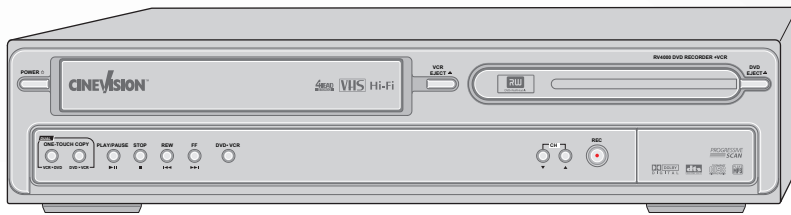




DVD Recorder + VCR






RV4000 User Manual




Important Safeguards

INTRODUCTION

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
<p>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.</p>		

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

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

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

CAUTION TO PREVENT ELECTRIC SHOCK, 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 CABLE/TV INSTALLER:
This reminder is provided to call the cable TV system installer's attention to Article 820-40 of the National Electric Code (U.S.A.). The code 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 the 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 DVD Recorder+VCR 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 DVD Recorder+VCR 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.

FCC COMPLIANCE:

The responsible party for this product's compliance is: GoVideo, 7835 East McClain Drive, Scottsdale, AZ 85260, USA.

SERIAL NUMBER:

The serial number is found on the back of the DVD Recorder+VCR. 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. _____

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 product near water.**
For example: near a bath tub, wash bowl, kitchen sink, laundry tub, in a wet basement; or near a swimming pool; and other areas located near water.
- 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 overheating. 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 apparatuses (including amplifiers) that produce heat.
- 9** Make sure that rating of your household electricity supply matches that shown on the back of your product.
- 10** Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the product.
- 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/ product combination to avoid injury from tip-over. 
- 13** Unplug this product during lightning storms or when unused for long periods of time.
- 14** Refer all servicing to qualified service personnel. Servicing is required when the product 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 product; the product has been exposed to rain or moisture, does not operate normally, or has been dropped.
- 15** Do not connect the product to the power supply if you have just moved it from a cold environment to a warm room. This can lead to condensation inside the product, which can damage it. Wait for approx. 2 hrs for it to reach room temperature.
- 16** Make sure the product is placed at least 10 cm apart from other home appliances or obstacles to ensure sufficient ventilation.
- 17** This product is designed to work continuously. Switching it off(stand-by mode) does not disconnect it from the mains. To disconnect it from the mains you have to unplug it.

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Overview

DVD, DVD+R, DVD+RW?

What is a DVD?

DVD (Digital Versatile Disc) is a new storage medium that combines the convenience of the compact disc with the latest digital video technology. DVD video uses modern MPEG2 data compression technology that enables an entire feature film to be stored on a single five inch disc.

How good is the resolution of DVD compared with VHS?

The razor-sharp digital images have a resolution of more than 500 lines of 720 pixels per line. This is more than twice as high as VHS and is even better than the laser disc. Its picture quality is easily comparable to the digital masters produced in recording studios.

What can DVD+RW do?

DVD+ReWritable uses phase change media, the same technology on which rewritable CDs are based. A high-performance laser is used to change the reflective properties of the recording layer; this process can be repeated more than a thousand times.

What can the DVD+R do?

DVD+R (write-once DVD). Unlike a DVD+RW disc, this disc can only be written to once. If it is not finalized after a recording, further recordings can be added to it. Old recordings can be later deleted but they can no longer be overwritten. The deleted recordings (titles) are marked 'deleted title'.

Before this disc can be played in a DVD player, it must be finalized in the DVD Recorder+VCR. Once this process is complete, no further recordings can be added.

What can my DVD recorder do?

Your DVD Recorder+VCR is a machine for recording and playing back digital video discs with 'two-way' compatibility with the universal DVD video standard. This means:

- existing DVD video discs can be played on the recorder.
- recordings made on your DVD Recorder+VCR can be played on other DVD video players and DVD ROM drives.

Regional code



If the region number described on the DVD disc does not correspond to the Region number of this player, the player will not play this disc.

Which discs you can use

The following discs can be used in your DVD Recorder+VCR for playback and recording:

Playback and recording

DVD+RW (Digital Versatile Disc + ReWritable)

DVD+R (Digital Versatile Disc + Write-Once)

Playback only:

DVD Video (Digital Versatile Disc)

DVD-R (DVD-Recordable) : These discs can only be played back if the recording was made in video mode and the recording was finalized.

DVD-RW (DVD-Rerecordable) : These discs can only be played back if the recording was made in video mode and the recording was finalized.

Audio CD (Compact Disc Digital Audio)

Video CD (format 2.0)

Super Video CD

CD-R (CD recordable) Audio/ MP3 contents

CD-RW (CD rewritable) Audio/ MP3 contents



Not all recordable CD may be played by your player.

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 number to enable you to easily 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 number, enabling you to easily locate the track you want.

About DVD Recording

Notes for Recording

- The recording times shown are not exact because the DVD Recorder+VCR 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 times may be shorter.
- The disc which is recorded in high speed (over or equal to 2X speed) may be unrecognized.
- 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.
- 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.

Recording TV Audio Channels

The DVD Recorder+VCR 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. You can record either the main audio or the SAP audio.

Restrictions on Video Recording

- You cannot record copy-protected video using this DVD Recorder+VCR. 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 discs with CPRM (see below).

Copyright Notice

- Audio and video recordings you make using the DVD Recorder+VCR 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.

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, benzine, or thinner, as these might damage the surface of the unit.

To obtain a clear picture

The DVD Recorder+VCR 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.

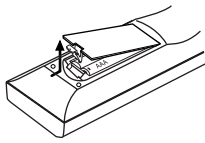
Remote Control Operation Range

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

Distance: About 23 ft (7 m) from the front of the remote sensor.

Angle: About 30° in each direction of the front of the remote sensor.

Remote Control Battery Installation



Detach the battery cover on the rear of the remote control, and insert two size AAA batteries with and aligned correctly.



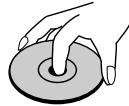
Caution

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

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

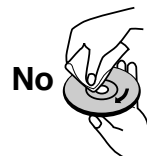
After playing, store the disc in its case.

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 a considerable temperature increase 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, benzine, thinner, commercially available cleaners, or anti-static spray intended for older vinyl records.



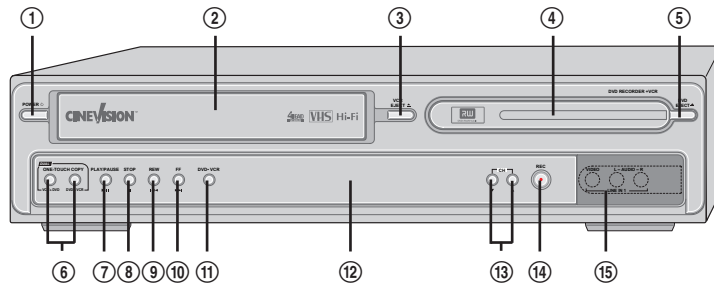
About Symbols

About the Symbol

'■ 9 ■

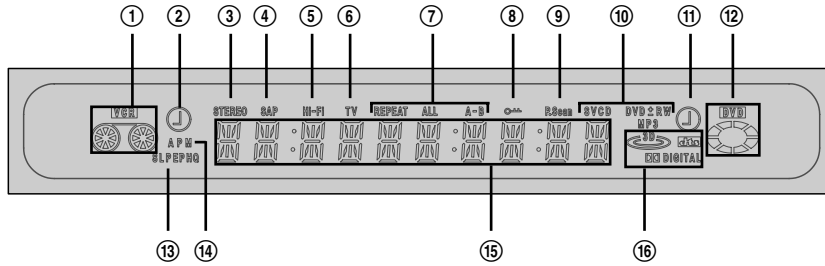
Identification of Controls

Front Panel















- ① **POWER**
Switches the DVD Recorder+VCR ON and OFF.
- ② **Cassette Compartment (VCR deck)**
Insert a video cassette here.
- ③ **EJECT (VCR)**
Ejects the tape in the VCR deck.
- ④ **Disc Tray (DVD deck)**
Insert a disc here.
- ⑤ **EJECT (DVD)**
Opens or closes the disc tray.
- ⑥ **ONE TOUCH COPY**
Copies from DVD to VCR (or from VCR to DVD).
- ⑦ **PLAY/PAUSE**
Starts playback of a disc or tape. Pauses playback or recording temporarily.
- ⑧ **STOP**
Stops playback.
- ⑨ **REW**
DVD: Fast reverse search.
VCR: Rewinds the tape during Stop mode. Press during Play mode for fast reverse picture search.
- ⑩ **FF**
DVD: Fast forward search.
VCR: Advances the tape during Stop mode. Press during Play mode for fast forward picture search.
- ⑪ **SELECT DVD/VCR**
Toggles control between the DVD deck and the VCR deck.
- ⑫ **Front Panel Display**
Shows the current status of the DVD Recorder+VCR.
- ⑬ **CH ▲/▼**
Scans up or down through memorized channels or move up and down when in DVD navigation menu.
- ⑭ **REC**
Starts recording. Press repeatedly to set the recording time. Lights red when the DVD Recorder+VCR is under recording.
- ⑮ **LINE1 (VIDEO, L-AUDIO-R)**
Connects to the audio/video output of an external source (VCR, Camcorder, etc.).

Front Panel Display



- ① Indicates a VHS tape is inserted in the VCR deck.
- ② Circle : Indicates VCR is under recording process.
Clock : Indicates VCR Timer recording is set.
- ③ Indicates that a stereo broadcast is being received.
- ④ Indicates when a Second Audio Program (SAP) broadcast is being received.
- ⑤ Indicates when the DVD Recorder+VCR is playing or recording a tape in Hi-Fi.
- ⑥ Indicates the DVD Recorder+VCR is in TV mode (as set by the TV/VCR button).
- ⑦ Indicates current Repeat mode.
- ⑧ Indicates when the DVD Recorder+VCR is locked.
- ⑨ Indicates when the DVD Recorder+VCR sends video in Progressive Scan mode.
- ⑩ **Disc Type indicators**
Indicates the type of disc loaded.
- ⑪ Circle : Indicates DVD+R(+RW) is under recording process.
Clock : Indicates DVD Timer recording is set.
- ⑫ Indicates a disc is inserted in the DVD deck.
- ⑬ Indicates the current Recording mode.
- ⑭ Indicates AM or PM.
- ⑮ **Front Panel Display Message**
Indicates clock, total playing time, elapsed time, remaining time, title number, chapter/track number, channel, VCR counter etc.
- ⑯ 3D : Indicates the audio is virtual surround.
dts : Indicates audio material of DVD disc is dts.
Dolby : Indicates audio material of DVD disc is Dolby Digital.

