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DVDR3385V



User Manual

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Manual de Usuario

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Para asistencia adicional, llame a servicio de soporte al cliente en su país. Para obtener asistencia en los EUA, Canadá, Puerto Rico, o las Islas Vírgenes de EUA, póngase en contacto con el Centro de Atención al Cliente Philips al 1-866-226-6074

Guide d'utilisateur

Pour obtenir une copie électronique plus détaillée de ce manuel, consultez le www.philips.com/support

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PHILIPS

Safety Instruction

Register online at www.philips.com/welcome today to get the very most from your purchase.

Registering your model with Philips makes you eligible for all of the valuable benefits listed below, so don't miss out. Register online at www.philips.com/welcome to ensure:

* Product Safety Notification

By registering your product, you'll receive notification - directly from the manufacturer - in the rare case of a product recall or safety defect.

* Additional Benefits

Registering your product guarantees that you'll receive all of the privileges to which you're entitled, including special money-saving offers.

Know these
safety symbols

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



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



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

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE. APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

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

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



The symbol for CLASS II (Double Insulation)

The important note and rating are located on the rear or bottom of the cabinet.

For Customer Use

Please write the model and serial number of your unit (located on the cabinet) in the space below for future reference.

Model No. _____

Serial No. _____

PHILIPS Visit our World Wide Web Site at www.philips.com/support

IMPORTANT SAFETY INSTRUCTIONS

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



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 manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

RADIO-TV INTERFERENCE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:-

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

Disconnect the mains plug (the AC plug) to shut the Unit off when trouble is found or when not in use. The mains plug (the AC plug) shall remain readily available.

CAN ICES-3 (B)/NMB-3(B)

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.

WARNING: Batteries (Battery pack or battery installed) shall not be exposed to excessive heat such as sunshine, fire or the like.

LASER SAFETY

This apparatus is classified as a CLASS 1 LASER PRODUCT.

This apparatus employs a laser. Only a qualified service person should remove the cover or attempt to service this apparatus, due to possible eye injury.



CAUTION: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

IMPORTANT COPYRIGHT INFORMATION

Unauthorized copying, broadcasting, public performance and lending of discs are prohibited. This item incorporates copy protection technology that is protected by U.S. patents and other intellectual property rights of Rovi Corporation. Reverse engineering and disassembly are prohibited.

Never use a gas duster on this Unit.

The gas trapped inside of this Unit may cause ignition and explosion.

Do not place the Unit on the furniture that is capable of being tilted by a child and an adult leaning, pulling, standing or climbing on it. A falling Unit can cause serious injury or even death.

This apparatus should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided. Make sure to leave a space of 7.8 inches (20cm) or more around this apparatus.

To Avoid the Hazards of Electrical Shock and Fire

- Do not handle the power cord with wet hands.
- Do not pull on the power cord when disconnecting it from an AC outlet. Grasp it by the plug.
- Do not put your fingers or objects into the Unit.

Location and Handling

- Do not install the Unit in direct sunlight, near strong magnetic fields or in a place subject to dust or strong vibration.
- Avoid a place with drastic temperature changes.
- Install the Unit in a horizontal and stable position. Do not place anything directly on top or bottom of the Unit. Depending on your external devices, noise or disturbance of the picture and/or sound may be generated if the Unit is placed too close to them. In this case, please ensure enough space between the external devices and the Unit.
- Depending on the environment, the temperature of this Unit may increase slightly. This is not a malfunction.
- Be sure to remove the disc and unplug the AC power cord from the outlet before carrying the Unit.

Dew Condensation Warning

- Dew condensation may form inside the Unit in the following conditions. If so, do not use this Unit at least for a few hours until its inside gets dry.
 - The Unit is moved from a cold place to a warm place.
 - Under conditions of high humidity.
 - After heating a cold room.

Notice for Progressive Scan Use

Consumers should note that not all high definition television sets are fully compatible with this product and may cause artifacts to be displayed in the picture. In case of picture problems with 525 (480) progressive scan output, it is recommended that the user switch the connection to the 'standard definition' output. If there are questions regarding your TV set compatibility with this 525p (480p) DVD player, please contact our customer service center.

Notice

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Warranty

No components are user serviceable. Do not open or remove covers to the inside of the product. Repairs may only be done by Service Centers and official repair shops. Failure to do so shall void any warranty, stated or implied. Any adjustments or assembly procedures not recommended or authorized in this manual, or any operation expressly prohibited in this manual shall void the warranty.

Important

Registering your model with Philips makes you eligible for all of the valuable benefits listed below, so don't miss out.

Register online at www.philips.com/support to ensure:

Product Safety Notification

By registering your product you receive notification - directly from the manufacturer - in the rare case of a product recall or safety defect.

Additional Benefits of Product Ownership

Registering your product guarantees that you receive all of the privileges to which you're entitled, including special money-saving offers.

For further assistance

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To obtain assistance in the U.S.A., Canada, Puerto Rico, or the U.S. Virgin Islands, contact Philips Customer Care Center at 1-866-226-6074

Environmental Care

The packaging of this product is intended to be recycled. Contact your local authorities for information about how to recycle the packaging. For Product recycling information, please visit - www.recycle.philips.com



Disposal of used batteries

The batteries supplied do not contain the heavy metals mercury and cadmium. Nevertheless, in many areas batteries may not be disposed of with your household waste. Please ensure you dispose of batteries according to local regulations.

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Supplied Accessories

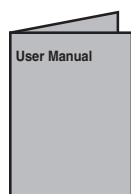
Remote control (NC254UH) with batteries (AAA, 1.5V x 2)



RCA audio/video cables



User Manual



Quick Start Guide



Maintenance

Servicing

- Please refer to relevant topics on "Troubleshooting" (p.67) before returning the product.
- If this unit becomes inoperative, do not try to correct the problem by yourself. There are no user-serviceable parts inside. Turn the unit to standby mode, unplug the power plug and please call our help line mentioned on the front page to locate an Authorized Service Center.

Cleaning the cabinet

- Wipe the front panel and other exterior surfaces of the unit with a soft cloth.
- Never use a solvent, thinner, benzene or alcohol to clean the unit. Do not spray insecticide liquid near the unit. Such chemicals may discolor the surface or damage the unit.

Cleaning discs

- When a disc becomes dirty, clean it with a cleaning cloth. Wipe the disc from the center to out. Do not wipe in a circular motion.
- Do not use solvents such as benzine, thinner, commercially available cleaners, detergent, abrasive cleaning agents or antistatic spray intended for analog records.

