatically.

2 Press **PLAY** (▶) once.

PLAY icon appears on the TV screen.

- It is not necessary to select the tape speed for playback. It will be automatically selected by the VCR/DVD Recorder.
- In playback, the **TV/VCR** selector switches to **VCR** mode automatically.

3 Press **STOP** (■) to stop playback.

STOP icon appears on the TV screen.

If the tape reaches the end before **STOP** (■) is pressed, the VCR/DVD Recorder will automatically stop, rewind, eject the tape, and turn itself off.

Note

Closed-Captioned signal is not output even if the VCR/DVD Recorder plays tapes with Closed Caption (CC).

Tracking Control **VHS**

Auto Tracking

The automatic tracking function adjusts the picture to remove snow or streaks.

The **AUTO TRACKING** function works in the following cases:

- A tape is played back for the first time.
- Tape speed (SP, LP, SLP) changes.
- Streaks or snow appear because of scratches on the tape.

Manual Tracking

If noise appears on the screen during playback, press either **CH/TRK** (▲/▼) on the remote control or **CHANNEL** (▲/▼) on the front panel until the noise on the screen is reduced.

- In case of vertical jitter, adjust these controls very carefully.
- Tracking is automatically reset to normal when the tape is ejected or the power cord is unplugged for more than 3 seconds.

Special Effects Playback **VHS**

Note on Special effects playback

- Horizontal lines (noise bars) may appear on the TV screen during special effects. This is normal.
- The audio is automatically muted during special effect modes, so there is no sound during search.
- During the high-speed picture search modes, a short time is needed to stabilize tape speed when re-entering the **PLAY** mode. Slight interference may be observed during this time.

Search

This function lets you quickly and visually search for a desired tape section in either direction: forward and reverse.

1 Press **REW** (◀◀) or **FF** (▶▶) during playback.

The VCR/DVD Recorder will enter **SEARCH** mode.

- If the VCR/DVD Recorder is left in the **SEARCH** mode for more than 3 minutes, the VCR/DVD Recorder will automatically enter the **PLAY** mode to protect the tape and video heads.

2 To return to playback, press **PLAY** (▶).

Still Picture and Frame-by-Frame Playback

1 Press **PAUSE/STILL** (||) during playback.

A still picture appears on the TV screen.

- If a still picture vibrates vertically, stabilize it by using **CH/TRK** (▲/▼) on the remote control.
- If the VCR/DVD Recorder is left in the **STILL** mode for more than 5 minutes, the VCR/DVD Recorder will automatically enter the **STOP** mode to protect the tape and video heads.

2 Press **PAUSE/STILL** (||) repeatedly to advance the video picture one frame at a time while viewing still pictures.

3 To return to playback, press **PLAY** (▶).

Slow Motion

1 While in still mode, press **FF** (▶▶).

The tape will be played back at a speed 1/19 times slower than the normal speed.

- During slow playback, use **CH/TRK** (▲/▼) on the Remote Control to minimize noise bands.
- If slow motion mode continues for more than 3 minutes, the VCR/DVD Recorder will automatically change to normal play mode.

2 To return to playback, press **PLAY** (▶).

Counter Memory Function

This is useful if there is a section of tape you want to view immediately after recording or if you want to return to the same point several times.

1 Begin recording or playing a tape.

2 Press **DISPLAY** repeatedly to display the real-time counter on the TV screen.

3 At the point you want to locate later, reset the real-time counter to 0:00:00 by pressing **CLEAR**.

Continue to play or record.

4 Press **STOP** when recording or playback finishes.

5 Press **RETURN** (↺).

The tape automatically stops when the tape counter returns to about "0:00:00".

Basic Recording

Basic Recording from a TV

Follow the instructions below to record a TV program. Recording starts immediately and continues until the disc or tape is full or you stop the recording.

- 1 Switch on the VCR/DVD Recorder, select the device (VCR or DVD) for Recording and load a recordable disc or tape.**

Also make sure that the TV input is set to this VCR/DVD Recorder. If you load a completely blank DVD-RW disc, the Disc initialize menu will appear. Select a desired Recording Mode to initialize the disc (See page 24).

- 2 Set a recording mode as necessary by pressing REC MODE repeatedly.**

DVD: SP (Standard quality), LP (Low quality), XP(High quality)

VCR: SP (Standard Play), SLP (Super Long Play)

- 3 Use CHANNEL (▲/▼) on the front panel or CH/TRK(▲/▼) on the remote control to select the TV channel to record.**

- 4 Use AUDIO to select the audio channel to record.**

The table below shows what will be recorded on the different settings for different types of broadcast. The last column (Monitor Audio) shows what you'll hear as it is recording.

- If you set the audio channel to SAP, but there is no SAP channel being broadcast, the main audio (mono or stereo) will be recorded.

TV Broadcast	Selected Audio	Broadcast Audio		Monitor Audio
		L Ch	R Ch	
MONO	MONO	MONO	MONO	MONO
STEREO	STEREO	L	R	STEREO
	Left	L	L	Left
	Right	R	R	Right
	MONO	MONO	MONO	MONO
MONO+SAP	MONO	MONO	MONO	MONO
	SAP	SAP	SAP	SAP
STEREO+SAP	STEREO	L	R	STEREO
	SAP	SAP	SAP	SAP
	MONO	MONO	MONO	MONO

- 5 Press REC (●) once.**

Recording will start. (The REC indicator lights in the display window.)

- Recording continues until you press STOP (■) or the disc (or tape) is full.
- To record for a fixed length of time, see Instant Timer Recording on right.

- 6 Press STOP (■) to stop recording.**

Note

- The maximum DVD recordings (titles) is 99.
- If the VCR/DVD Recorder is powered off during DVD recording, the recording will not be saved.

Instant Timer Recording

Instant Timer Recording allows you to easily make a recording of a preset length without using the program timer.

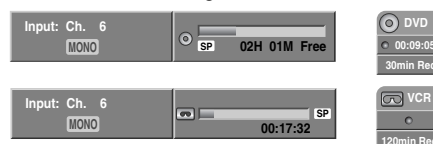
- 1 Follow steps 1-4 as shown on the left (Basic Recording from a TV).**

- 2 Press REC (●) repeatedly to select the recording time length.**

Recording starts after the first press.

DVD: Each subsequent press increases the recording time by 10 minutes (maximum 240 minutes) within free space.

VCR: Each subsequent press increases the recording time by 30 minutes (maximum 540 minutes). Please confirm the VHS tape has enough remaining time to be recorded before recording.



Instant Timer Record Menu

Checking the Recording Time

Press REC (●) or DISPLAY once to check the recording time. The recalled setting will automatically return to the TV screen for a moment.

To Extend the Recording Time

The recording time can be extended anytime by pressing REC (●).

Each subsequent press increases the recording time by 10 minutes (DVD) or 30 minutes (VCR), depending on free space.

To Pause the Recording

- Press PAUSE/STILL (||) to pause the disc during recording.
- When you want to continue recording, press PAUSE/STILL (||) or REC (●).

Note

- If you press PAUSE/STILL (||) during the Instant Timer Recording, it will be canceled.
- The VCR/DVD Recorder will automatically power off when the Instant Timer Recording ends.

To record one TV program while watching another

- Press TV/VCR to select the TV mode during recording. The TV indicator appears.
- Using the TV, select the channel to be viewed.

Tips (VCR mode only)

Always use PAUSE/STILL (||) for best results when making changes during recording.

For example: To change channels during recording, first press PAUSE/STILL (||) to put the VCR/DVD Recorder in pause mode, then select the desired channel on the VCR/DVD Recorder and press PAUSE/STILL (||) again to resume recording.

Basic Recording

Copying from DVD to VCR

This unit allows you to copy the contents of a DVD (or disc,) to a VHS tape using EASY DUB button.

Note

If the DVD (or disc,) is copy protected, you will not be able to copy the disc. It is not permitted to copy Macrovision encoded DVDs (or discs). "Copy-protected. Cannot record." is displayed on the TV screen.

1 Insert a Disc.

Insert the disc you wish to copy in the DVD deck and close the disc tray.

2 Insert a VHS Tape.

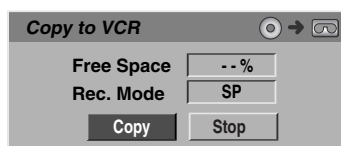
Insert a blank VHS video tape into the VCR deck.

3 Select DVD mode by pressing DVD on the remote control or pressing DVD/VCR on the front panel.

4 Find the place on the DVD (or Disc) from which you want to start recording using the PLAY and PAUSE functions.

5 Press the EASY DUB button on the remote control or on the front panel.

The Copy to VCR menu appears.