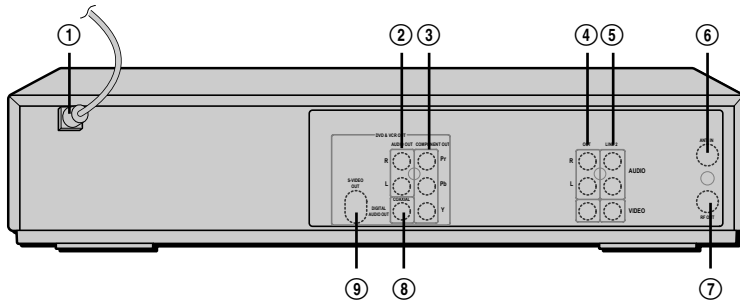


-  Selects Recording mode: - DVD : HQ (1hr), SP (2hrs), EP (4hrs) or SLP (6hrs).
- VCR : SP or SLP.
-  Selects an audio language(DVD), audio channel(CD) or audio type (Broadcast).
-  Selects a subtitle language.
-  Selects a DVD camera angle, if available.
-  Enlarges DVD video image.
-  Repeats chapter, track, title or all.
-  Repeats sequence between two points (A and B).
-  Changes a title or a chapter.
-  Switches between Progressive Scan mode and Interlace Scan mode. This function is activated only when the key is pressed for 3 seconds.
-  Displays disc's Title menu, if available.
-  Reset the counter in the VCR mode.
-  Displays Timer Recording menu.

 **Progressive Scan**

If your TV system supports Progressive Scan, you can view high quality video by changing the DVD Recorder+VCR set to send video as Progressive Scan mode. If the TV system does not support Progressive Scan mode, Never try to change to Progressive scan mode. If you changed the TV Scan mode by mistake, press [P.SCAN] key for 3 seconds then it will be restored.

Rear panel



- | | |
|---|---|
| <p>① AC Power Cord
Plug into a power outlet.</p> <p>② AUDIO OUT (L, R)
Connect to a TV or other equipment with audio inputs.</p> <p>③ COMPONENT/PROGRESSIVE VIDEO OUT (Y Pb Pr)
Connect to a TV with Component (Y Pb Pr) inputs.</p> <p>④ AV OUT (VIDEO, L-AUDIO-R)
Connect to a TV with video and audio inputs.</p> <p>⑤ LINE2 (VIDEO, L-AUDIO-R)
Connect to the audio/video output of an external source (VCR, Camcorder, etc.).</p> | <p>⑥ RF IN (FROM ANT.)
Connect to your antenna or cable TV outlet.</p> <p>⑦ RF OUT (TO TV)
Connect to a TV with an RF coaxial input.</p> <p>⑧ COAXIAL (Digital Audio Out)
Connect to an amplifier with a coaxial digital audio input.</p> <p>⑨ S-VIDEO OUT
Connect to a TV with an S-Video Input.</p> |
|---|---|



Caution

Do not touch the inner pins of the jacks on the rear panel. Electrostatic discharge may cause permanent damage to the DVD Recorder+VCR.

Connections

INTRODUCTION

CONNECTIONS



- There are a variety of ways to connect the DVD Recorder+VCR to your TV and other equipment. Use only one of the connections described below. Whichever TV connection you use will work with all input sources.
- Please refer to the manuals for your TV, VCR, stereo system or other devices as necessary to make the best connections.
- For better sound reproduction, connect the DVD Recorder+VCR's AUDIO OUT jacks to the audio in jacks of your amplifier, receiver, stereo or audio/video equipment. See 'Connecting an Amplifier/Receiver' on page 18.

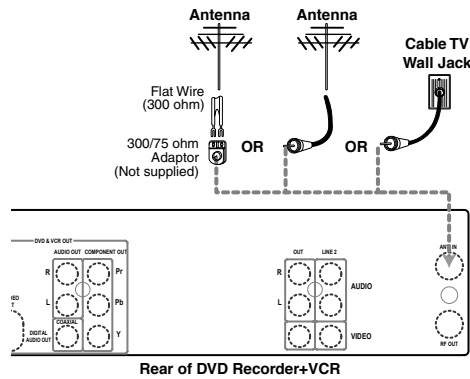


Caution

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

Connecting Antenna/Cable

- 1 Disconnect the antenna/cable from the rear of your 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 RF IN (FROM ANT.) on the DVD Recorder+VCR.



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 RF IN (FROM ANT.) jack on the DVD Recorder+VCR.

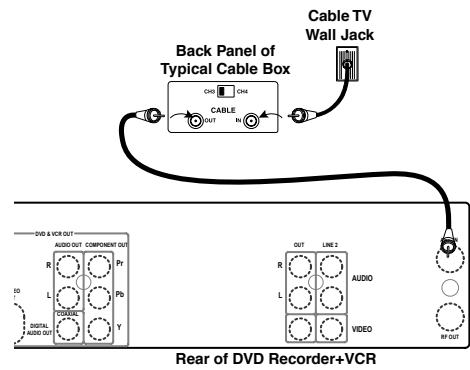
Use the supplied coaxial cable to connect between the DVD Recorder+VCR's OUT (TO TV) jack and the 75 ohm antenna input jack on your TV. With this connection, you can receive all midband, superband, and hyperband channels (all cable channels).

Cable Service With Cable Box

If a cable box is required in your cable system, follow the instructions shown below. This hookup permits both TV and DVD Recorder+VCR operation.

To view or record a CATV channel:

- 1 Tune the TV to the correct video input channel.
- 2 Set the DVD Recorder+VCR to the output channel of the cable box using the [CH ▲/▼] or the [0-9] keys on your DVD Recorder+VCR (e.g., CH3).
- 3 Select the channel you wish to view on the cable box.



If you are using a cable box to tune channels, it is not necessary to run Auto Channel Search as indicated on page 23.

Connecting a TV

Choose one of the following TV connections, depending on the capabilities of your equipment.

i All video signals are available from all video outputs. That means that whichever TV connection you use, it will work with all input sources, including VHS out of the Component/Progressive Video Output.

RF Coaxial Connection

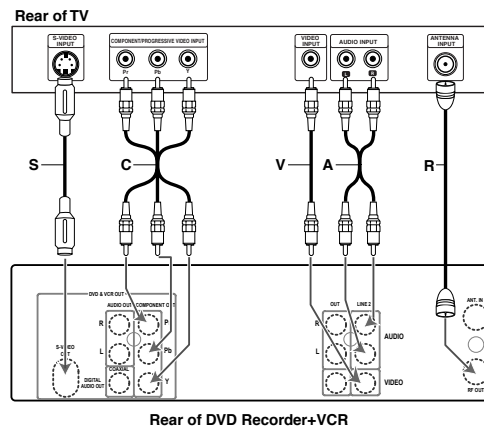
Connect the RF OUT (TO TV) jack on the DVD Recorder+VCR to the antenna in jack on your TV using the supplied 75-ohm coaxial cable (R). If you use this connection, tune your TV to the DVD Recorder+VCR's RF output channel (CH 3 or 4).

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

Press [SETUP] and select Modulator out then press [ENTER] to change the RF out channel. For details refer to page 24.

Audio/Video Connection

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



S-Video Connection

- 1 Connect the S-VIDEO OUT jack on the DVD Recorder+VCR to the S-Video in jack on your TV using an S-Video cable (S).
- 2 Connect the Left and Right AUDIO OUT jacks from the DVD Recorder+VCR to the left/right audio in jacks on your TV using the supplied audio cables (A).

Component Video Connection

- 1 Connect the COMPONENT/PROGRESSIVE VIDEO OUT jacks on the DVD Recorder+VCR to the corresponding in jacks on your TV using a Y Pb Pr cable (C) if the component (Y, Pb, Pr) is available on your TV.
- 2 Connect the Left and Right AUDIO OUT jacks from the DVD Recorder+VCR to the left/right audio in jacks on your TV using the supplied audio cables (A).

Progressive Scan Connection

- If your television is a high-definition or 'digital ready' television, you may take advantage of the DVD Recorder+VCR's Progressive Scan output for the highest video resolution possible.
- If your TV does not accept the Progressive Scan format, the picture will appear scrambled.

1 Connect the COMPONENT/PROGRESSIVE VIDEO OUT jacks on the DVD Recorder+VCR to the corresponding in jacks on your TV using an optional Y Pb Pr cable (C).

2 Connect the Left and Right AUDIO OUT jacks from the DVD Recorder+VCR to the left/right audio in jacks on your TV using the supplied audio cables (A).



- Be sure to set the DVD Recorder+VCR to the Progressive Scan mode by pressing [P.SCAN] for 3 seconds on the remote control or changing the Scan mode in the Setup Menu; See page 27.
- Progressive Scan does not work with the RF, Audio/Video or S-Video connections.

Connecting an Amplifier/Receiver

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


Connect the Left and Right AUDIO OUT jacks on the DVD Recorder+VCR to the left and right audio in jacks on your amplifier, receiver, or stereo system, using the supplied 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 DVD Recorder+VCR'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 DVD Recorder+VCR's digital output; see 'AUDIO Settings' on page 28.

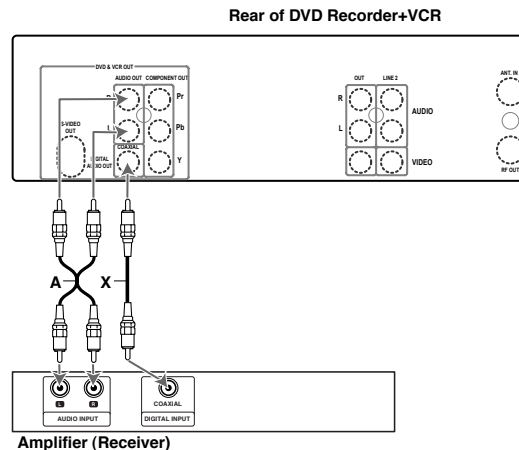
Digital Multi-Channel Sound?

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 DVD Recorder+VCR (MPEG 2, Dolby Digital and DTS). Check the receiver manual and the logos on the front of the receiver.

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

- 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.
- 5.1 channel digital surround sound via the digital connection can only be obtained if your receiver is equipped with a digital multi-channel decoder.
- To see the audio format of the current DVD on the on-screen display, press [AUDIO].

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

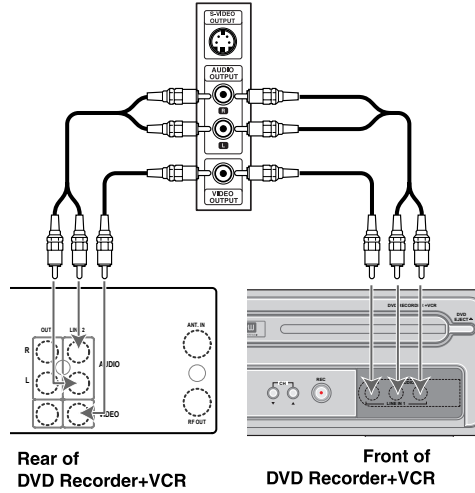


Connecting Optional Equipment

To receive audio/video signal from other equipment, connect the LINE1 or LINE2 jacks on the DVD Recorder+VCR to the audio/video out jacks on your external component, using optional audio/video cables.

i If you use the S-VIDEO jack on the front panel, there is no signal output from the front panel VIDEO jack.

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



CONNECTIONS

Initial Installation

Initial Installation

After successfully connecting your DVD Recorder+VCR to the TV set and other devices, this chapter will show you how to start the initial installation.

i You must follow the initial installation process because the DVD Recorder+VCR also record time and date. If you skip this process you shall encounter this process after your set is powered on.

- 1** Welcome message displays on the screen. Check the aerial cable connected correctly.

- 2** Select the desired language for the on-screen menu using [▲/▼]. Press [ENTER] to confirm.



- 3** Select the desired disc menu language using [▲/▼]. Press [ENTER] to confirm.



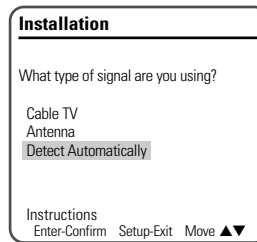
- 4** Select the disc playback audio language using [▲/▼]. Press [ENTER] to confirm.