Cleaning the disc lens

- If this unit still does not perform properly although you refer to the relevant sections in "Troubleshooting" in this User Manual, the laser optical pickup unit may be dirty. Consult your dealer or an Authorized Service Center for inspection and cleaning of the laser optical pickup unit.

Disc handling

- Handle the discs so that fingerprints and dust do not adhere to the surfaces of the discs.
- Always store a disc in its protective case when it is not used.

Auto head cleaning

- This unit automatically cleans video heads as you insert or remove a cassette.
- Playback picture may become blurred or interrupted while the TV program reception is clear. Dirt accumulated on the video heads after a long period of use or the usage of rental or worn tapes can cause this problem. If a streaky or snowy picture appears during playback, the video heads in your unit may need to be cleaned manually.

1. Please visit your local Audio/Video store and purchase a good quality VHS video head cleaner.
2. If a video head cleaner does not solve the problem, please consult your dealer or an Authorized Service Center.



Note(s)

- Remember to read the instructions along with the video head cleaner before use.
- Clean video heads only when problems occur.

IR signal check

If the remote control does not work properly, you can test if the remote control sends out the infrared signal using a digital camera (including the built-in camera of a cellular phone). It will help to define the cause of the malfunction.

With a digital camera (including the built-in camera of a cellular phone):

Direct a digital camera to the remote control, press and hold a button on the remote control. If infrared light appears on the digital camera screen, the remote control is working.



Note(s)

- Some cameras have an IR Filter and will not display the IR signal.

Trademark Information



Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.

Dolby Digital Stereo Creator

“Dolby® Digital Stereo Creator enables consumers to create stereo DVD-Videos with stunning Dolby Digital sound tracks at home. The technology, when utilized instead of PCM recording, also saves recordable disc space, allowing for higher video resolution or extended recording time on each DVD. DVDs mastered using Dolby Digital Stereo Creator will play back on all DVD-Video players.”

Note(s)

- This is true when the players are compatible with actual recordable DVD discs.



The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

 is a trademark of DVD Format/Logo Licensing Corporation.

Features

This unit not only plays DVD, CD and VCR but also offers features for you to record and then edit on DVD.

Recording

This unit is compatible with recording on DVD-RW which is recordable repeatedly and DVD-R which accept the additional recordings until the disc becomes full but not overwritable. You can choose either one for your convenience. Also, this unit allows you to record to the cassette tape.



Up to 12 program recording:

You can program the unit to record up to 12 programs within a one-month period. Daily or weekly program recordings are also available.

One-touch timer recording (OTR):

You can easily extend a recording time. Every time [REC] is pressed during recording, the recording time will be increased by 30 minutes up to 8 hours. The recording automatically stops when the recording time ends or the disc is full.

Dubbing mode:

You can copy a DVD to a cassette tape or copy a cassette tape to a DVD. This function will be possible only if the DVD or a cassette tape is not copy protected. You cannot record on a cassette tape when its erase-protection tab is removed.

Left channel stereo recording:

This unit can record the sound of the left channel monaural input as left and right channels automatically.



Automatic chapter mark setting:

Chapter marks will be put on recordings as you set before attempting to record.

Automatic title menu making:

The unit creates a title menu automatically when finalizing discs for video mode recording.

Automatic playlist making:

The unit creates a playlist automatically after recording VR mode DVD-RW.

Automatic title finalizing:

For video mode DVD-RW/-R recording, you can finalize discs automatically after finishing all timer recordings or at the end of the disc space if you set this in the main menu.

Playback



Theater surround sound in your home:

When connecting the unit to an amplifier or a decoder which is compatible with Dolby Digital, you can experience the theater surround sound from discs with surround sound system.

Quick search for what you would like to watch:

You can easily find the part you would like to watch using the search function. Search for a desired point on a disc by title, chapter or time.

Viewing JPEG files:

You can view JPEG files which are recorded on CD-RW/-R and DVD-RW/-R.



Quick search for what you would like to watch:

You can easily find the part you would like to watch using the index search/time search functions. An index mark will be assigned at the beginning of each recording you make. For time search function, you can go to a specific point on a cassette tape by entering the exact amount of time you would like to skip.

Editing



Deleting titles:

You can delete titles which you do not need anymore.

Putting names on titles:

You can put names on titles.

Setting / clearing chapter marks:

You can set / clear chapter marks on titles.

Dividing or combining titles (VR mode DVD-RW only):

You can divide or combine a playlist title.

Deleting parts of titles (VR mode DVD-RW only):

You can delete a specific part of a title.

Compatibility



Available for playing discs on a regular DVD player:

Recorded discs can be played on regular DVD players, including computer DVD drives compatible with DVD-video playback. For DVD-RW/-R, you need to finalize the recorded discs to play on other DVD players.

Others



Progressive scan system

Unlike conventional interlace scanning, the progressive scan system provides less flickering and images in higher resolution than that of traditional television signals.

HDMI (High-Definition Multimedia Interface)

You can enjoy clearer audio/video output when connecting this unit to a display device with an HDMI-compatible port.

Symbols Used in This User Manual

To specify which disc type each function is for, we put the following symbols at the beginning of each item to operate.



Note(s)

- DVD-RW recorded in the non compatible recording format is not recordable.
- DVD-R recorded in VR mode is not recordable on this unit.

Symbol	Description
For Recording, Playing, and Editing	



Description refers to DVD-RW (VR mode)



Description refers to DVD-RW (Video mode)



Description refers to DVD-R (Video mode)

For Recording and Playing	
----------------------------------	--



Description refers to VHS tapes
Use only cassettes marked VHS (**VHS**)

For Playback only	
--------------------------	--



Description refers to DVD-video



Description refers to audio CD



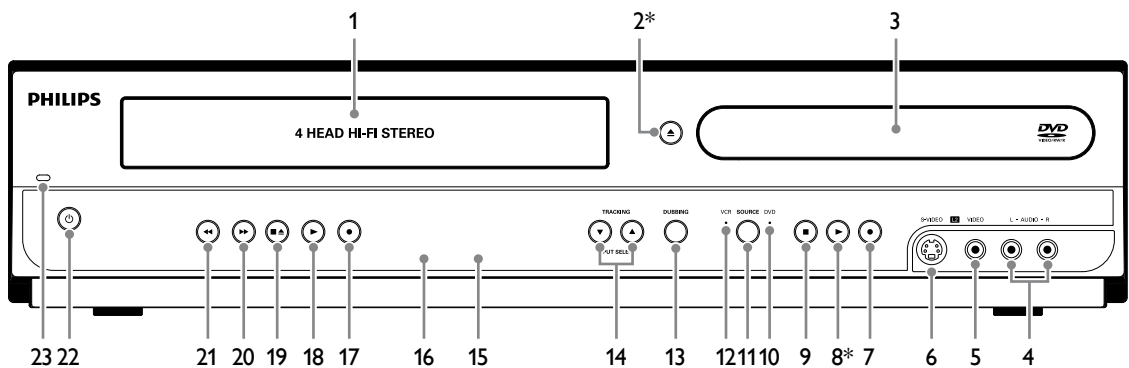
Description refers to CD-RW/-R and DVD-RW/-R with JPEG files.