6 Use ▲ / ▼ / ◀ / ▶ to select the desired Record Mode (SP (Standard Play), SLP (Super Long Play, 3 times SP)).

7 Select Copy then press ENTER or EASY DUB to start copying.

Tip

If you press PAUSE during Copy mode, both the DVD and VCR decks go into Pause mode and the "COPY" indicator blinks on the front panel display. While in Pause mode, you can adjust the DVD playback position using PLAY, REW, FF, PAUSE/STILL, etc. The VCR deck will remain in Pause mode. To resume copying, press the EASY DUB button twice.

8 Stop the Copy Process

To stop copying at any other time, press STOP (■). You must stop the Copy process manually when the DVD movie ends, or the unit may replay and record over and over again.

Copying from VCR to DVD

This unit allows you to copy the contents of a VHS to a DVD-R or a DVD-RW using the EASY DUB button.

Note

If the VHS video tape is copy protected, you will not be able to copy the tape. It is not permitted to copy Macrovision encoded tapes.

1 Insert a VHS Tape.

Insert a VHS video tape you wish to copy into the VCR deck.

2 Insert a DVD-R or DVD-RW disc.

Insert a blank DVD-R or DVD-RW disc in the DVD deck and close the disc tray.

Note

When using a new DVD-RW disc, you must initialize it before copying (See page 24).

3 Select VCR mode by pressing VCR on the remote control or pressing DVD/VCR on the front panel.

4 Find the place on the VHS tape from which you want to start recording using the PLAY, FF, REW and PAUSE functions.

For best results, pause playback at the point from which you want to record.

5 Press the EASY DUB button on the remote control or on the front panel.

The Copy to DVD menu appears.



6 Use ▲ / ▼ / ◀ / ▶ to select the desired Record Mode (LP (Low Quality), SP (Standard Quality), XP (High Quality)).

7 Select Copy then press ENTER or EASY DUB to start copying.

Tip

If you press PAUSE during Copy mode, both the DVD and VCR decks go into Pause mode and the "COPY" indicator blinks on the front panel display. While in Pause mode, you can adjust the VCR playback position using PLAY, REW, FF, PAUSE/STILL, etc. The DVD deck will remain in Pause mode. To resume copying, press the EASY DUB button twice.

8 Stop the Copy Process

To stop copying at any other time, press STOP (■). Copying will stop automatically when the VHS tape ends. Subsequently the VCR/DVD Recorder will rewind the tape and eject it, then the VCR/DVD Recorder will be turned off.

Note

- The VCR/DVD Recorder cannot be turned off while copying to VCR or DVD.
- When the Copy process is stopped using PAUSE/STILL (■), pressing the PAUSE/STILL (■) button does not resume the Copy process.

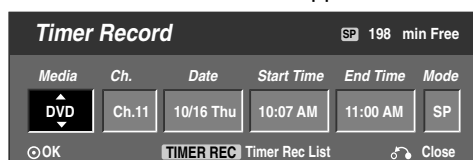
Timer Recording

This VCR/DVD Recorder can be programmed to record up to 8 programs within a period of 1 month. For unattended recording, the timer needs to know the channels to be recorded, the starting time and length.

PLEASE NOTE ! before setting the timer make sure that you have set the VCR/DVD Recorder clock correctly.

1 Press **TIMER REC.**

The Timer Record menu will appear.



- **Media** – Choose a media (DVD or VCR).
- **Ch.** – Choose a channel (2-69 or 1-125 for antenna or cable channels respectively, excluding skip channels), or one of the external inputs from which to record (AV1 or AV2 (AV INPUT)).
- **Date** – Choose a date up to 1 month in advance, or select a daily or weekly program.
- **Start Time** – Set the recording start time.
- **End Time** – Set the recording end time.
- **Mode** – Choose a record mode.
DVD: SP, LP, XP, or AT (Auto)
VCR: SP, SLP, or AT (Auto)
AUTO mode determines how much time is available on the disc or tape and switches the record mode, if necessary, to complete recording the program.

2 Enter the necessary information for your timer recording(s).

- ◀ / ▶ (left/right) – moves the cursor left/right
- ▲ / ▼ (up/down) – Changes the setting of the current cursor position
- Press RETURN (↵) to exit the Timer Record menu.
- Press ENTER after filling in all the program information.
- Press **TIMER REC** to display the Timer Record List.

3 Press **ENTER**, the program will be memorized by the VCR/DVD Recorder.

To check the programming, the Timer Record List will appear.

4 Press RETURN (↵) to exit the Timer Record List.

5 Make sure that you load a recordable disc.

Notes

- The Timer indicator lights on the front panel display.
- If the Disc and Tape indicator are blinking, either no disc or tape is loaded, or the loaded disc is not recordable.
- The VCR/DVD Recorder will record the audio according to the current TV tuner setting (Stereo, Mono or SAP). Use the AUDIO button to set the audio before switching the VCR/DVD Recorder to Standby mode.
- You must press STOP to stop the Timer Recording.
- The VCR/DVD Recorder will automatically power off when the Timer Recording ends.
- There is a short delay when a timer recording finishes to confirm the recorded program. If two timer recordings are set to record sequentially (one right after the other), the very beginning of the later program may not be recorded (DVD only).

Checking Timer Recording Details

Programming can be checked whenever the VCR/DVD Recorder is turned on. Press **TIMER REC** twice.

- Use ▲ / ▼ to select a timer recording.
- Press **ENTER** to edit the selected program. The Timer Record menu appears.
- Press **CLEAR** to delete the selected program from the Timer Record List.



Canceling a Timer Recording

You can clear a timer setting anytime before the recording actually starts.

- Use ▲ / ▼ to select a program you want to erase on the Timer Recorder List. If you want to erase the program, press **CLEAR**.

Stopping a Timer Recording in Progress

After a timer recording has started, you can still cancel the program.

- Press **STOP**.

Timer Recording Troubleshooting

Even though the timer is set, the recorder will not record when:

- There is no disc (or tape) loaded.
- A non-recordable disc (or tape) is loaded.
- Disc Protect is set to ON in the Disc menu (see page 25).
- There are already 99 titles recorded on the disc.
- When playing DVD or Tape. (The unit sets stop mode or power off mode only).

You cannot enter a timer program when:

- A recording is already underway.
- The time you are trying to set has already passed.
- There are already 8 timer programs set.

If two or more timer programs overlap:

- The earlier program takes priority.
- When the earlier program finishes, recording of the later program starts.
- If two programs are set to start at exactly the same time, the program entered first takes priority.

Confirmation is not possible when:

- Disc Protect setting is set to ON.
- There are already 99 titles recorded on the disc.

If the disc is damaged, the recording may not complete successfully. In this case even if the Check field shows "Rec. OK", it may not be so.

Recording from an External Input

Recording from External Components

You can record from an external component, such as a camcorder or VCR connected to any of the recorder's external inputs.

- 1 Make sure that the component you want to record from is connected properly to the VCR/DVD Recorder. See page 17.**
- 2 Press INPUT repeatedly to select the external input to record from.**
 - AV1: Audio/Video Input on back panel
 - AV2 (AV INPUT): Audio/Video Input on front panel
 - DV: DV Input on front panel

Note

Check that the Audio In settings for DV Record Audio are set appropriately. See page 24.

- 3 Load a recordable disc or tape.**
- 4 Set a recording mode by pressing REC MODE repeatedly.**
 - DVD: SP (Standard quality), LP (Low quality), XP(High quality)
 - VCR: SP (Standard Play), SLP (Super Long Play)
- 5 Press REC (●) once.**

Recording will start. (The REC indicator lights in the display window.)

 - Recording continues until you press STOP (■) or the disc (or tape) is full.
 - To record for a fixed length of time, see Instant Timer Recording on page 39.
- 6 Press STOP (■) to stop recording.**

Note

If your source is copy-protected using Copy Guard, you will not be able to record it using this VCR/DVD Recorder. See Copyright on page 8 for more details.

Recording from a Digital Camcorder

You can record from a digital camcorder connected to the DV IN jack on the front panel of this VCR/DVD Recorder. You can use the VCR/DVD Recorder's remote control to control both the camcorder and the VCR/DVD Recorder.

Before recording, make sure that the audio input for the DV IN jack is set up (see page 24).

Tips

- The source signal must be DVC-SD format.
- Some camcorders cannot be controlled using this VCR/DVD Recorder's remote control.
- If you connect a second VCR/DVD Recorder using a DV cable, you cannot control the second DVD from this one.
- You cannot control this VCR/DVD Recorder remotely from a component connected to the DV IN jack.
- You cannot record date and time information from a DV cassette.