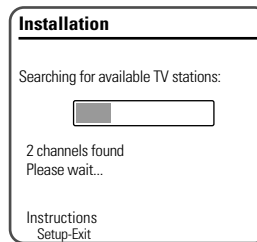
- 5 Select the disc playback subtitle language using [▲/▼]. Press [ENTER] to confirm.



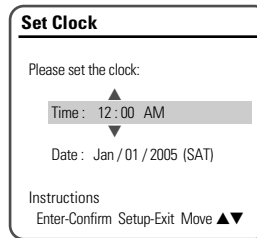
- 6 Select the desired type of signal using [▲/▼]. Press [ENTER] to confirm.



- 7 The DVD Recorder+VCR detects the signals automatically and registers them.



- 8 After finishing channel search, set the clock.
- 9 Use [◀/▶] to move to other positions and use [▲/▼] to change the value.
- 10 After setting the clock, press [ENTER] to confirm. If you cancel the process during Installation operation, you should do the same procedure again.



Initial Setup

Setup Menu Overview

The DVD Recorder+VCR Setup menu includes system settings in six categories such as Installation, Recording Options, Languages, Preferences, System Info and Restore Defaults. Press [SETUP] and [◀/▶] on the remote control to view the first and second levels of the Setup menu.

Menu Navigation

- 1 Press [SETUP].
The Setup menu appears.
- 2 Use [◀/▶] to select the desired option.
- 3 While the desired item is selected, press [▲/▼] to move to the second level.
- 4 Press [ENTER] to move to the third level.
- 5 Use [▲/▼] to select the desired setting then press [ENTER] to confirm your selection.
Some items require additional steps. Press [SETUP] at any time to return to the previous menu.
- 6 Press [SETUP] to exit the Setup menu.

INSTALLATION Settings

Tuning Band

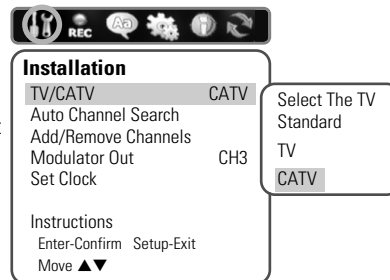
- 1 Press [SETUP].
The Setup menu appears.
- 2 Use [◀/▶] to select the 'Installation' option.
- 3 While the 'Installation' option is selected, press [▼] to select the 'TV/CATV' option.
- 4 Press [ENTER] to move to the second level.
- 5 Use [▲/▼] to select the tuning band option (TV or CATV) then press [ENTER].

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

CATV: If you are using basic cable to receive channels.



If the input signal mode is other than channel, like LINE1 and LINE2, tuning band is not changed.



Auto Channel Search


The DVD Recorder+VCR 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.

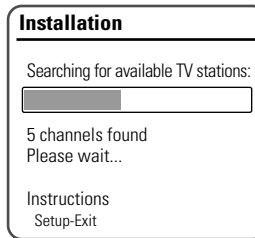
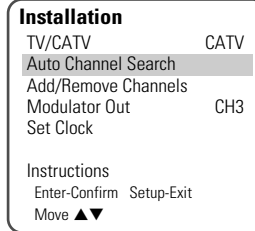
Preparation:

Connect the DVD Recorder+VCR to the desired type of antenna or cable TV system, as shown in 'Connecting Antenna/Cable' on page 15.

- 1** Follow steps 1-2 as shown under Tuning Band.
- 2** While the 'Installation' option is selected, press [▲/▼] to select the 'Auto Channel Search' option.
- 3** Press [ENTER] to begin the channel search.

The tuner will automatically search for all available channels in your area and place them in the tuner's memory.

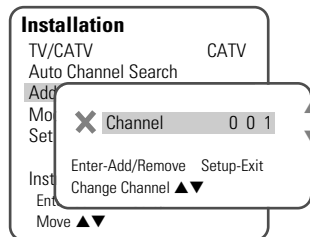
 After the Auto Channel Set is complete, follow the instructions at left to make sure the Tuning Band is set correctly (TV or CATV).



Add/Remove Channels

This feature allows you to manually add or delete channels from your channel list.

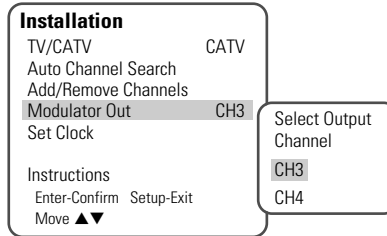
- 1** Follow steps 1-2 as shown under Tuning Band.
- 2** Use [▲/▼] to select the 'Add/Remove Channels' option.
- 3** Press [ENTER]. The Channel Edit menu appears.
- 4** Use [▲/▼] to select a channel then toggle the add/delete selection by pressing [ENTER].
- 5** Press [SETUP] to exit the edit menu.



Modulator Out

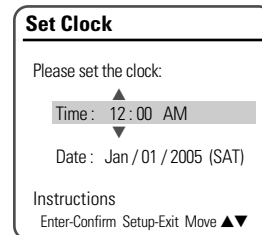
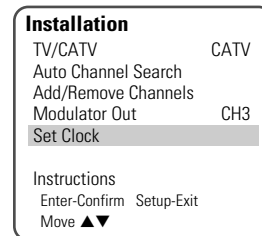
This feature allows you to manually add or delete channels from your channel list.

- 1 Follow steps 1-2 as shown under Tuning Band.
- 2 Use [▲/▼] to select the 'Modulator Out' option.
- 3 Press [ENTER] to move the third level.
- 4 Use [▲/▼] to select the modulator out channel between 'CH3' and 'CH4'.
- 5 Press [ENTER] to confirm.



Set Clock

- 1 Follow steps 1-2 as shown under Tuning Band.
- 2 Use [▲/▼] to select the 'Set Clock' option.
- 3 Press [ENTER]. The Set Clock menu appears.
- 4 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.
- 5 Press [ENTER] to confirm your setting, then press [SETUP] to exit the Setup menu.

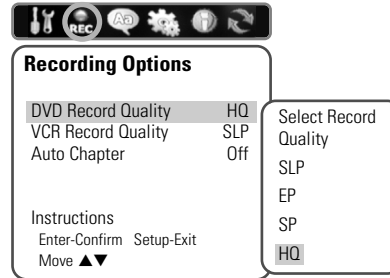


RECORDING OPTIONS Settings

DVD Record Quality

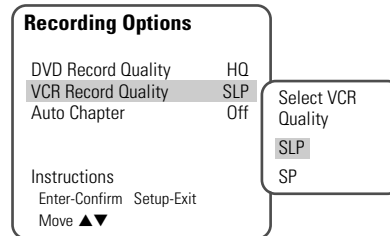
You can set the default DVD recording quality to: HQ (High, 1 hr/disc), SP (Standard, 2 hrs/disc), EP (Low, 4 hrs/disc) or SLP (Very Low, 6hrs/disc).

- 1 Press [SETUP].
The Setup menu appears.
- 2 Use [◀/▶] to select the 'Recording Options' option.
- 3 While the 'Recording Options' is selected, press [▼] to select the 'DVD Record Quality' option.
- 4 Press [ENTER] to move to the second level.
- 5 Use [▲/▼] to select the desired Record Quality (SP, SLP, EP, HQ).
- 6 Press [ENTER] to confirm your selection, then press [SETUP] to exit the menu.



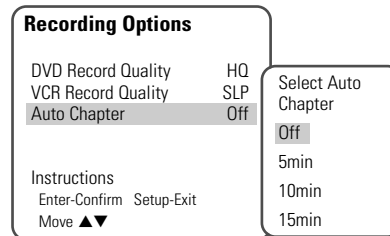
VCR Record Quality

You can set the default VCR recording quality to SP (Standard Play) or SLP (Super Long Play). SP is higher quality, but SLP provides 3 times the recording time; e.g., a 2 hour tape will record for 6 hours in SLP mode. Follow the same procedure as the DVD Record Quality.



Auto Chapter

During recording, chapter markers are added automatically at fixed intervals. You can set this interval to 5 minutes, 10 minutes or 15 minutes. To turn off automatic chapter marking, select 'Off'. Follow the same procedure as the DVD Record Quality.

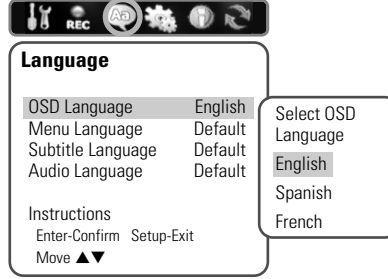


LANGUAGE Settings

OSD Language

Select a language for the DVD Recorder+VCR Setup menu and on-screen displays.

- 1 Press [SETUP]. The Setup menu appears.
- 2 Use [◀] and [▶] to select the 'Language' option.
- 3 While the 'Language' is selected, press [▼] to select the 'OSD Language' option.
- 4 Press [ENTER] to move to the second level.
- 5 Use [▲/▼] to select the desired language.
- 6 Press [ENTER] to confirm your selection, then press [SETUP] to exit the menu.

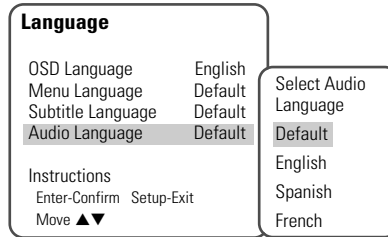
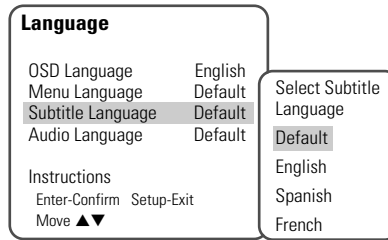
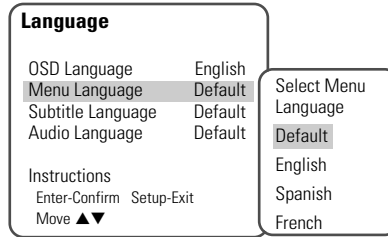


DISC Menu/Audio/Subtitle Language

Select your preferred language for Disc Menus, Audio soundtracks, and Subtitles.

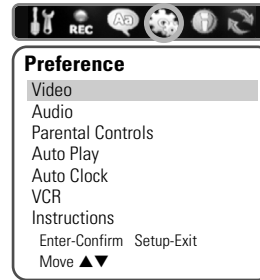
Default: The disc's default language is selected.

Follow the same procedure as the OSD Language.



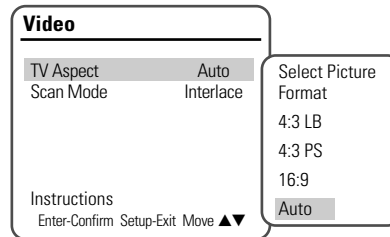
PREFERENCE / Video Settings

- 1 Press [SETUP].
- 2 Use [◀/▶] to select the 'Preference' option.
- 3 While the 'Preference' option is selected, press [▼] to select the 'Video' option.
- 3 Press [ENTER]. Video sub menu appears.



TV Aspect Ratio

- 1 Use [▲/▼] to select 'TV Aspect' while Video submenu displays.
- 2 Press [ENTER] or [▶] to go to the second level.
- 3 Use [▲/▼] to select the desired TV Aspect.
- 4 Press [ENTER] to confirm your selection.
- 5 Press [SETUP] to exit the menu.