If you do not find any of the symbols listed above under the function heading, the operation is applicable to all media.

Functional Overview

Front Panel

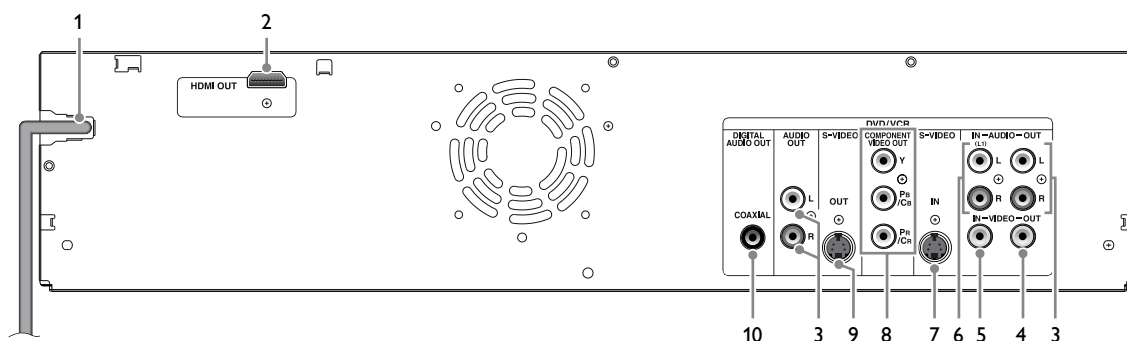
English



(*) The unit can also be turned on by pressing these buttons or inserting a cassette tape.

1. **Cassette compartment (VCR)**
Insert a cassette tape here.
2. **▲ button (DVD)***
Press to open or close the disc tray.
3. **Disc tray (DVD)**
Place a disc when it is open.
4. **AUDIO input jacks (L2) (DVD/VCR)**
Use to connect an external device with an RCA audio cable.
5. **VIDEO input jack (L2) (DVD/VCR)**
Use to connect an external device with an RCA video cable.
6. **S-VIDEO input jack (L2) (DVD/VCR)**
Use to connect the S-video output of an external device with an S-video cable.
7. **● REC button (DVD)**
 - Press once to start a recording.
 - Press repeatedly to start the one-touch timer recording.
8. **▶ button (DVD)***
Press to start or resume playback.
9. **■ button (DVD)**
 - Press to stop playback or recording.
 - Press to stop the proceeding timer recording for DVD.
10. **DVD indicator**
Lights up when the DVD output mode is selected.
11. **SOURCE button (DVD/VCR)**
Press to select the component you would like to operate.
12. **VCR indicator**
Lights up when the VCR output mode is selected.
13. **DUBBING button (DVD/VCR)**
Press to start VCR to DVD (DVD to VCR) duplication which you set in the main menu.
14. **TRACKING ▼ / ▲ buttons (VCR)**
 - Press to adjust the tracking during cassette tape playback or slow motion.
 - While playback is in still mode, you can adjust the picture to remove vertical blur.
15. **Display (DVD/VCR)**
Refer to "Front Panel Display" (p.16).
16. **Infrared sensor window (DVD/VCR)**
Receive signals from your remote control so that you can control the unit from a distance.
17. **● REC button (VCR)**
Press once to start a recording. Press repeatedly to start the one-touch timer recording.
18. **▶ button (VCR)**
Press to start playback.
19. **■▲ button (VCR)**
 - Press to remove the cassette tape from the cassette compartment.
 - Press to stop cassette tape playback or recording.
 - Press to stop the proceeding timer recording for VCR.
20. **▶▶ button (VCR)**
Press to rapidly advance the cassette tape or view the picture rapidly during playback (forward search).
21. **◀◀ button (VCR)**
Press to rewind the cassette tape or to view the picture rapidly in reverse during playback (rewind search).
22. **⏻ button (DVD/VCR)**
Press to turn On the unit or to switch the unit to standby mode. (To completely shut down the unit, you must unplug the AC power cord.)
23. **POWER-ON indicator (DVD/VCR)**
Red LED lights up when power is On.

Rear Panel



1. AC Power Cord

- Connect to a standard AC outlet to supply power to this unit.
- Unplug this cord from the AC outlet to completely shut down the unit.

2. HDMI OUT jack

Use an HDMI cable to connect to a display with an HDMI compatible port.

3. AUDIO OUT jacks

Use to connect a TV monitor, AV receiver or other device with an RCA audio cable.

4. VIDEO OUT jack

Use to connect a TV monitor, AV receiver or other device with an RCA video cable.

5. VIDEO IN jack (L1)

Use to connect an external device with an RCA video cable.

6. AUDIO IN jacks (L1)

Use to connect an external device with an RCA audio cable.

7. S-VIDEO IN jack (L1)

Use to connect the S-video output of an external device with an S-video cable.

8. COMPONENT VIDEO OUT jacks

Use to connect the component video inputs of a TV monitor with a component video cable.

9. S-VIDEO OUT jack

Use to connect the S-video input of a TV monitor, AV receiver or other device with an S-video cable.

10. COAXIAL DIGITAL AUDIO OUT jack

Use to connect the digital audio coaxial input of an AV receiver, Dolby Digital decoder, or other device with a digital audio coaxial cable.



Note(s)

- Do not touch the inner pins of the jacks on the rear panel. Electrostatic discharge may cause permanent damage to the unit.
- This unit does not have an RF modulator.

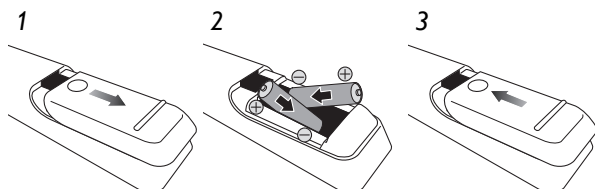
Caution when using S-video, component, or HDMI connection for VCR:

- Only video/audio playback is available with these connections.