- 1 Make sure your digital camcorder is connected to DV IN jack on the front panel. See page 17.**
- 2 Check that the DV audio input is set appropriately.**

You can choose Audio 1 (original audio) or Audio 2 (over-dubbed audio).

- The DV Input is set in DV Record Audio of the General menu. See DV Record Audio on page 24 for more information.

- 3 Press INPUT repeatedly to select the DV input.**

DV appears in the display window.

- 4 Find the place on the camcorder tape that you want the recording to start from.**

For best results, pause playback at the point from which you want to record.

- Depending on your camcorder, you can use this VCR/DVD Recorder's remote control to control the camcorder using the STOP, PLAY, and PAUSE functions.

- 5 Press REC (●) once to start recording.**

- Recording is automatically stopped if the recorder detects no signal.
- You can pause or stop the recording by pressing PAUSE/STILL (||) or STOP (■). You cannot control the camcorder from this remote control during recording.
- In Video mode, the final frame of the recording may remain displayed on the screen for a few moments after recording stops.

Playing Recordings on Other DVD Players

Most regular DVD players can play finalized discs recorded in Video mode. A few players can also play DVD-RW discs recorded in VR mode, finalized or not. Check the manual that came with the other player to check what kinds of discs it will play.

Finalizing a Disc

Finalizing "fixes" the recordings in place so that the disc can be played on a regular DVD player or computer equipped with a suitable DVD-ROM drive. Finalizing a Video mode disc creates a menu screen for navigating the disc. This is accessed by pressing DISC MENU/LIST or TITLE. **To finalize a disc, refer to "DISC Finalize" on page 25.**

Recording from an External Input (Continued)

What is DV?

Using DV, also known as i.LINK, you can connect a DV-equipped camcorder to this VCR/DVD Recorder using a single DV cable for input and output of audio, video, data, and control signals. The i.LINK interface is also known as IEEE 1394-1995. "i.LINK" and the "i.LINK" logo are trademarks.

- This VCR/DVD Recorder is only compatible with DV-format (DVC-SD) camcorders. Digital satellite tuners and Digital VHS video recorders are not compatible.
- You cannot connect more than one DV camcorder at a time to this VCR/DVD Recorder.
- You cannot control this VCR/DVD Recorder from external equipment connected via the DV IN jack (including two DVD Recorders).
- It may not always be possible to control the connected camcorder via the DV IN jack.
- Digital camcorders can usually record audio as stereo 16-bit/48kHz, or twin stereo tracks of 12-bit/32kHz. This VCR/DVD Recorder can only record one stereo audio track. Set DV Record Audio to Audio 1 or Audio 2 as necessary (see page 24).
- Audio input to the DV IN jack should be 32 or 48kHz (not 44.1kHz).
- Picture disturbance on the recording may occur if the source component pauses playback or plays an unrecorded section of tape, or if the power fails in the source component, or the DV cable becomes disconnected.
- If DV Rec Audio is set to Audio 2, but no Audio 2 signal is present, DV Audio will be reset to Audio 1 automatically.

DV-Related Messages

You may see the following messages appear on your TV screen when using the DV IN jack.

Camcorder not connected

The camcorder is not connected properly, or the camcorder is switched off.

Too many devices connected

The DV IN jack on this VCR/DVD Recorder supports connection to just one camcorder.

Check tape

There is no cassette loaded into the connected equipment.

Uncontrollable device

This VCR/DVD Recorder cannot control the camcorder.

Updating device information

Camcorder is updating information for DV.

Camera Mode

Camcorder is set to camera mode.

Troubleshooting

If you cannot get a picture and/or audio through the DV IN jack, check the following:

- Make sure the DV cable is properly connected.
- Try switching off the connected equipment, then switching it back on.
- Try switching the audio input.

Note

Depending on the connected camcorder, you may not be able to control it using the remote control supplied with this VCR/DVD Recorder.



**Need help? Call
1-800-813-3435**

VR Mode: Original and Playlist Editing

When you edit Original content, the actual content of the disc is changed. For example, if you delete a title or chapter of Original content, that title or chapter is deleted from the disc. Consequently, extra recording time is created.

When you edit a Playlist, on the other hand, you are not actually changing the content of the disc. For example, when you delete a title from a Playlist, you are just telling the VCR/DVD Recorder not to play that title; nothing is actually deleted from the disc.

Titles, Chapters, and Parts **DVD-RW VR**

Titles in the disc's original content contain one or more chapters. When you insert a title into the Playlist, all the chapters within that title also appear. In other words, chapters in the Playlist behave exactly as chapters on a DVD-Video disc do. Parts are sections of Original or Playlist titles. From the Original and Playlist menu you can add or delete parts. Adding a chapter or title to the Playlist creates a new title made up of a section (i.e., chapter) of an Original title. Deleting a part removes part of a title from the Original or Playlist menu.

Caution

- When editing using the Delete, Add, and Move functions, the start and end frames may not be exactly as set in the start and end point display.
- During Playlist playback, you may notice a momentary pause between edits. This is not a malfunction.
- It takes some time to record edited effects in a disc. So these effects may not be recorded if the power supply is cut off just after editing operations (e.g. copy, deleting contents, rename, or moving playlist, etc.).



**Need help? Call
1-800-813-3435**

Adding Chapter Markers **DVD-RW VR**



You can put a chapter marker anywhere in a Playlist or Original title during recording or playback.

Once the chapter is marked, you can use the Chapter Search feature. You can also Erase, combine, and move chapters in the Original-Chapter or Playlist-Chapter menu.

You can insert up to 999 chapter markers in both the Original and Playlist contents.

1 Play the title (Original or Playlist).

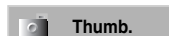
2 At the point you want to start a new chapter, press **CHP ADD**.

A chapter marker icon appears on the TV screen.

- You can also put chapter markers in during recording.

Changing Title or Chapter Thumbnails

DVD-RW VR



Each title and chapter displayed in the Original or Playlist menu is represented by a thumbnail picture taken from the start of that title or chapter.

If you prefer, select a different still picture from within a title.

1 Play the title (Original or Playlist).

2 Press **THUMBNAIL** to make the currently displayed picture the one that appears in the Original or Playlist menu.

The still picture that you choose appears in both the Original and Playlist Menus.



You can also change the thumbnail picture of the title on the Original-Chapter or Playlist-Chapter menu. Select a chapter on the Original-Chapter or Playlist-Chapter menu then press **THUMBNAIL**. The thumbnail picture of the title that includes the chapter is changed.

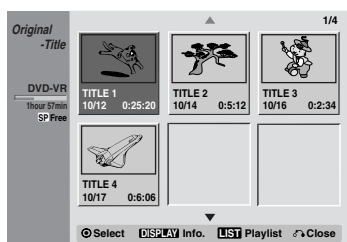
VR Mode: Original and Playlist Editing (Continued)

Using the Original-Title Menu DVD-RW VR

The Original-Title is where you build and edit your Playlist, and where you can delete titles and make other changes to the Original content of the disc. You can also play individual titles directly from the Original-Title menu.

1 Press DISC MENU/LIST repeatedly to display the Original-Title menu.

- Use the **▲ / ▼** buttons to display the previous/next page if there are more than 6 titles.
- To exit the Original-Title menu, press RETURN (↵).



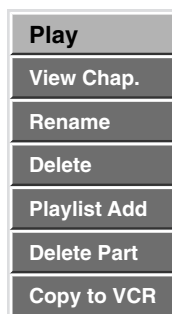
Note

To switch between the Original (Title) and Playlist (Title) menu, press DISC MENU/LIST repeatedly. The Original and Playlist heading at the top of the screen indicate which mode you are in.

2 To view Original-Title options, select the title you want then press ENTER.

Original-Title options appear on the left side of the display.

3 Use ▲ / ▼ to select an option then press ENTER to confirm.



Play: Starts playback of the selected title.

View Chap.: Shows the Original-Chapter menu of the title (refer to right on this page).

Rename: Edits the title name (page 47).

Delete: Deletes the title from the Original-Title menu (page 47).

Playlist Add: Adds the title to the Playlist (page 48).

Delete Part: Deletes a part of the Title (page 50).

Copy to VCR: Copies the title to a VHS tape (page 40).

4 Press RETURN (↵) repeatedly to exit Original-Title menu.

Tip

Press DISPLAY to display more detailed information on the selected title.