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

4:3 PS : 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.

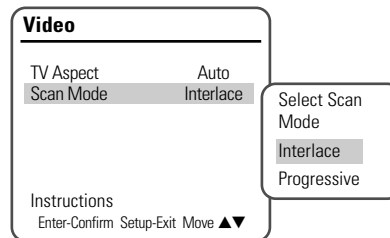
16:9 : Select when a 16:9 wide screen TV is connected.

Auto : Convert to the appropriate aspect ratio automatically.

Scan Mode

Progressive Scan Video provides the highest picture quality with reduced flickering.

- If you are using the COMPONENT/PROGRESSIVE VIDEO OUT jacks, but are connecting the DVD Recorder+VCR to a standard (analog) television, select Scan Mode as Interlace.
- If you are using the COMPONENT/PROGRESSIVE VIDEO OUT jacks for connection to a TV or monitor that is compatible with a Progressive Scan signal, select Scan Mode as Progressive.



Follow the same procedure as TV Aspect Ratio to change the Scan Mode.

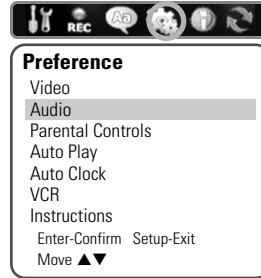


Caution

Once the setting for Progressive Scan output is entered, an image will only be visible on a Progressive Scan compatible TV or monitor. Press [P.SCAN] on the Remote Control for 3 seconds.

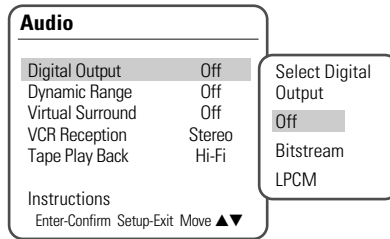
PREFERENCE / Audio Settings

Follow the same procedure as Video Settings to select Audio Settings option.



Digital Output

- 1 Use [▲/▼] to select 'Digital Output' while Audio submenu displays.
- 2 Press [ENTER] or [▶] to go to the second level.
- 3 Use [▲/▼] to select the desired output type.
- 4 Press [ENTER] to confirm your selection.
- 5 Press [SETUP] to exit the menu.



Off

No signal will be output from the Digital Audio Out jacks.

LPCM

Select when connected to a 2 channel digital stereo amplifier. The DVD Recorder+VCR's digital audio signal will be output in the PCM 2ch format when you play a DVD (or VHS) recorded with a Dolby Digital (only for DVD) or MPEG soundtrack. If the DVD is recorded with a DTS sound track then you can hear no sound.

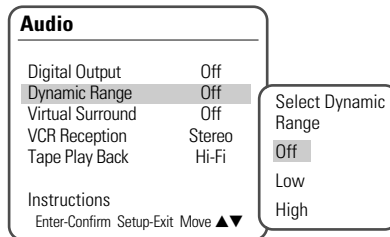
Bitstream

Select when connected to a proper decoder such as Dolby Digital decoder or DTS decoder (or an amplifier or other equipment with the proper decoder).

Dynamic Range

While watching DVD movies, you may wish to compress the dynamic range of the audio output (the difference between the loudest and quietest passages). This allows you to listen to a movie at a lower volume without losing clarity of sound. Set 'Dynamic Range' to Low or High for this effect.

Follow the same procedure as 'Digital Output' to change the Dynamic Range.



Virtual Surround

A simulated 3D effect from two speakers by selecting between Low or High.

Follow the same procedure as 'Digital Output' to change the Virtual Surround option.

Audio	
Digital Output	Off
Dynamic Range	Off
Virtual Surround	Off
VCR Reception	Stereo
Tape Play Back	Hi-Fi
Instructions Enter-Confirm Setup-Exit Move ▲▼	

Select Virtual Surround
 Off
 On

VCR Reception

Select the appropriate option for the VCR recording source among the Stereo, Mono, SAP.

Follow the same procedure as 'Digital Output' to change the VCR Reception audio.

Audio	
Digital Output	Off
Dynamic Range	Off
Virtual Surround	Off
VCR Reception	Stereo
Tape Play Back	Hi-Fi
Instructions Enter-Confirm Setup-Exit Move ▲▼	

Select VCR Reception
 Stereo
 Mono
 SAP



Tape Play Back

The menu display is dependent on the VCR Reception.

Follow the same procedure as 'Digital Output' to change the Tape Play Back option.

Audio	
Digital Output	Off
Dynamic Range	Off
Virtual Surround	Off
VCR Reception	Stereo
Tape Play Back	Hi-Fi
Instructions Enter-Confirm Setup-Exit Move ▲▼	

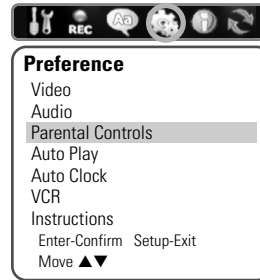
Select Tape Playback
 Hi-Fi
 Mix
 Linear

PREFERENCE / Parental Controls


Set Parental Level

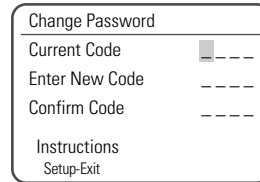
The Lock feature allows you to prevent DVDs from being played based on their ratings or to have certain discs played with alternative scenes. You can change the parental level from 1 to 8.

- 1 Press [SETUP].
- 2 Use [◀/▶] to select the 'Preference' option.
- 3 While the 'Preference' option is selected, press [▼] to select the 'Parental Controls' option.

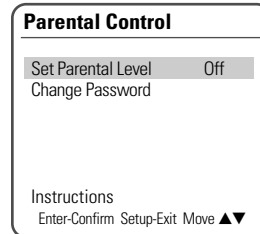


- 4 Password Input dialog will appear. Enter a 4-digit password using the 0-9 buttons. When you have not entered a password yet, Enter a 4-digit password and confirm again.

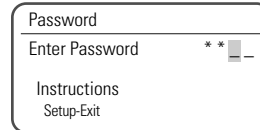
-  • The initial password is '0000'. Use this at first.
- Change the password different from 0000 to change the parental level.



- 5 After setting up the password, press [ENTER] while 'Set Parental Level' is selected.



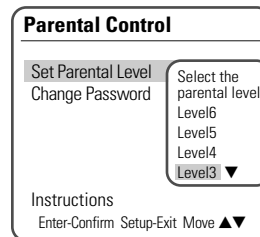
- 6 Password input dialog that is different from before is displayed. Input the password you changed before.



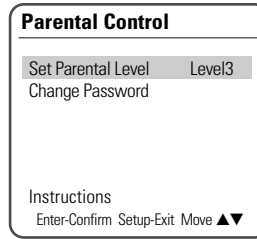
- 7 Use [▲/▼] to select the desired parental level and press [ENTER] to confirm.

Off: If you select Unlock, the Lock feature is not active. The disc will play in full.

Level 1 to 8: Some discs contain scenes not suitable for children. If you set a rating for the DVD Recorder+VCR, all 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.



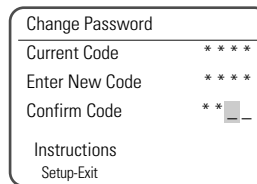
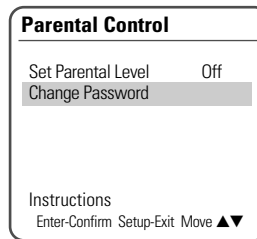
- 8 Press [ENTER] to confirm your rating selection, then press [SETUP] to exit the menu.



Change Password

- 1 While the 'Preference' option is selected, press [▼] to select the 'Parental Controls' option.
- 2 Press [ENTER]. 'Parental Controls' sub menu appears.
- 3 Use [▲/▼] to select the 'Change Password' then press [ENTER].
- 4 Change Password submenu will appear. Enter 4-digit current password then press [ENTER].
- 5 Enter a new 4 -digit password, then press [ENTER]. And re-enter the new password for confirmation then press [ENTER].

i Master Password
If you forget your password, press 3,3,0,8 on the remote controller and press [ENTER].



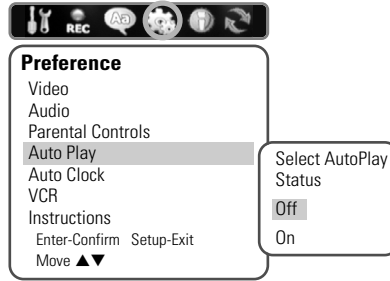
Various PREFERENCE Settings

Auto Play

This enables the DVD Recorder+VCR to skip the opening title and play a DVD main title automatically when it goes on with a disc is inserted in the tray.

- 1 Use [▲/▼] to select 'Auto Play' option.
- 2 Press [ENTER] or [▶] to go to the second level.
- 3 Use [▲/▼] to change the 'Auto Play Status'.
- 4 Press [ENTER] to confirm.

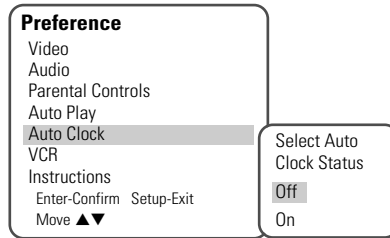
Though AutoPlay is set, The DVD Recorder+VCR may play other title than the main title in some DVDs. In this case, set the Auto Play off then play the disc.



Auto Clock

Auto clock enables the DVD Recorder+VCR to set the clock whenever it is off in Standby mode.

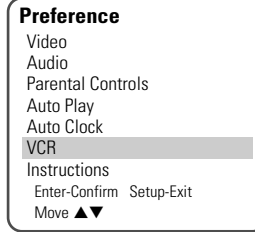
Follow the same procedure as Auto play to set the 'Auto Clock' status.




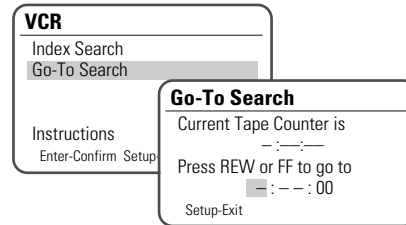
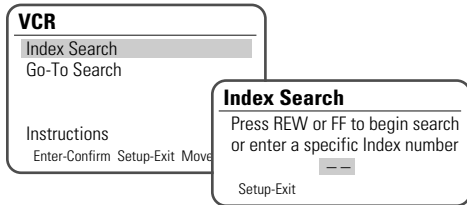
VCR

This enables index search and go to search.

- 1 While the 'preference' option is selected, press [▼] to move to the second level.
- 2 Use [▲/▼] to select 'VCR' menu.
- 3 Press [ENTER] then a sub menu appears.
- 4 You can select 'Index Search' or 'Go-To Search'.
- 5 If you select 'Index Search' and press [ENTER], a sub menu appears. Use [▲/▼] to change index number you want to search and press [REW] or [FF].
- 6 If you select 'Go-To Search' and press [ENTER], a sub menu appears. Use [▲/▼] to change the timer number and press [REW] or [FF].

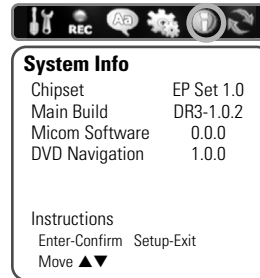


 VCR menu is activated only when a video cassette tape is inserted.



System Information

This is System Information which A/S Engineer can refer to when your set is out of order.