Remote Control

Installing the Batteries in the Remote Control

Install the batteries (AAA 1.5V × 2) matching the polarity indicated inside the battery compartment of the remote control.



Note(s)

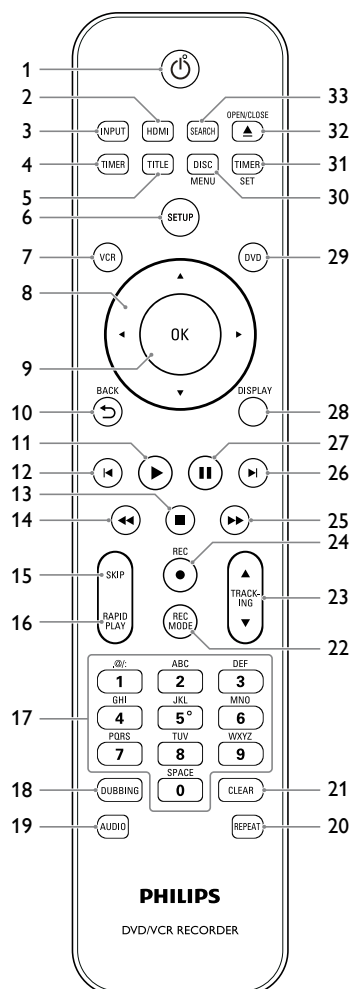
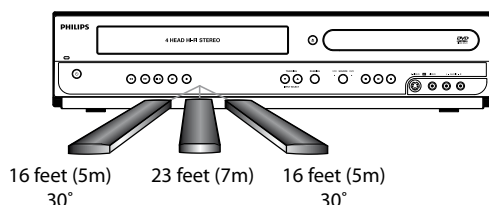
Incorrect use of batteries can result in hazards such as leakage and bursting. Please observe the following:

- Lithium or ni-cad and ni-mh rechargeable batteries are not recommended for use in the remote control.
- Do not mix different types of batteries such as alkaline and standard (carbon-zinc).
- Do not mix new and old batteries together.
- Do not use different kinds of batteries together. Although they may look similar, different batteries may have different voltages.
- Make sure that the + and - ends of each battery match the indications in the battery compartment.
- Remove batteries from the battery compartment that are not going to be used for a month or more.
- When disposing of used batteries, please comply with governmental regulations or environmental public instruction's rules that apply in your country or area.
- Do not recharge, short-circuit, heat, burn or disassemble batteries.

Using the Remote Control

Keep in mind the following when using the remote control:

- Make sure that there are no obstacles between the remote control and the infrared sensor window on the unit.
- Remote operation may become unreliable if strong sunlight or fluorescent light is shining on the infrared sensor window of the unit.
- Remote controls for different devices can interfere with each other. Avoid using remote controls for other devices located close to the unit.
- Replace the batteries when you notice a fall-off in the operating range of the remote control.
- The maximum operable ranges from the unit are as follows.
 - **Line of sight:** approx. 23 feet (7m)
 - **Either side of the center:** approx. 16 feet (5m) within 30°
 - **Above:** approx. 16 feet (5m) within 15°
 - **Below:** approx. 10 feet (3m) within 30°



1. **⏻ (power) button (DVD/VCR)**
 - Press to turn On the unit or to switch the unit to standby mode. (To completely shut down the unit, you must unplug the AC power cord.)
2. **HDMI button (DVD)**
 - Press to set the HDMI connector's video signal output mode.
3. **INPUT button (DVD/VCR)**
 - Press to select the appropriate input.
4. **TIMER button (DVD/VCR)**
 - Press to display the timer programming list.
5. **TITLE button (DVD)**
 - Press to display the title list.
6. **SETUP button (DVD/VCR)**
 - Press to display the main menu.
 - During DVD playback, press and hold for more than 3 seconds to switch the progressive scanning mode to the interlace mode.
7. **VCR button (DVD/VCR)**
 - Press to select the VCR output mode.
8. **Cursor ▲/▼/◀/▶ buttons (DVD/VCR)**
 - Press to select items or settings.
9. **OK button (DVD/VCR)**
 - Press to confirm or select menu items.
10. **BACK ↶ button (DVD/VCR)**
 - Press to return to the previously displayed menu screen.

11. **▶ (play) button (DVD/VCR)**
 - Press to start playback or resume playback.
12. **◀ (previous) button (DVD)**
 - During playback, press to return to the beginning of the current chapter, track or file.
 - When playback is in pause, press repeatedly to reverse the playback step by step.
 - During playback, press twice in quick succession to skip to the previous chapter or track.
13. **■ (stop) button (DVD/VCR)**
 - Press to stop playback or recording.

DVD mode:

 - Press to exit from the title list.
14. **◀◀ (reverse) button (DVD/VCR)**

DVD mode:

 - During playback, press to fast reverse playback.
 - When playback is paused, press to slow reverse playback.

VCR mode:

 - During playback, press to rewind the cassette tape or to view the picture rapidly in reverse.
 - Press to fast reverse the cassette tape in stop mode.
15. **SKIP button (DVD)**
 - During playback, press to skip 30 seconds.
16. **RAPID PLAY button (DVD)**
 - During playback, press to play in a slightly faster/slower mode while keeping the sound output.
17. **Number/Character buttons (DVD/VCR)**
 - Press to select a title/chapter/track/file on display.
 - Press to enter values for the settings in the main menu.
 - Press to enter title names.
 - Press to start the index/time search in VCR mode.
18. **DUBBING button (DVD/VCR)**
 - Press to start VCR to DVD (DVD to VCR) duplication, which you set in the main menu.
19. **AUDIO button (DVD/VCR)**

DVD mode:

 - Press to display the audio menu during playback.

VCR mode:

 - During playback of a Hi-Fi videotape, press to change the audio out setting.
20. **REPEAT button (DVD/VCR)**

DVD mode:

 - Press to select the repeat mode.

VCR mode:

 - Press to select the repeat mode On/Off.
21. **CLEAR button (DVD/VCR)**

DVD mode:

 - Press to clear the password you are entering, to cancel the programming for CD, to clear the selected marker number, etc.

VCR mode:

 - Press to reset the tape counter.
22. **REC MODE button**
 - Press repeatedly to switch the recording mode.
23. **TRACKING ▲/▼ buttons (VCR)**
 - Press to adjust the tracking during playback or in slow motion of the cassette tape.
 - While playback is in still mode, you can adjust the picture to remove vertical blur.
24. **● REC button (DVD/VCR)**
 - Press once to start a recording.
 - Press repeatedly to start the one-touch timer recording.
25. **▶▶ (forward) button (DVD/VCR)**

DVD mode:

 - During playback, press to fast forward playback.
 - When playback is paused, press to slow forward playback.