Using the Original-Chapter Menu DVD-RW VR

DVD-RW VR

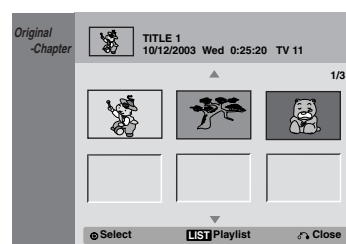
1 Press DISC MENU/LIST repeatedly to display the Original-Title menu.

2 Use ▲ / ▼ / ◀ / ▶ to choose the title you want to view, then press ENTER.

Original-Title options appear on the left side of the menu.

3 Use ▲ / ▼ to select "View Chap." from Original-Title options, then press ENTER.

The original-Chapter menu appears on the TV screen.



4 To view Original-Chapter options, select the chapter you want then press ENTER.

Original-Chapter options appear on the left side of the menu.

5 Use ▲ / ▼ to select an option then press ENTER to confirm.



Play: Starts playback of the selected chapter.

View Title: Shows the selected Title from the Original-Title menu (refer to left on this page).

Delete: Deletes the chapter from the Original-Chapter menu. (page 47)

Merge: Merges two chapters into one (page 49).

Playlist Add: Adds the chapter to the Playlist (page 48).

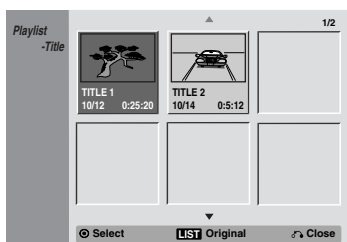
6 Press RETURN (↵) repeatedly to exit Original-Chapter menu.

VR Mode: Original and Playlist Editing (Continued)

Using the Playlist-Title Menu

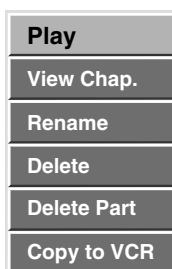
DVD-RW VR

- 1 Press DISC MENU/LIST repeatedly to display the Playlist-Title menu.
 - Use the ▲/▼ buttons to display the previous/next page if there are more than 6 titles or chapters.
 - To exit the Playlist-Title, press RETURN (↵).



- 2 To view Playlist-Title options, select the title you want then press ENTER. Playlist-Title options appear on the left side of the menu.

- 3 Use ▲ / ▼ to select an option then press ENTER to confirm.



Play: Starts playback of the selected title.

View Chap.: Shows the Playlist-Chapter menu of the title (refer to right on this page).

Rename: Edits the title name (page 47).

Delete: Deletes the title from the Playlist-Title menu (page 47).

Delete Part: Deletes a part of the Title (page 50).

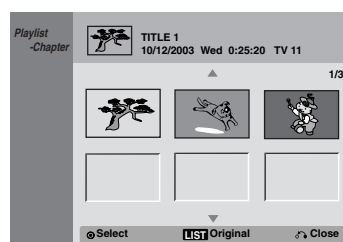
Copy to VCR: Copies the title to a VHS tape. (page 40)

- 4 Press RETURN (↵) repeatedly to exit Playlist-Title menu.

Using the Playlist-Chapter Menu

DVD-RW VR

- 1 Press DISC MENU/LIST repeatedly to display the Playlist-Title menu.
- 2 Use ▲ / ▼ / ◀ / ▶ to choose the title you want to view from the Playlist-title menu, then press ENTER. Playlist-Title options appear on the left side of the menu.
- 3 Use ▲ / ▼ to select “View Chap.” from the Playlist-Title options, then press ENTER. The Playlist-Chapter menu appears on the TV screen.



- 4 To view Playlist-Chapter options, select the chapter you want and press ENTER. Playlist-Chapter options appear on the left side of the Playlist-Chapter menu.

- 5 Use ▲ / ▼ to select an option, then press ENTER to confirm.



Play: Starts playback of the selected chapter.

View Title: Shows the Playlist-Title menu (refer to left on this page).

Delete: Deletes the chapter from the Playlist-Chapter menu (page 47).

Move: Moves a chapter to a new position with a title (page 49).

Merge: Merges two chapters into one (page 49).

- 6 Press RETURN (↵) repeatedly to exit Playlist-Chapter menu.



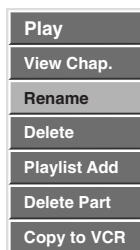
**Need help? Call
1-800-813-3435**

VR Mode: Original and Playlist Editing (Continued)

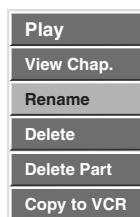
Naming a Title **DVD-RW VR**

You can name Original and Playlist titles independently. Names can be up to 32 characters long.

- 1 Press **DISC MENU/LIST** repeatedly to display **Original-Title** or **Playlist-Title** menu.
- 2 Use **▲ / ▼ / ◀ / ▶** to choose the title you want to name and press **ENTER**.
Options appears on the left side of the menu.



Original-Title



Playlist-Title

- 3 Use **▲ / ▼** to select **"Rename"** option, then press **ENTER**.
The Keyboard menu appears.



- 4 Enter a name for the title. Use **▲ / ▼ / ◀ / ▶** to select a character, then press **ENTER** to confirm your selection. Refer to step 5 as shown on page 26 (Disc Name).
- 5 Choose **OK** and press **ENTER** to fix the name and return to the previous menu screen.
- 6 Press **RETURN** (↵) repeatedly to exit the menu.

Note

For discs formatted on a different DVD Recorder, you will see only a limited character set.

Deleting an Original or Playlist

Title/Chapter **DVD-RW VR**

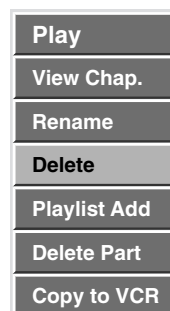
When you erase a title or chapter from the Playlist menu, you only remove it from the Playlist; the title/chapter remains in the Original menu.

If you choose to delete a title or chapter from the Original (title/chapter) menu, the title or chapter is actually deleted from the disc and the remaining time available for recording increases. Titles/chapters deleted from the Original are also removed from the Playlist.

Note

It may not be possible to delete chapters that are less than 5 seconds long.

- 1 Press **DISC MENU/LIST** repeatedly to display the **Original-Title** or **Playlist-Title** menu.
If you want to display the Original-Chapter or Playlist-Chapter menu, refer to "Using Original-Chapter Menu" or "Using Playlist-Chapter Menu" on pages 45-46.
- 2 Use **▲ / ▼ / ◀ / ▶** to choose a chapter or title you want to delete, then press **ENTER**.
Options appear on the left side of the screen.
- 3 Select **"Delete"**.



- 4 Press **ENTER** to confirm.
The confirm message for deleting will appear.
- 5 Use **◀ / ▶** to select **"Yes"**, then press **ENTER**.
The selected chapter or title is deleted.
After pressing **ENTER**, the new, updated menu is displayed.
- 6 Repeat steps 2 - 5 to delete more from the menu.
- 7 Press **RETURN** (↵) repeatedly to exit the menu.

VR Mode: Original and Playlist Editing (Continued)

Making a New Playlist **DVD-RW VR**

Use this function to add an Original title or chapter to the Playlist. When you do this, the whole title is put into the Playlist (you can delete bits you don't need later — see Deleting an Original or Playlist Title/Chapter on page 48).

The title appears in the Playlist complete with the chapter markers that appear in the Original. However, if you add more chapter markers to the Original later, these are not automatically copied over into the Playlist title.

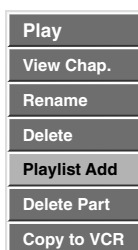
You can add up to 999 chapters to one disc. If you only want to add a chapter of a title, use the Adding a title/chapter to the Playlist on page 48.

1 Press DISC MENU/LIST repeatedly to display Original-Title menu.

If you want to display the Original-Chapter menu, refer to “Using the Original-Chapter menu” on page 45.

2 Choose a title or chapter on the Original menu to put into the Playlist, then press ENTER.

The Original (Title or Chapter) options appear on the left side of the menu.

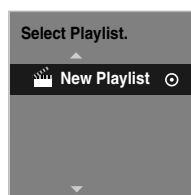


Original-Title



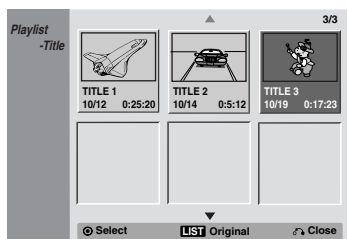
Original-Chapter

3 Use ▲ / ▼ to select ‘Playlist Add’ from Original options and press ENTER.



4 Select “New Playlist” and press ENTER.

The new title appears in the updated Playlist. All chapters of the title are added to the Playlist.