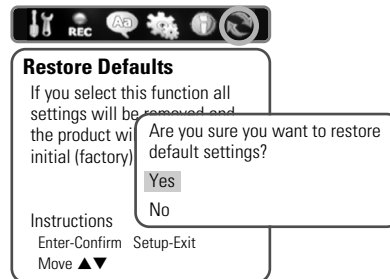
Restore Defaults

If you wish, you can reset the DVD Recorder+VCR to its original factory settings.

- 1** Press [SETUP].
- 2** Use [◀/▶] to select the 'Restore Defaults' option.
- 3** Press [ENTER].
- 4** The Initialize menu will appear. Use the [▲/▼] buttons to select 'Yes' and press [ENTER].



- Some options cannot be reset, including Movie Rating, Password, and Country Code.
- After Restoring Defaults the set reboots automatically and the Installation menu appears. You must set the country, language, auto channel and clock again.



On-Screen Display Overview

The On-Screen Display provides feedback on the status of the DVD Recorder+VCR and/or the currently loaded disc or tape. To access the On-Screen Display (or OSD), press the [DISPLAY] button.

Displaying Disc Information

To display information about the currently loaded disc or tape:

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] repeatedly until it disappears.

See the descriptions from current page to the next page for detailed explanations of on-screen displays for each media type.

 Some discs may not provide all the features shown in the on-screen display examples.

Temporary Feedback Icons

-  Action prohibited or not available

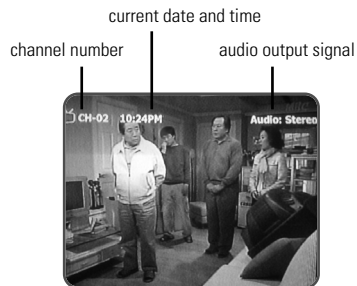
SETUP

Displaying TV Information

While watching TV, press [DISPLAY] to display/remove the on-screen display.

When there is no rewritable DVD disc inserted, you would see a screen like the following:

When a DVD+R or DVD+RW disc is inserted, the disc information is displayed at the first key input. If you press again then the TV information is displayed.



Changing TV Channels

If no disc is playing, you can change TV channels using the [0-9] or [CH +/-] buttons on the remote control or [CH ▲/▼] buttons on the front panel.

 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

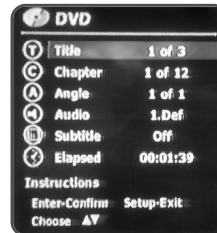
The current audio channel is displayed on-screen.

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

OSD Menu Options for DVD

With a DVD disc inserted and played, press [DISPLAY] to show the information of the current disc.

While the disc information is displayed, press [DISPLAY] again to show the disc remaining time.



Title

Shows the current title number and total number of titles, and skips to the desired title number.

- 1** Press [DISPLAY] during playback. The on-screen display appears on the TV screen.
- 2** Use [▲▼] to select the 'Title' icon on the on-screen display. Press [ENTER] to display a sub menu.
- 3** Use [▲▼] to change the numbers.
- 4** Press [ENTER] to confirm.

Chapter

Shows the current chapter number and total number of chapters, and skips to the desired chapter number.

- 1 Press [DISPLAY] during playback. The on-screen display appears on the TV screen.
- 2 Use [▲▼] to select the 'Chapter' icon on the on-screen display. Press [ENTER] to display a sub menu.
- 3 Use [▲▼] to change the numbers.
- 4 Press [ENTER] to confirm.

Angle

Shows the current angle number and total number of angles, and changes the angle number.

- 1 Press [DISPLAY] during playback. The on-screen display appears on the TV screen.
- 2 Use [▲▼] to select the 'Angle' icon on the on-screen display. Press [ENTER] to display a sub menu.
- 3 Use [▲▼] to change the numbers.
- 4 Press [ENTER] to confirm.

Audio

Shows the current audio soundtrack language, encoding method, and channel number, and changes the setting.

- 1 Press [DISPLAY] during playback. The on-screen display appears on the TV screen.
- 2 Use [▲▼] to select the 'Audio' icon on the on-screen display. Press [ENTER] to display a sub menu.
- 3 Use [▲▼] to change the numbers.
- 4 Press [ENTER] to confirm.

Subtitle

Shows the current subtitle language, and changes the setting.

- 1 Press [DISPLAY] during playback. The on-screen display appears on the TV screen.
- 2 Use [▲▼] to select the 'Subtitle' icon on the on-screen display. Press [ENTER] to display a sub menu.
- 3 Use [▲▼] to change the numbers.
- 4 Press [ENTER] to confirm.

Elapsed

Shows the elapsed playing time, and skips to the desired time.

- 1 Press [DISPLAY] during playback. The on-screen display appears on the TV screen.
- 2 Use [▲▼] to select the 'Elapsed' icon on the on-screen display. Press [ENTER] to search time. Then sub menu appears.
- 3 Use [▲▼] to change the numbers and use [◀▶] to move to other time position.
- 4 Within 7 seconds, press [ENTER] to confirm the start time. Playback starts from the selected time on the disc.

DVD Playback

Playing a DVD

- 1** Press the [DVD] button to set the remote control to operate the DVD deck.
Turn the TV on and select the video input source connected to the DVD Recorder+VCR.
Audio system: Turn the audio system on and select the input source connected to the DVD Recorder+VCR.
- 2** Press [EJECT] to open the disc tray.
- 3** Load your disc in the tray with the playback side down.
- 4** Press [EJECT] to close the tray.
- 5** READING appears on the front panel display, and playback starts automatically. If playback does not start, press [PLAY (▶)]. In some cases, the Disc menu might appear instead.

Playing a DVD+R(+RW)

When a DVD+RW or unfinalized DVD+R is inserted, no title is played automatically but TV channel displays on the screen.

If you want to play a title in the DVD+R(+RW), you must press [DISC MENU] or [PLAY] to display the disc menu at first. Select a title to play then press [ENTER].

If a Disc menu is displayed

A Disc menu may be displayed when you load a DVD. Use the [◀▶▲▼] buttons to select the title/chapter you want to view, then press [ENTER] to start playback. Press [TITLE] or [DISC MENU] to return to the Disc menu.



- If the Parental Lock feature is set and the disc is not within the current Movie Rating setting, the 4-digit code must be entered and/or the disc must be authorized; see 'Movie Rating' on page 30.
- The DVD Recorder+VCR will not play discs with Region codes different from the DVD Recorder+VCR. The Region code for this DVD Recorder+VCR is 1 (one).
- Unless stated otherwise, all operations described use the remote control. Some features may also be available in the Setup menu.
- A disc which is recorded with ripped source may not be played.
- A disc which is recorded by computer with high speed (over or equal to 2x) may not be recognized.

Still Picture and Frame-by-Frame Playback

- 1** Press [PLAY/PAUSE] during playback. The DVD Recorder+VCR will go into Pause mode.
- 2** You can back up or advance the picture frame-by-frame by pressing [FF (▶▶)] repeatedly during Pause mode.

Fast Forward/Backward

- 1** Press [REW (◀◀)] or [FF (▶▶)] during playback. The DVD Recorder+VCR will go into Search mode.
- 2** Press [REW] or [FF] to select the desired speed: ▶▶ X2, ▶▶ X4, ▶▶ X8, ▶▶ X16, ▶▶ X32, ▶ (forward) or ◀, ◀◀ X2, ◀◀ X4, ◀◀ X8, ◀◀ X16, ◀◀ X32 (backward).

Slow Motion

Press [SLOW+] to enter the Slow Motion mode. The default speed is 1/2. When you press [SLOW+] repeatedly, the speed will be 1/4, 1/8 and normal speed.



Slow playback in the reverse mode is not supported.

Changing the Audio Language

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

Subtitles

Press [SUBTITLE] then press [◀▶] repeatedly during playback to select among all available subtitle languages.

Camera Angle

If a DVD contains scenes recorded at different camera angles, you can select among these angles during playback.

Press [ANGLE] then press [◀▶] repeatedly during playback to select the desired angle.

The number of the current angle appears on the TV screen.



The Camera Angle icon is displayed on the TV screen when alternate angles are available.

Zoom

The Zoom function allows you to magnify the video image and scroll around the enlarged image.

1 Press [ZOOM] during Play mode or Pause mode to activate the Zoom function.

Each press of the [ZOOM] button changes Zoom level as follows: X1 (normal size) → X2 → X4 → X1 (normal size)

2 Use the [◀▶▲▼] buttons to scroll around the zoomed picture.

3 To resume normal playback, press [ZOOM] repeatedly until the X1 (normal picture) appears.



The Zoom function may not work on some DVDs.

Repeat

1 To repeat the currently playing chapter, press [REPEAT]. REPEAT CHAPTER appears on the TV screen.

2 To repeat the currently playing title, press [REPEAT] a second time. REPEAT TITLE appears on the TV screen.

3 To repeat the whole disc, press [REPEAT] a third time. REPEAT DISC appears on the TV screen.

4 You can play in other modes like Repeat A-B, Shuffle, Scan by pressing [REPEAT] repeatedly.



You can repeat some section with the start point when 'Repeat A-' displays on the screen. To mark end point, press [A-B]. Press [A-B] again to repeat the section.

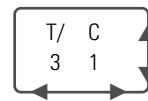
A-B

You can repeat some section using 2 methods. The first one is described in the 'Repeat'. The second one is by pressing [A-B] on the remote controller.

- 1** Press [PLAY/PAUSE] to prepare start point (A) to be repeated.
- 2** Press [A-B] to mark start point.
- 3** Press [PLAY/PAUSE] to continue playing.
- 4** Press [A-B] to mark end point (B).
- 5** Press [A-B] again to start repeating.

Search

- 1** Press [SEARCH] to display Search menu.
- 2** Use [◀▶] to move to the Title(T) or Chapter(C) and use [▲▼] to change the title or chapter number.

**Selecting Titles**

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

- 1** Press [DISPLAY] and use [▲▼] to select the Title icon. Press [ENTER] then a submenu appears. Use [▲▼] to select the title number and press [ENTER] to confirm.

Selecting Chapters

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

- 1** Press [PREV (◀◀)] or [NEXT (▶▶)] briefly during playback to select the next chapter or the previous chapter.
- 2** To skip directly to any chapter during playback, press [DISPLAY]. Use [▲▼] to select the Chapter icon, then press [ENTER] to display a submenu. Use [▲▼] to select the chapter number and press [ENTER] to confirm.

Disc Menus

Many DVDs contain Disc menus that allow you to access special features. To open a Disc menu, press [MENU]. 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 [MENU]. The Disc menu is displayed.
- 2** To exit the Disc menu, press [STOP] or [TV VIEW].

Title Menus

- 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.

VCR Playback

Before You Begin

Press the VCR button to set the remote control to operate the VCR deck.

Turn the TV on and select the video input source connected to the DVD Recorder+VCR.

Audio system: Turn the audio system on and select the input source connected to the DVD Recorder+VCR.

Playing a VHS Tape

Preparation:

Turn on the TV.

Tune the TV to the DVD Recorder+VCR output channel (CH 3 or 4) or select the video input connected to the DVD Recorder+VCR.

1 Insert a prerecorded video cassette.

If the DVD Recorder+VCR is powered off, it will power up automatically.

Make sure the TIMER indicator on the front panel display is not lit. If it is, press [POWER] once.

If a tape without a safety tab is inserted, the DVD Recorder+VCR will start playback automatically.