VCR mode:

 - During playback, press to rapidly advance the cassette tape or view the picture rapidly in forward.
 - When playback is paused, press to view the cassette tape in slow motion.
 - Press to fast forward the cassette tape in stop mode.
26. **▶ (next) button (DVD)**
 - During playback, press to skip to the next chapter, track or file.
 - When playback is paused, press repeatedly to forward the playback step by step.
27. **|| (pause) button (DVD/VCR)**
 - Press to pause playback or recording.
28. **DISPLAY button (DVD/VCR)**
 - Press to display the display menu On or Off.
29. **DVD button**
 - Press to select the DVD output mode.
30. **DISC MENU button (DVD)**
 - Press to display the disc menu.
31. **TIMER SET button (DVD/VCR)**
 - Press to set the unit in the timer standby mode. In the timer standby mode, press to cancel the mode and to turn the unit On.
32. **OPEN/CLOSE ▲ button (DVD/VCR)**

DVD mode:

 - Press to open or close the disc tray.

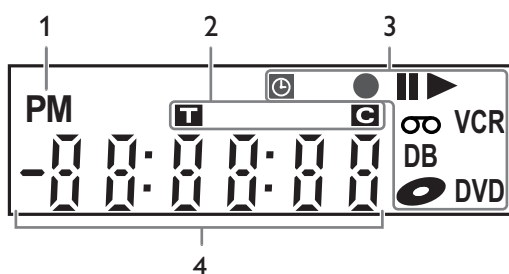
VCR mode:

 - Press to remove the cassette tape from the cassette compartment.
33. **SEARCH button (VCR)**
 - Press to call up the index or time search menu.

Note(s)

- When the unit is in standby mode, press [■▲] on the unit as [▲] on the remote control is not available.

Front Panel Display



1.

PM • Appears in the afternoon with the clock display.

2. Title / track / file and chapter mark

T • Appears when indicating a title / track / file number.

C • Appears when indicating a chapter number.

3. Current status of the unit

II • Appears when playback is in pause or in step by step playback.

▶ • Appears when playing a disc or a cassette tape.

II▶ • Appears during slow forward / reverse playback.

⏰ • Appears when the timer programming or OTR has been set and is proceeding.

• Disappears when the timer recording finishes.

● • Appears during the recording process.

• Flashes when recording is paused.

⓪ • Appears when this unit is in DVD output mode and a disc is in the unit.

• Appears during duplication process.

Ⓜ • Appears when this unit is in VCR output mode and a cassette tape is in the unit.

• Appears during duplication process.

VCR • Appears when this unit is in VCR output mode.

• Appears when the timer recording is proceeding for VCR.

DVD • Appears when this unit is in DVD output mode.

• Appears when the timer recording is proceeding for DVD.

DB • Appears during VCR to DVD duplication process.

• Appears during DVD to VCR duplication process.

4. Displays the following

- Elapsed playback time
- Current title / chapter / track / file number
- Recording time / remaining time
- Clock
- Selected external input position
- Remaining time for one-touch timer recording
- Selected HDMI output mode
- VCR tape counter



Note(s)

- Front panel display stays Off while the unit is in the standby mode.

Display Message



- Appears when the disc tray is opening.



- Appears when the disc tray is closing.



- Appears when a disc is loaded on the disc tray.



- Appears when data is being recorded on a disc.



- Appears when HDMI output mode (480p) is selected.



- Appears when HDMI output mode (720p) is selected.



- Appears when HDMI output mode (1080i) is selected.



- Appears when HDMI output mode (1080p) is selected.

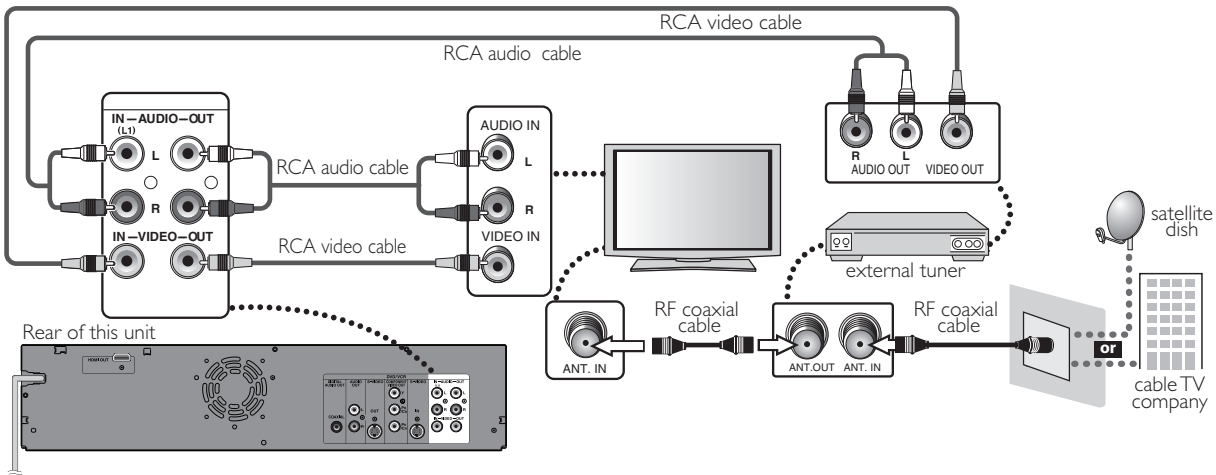
Connection

Read this first:

1. Disconnect the AC power cords of the devices from the AC outlet.
2. Make the connection as illustrated below.
3. After making all the connections, connect the AC power cords of the devices.

• Connect this unit directly to the TV. If the RCA audio/video cables are connected to another VCR, pictures may be distorted due to the copy protection system.

Connecting to an External Tuner



Note(s)

- Required cables and connecting methods differ depending on the external tuner. For more information, please contact your external tuner provider.
- With this setup:**
- You can record any unscrambled channel by selecting the channel on the external tuner. When using the external tuner connect the unscrambled cable signal to the external tuner and then send the output cable signal from the unit to the Cable Box. Be sure that the external tuner is turned On.
 - You cannot record one channel while watching another channel.