Adding Additional Title/Chapters to the Playlist **DVD-RW VR**

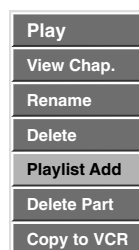
You can add an Original title or chapter to add to a Playlist title even if it is already registered.

1 Press DISC MENU/LIST repeatedly to display Original-Title menu.

If you want to show the Original-Chapter menu, refer to “Using the Original-Chapter” on page 45.

2 Choose an Original title or chapter to put into the Playlist, then press ENTER.

Original menu options appear on the left side of the screen.

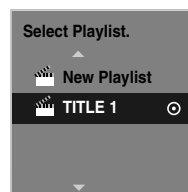


Original-Title



Original-Chapter

3 Use ▲ / ▼ to select “Playlist Add” from Original menu options and press ENTER.



4 Choose a Playlist-Title that is already registered to insert a title or chapter, then press ENTER.

The title or chapter appears in the updated Playlist menu.

5 Repeat steps 1-4 to add other titles or chapters to the Playlist.

6 Press RETURN (↵) to exit, or DISC MENU/LIST to go back to the Original-Title menu.



**Need help? Call
1-800-813-3435**

VR Mode: Original and Playlist Editing (Continued)

Combining Two Chapters Into One

DVD-RW VR

Use this function to combine two adjacent Playlist or Original chapters into one.

- 1 Press DISC MENU/LIST repeatedly to display the Original-Title or Playlist-Title menu.**
If you want to display the Original-Chapter or Playlist-Chapter menu, refer to "Using the Original-Chapter Menu" and "Using the Playlist-Chapter Menu" on page 45-46.

- 2 First, select the second chapter of the two chapters you want to combine then press ENTER on the Original-Chapter or Playlist-Chapter menu.**
Playlist-Chapter or Original-Chapter options appear on the left side of the screen.



Original-Chapter



Playlist-Chapter

- 3 Use ▲ / ▼ to select "Merge" option then press ENTER.**

The Merge message for combining will appear.

- 4 Use ◀ / ▶ to select "Yes", then press ENTER.**
After pressing ENTER, the new, updated menu is displayed.

- 5 Repeat steps 2 - 5 to merge more from the menu.**

- 6 Press RETURN (↵) repeatedly to exit the menu.**

Note

This function cannot operate listed below;

- If there is only one chapter within the title.
- If two chapters created by erasing a part from an original title.
- If two chapters created from different titles.
- If two chapters created by moving an order from an original title.
- Edited chapters may not be combined.

Moving a Playlist Chapter DVD-RW VR

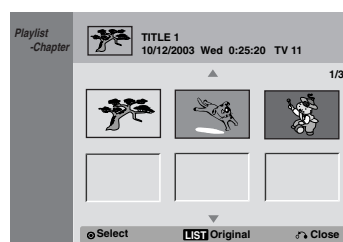
Use this function to re-arrange the playing order of Playlist chapters on the Playlist-Title menu.

- 1 Press DISC MENU/LIST repeatedly to display Playlist-Title menu.**

To display the Playlist-Chapter menu, refer to "Using the Playlist-Chapter Menu" on page 46.

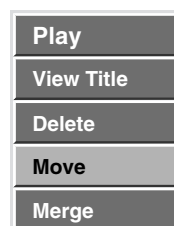
Note

This function is not available if there is only one chapter.



- 2 Select a chapter you want to move to from the Playlist-Chapter menu.**

- 3 Press ENTER.**
Playlist-Chapter options appear on the left side of the screen.



- 4 Use ▲ / ▼ to select "Move" from Playlist options, then press ENTER.**

- 5 Use ▲ / ▼ / ◀ / ▶ to choose the place you want to move the chapter to and press ENTER.**
The confirm message for moving will appear.

- 6 Use ◀ / ▶ to select "Yes", then press ENTER.**
After pressing ENTER, the updated menu is displayed.

- 7 Repeat steps 2 - 6 to move more from the menu.**

- 8 Press RETURN (↵) repeatedly to exit the menu.**

VR Mode: Original and Playlist Editing (Continued)

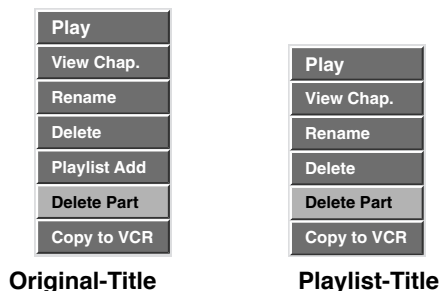
Deleting a Part **DVD-RW VR**

You can delete a part from a title.

1 Press **DISC MENU/LIST** repeatedly to display **Original-Title** or **Playlist-Title** menu.

2 Use **▲ / ▼ / ◀ / ▶** to choose a title you want to delete, then press **ENTER**.

The options appear on the left side of the menu.



Note

If you select the Cancel icon and press **ENTER**, the VCR/DVD Recorder will go to the start point of the title and into Pause mode.

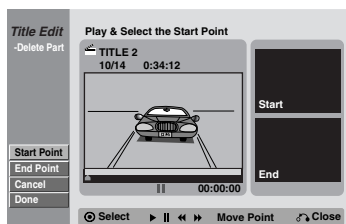


**Need help? Call
1-800-813-3435**

3 Use **▲ / ▼** to select “Delete Part” then press **ENTER**.

The Title Edit menu appears on the TV screen and the VCR/DVD Recorder goes into Pause mode.

The Start Point option is highlighted.



4 Use **PLAY, PAUSE/STEP, FF, REW, and Slow Motion** playback to find the starting point.

5 Press **ENTER** at the starting point of the segment you want to erase.

The segment is indicated in yellow on the Progress Bar. The End Point option is selected.

6 Use **PLAY, PAUSE/STEP, FF, REW, and Slow Motion** playback to find the ending point.

7 Press **ENTER** at the ending point of the section you want to edit.

The Done option is selected.

To cancel the Edit mode, select Cancel using **▲ / ▼** then press **ENTER**.

8 Press **ENTER** to delete the selected part.

When the confirm menu appears, select “Yes” using **◀ / ▶** then press **ENTER**.

To erase additional segments, repeat steps 4-8.

9 When finished editing, press **RETURN (↵)** repeatedly to exit the menu.

The Original (Title) or Playlist (Title) menu appears.

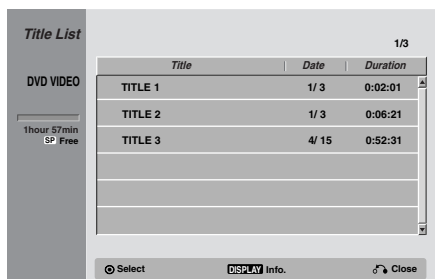
Video Mode: Original Editing

Using the Title List DVD-Video

From the Title List display you can play, name, and erase titles.

Once a Video mode disc is finalized, the Title List screen changes its appearance and you can only select titles to play.

1 Press DISC MENU/LIST to display the Title List.



2 Use ▲ / ▼ to choose a title and press ENTER.

Title List options appear on the left side of the Title List display.
For more information, press DISPLAY.

3 Use ▲ / ▼ to select an option and press ENTER to confirm.



Play: Starts playback of the selected title.

Rename: Edits the title name (page 47).

Delete: Deletes the title from the Title List.

Copy to VCR: Copies the title to a VHS tape. (page 40)

4 Press RETURN (↵) repeatedly to exit Title List.

Deleting a Title DVD-Video

Before a disc is finalized, you can erase titles recorded on the disc.

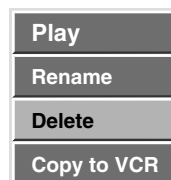
⚠ Caution

- If you erase a title from a DVD-R disc, the title will disappear from the Title List, but the available recording time will not increase.
- When erasing a title from a DVD-RW disc, the remaining time available for recording will only increase if it is the last title on the disc.

1 Press DISC MENU/LIST to display Title List.

2 Use ▲ / ▼ / ◀ / ▶ to choose a title you want to erase and press ENTER.

Title List options appear on the left side of the Title List screen.



3 Use ▲ / ▼ to select "Delete" then press ENTER to confirm.

The confirm message for deleting will appear.