If the DVD Recorder+VCR is powered up by inserting video cassette, it will not start playback automatically.

2 Press [PLAY].

PLAY icon appears on the TV screen. It is not necessary to select the tape speed (SP, SLP) for playback. It will be automatically selected by the DVD Recorder+VCR.

3 Press [STOP] to stop playback.

STOP icon appears on the TV screen. If the tape reaches the end before [STOP] is pressed, the DVD Recorder+VCR will automatically stop, rewind and eject the tape.

Tracking Control

Auto Tracking

The automatic tracking function adjusts the picture to remove snow or streaks. It works in the following cases:

- When a tape is played for the first time.
- When the tape speed (SP, SLP) changes.
- When streaks or snow appear because of scratches on the tape.

Manual Tracking

If noise appears on the screen during playback, press either [TRACKING +/-] on the remote control 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 Playback Features

Notes on special playback features

Horizontal lines (noise bars) will appear on the TV screen. This is normal.

The audio is automatically muted during special playback modes, so there is no sound during search, slow motion, etc.

During high-speed picture search, a short time is needed to stabilize tape speed when re-entering Play mode. Slight interference may be observed during this time.

Fast Forward/Backward

This function lets you visually search forward and backward for a desired scene on your tape.

- 1 Press [REW] or [FF] during playback.

Search mode will be activated.

If the DVD Recorder+VCR is left in Search mode for more than 3 minutes, the DVD Recorder+VCR will automatically enter Play mode to protect the tape and video heads.

- 2 To return to normal playback, press [PLAY].

Still Picture

- 1 Press [PLAY/PAUSE] during playback.

A still picture appears on the TV screen.

If a still picture vibrates vertically, stabilize it by using [TRACKING +/-] on the remote control.

If the DVD Recorder+VCR is left in Still mode for more than 5 minutes, the DVD Recorder+VCR will automatically enter Stop mode to protect the tape and video heads.

- 2 To return to normal playback, press [PLAY].

Slow Motion

- 1 Press [SLOW+] for Slow Motion playback.

- 2 For Slower speed press [SLOW+] repeatedly and for faster slow mode speed press [SLOW-] repeatedly.

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 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.

- 3 Press [STOP] when recording or playback finishes.

- 4 You can make the tape automatically stop when the counter returns to about '0:00:00' by setting the counter to '0:00:00' in the 'Go to Search' function of the 'Setup' → 'Preference' → 'VCR'.

Audio CD/MP3 PLAYBACK

The DVD Recorder+VCR can play audio CD and MP3 files on CD-ROM, CD-R or CD-RW discs. Before playing MP3 files, read 'Notes on MP3 Recordings' at right.

- 1 Insert the CD disc and close the tray. The Audio CD or MP3 CD menu appears on the TV screen after detecting the CD.
- 2 Use [▲▼] to select a track or a file then press [PLAY] or [ENTER].

During playback, the current track's elapsed playing time will appear on the front panel display and menu. Playback will stop at the end of the disc.

i 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] or [PLAY]. Also you can display only tracks in the folders. Use [▲▼◀▶] to select a folder then press [ENTER].

- 3 While playing Audio CD, use [FF] or [REW] key to fast speed(2x) playback.
- 4 Use [PLAY/PAUSE] to pause the playback while the disc is played.
- 5 To stop playback at any time, press [STOP].

i

- Press [REPEAT] key to repeat a track(file) and press again to repeat a whole disc.
- If the disc contains jpeg files as well as mp3 files, you can change play mode to display jpeg image files by pressing [TITLE] key.



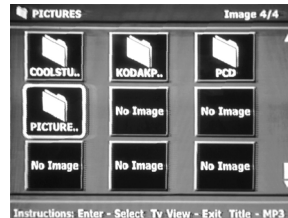
PLAYBACK

JPEG / Kodak Picture CD PLAYBACK

The DVD Recorder+VCR can display JPEG file and Kodak Picture CD.

- 1 Insert the CD disc and close the tray. The JPEG CD or Kodak Picture CD folder tree appears.

- 2 If there are some folders which contain JPEG file (e.x. pictures for Kodak Picture CD), select the folder using [▲▼◀▶] and press [ENTER] to get in.



- 3** Select the thumbnail you want to display using [▲▼◀▶] and press [ENTER].



- 4** The full size image will be displayed and slide show starts automatically with the time interval of 10 seconds.
- 5** Press [NEXT] or [PREV] key to go to the next or previous image immediately.



- 6** Press [▶] (or [◀]) to rotate the image (counter) clockwise.

- 7** Press [STOP] to quit the slideshow.



- If the disc contains mp3 files as well as jpeg files, you can change play mode to play mp3 files by pressing [TITLE] key.
- When a CD contains mp3 files and jpeg files, the default play mode is jpeg image file.



Slide Show while playing mp3 files

You can enjoy slide show while listening the music.

- 1** Prepare a CD which contain mp3 files as well as JPEG files.
- 2** Insert the disc and play an mp3 file.
- 3** Press [TITLE] key while playing the mp3 file to change the play mode. Music will not stop.
- 4** Find image files and start slideshow by selecting a file and pressing [ENTER].
- 5** Slide Show starts and music will not stop. You can enjoy the slide show while listening music.

Basic Recording

Recording from TV

Follow the instructions below to record a TV program.

1 Turn on the DVD Recorder+VCR and load a recordable disc or tape.

Make sure your TV input is set to view the DVD Recorder+VCR.

2 Set the desired Recording mode by pressing [REC MODE] repeatedly.

DVD: HQ (High Quality - 1hr/disc), SP (Standard Quality - 2hrs/disc), EP (Extended Play - 4 hrs/disc), SLP (Very Low Quality - 6hrs/disc)

VCR: SP (Standard Play), SLP (Super Long Play - 3times SP)

3 If your DVD Recorder+VCR does not show TV program, press [TV VIEW] on the remote. Use the [CH ▲ / ▼] to change the TV channel you wish to record.

4 Press [AUDIO] to select the audio channel to record (Stereo, SAP, or Mono).

The table below shows what audio channel will be recorded with different settings and different types of broadcasts.

The last column (Monitor Audio) shows what you will hear during recording. For example, if the TV broadcast is in Stereo, then setting the DVD Recorder+VCR to Stereo will record the broadcast in Stereo, and the Monitor Audio will also be in Stereo.

- If you set the audio channel to SAP, but no SAP channel is 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	L	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 on the front panel display.

Recording continues until you press [STOP] or the disc is full.

To record for a fixed length of time, see One Touch Record at next page.

6 Press [STOP (■)] to stop recording.



- The maximum number of DVD titles is 99. If the DVD Recorder+VCR is powered off during DVD recording, the recording will not be saved.
- If DVD+RW or unfinalized DVD+R disc is inserted in the tray, no title is played automatically after loading is finished.
- In the case of virgin DVD+R(+RW) disc, it may takes up to 7 minutes for post processing after recording.

PLAYBACK

RECORDING

One Touch Record (OTR)

One Touch Recording allows you add recording time in fixed increments at the touch of a button.

- 1 Follow steps 1-4 under Recording from TV.
- 2 Press [REC (●)] repeatedly to set the length of the recording.

Recording starts after the first press. Each subsequent press increases the recording time by 15 minutes (DVD, to a maximum of 240 minutes) within the available space or 30 minutes (VCR, to a maximum of 540 minutes). The recording time is displayed on the front panel display.

Checking the Recording Time

Total time and recorded time are displayed on the TV screen after pressing [DISPLAY] key twice. And recorded time is displayed on the front panel display.

To Pause the Recording

- 1 Press [PLAY/PAUSE] to pause the disc during recording.
- 2 When you want to continue recording, press [PLAY/PAUSE] or [REC (●)].



Note

- To quit the One Touch Recording, press [STOP] for 3 seconds.
- The DVD Recorder+VCR will automatically power off when the One Touch Recording ends.

Tip (VCR mode only)

Always use [PLAY/PAUSE] for best results when making changes during recording.


For example: To change channels during recording, first press [PLAY/PAUSE] to put the unit in Pause mode. Then select the desired channel on the DVD Recorder+VCR, and press [PLAY/PAUSE] again to resume recording.



- VCR and DVD cannot be recorded at the same time.
- While VCR is under recording, DVD playback is possible. But while DVD is under recording, all the VCR function is deactivated.

One Touch Copy - DVD to VHS

You can copy the contents of a DVD to a VHS tape using the [DVD → VCR] button.

 If the DVD you are attempting to copy is copy-protected, you will not be able to copy the disc. It is not permitted to copy Macrovision encoded DVDs. '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 videotape 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.

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

5 Press [DVD → VCR] on the front panel.

The Copy to VCR menu appears.

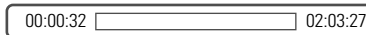
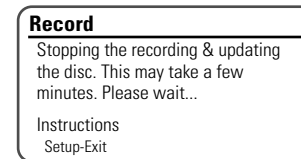
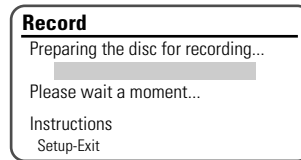
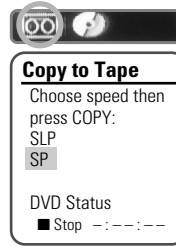
6 Press [REC SPEED] to select the desired Record Mode:

- SP (Standard Play)
- SLP (Super Long Play, 3 times SP).

7 Press [ENTER] to start copying.


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.



One Touch Copy - VHS to DVD

You can copy the contents of a VHS tape to a DVD+R or DVD+RW using the [VCR → DVD] button. This allows you to archive your old VHS tapes to DVD.


 If the VHS videotape you are attempting to copy 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 the VHS videotape 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.

 When using a DVD+RW disc, you must initialize before copying; see page 52.

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 [VCR → DVD] on the front panel.

The Copy to DVD menu appears.

6 Press [REC SPEED] to select the desired Record Mode:

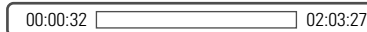
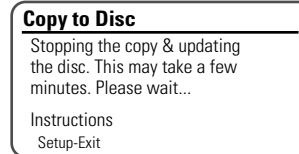
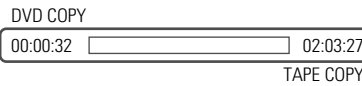
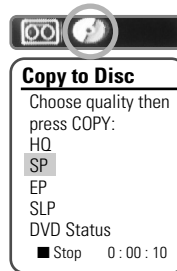
- HQ (High Quality, 1 hr/disc)
- SP (Standard Quality, 2 hrs/disc)
- EP (Extended Play, 4 hrs/disc)
- SLP (Very Low Quality, 6 hrs/disc)

7 Press [ENTER] to start copying.

8 Stop the Copy Process

To stop copying at any other time, press [STOP].

Copying will stop automatically when the VHS tape ends.



Timer Recording

The Timer Recording function allows you to record up to 8 programs within a period of one month.

1 Insert recordable media such as DVD+R ,DVD+RW, recordable VHS tape.

2 Press [TIMER].

The 'Timer Recording' menu appears.

Use [▲▼] to move to a timer recording slot, and press [ENTER] to modify it.

If you did not set the clock of DVD Recorder+VCR, set the clock at first to do timer recording.