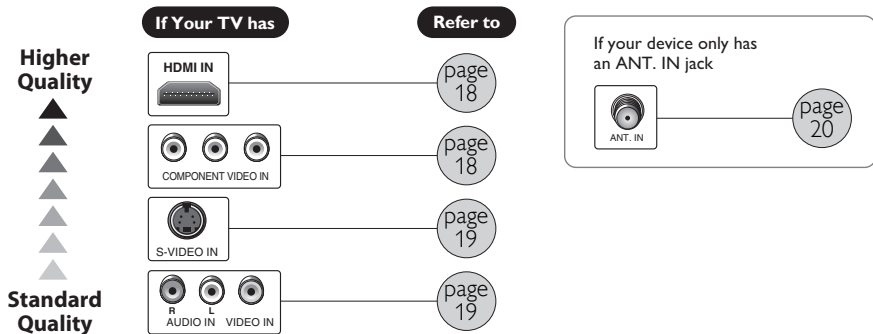
Supplied cables used in this connection are as follows:

- RCA audio cable (L/R) x 1
- RCA video cable x 1

Please purchase the rest of the necessary cables at your local store.

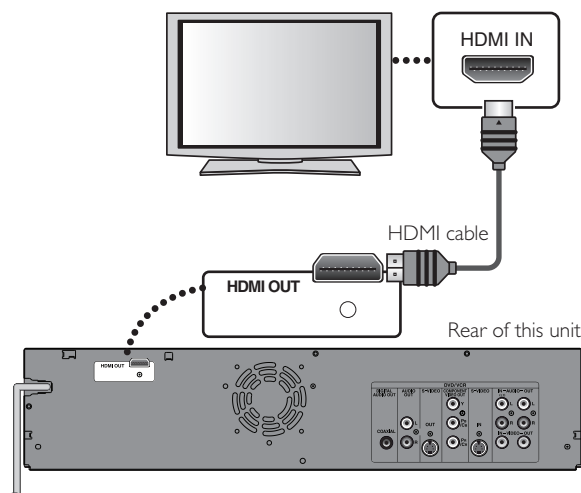


TV Connection Overview



Connecting to a TV with an HDMI™ Compatible Port

- HDMI outputs the video / audio signals without converting to analog signals.
- No audio connection is required.



Do not tilt the connector when inserting it into the HDMI jack, and make sure the shapes of the jack and the connector are matched.

Cables not included.

Please purchase the necessary cables at your local store.

HDMI Mode and Actual Output Signals

Press [HDMI] to select the HDMI output mode. The output mode changes as follows every time [HDMI] is pressed.

Front Panel Display	Video Output Signal
480P	480 Progressive
Press [HDMI]	↓
720P	720 Progressive
Press [HDMI]	↓
1080i	1080 interlaced
Press [HDMI]	↓
1080P	1080 Progressive
Press [HDMI]	

- An HDMI mode which is not supported by the display device will be skipped.

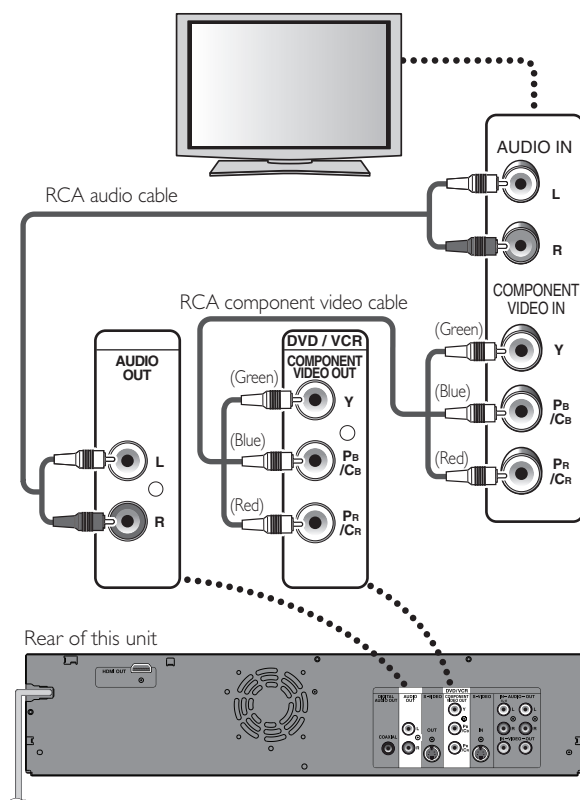
Copyright protection system

To play the digital video images of a DVD via an HDMI connection, it is necessary that both the player and the display device (or an AV amplifier) support a copyright protection system called HDCP (High-bandwidth Digital Content Protection system). HDCP is copy protection technology that comprises data encryption and authentication of the connected AV device. This unit supports HDCP. Please read the operating instructions of your display device (or AV amplifier) for more information.

Notes for HDMI Connection

- Because HDMI is an evolving technology, it is possible that some devices with an HDMI input may not operate properly with this unit.
- When using an HDCP-incompatible display device, the image will not be displayed properly.
- Among the devices that support HDMI, some devices can control other devices via the HDMI connector; however, this unit cannot be controlled by another device via the HDMI connector.
- When this unit's HDMI connector is connected to a DVI-D compatible monitor (HDCP compatible) with an HDMI-DVI converter cable, the signals are output in digital RGB.
- If a power failure occurs or you unplug the unit, some problems in the HDMI setting may occur. Please check and set the HDMI setting again.

Connecting to a TV with Component Video Input Jacks

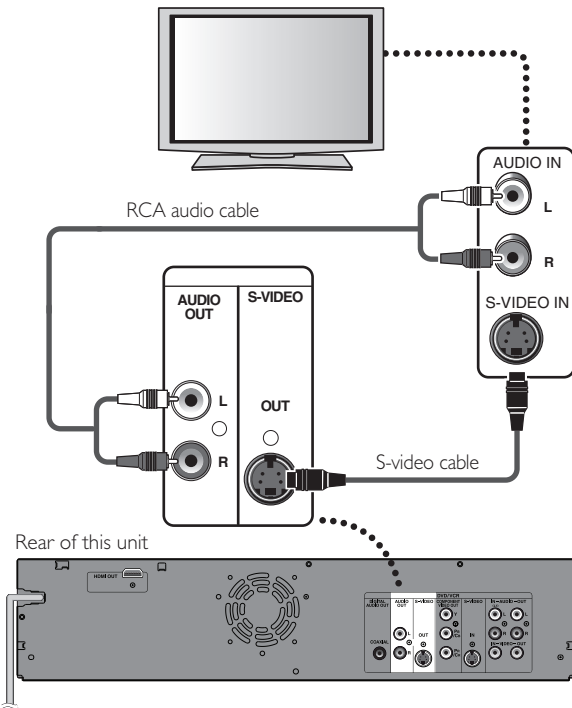


Supplied cables used in this connection are as follows:

- RCA audio cable (L/R) × 1

Please purchase the rest of the necessary cables at your local store.