4 Use ◀ / ▶ to select "Yes" then press ENTER.

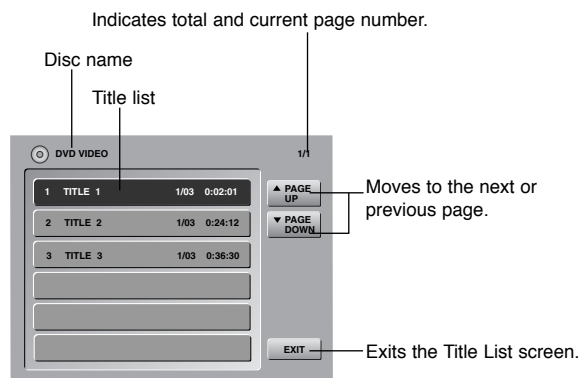
The selected chapter or title is deleted.
After pressing ENTER, the new, updated menu is displayed.

5 Repeat steps 2 - 4 to continue to delete from the menu.

6 Press RETURN (↵) repeatedly to exit the menu.

If the disc has already been finalized

You will see a screen as shown below.



Language Code List

Enter the appropriate code number for the initial settings “Disc Audio”, “Disc Subtitle” and/or “Disc Menu” (See page 20).

Language	Code	Language	Code	Language	Code	Language	Code
Abkhazian	6566	Fiji	7074	Lingala	7678	Singhalese	8373
Afar	6565	Finnish	7073	Lithuanian	7684	Slovak	8375
Afrikaans	6570	French	7082	Macedonian	7775	Slovenian	8376
Albanian	8381	Frisian	7089	Malagasy	7771	Somali	8379
Amharic	6577	Galician	7176	Malay	7783	Spanish	6983
Arabic	6582	Georgian	7565	Malayalam	7776	Sudanese	8385
Armenian	7289	German	6869	Maltese	7784	Swahili	8387
Assamese	6583	Greek	6976	Maori	7773	Swedish	8386
Aymara	6588	Greenlandic	7576	Marathi	7782	Tagalog	8476
Azerbaijani	6590	Guarani	7178	Moldavian	7779	Tajik	8471
Bashkir	6665	Gujarati	7185	Mongolian	7778	Tamil	8465
Basque	6985	Hausa	7265	Nauru	7865	Tatar	8484
Bengali, Bangla	6678	Hebrew	7387	Nepali	7869	Telugu	8469
Bhutani	6890	Hindi	7273	Norwegian	7879	Thai	8472
Bihari	6672	Hungarian	7285	Oriya	7982	Tibetan	6679
Breton	6682	Icelandic	7383	Panjabi	8065	Tigrinya	8473
Bulgarian	6671	Indonesian	7378	Pashto, Pushto	8083	Tonga	8479
Burmese	7789	Interlingua	7365	Persian	7065	Turkish	8482
Byelorussian	6669	Irish	7165	Polish	8076	Turkmen	8475
Cambodian	7577	Italian	7384	Portuguese	8084	Twi	8487
Catalan	6765	Japanese	7465	Quechua	8185	Ukrainian	8575
Chinese	9072	Javanese	7487	Rhaeto-Romance	8277	Urdu	8582
Corsican	6779	Kannada	7578	Romanian	8279	Uzbek	8590
Croatian	7282	Kashmiri	7583	Russian	8285	Vietnamese	8673
Czech	6783	Kazakh	7575	Samoan	8377	Volapük	8679
Danish	6865	Kirghiz	7589	Sanskrit	8365	Welsh	6789
Dutch	7876	Korean	7579	Scots Gaelic	7168	Wolof	8779
English	6978	Kurdish	7585	Serbian	8382	Xhosa	8872
Esperanto	6979	Laothian	7679	Serbo-Croatian	8372	Yiddish	7473
Estonian	6984	Latin	7665	Shona	8378	Yoruba	8979
Faeroese	7079	Latvian, Lettish	7686	Sindhi	8368	Zulu	9085

Country Code List

Enter the appropriate code number for the initial setting "Country Code" (See page 23).

Country	Code	Country	Code	Country	Code	Country	Code
Afghanistan	AF	El Salvador	SV	Macau	MO	Saint Vincent	
Albania	AL	Equatorial Guinea	GQ	Macedonia	MK	& Grenadines	VC
Algeria	DZ	Eritrea	ER	Madagascar	MG	Samoa	WS
American Samoa	AS	Estonia	EE	Malawi	MW	San Marino	SM
Andorra	AD	Ethiopia	ET	Malaysia	MY	Saudi Arabia	SA
Angola	AO	Falkland Islands	FK	Maldives	MV	Senegal	SN
Anguilla	AI	Faroe Islands	FO	Mali	ML	Seychelles	SC
Antarctica	AQ	Fiji	FJ	Malta	MT	Sierra Leone	SL
Antigua and Barbuda	AG	Finland	FI	Marshall Islands	MH	Singapore	SG
Argentina	AR	Former Czechoslovakia	CS	Martinique (French)	MQ	Slovak Republic	SK
Armenia	AM	Former USSR	SU	Mauritania	MR	Slovenia	SI
Aruba	AW	France	FR	Mauritius	MU	Solomon Islands	SB
Australia	AU	France (European Territory)	FX	Mayotte	YT	Somalia	SO
Austria	AT	French Guyana	GF	Mexico	MX	South Africa	ZA
Azerbaijan	AZ	French Southern Territories	TF	Micronesia	FM	South Korea	KR
Bahamas	BS	Gabon	GA	Moldavia	MD	Spain	ES
Bahrain	BH	Gambia	GM	Monaco	MC	Sri Lanka	LK
Bangladesh	BD	Georgia	GE	Mongolia	MN	Sudan	SD
Barbados	BB	Germany	DE	Montserrat	MS	Suriname	SR
Belarus	BY	Ghana	GH	Morocco	MA	Svalbard and	
Belgium	BE	Gibraltar	GI	Mozambique	MZ	Jan Mayen Islands	SJ
Belize	BZ	Great Britain	GB	Myanmar	MM	Swaziland	SZ
Benin	BJ	Greece	GR	Namibia	NA	Sweden	SE
Bermuda	BM	Greenland	GL	Nauru	NR	Switzerland	CH
Bhutan	BT	Grenada	GD	Nepal	NP	Syria	SY
Bolivia	BO	Guadeloupe (French)	GP	Netherlands	NL	Tadjikistan	TJ
Bosnia-Herzegovina	BA	Guam (USA)	GU	Netherlands Antilles	AN	Taiwan	TW
Botswana	BW	Guatemala	GT	New Caledonia (French)	NC	Tanzania	TZ
Bouvet Island	BV	Guinea	GN	New Zealand	NZ	Thailand	TH
Brazil	BR	Guinea Bissau	GW	Nicaragua	NI	Togo	TG
British Indian		Guyana	GY	Niger	NE	Tokelau	TK
Ocean Territory	IO	Haiti	HT	Nigeria	NG	Tonga	TO
Brunei Darussalam	BN	Heard and		Niue	NU	Trinidad and Tobago	TT
Bulgaria	BG	McDonald Islands	HM	Norfolk Island	NF	Tunisia	TN
Burkina Faso	BF	Honduras	HN	North Korea	KP	Turkey	TR
Burundi	BI	Hong Kong	HK	Northern Mariana Islands	MP	Turkmenistan	TM
Cambodia	KH	Hungary	HU	Norway	NO	Turks and Caicos Islands	TC
Cameroon	CM	Iceland	IS	Oman	OM	Tuvalu	TV
Canada	CA	India	IN	Pakistan	PK	Uganda	UG
Cape Verde	CV	Indonesia	ID	Palau	PW	Ukraine	UA
Cayman Islands	KY	Iran	IR	Panama	PA	United Arab Emirates	AE
Central African Republic	CF	Iraq	IQ	Papua New Guinea	PG	United Kingdom	UK
Chad	TD	Ireland	IE	Paraguay	PY	United States	US
Chile	CL	Israel	IL	Peru	PE	Uruguay	UY
China	CN	Italy	IT	Philippines	PH	USA Minor Outlying Islands	UM
Christmas Island	CX	Ivory Coast	CI	Pitcairn Island	PN	Uzbekistan	UZ
Cocos (Keeling) Islands	CC	Jamaica	JM	Poland	PL	Vanuatu	VU
Colombia	CO	Japan	JP	Polynesia (French)	PF	Vatican City State	VA
Comoros	KM	Jordan	JO	Portugal	PT	Venezuela	VE
Congo	CG	Kazakhstan	KZ	Puerto Rico	PR	Vietnam	VN
Cook Islands	CK	Kenya	KE	Qatar	QA	Virgin Islands (British)	VG
Costa Rica	CR	Kiribati	KI	Reunion (French)	RE	Virgin Islands (USA)	VI
Croatia	HR	Kuwait	KW	Romania	RO	Wallis and Futuna Islands	WF
Cuba	CU	Kyrgyzstan	KG	Russian Federation	RU	Western Sahara	EH
Cyprus	CY	Laos	LA	Rwanda	RW	Yemen	YE
Czech Republic	CZ	Latvia	LV	S. Georgia		Yugoslavia	YU
Denmark	DK	Lebanon	LB	& S. Sandwich Isls.	GS	Zaire	ZR
Djibouti	DJ	Lesotho	LS	Saint Helena	SH	Zambia	ZM
Dominica	DM	Liberia	LR	Saint Kitts		Zimbabwe	ZW
Dominican Republic	DO	Libya	LY	& Nevis Anguilla	KN		
East Timor	TP	Liechtenstein	LI	Saint Lucia	LC		
Ecuador	EC	Lithuania	LT	Saint Pierre and Miquelon	PM		
Egypt	EG	Luxembourg	LU	Saint Tome and Principe	ST		

Troubleshooting

Check the following guide for the possible cause of a problem before contacting service.