- Media - Choose desired media between DVD and VHS using [▲▼].
- Ch. - Choose the desired channel, or one of the external inputs from which to record.
- 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: HQ, SP, SLP or EP
 VCR: SP, SLP

3 Enter the necessary information for your Timer Recording(s).

- ◀▶ - Moves the cursor left/right
- ▲▼ - Changes the setting at the current cursor position
- Press [SETUP] to exit the Timer Record menu.
- Press [ENTER] after filling in all the program information.
- Press [TIMER] to display the Timer Record List.

4 Press [ENTER] to save the program.

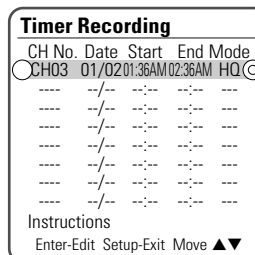
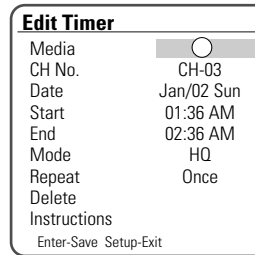
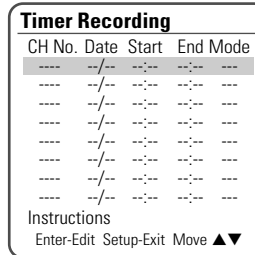
The Timer Record List will appear.

5 Press [SETUP] to exit the Timer Record List.

6 Timer indicator will light or blinking. Power Off the DVD Recorder+VCR to start the Timer Recording.

Note

- The Timer indicator lights on the front panel display when the DVD Recorder+VCR is ready for the Timer Recording and powered off.
- If the Disc and Tape indicator are blinking, if any of the following meets.
 - The DVD Recorder+VCR is not powered off.
 - No recordable disc or tape is inserted.
- The DVD Recorder+VCR 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 DVD Recorder+VCR to Standby mode.
- The DVD Recorder+VCR 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.



RECORDING

Canceling a Timer Recording

You can clear a Timer Recording any time before the recording actually starts.

- Use [▲▼] to select the program you want to erase on the Timer Recorder List, then press [ENTER] to modify it. Use [▲▼] to select 'Delete' then press [ENTER].

Stopping a Timer Recording in Progress

After a Timer Recording has started, you can still cancel the program by pressing [STOP] for 3 seconds.

Timer Recording Troubleshooting

Even if a Timer Recording is set, the DVD Recorder+VCR will not record if:

- No disc is loaded.
- A non-recordable disc is loaded.
- DISC Lock is set to ON in the DISC Settings menu; see page 53.
- There are already 99 titles recorded on the disc.

You cannot enter a Timer Recording if:

- The DVD Recorder+VCR is powered on.
- A recording is already under way.
- The start time has already passed.
- Eight Timer Recordings have already been set.

If two or more Timer Recordings overlap:

- The earlier program takes priority.
- When the earlier program finishes, 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:

- The 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, even if the Check field shows 'Rec. OK'.

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 DVD Recorder+VCR's external inputs.

- 1** *Make sure the component you want to record from is connected properly to the DVD Recorder+VCR; see pages 15 and 18.*
- 2** *Use [▲▼] to select the external input to record from.*
 - Tuner: Built-in tuner
 - LINE1 : Audio/Video or S-Video Input on front panel
 - LINE2 : Audio/Video Input on back panel
- 3** *Load a recordable disc or tape.*
- 4** *Set the desired Recording mode by pressing [REC MODE] repeatedly.*

DVD: SP (Standard Quality - 2hrs/disc), EP (Extended Play - 4 hrs/disc, HQ (High Quality - 1hr/disc), SLP (Very Low Quality - 6hrs/disc)

VCR: SP (Standard Play), SLP (Super Long Play -3times SP)
- 5** *Press [REC (●)] once.*

Recording will start. The REC indicator lights on the front panel display.
Recording continues until you press [STOP] or the disc is full.
To record for a fixed length of time, see 'One Touch Record' on page 46.
- 6** *Press [STOP (■)] to stop recording.*

**Note**

If your source is copy-protected, you will not be able to record it using the DVD Recorder+VCR. See 'Copyright Notice' on page 7 for more details.

RECORDING

Editing

DISC Initialize

- If you load a blank DVD+R(+RW) disc, it will be initialized.
- If you press [REC] while initialization is under process, Disc preparing message will appear and you should wait for some seconds.
- If you load a DVD+RW that has already been used you can record a program immediately.

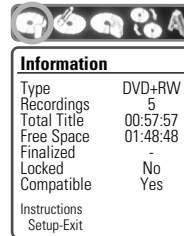
Disc Menu

For recordable DVD media, such as DVD+R and DVD+RW, you can manage the disc using Disc Menu.

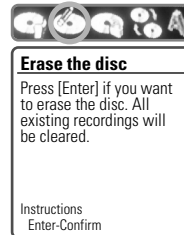
Disc menu for DVD+R let you finalize or rename the disc. For DVD+RW you can erase, lock (unlock) and make the disc compatible.

Information / Erase the disc (DVD+RW)

- 1 Press [MENU] to go to disc menu mode.
- 2 In the DVD disc menu mode, press [▲] to move to the disc top menu.
- 3 Press [▶] then Disc Menu appears.
- 4 Disc Menu shows you the disc information like disc type, number of recordings, total title, free space, etc.



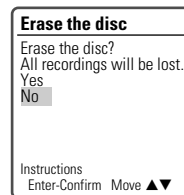
- 5 Use [◀/▶] to select 'Erase the disc' menu.
- 6 If you want to erase the whole disc, press [ENTER].



- 7 For confirmation, select Yes or No for erasing. If you select 'Yes' and press [ENTER], all the contents in the disc will be lost.



DVD+R disc cannot be locked (unlocked) or erased.



Lock/Unlock Disc (DVD+RW)

If you want to prevent a disc from accidental recording, editing or erasing, you can lock the disc. If you can also make the disc unlock.

- 1 Use [▲] to go to top menu.
- 2 Press [▶] to display Disc Information Menu.
- 3 Use [◀/▶] to select 'Lock/Unlock Disc'.
- 4 Press [ENTER] as described on the screen.
- 5 You can see the current disc status (Locked or Unlocked).

- 6 You can change the disc status by selecting 'Yes' and pressing [ENTER].

- 7 Changing Disc Status bar will appear. This process takes some seconds.
- 8 After the process ends the menu disappears automatically.



Lock/Unlock Disc

Press [Enter] to lock the disc. This prevents future disc operations or recordings.

Instructions
Enter-Confirm

Lock/Unlock Disc

Disc is unlocked.
Do you want to lock it?
Yes
No

Instructions
Enter-Confirm Move ▲▼

Lock/Unlock Disc


Changing disc lock status.

Please wait a moment....

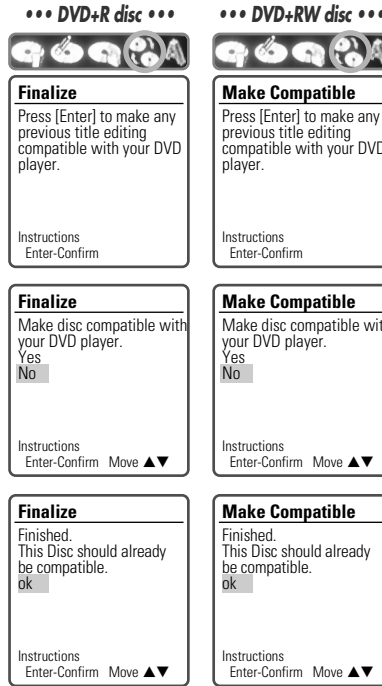
Finalize (Make Compatible)


Finalizing a DVD+R 'locks' its recordings in place so the disc can be played on most standard DVD players or computers equipped with DVD-ROM drives.

'Make Compatible' for a DVD+RW will automatically create a menu screen for navigating the disc. This menu screen is accessible by pressing [DISC MENU] or [TITLE].

 Once you have finalized a DVD+R disc, you cannot edit or record anything else on that disc.

- 1 Use [▲] to go to top menu.
- 2 Press [▶] to display Disc Information Menu.
- 3 Press [▶] and select 'Finalize' ('Make Compatible' for DVD+RW).
- 4 Press [ENTER] as described on the screen.
- 5 Select 'Yes' using [▲] and press [ENTER] to finalize the disc (make the disc compatible in the case of DVD+RW).
- 6 Press [ENTER] again.
- 7 Press [SETUP] to go to the top disc menu.

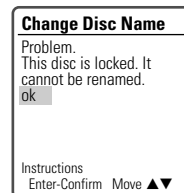
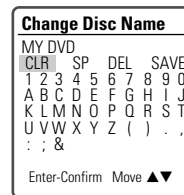
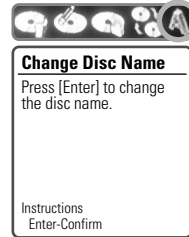


-  'Finalize (Make Compatible)' can take up to 3-4 minutes depending on the type of disc, how much is recorded on the disc, and the number of titles on the disc.
- A DVD+RW disc edited in the DVD Recorder+VCR will seem not edited if you do not 'make compatible'.

Change Disc Name

The default disc name is MY DVD. You can change the name to what you want.

- 1 Use [▲] to go to top menu.
- 2 Press [▶] to display Disc Information Menu.
- 3 Press [▶] and 'Change Disc Name'.
- 4 Press [ENTER] as described on the screen.
- 5 You can see Keyboard Menu.
- 6 Use [◀▶▲▼] to select and press [ENTER] to change the name of the disc.
 CLR : Clear the disc name
 SP : Space
 DEL : Delete a character
 SAVE : Save the disc name
- 7 Press [ENTER] again.
- 8 To save the name of the disc, select 'SAVE' and press [ENTER].



Title Menu

For the titles recorded in a DVD+R ,RW media, you can manage them using title menu.

Play A title

For the recorded title you can play the title using title menu.

- 1 Press [MENU] to display disc menu.
- 2 Select a title you want to manage using [▲▼].
- 3 Press [▶] to display title menu.
- 4 Select 'Play a title' using [◀▶].
- 5 Press [ENTER] to play the title.

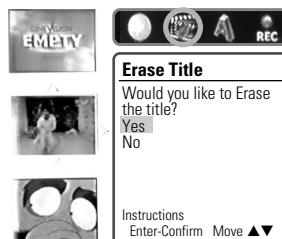


Erase Title

- 1 Follow the sequences from 1 to 3 of the 'Play a title'.
- 2 Select 'Erase Title' using [◀▶].
- 3 Press [ENTER] to erase the title.



- 4 Select 'Yes' and press [ENTER] to confirm.



- 5 Erase progress bar will be displayed. It may takes several seconds.
- 6 After erasing is completed, the erased title remains as empty title.



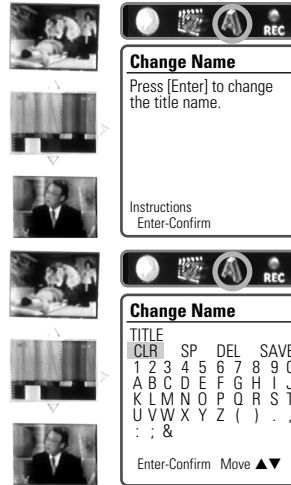
You can erase a title only for DVD+RW.



Change Name

- 1 Follow the sequences from 1 to 3 of the 'Play a title'.
- 2 Select 'Change Name' using [◀▶].
- 3 Press [ENTER] to change the title name.