Connecting to a TV with an S-Video Input Jack

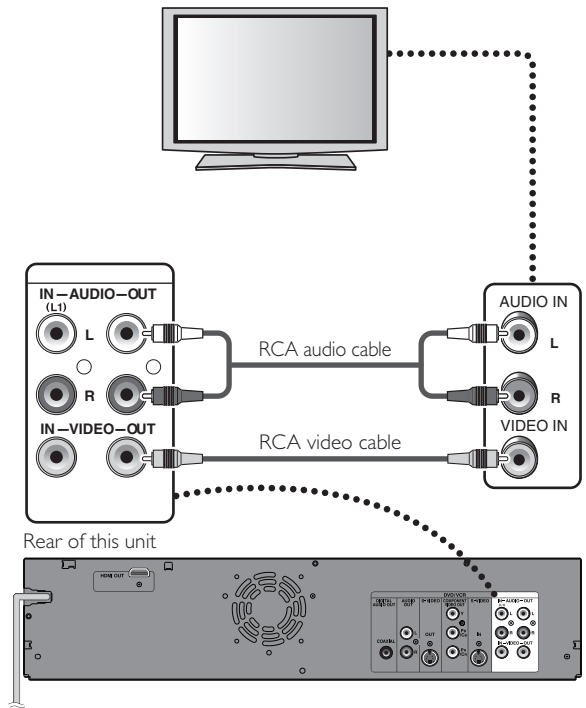


Supplied cables used in this connection are as follows:

- RCA audio cable (L/R) × 1

Please purchase the rest of the necessary cables at your local store.

Connecting to a TV with Audio / Video Input Jacks

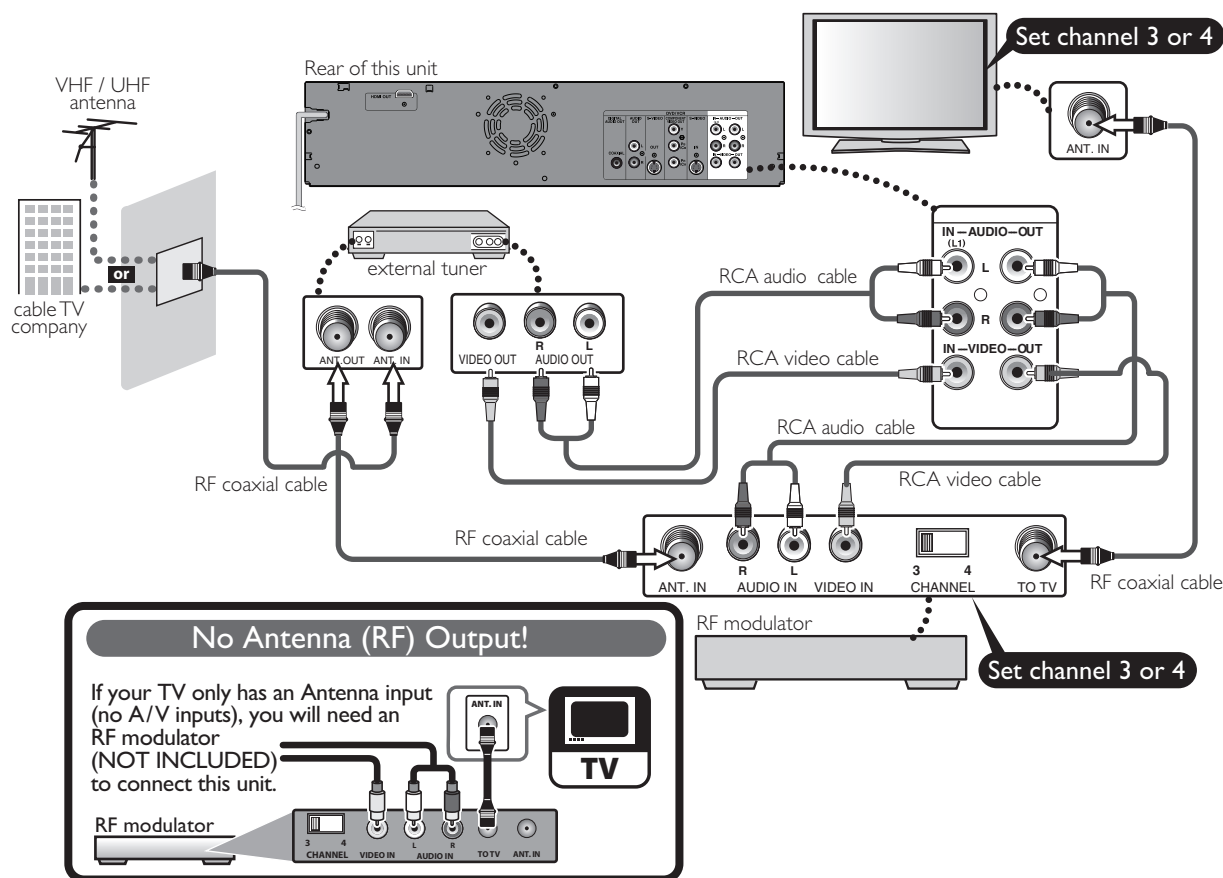


Supplied cables used in this connection are as follows:

- RCA audio cable (L/R) × 1
- RCA video cable × 1

Please purchase the rest of the necessary cables at your local store.

Connecting to a TV without Audio / Video Input Jacks



Supplied cables used in this connection are as follows:

- RCA audio cable (L/R) × 1
- RCA video cable × 1

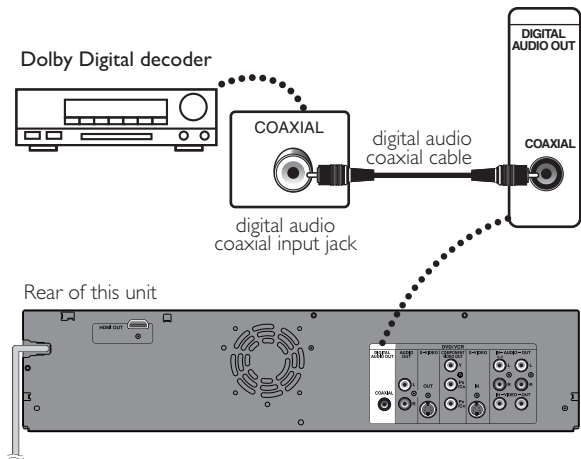
Please purchase the rest of the necessary cables at your local store.