Symptom	Cause	Solution
No power.	<ul style="list-style-type: none"> The power cord is disconnected. 	<ul style="list-style-type: none"> Plug the power cord into the wall outlet securely.
No picture.	<ul style="list-style-type: none"> The TV is not set to receive VCR/DVD Recorder signal output. 	<ul style="list-style-type: none"> Select the appropriate video input on the TV so the picture from the VCR/DVD Recorder appears on the TV screen.
	<ul style="list-style-type: none"> The video cable is not connected securely. 	<ul style="list-style-type: none"> Connect the video cable securely.
	<ul style="list-style-type: none"> The TV power is turned off. 	<ul style="list-style-type: none"> Turn on the TV.
No sound.	<ul style="list-style-type: none"> The equipment connected with the audio cable is not set to receive VCR/DVD Recorder signal output. 	<ul style="list-style-type: none"> Select the correct input mode on the audio receiver so you can listen to the sound from the VCR/DVD Recorder.
	<ul style="list-style-type: none"> The audio cables are not connected securely. 	<ul style="list-style-type: none"> Connect the audio cable securely.
	<ul style="list-style-type: none"> The power of the equipment connected with the audio cable is turned off. 	<ul style="list-style-type: none"> Turn on the equipment connected with the audio cable.
	<ul style="list-style-type: none"> The audio connecting cord is damaged. 	<ul style="list-style-type: none"> Replace it with a new one.
Playback picture is poor.	<ul style="list-style-type: none"> The disc is dirty. 	<ul style="list-style-type: none"> Clean the disc.
	<ul style="list-style-type: none"> Tape heads are dirty. 	<ul style="list-style-type: none"> Clean video heads.
	<ul style="list-style-type: none"> Tape is a rental or was recorded on another VCR. 	<ul style="list-style-type: none"> Use ▲/▼ for manual tracking adjustment while tape is playing.
VCR/DVD Recorder does not start playback.	<ul style="list-style-type: none"> No disc is inserted. 	<ul style="list-style-type: none"> Insert a disc or tape. (Check that the disc indicator on the front panel display is lit.)
	<ul style="list-style-type: none"> No tape is inserted. 	
	<ul style="list-style-type: none"> An unplayable disc is inserted. 	<ul style="list-style-type: none"> Insert a playable disc. (Check the disc type, color system, and regional code.)
	<ul style="list-style-type: none"> The disc is placed upside down. 	<ul style="list-style-type: none"> Place the disc with the playback side down.
	<ul style="list-style-type: none"> The disc is not placed within the guide. 	<ul style="list-style-type: none"> Place the disc on the disc tray correctly inside the guide.
	<ul style="list-style-type: none"> The disc is dirty. 	<ul style="list-style-type: none"> Clean the disc.
Picture from external input is distorted	<ul style="list-style-type: none"> The Movie Rating level is set. 	<ul style="list-style-type: none"> Cancel the Movie Rating function or change the rating level.
	<ul style="list-style-type: none"> The video signal from the external component is copy-protected. 	<ul style="list-style-type: none"> You cannot connect via the VCR/DVD Recorder. Connect the component directly to your TV.
Some channels are skipped over when using CH (▲ / ▼)	<ul style="list-style-type: none"> The skipped channels were deleted with the CH. Add/Del feature. 	<ul style="list-style-type: none"> Use the CH. Add/Del feature to restore channels. See "To Add or Erase Channels from Memory" on page 19.
Picture or sound of broadcasting channel is weak or missing.	<ul style="list-style-type: none"> Antenna or cables are loose. 	<ul style="list-style-type: none"> Tighten connections or replace cable.
	<ul style="list-style-type: none"> Wrong Tuning Band is selected in the VCR/DVD Recorder Setup menu. 	<ul style="list-style-type: none"> Try all "Tuning Band" options; see page 18 for details.
Camcorder image not shown.	<ul style="list-style-type: none"> Camcorder is off. 	<ul style="list-style-type: none"> Turn camcorder on and operate properly.
Camcorder image via A/V input or DV IN to VCR/DVD Recorder is not shown on TV screen.	<ul style="list-style-type: none"> VCR/DVD Recorder's source is not set to AV1, AV2 (AV2 COMP) or DV IN. 	<ul style="list-style-type: none"> Use INPUT to select AV input channel (AV1, AV2 (AV2 COMP) or DV IN).
Can't play disc recorded on this VCR/DVD Recorder on another DVD player.	<ul style="list-style-type: none"> The disc was recorded in Video mode. 	<ul style="list-style-type: none"> Finalize the disc; see page 25.
	<ul style="list-style-type: none"> Some players will not play even a finalized disc recorded in Video mode. 	<ul style="list-style-type: none"> No solution.
	<ul style="list-style-type: none"> The disc was recorded in VR mode. 	<ul style="list-style-type: none"> The other player must be RW compatible in order to play it.
	<ul style="list-style-type: none"> Discs recorded with copy-once material cannot be played on other players. 	<ul style="list-style-type: none"> No solution.

Troubleshooting (Continued)

Symptom	Cause	Solution
Cannot record or did not record successfully.	• The remaining blank space on the disc is insufficient.	• Use another disc.
	• The source you are trying to record is copy-protected.	• You cannot record the source.
	• When setting the recording channel, the channel is tuned on the TV's own tuner.	• Select the channel on the VCR/DVD Recorder's built-in TV tuner.
	• When recording to a Video mode disc, programs that are copy-once protected cannot be recorded.	• Use a VR mode formatted disc for copy-once material.
Timer Recording not possible.	• Clock in VCR/DVD Recorder is not set to correct time.	• Set clock to correct time. See "Auto Clock Set" or "Manual Clock Set" on page 19.
	• Timer has been programmed incorrectly.	• Reprogram Timer. See "Timer Recording" on page 41.
	• TIMER indicator light does not appear after programming timer.	• Reprogram Timer.
Stereo Audio Record and/or Playback not present.	• TV is not Stereo-compatible.	• No solution.
	• Broadcast program is not in stereo format.	• No solution.
	• VCR/DVD Recorder A/V Out jacks are not connected to TV A/V In jacks.	• Make A/V connections. Stereo is available only via A/V output from VCR/DVD Recorder.
	• VCR/DVD Recorder Audio/Video Out is not selected for viewing at the TV.	• Select AUX or A/V source as TV input.
	• VCR/DVD Recorder's TV audio channel is set to SAP or MONO.	• Set TV audio channel mode to Stereo. See "Changing TV Audio Channel" on page 27.
Remote control does not work properly.	• The remote control is not pointed at the remote sensor of the VCR/DVD Recorder.	• Point the remote control at the remote sensor of the VCR/DVD Recorder.
	• The remote control is too far from the VCR/DVD Recorder.	• Operate the remote control within 23 ft (7 m).
	• There is an obstacle in the path of the remote control and the VCR/DVD Recorder.	• Remove the obstacle.
	• The batteries in the remote control are exhausted.	• Replace the batteries with new ones.

Moisture Condensation

Moisture condensation can occur:	In locations where moisture condensation may occur:
<ul style="list-style-type: none"> • When the VCR/DVD Recorder is moved from a cold place to a warm place. • Under extremely humid conditions. 	<ul style="list-style-type: none"> • Keep the VCR/DVD Recorder plugged into an AC power outlet with POWER On. This will help prevent condensation. • When condensation has occurred, wait a few hours for the VCR/DVD Recorder to dry before using it.

Reset the VCR/DVD Recorder

If you observe any of the following symptoms...