- 4 Key matrix will be displayed. Use [◀▶▲▼] to select a character or function and press [ENTER].
 CLR : Clear the whole title.
 SP : Make a space
 DEL : Delete a character
 SAVE : Save the title name
- 5 After new title name is completed, select 'SAVE' and press [ENTER].



Record Option

- 1 Follow the sequences from 1 to 3 of the 'Play a title'.
- 2 Select 'Record Options' using [◀▶] and press [ENTER].

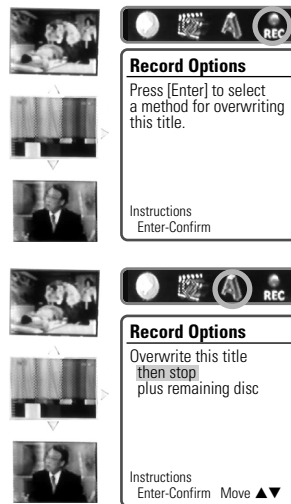
- 3 According to the Disc Type (DVD+R, DVD+RW) and whether the title is blank or not, 'append', 'overwrite' or 'make a new title' is supported. Select the preferred item and press [ENTER].

For DVD+R

The last recorded title : You can make new recording appended to the last or as a new title.
 Others : You can record a new title to the end of the disc.

For DVD+RW

The last blank title : You can record a new title to the end of the disc.
 The last recorded title : You can overwrite the title then stop.
 You can overwrite the title and record plus remaining disc.
 You can append to the title.
 Others : Overwrite the title then stop
 Overwrite the title and record plus remaining disc.



Editing

When you insert a DVD+R or DVD+RW disc already recorded by your DVD Recorder+VCR, you can edit titles and chapters.

To edit the recorded title, press [EDIT] with any title selected when disc menu is displayed.

The selected title will be played automatically by [EDIT] key.



After editing is completed, DVD+RW disc is not compatible to the DVD player. Do 'make compatible' to make edition effective.

Titles and Chapters

When you insert a DVD+R or DVD+RW disc already recorded by your DVD Recorder+VCR, all the titles within that disc appear. If there are some chapters you can skip to the next or previous chapter by pressing [NEXT] or [PREV].

You can also see how many chapters exist in a title by pressing [DISPLAY] during playback.

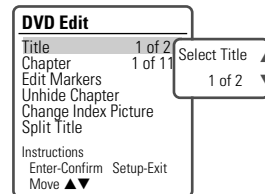
Titles in the disc's content contain one or more chapters. When you insert an title, all the chapters within that title also appear.

In other words, titles in the Playlist behave exactly as chapters on a DVD disc.

Title

You can search a title by selecting 'Title' menu.

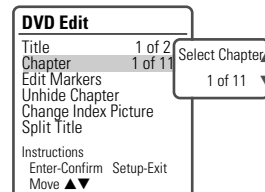
- 1 Use [▲▼] to select title.
- 2 Press [ENTER] then sub menu appears.
- 3 Use [▲▼] to change the title number then press [ENTER].



Chapter

You can search a chapter by selecting 'Chapter' menu.

- 1 Use [▲▼] to select Chapter.
- 2 Press [ENTER] then sub menu appears.
- 3 Use [▲▼] to change the chapter number then press [ENTER].



Edit Markers

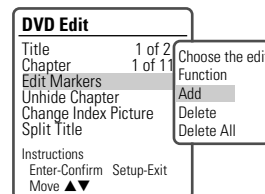
You can add a chapter marker anywhere in a title during playback.

Once the chapter is marked, you can use the chapter search feature.

You can Add/Delete a chapter marker or delete all chapter markers in a title.

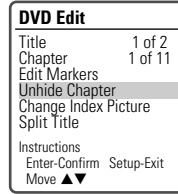
You can insert up to 999 chapter markers in both the contents.

- 1 Use [▲▼] to select 'Edit Markers'.
- 2 Press [ENTER] then sub menu appears.
- 3 Use [▲▼] to select various chapter marker mode.
- 4 Press [ENTER] to confirm.



Unhide Chapters

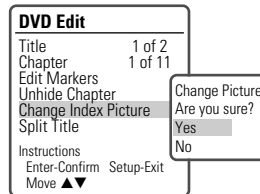
This hide or unhide a chapter. After hiding a chapter, the chapter is not deleted but only hidden. If a chapter is hidden then it shows "Unhide chapter" and vice versa.



Change Index Picture

Each title displayed in the 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.

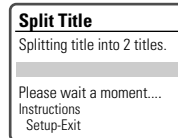
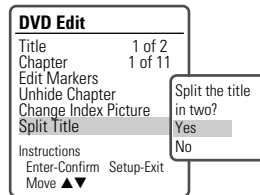
- 1 Use [▲▼] to select 'Change Index Picture'.
- 2 Press [ENTER] then sub menu appears.
- 3 Use [▲▼] to select 'Yes' if you prefer.
- 4 Press [ENTER] when the preferred picture is on the TV screen.



Split Title

This splits a title into two titles.

- 1 Use [▲▼] to select 'Split Title'.
- 2 Press [ENTER] then a sub menu appears.
- 3 Use [▲▼] to select 'Yes' if you prefer.
- 4 Press [ENTER] to confirm. It may takes a few minutes to split a title.



Troubleshooting

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

Symptom	Cause	Solution
No power.	The power cord is disconnected.	Plug the power cord into the wall outlet securely.
No picture.	The TV is not set to receive DVD Recorder+VCR signal output.	Select the appropriate video input on the TV so the picture from the DVD Recorder+VCR appears on the TV screen.
	The video cable is not connected securely.	Connect the video cable securely.
	The TV power is turned off.	Turn on the TV.
No sound.	The equipment connected with the audio cable is not set to receive DVD Recorder+VCR signal output.	Select the correct input mode on the audio receiver so you can listen to the sound from the DVD Recorder+VCR.
	The audio cables are not connected securely.	Connect the audio cable securely.
	The power of the equipment connected with the audio cable is turned off.	Turn on the equipment connected with the audio cable.
	The audio connecting cord is damaged.	Replace it with a new one.
Playback picture is poor.	The disc is dirty.	Clean the disc.
	Tape heads are dirty.	Clean video heads.
	Tape is a rental or was recorded on another VCR.	Use [Tracking +/-] for manual tracking adjustment while tape is playing.
DVD Recorder+VCR does not start playback.	No disc is inserted.	Insert a disc or tape. (Check that the disc indicator on the front panel display is lit.)
	No tape is inserted.	Insert a playable disc. (Check the disc type, color system, and regional code.)
	An unplayable disc is inserted.	Insert a playable disc. (Check the disc type, color system, and regional code.)
	The disc is placed upside down.	Place the disc with the playback side down.
	The disc is not placed within the guide.	Place the disc on the disc tray correctly inside the guide.
	The disc is dirty.	Clean the disc.
Picture from external input is distorted.	The video signal from the external component is copy-protected.	Cancel the Movie Rating function or change the rating level.
	The video signal from the external component is copy-protected.	You cannot connect via the DVD Recorder+VCR. Connect the component directly to your TV.
Some channels are skipped over when using [CH▲▼].	The skipped channels were deleted with the CH. Add/Del feature.	Use the CH. Add/Del feature to restore channels. See 'Add/Remove Channels' on page 23.
Picture or sound of broadcasting channel is weak or missing.	Antenna or cables are loose.	Tighten connections or replace cable.
	Wrong Tuning Band is selected in the DVD Recorder+VCR Setup menu.	Try all 'Tuning Band' options; see page 20 for details.
Camcorder image not shown.	Camcorder is off.	Turn camcorder on and operate properly.

Symptom	Cause	Solution
Camcorder image via A/V input to DVD Recorder+VCR is not shown on TV screen.	DVD Recorder+VCR's source is not set to LINE1/LINE2 composite, AV2 S-Video.	Use INPUT to select AV input channel (LINE1/LINE2 composite, LINE2 S-Video).
Can't play disc recorded on this DVD Recorder+VCR on another DVD player.	The disc was not finalized or not compatible for DVD+RW.	Finalize the disc; see page 54.
	Some players will not play even a finalized disc.	No solution.
	Discs recorded with copy-once material cannot be played on other players.	No 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 DVD Recorder+VCR's built-in TV tuner.
Timer Recording not possible.	Clock in DVD Recorder+VCR is not set to correct time.	Set clock to correct time. See 'Set Clock' on page 24.
	Timer has been programmed incorrectly.	Reprogram Timer. See 'Timer Recording' on page 49.
	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.
	DVD Recorder+VCR 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 DVD Recorder+VCR.
	DVD Recorder+VCR Audio/Video Out is not selected for viewing at the TV.	Select AUX or A/V source as TV input. Set TV audio channel mode to Stereo.
	DVD Recorder+VCR's TV audio channel is set to SAP or MONO.	See 'Changing TV Audio Channel' on page 36.
Remote control does not work properly.	The remote control is not pointed at the remote sensor of the DVD Recorder+VCR.	Point the remote control at the remote sensor of the DVD Recorder+VCR.
	The remote control is too far from the DVD Recorder+VCR.	Operate the remote control within 23 ft (7m).
	There is an obstacle in the path of the remote control and the DVD Recorder+VCR.	Remove the obstacle.
	The batteries in the remote control are exhausted.	Replace the batteries with new.

Moisture Condensation

Moisture condensation can occur:

When the DVD Recorder+VCR is moved from a cold place to a warm place.

Under extremely humid conditions.

In locations where moisture condensation may occur:

Keep the DVD Recorder+VCR plugged into an AC power outlet with POWER On. This will help prevent condensation.

When condensation has occurred, wait a few hours for the DVD Recorder+VCR to dry before using it.

Technical Specifications

General

Power requirements	AC 120V, 60 Hz
Power consumption	34W
Dimensions (approx.)	16.9 x 3.54 x 14.0 inches (430 x 91 x 354 mm) (w x h x d)
Mass (approx.)	13.5 lbs (6.18 kg)
Operating temperature	41°F to 95°F (5°C to 35°C)
Operating humidity	5% to 90%
Signal system	NTSC

Recording

Recording formats	DVD Video Recording, DVD-VIDEO
Recordable discs	DVD+R, DVD+RW
Recordable time	DVD ; Approx. 1 hour (HQ mode), 2 hours (SP mode), 4 hours (EP mode), 6 hours (SLP 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	4 Head Video, 2 Head Hi-Fi helical scan azimuth system
Timer	12-hour display type with AM, PM
Tape speed	SP: 33.35 mm/sec, SLP: 16.67 mm/sec, EP: 11.12 mm/sec
Tape width	12.7 mm
Rewind time	less than 2 minutes (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	43 dB
Dynamic range	75 dB
Channel separation	45 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 95 dB
Harmonic distortion	Less than 0.008%
Dynamic range	More than 90 dB

Inputs

ANTENNA IN	Antenna or CATV input, 75 Ω
VIDEO IN	1.0 Vp-p 75 Ω , sync negative, RCA jack x 2
AUDIO IN	-6 dBm more than 47 k, RCA jack (L, R) x 2

REFERENCE

Outputs

VIDEO OUT	1 V _{p-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 (analog audio)	1.1 V _{rms} (1 kHz, -6 dB), 600 Ω , RCA jack (L, R) x 2
RF OUT	Channel 3 or 4 (Switchable)

Design and specifications are subject to change without notice.

Accessories

Video cable	1	Blank DVD+R disc	2
Audio cable	1	Remote control	1
RF 75 Ω Coaxial Cable	1	Batteries	2

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