- When the VCR/DVD Recorder is plugged in, but the power will not be turned on or off.
- When the display window does not work.
- When the VCR/DVD Recorder does not operate normally.

You can reset the VCR/DVD Recorder as follows :

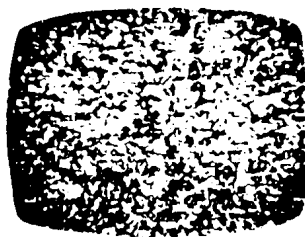
- Press and hold the POWER button for more than five seconds. This will force the VCR/DVD Recorder to power off. . Press the POWER button again to turn the VCR/DVD Recorder back on.
- Unplug the power cord and then plug the power cord again after more than five seconds.

Troubleshooting (Continued)

Video Head Cleaning

Video head clogging

The video heads are the means by which the unit reads the picture from the tape during playback. In the unlikely event that the heads become dirty enough to be clogged, no picture will be played back. This can easily be determined if, during playback of a known good tape, there is good sound, but no picture (picture is extremely snowy). If this is the case, use a high quality head cleaning system or have them cleaned professionally.



Snowy Picture

Video head cleaning

Video head cleaning is needed when the playback picture becomes unclear. This signifies that the heads are getting dirty and can occur when playing poor quality or damaged tapes. If the heads require cleaning, use an equivalent high quality chemical non-abrasive (wet) head cleaning tape or have them cleaned professionally. If playing a head cleaning tape in the unit once does not improve the picture, play it several times before requesting service.

Notes

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

Specifications

General

Power requirements	AC 120V, 60 Hz
Power consumption	35W
Dimensions (approx.)	16.9" x 3.7" x 14.2" (430 X 83.5 X 360 mm) (w x h x d)
Mass (approx.)	14.1 lbs (6.4 kg)
Operating temperature	5°C to 35°C (41°F to 95°F)
Operating humidity	5 % to 90 %
Signal system	NTSC

Recording

Recording format	DVD Video Recording, DVD-VIDEO
Recordable discs	DVD-Re-recordable, DVD-Recordable
Recordable time	DVD ; Approx. 1 hour (XP mode), 2 hours (SP mode), 4 hours (LP mode) VCR ; SP: 2 HOURS (T-120), SLP: 6 HOURS (T-120)/8 HOURS (T-160)

Video recording format

Sampling frequency	27MHz
Compression format	MPEG 2

Audio recording format

Sampling frequency	48kHz
Compression format	Dolby Digital

VCR Specifications

Head system	Four head helical scan azimuth system
Timer	12-hour display type with AM, PM
Tape speed	SP: 33.35 mm/sec, LP: 16.67 mm/sec, SLP: 11.12 mm/sec
Tape width	12.7 mm
Rewind time	About 65 seconds (T-120)
Antenna	75 ohms (VHF/UHF)
VHF output signal	Channel 3 or 4 (Switchable)
Channel coverage	VHF: 2-13, UHF: 14-69, CATV: 1-125 (4A, A-W, W+1 - W+84, A-5 - A-1)
Frequency range	20Hz to 20kHz
Signal-to-noise ratio	43dB
Dynamic range	88 dB
Channel separation	60 dB

DVD Specifications

Laser system	Semiconductor laser, wavelength 650 nm
Frequency response	DVD (PCM 48 kHz): 8 Hz to 22 kHz, CD: 8 Hz to 20 kHz
Signal-to-noise ratio	More than 95dB
Harmonic distortion	Less than 0.008%
Dynamic range	More than 90 dB

Inputs

ANTENNA IN	Antenna or CATV input, 75 ohms
VIDEO IN (AV1,2)	1.0 Vp-p 75 ohms, sync negative, RCA jack x 2
AUDIO IN (AV1,2)	-6 dBm more than 47 kohms, RCA jack (L, R) x 2
DV IN	4 pin (i.LINK/IEEE 1394 standard)

Specifications (Continued)

Outputs

VIDEO OUT	1 Vp-p 75 Ω , sync negative, RCA jack x 1
S-VIDEO OUT	(Y) 1.0 V (p-p), 75 Ω , negative sync, Mini DIN 4-pin x 1 (C) 0.286 V (p-p) 75 Ω
COMPONENT VIDEO OUT (PROGRESSIVE SCAN)	(Y) 1.0 V (p-p), 75 Ω , negative sync, RCA jack x 1 (Pb)/(Pr) 0.7 V (p-p), 75 Ω , RCA jack x 2
Audio output (digital audio)	0.5 V (p-p), 75 Ω , RCA jack x 1
Audio output (optical audio)	Optical connector x 1
Audio output (analog audio)	1.1 Vrms (1 kHz, -6 dB), 600 Ω , RCA jack (L, R) x 2
RF OUT	Channel 3 or 4 (Switchable)

Accessory:

Video cable1	Audio cable1
RF 75-ohm Coaxial cable1	Remote control1
Batteries2		

- Design and specifications are subject to change without notice.

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DTS and DTS Digital Out are registered trademarks of Digital Theater Systems, Inc.

For assistance in obtaining repairs and operational information, please contact the following Toll Free Number:

DIAL TOLL FREE: 1-800-813-3435

Weekdays 7:30AM ~ 4:00PM Central Time

Also, you may write to SANYO Manufacturing Corporation, 3333 Sanyo Road Forrest City Arkansas 72335

LIMITED WARRANTY

LABOR 90 DAYS

PARTS 1 YEAR

CARRY-IN ONLY

THIS WARRANTY IS VALID ONLY ON SANYO PRODUCTS PURCHASED FROM A WAL-MART STORE AND USED IN THE UNITED STATES OF AMERICA, EXCLUDING HAWAII AND ALL U.S. TERRITORIES AND PROTECTORATES. THIS WARRANTY APPLIES ONLY TO THE ORIGINAL RETAIL PURCHASER AND DOES NOT APPLY TO PRODUCTS USED FOR ANY INDUSTRIAL, PROFESSIONAL OR COMMERCIAL PURPOSE.

Subject to the OBLIGATIONS and EXCLUSIONS below, SANYO Manufacturing Corporation ("SANYO") warrants this SANYO product against defects in materials and workmanship for the periods of LABOR and PARTS specified above. SANYO will repair or replace (at its option) the product and any of its parts which fail to conform to this warranty with new or refurbished products or parts. The warranty period commences on the date the product was first purchased at retail from a Wal-Mart Store.

OBLIGATIONS

In order to obtain warranty service, the product must be delivered to and picked up from a Wal-Mart Store at the original retail purchaser's expense. The original dated bill of sale, or sales slip from a Wal-Mart Store must be submitted to a Wal-Mart Store at the time warranty service is requested.

EXCLUSIONS

1. This warranty does not cover (A) the adjustment of customer-operated controls as explained in the appropriate model's instruction manual, or (B) the repair of any product whose serial number has been altered, defaced or removed.
2. This warranty shall not apply to the cabinet or cosmetic parts, broken or damaged video heads, batteries or routine maintenance.
3. This warranty does not apply to uncrating, setup, installation, removal of the product for repair or reinstallation of the product after repair.
4. This warranty does not apply to repairs or replacements necessitated by any cause beyond the control of SANYO including, but not limited to, any malfunction, defect or failure caused by or resulting from unauthorized service or parts, improper maintenance, operation contrary to furnished instructions, shipping or transit accidents, modification or repair by user or any third party, abuse, misuse, neglect, accident, incorrect line voltage, fire, flood or other Acts of God, or normal wear and tear.

The foregoing is in lieu of all other express warranties and SANYO does not assume or authorize any party to assume for it any other obligation or liability.

THE DURATION OF ANY WARRANTIES WHICH MAY BE IMPLIED BY LAW (INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS) IS LIMITED TO THE TERM OF THIS WARRANTY. IN NO EVENT SHALL SANYO OR THE MANUFACTURER OF THE PRODUCT BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM OWNERSHIP OR USE OF THIS PRODUCT, OR FOR ANY DELAY IN THE PERFORMANCE OF ITS OBLIGATIONS UNDER THIS WARRANTY DUE TO CAUSES BEYOND ITS CONTROL.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS AND/OR DO NOT ALLOW THE EXCLUSION OR LIMITATION OF CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIAL LEGAL RIGHTS. YOU MAY HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE.

For your protection in the event of theft or loss of this product, please keep the following information with a sales receipt in a safe place.

Model No. _____

Serial No. _____

Date of Purchase _____

Purchase Price _____

Where Purchased _____



SANYO Manufacturing Corporation



SANYO Electric Co., Ltd.