Note(s)

- The RF modulator is not supplied with this unit. You need to purchase it at your local store.
- The quality of the picture may become poor if this unit is connected to an RF modulator.

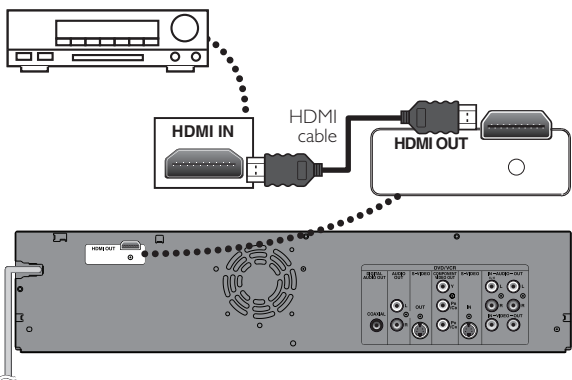
Digital Audio Connection

Coaxial Cable Connection



HDMI Audio Connection

AV receiver / amplifier with an HDMI input jack



To set up “HDMI Audio” refer to pages 58 and 62.

To set up “Dolby Digital” refer to pages 57 and 60.

Audio format (disc)	Dolby Digital Setting of this unit	HDMI	Digital Output
Dolby Digital	PCM	2channel PCM	2channel PCM
	Stream	Dolby Digital	Dolby Digital
LPCM	PCM	2channel PCM	—
	Stream	2channel PCM	—

↑
Actual Output

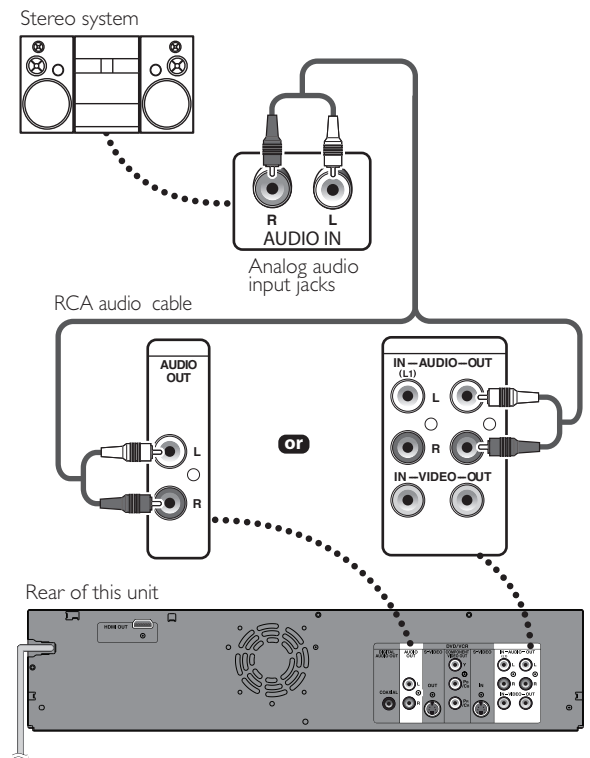
Cables not included.
Please purchase the rest of the necessary cables at your local store.

Note(s)

- The audio source on a disc in a Dolby Digital multi channel surround format cannot be recorded as digital sound by an MD or DAT deck.
- By connecting this unit to a Dolby Digital decoder, you can enjoy high-quality Dolby Digital multi channel surround sound similar to movie theaters.
- Playing a DVD using incorrect settings may generate noise distortion and may also damage the speakers.

2 Channel Analog Audio Connection

RCA Audio Cable Connection



Supplied cables used in this connection are as follows:

- RCA audio cable (L/R) × 1

Before You Start

After you have completed all the connections, you must find the viewing channel (external input channel) on your TV.

Finding the Viewing Channel on Your TV

Examples of Input Mode Names for Common TV Brands

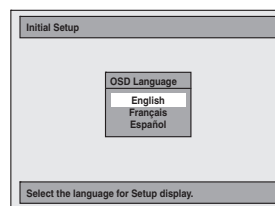
Admiral	AUX	Panasonic	TV/VIDEO
Curtis Mathis	LINE1, LINE2, 00, 90, 91, 92, 93	RCA	INPUT, TV/VCR, LINE1, LINE2, 00, 90, 91, 92, 93
Funai	AUX CHANNEL	Samsung	TV/VIDEO
GE	INPUT, TV/VCR, 00, 90, 91, 92, 93	Sanyo	VIDEO
Hitachi	INPUT, AUX	Sharp	00
JVC	VIDEO, VIDEO1, VIDEO2, VIDEO3	Sony	VIDEO1, VIDEO2, VIDEO3
Kenwood	AUX	Toshiba	TV/GAME
LXI-Series	00	Zenith	00



Note(s)

- Video input selection varies for different brand's models of TVs.
- Consult your TV manufacturer if none of the above are successful.

- 1 After you have made all the necessary connections, press [⏻] to turn On the unit.
- 2 Turn On your TV.
 - If connected to your VCR, make sure it is switched Off or to standby mode before proceeding.
- 3 Press [2] on the TV's remote control, then press channel down button repeatedly until the "Initial Setup" menu is displayed.



This is the correct viewing channel (external input channel) for the recorder:

- For some TVs, there may be a button on the TV's remote control that accesses the external input channel. It may be labeled "**SOURCE**", "**AV**" or "**SELECT**". In such a case, press it repeatedly. Refer to your TV's User Manual for details.
- If more than 10 minutes have passed since you turned On the unit, you may see the screen saver instead of the "Initial Setup" menu.

Screen saver:



- 4 Proceed to step 2 in "Initial Setting" (p.26)

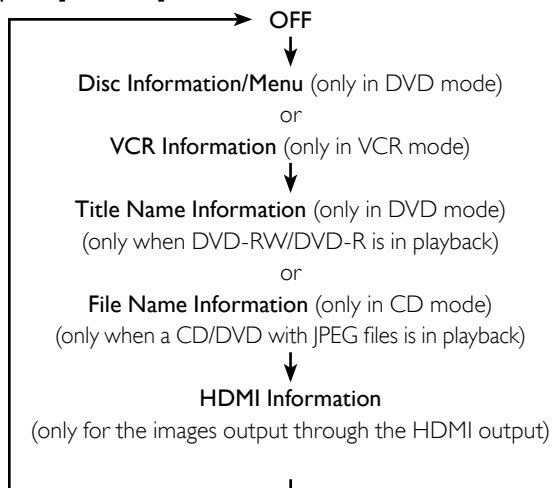
On-screen Display / Menu

This unit uses the following on-screen displays and menus to easily guide you to the unit operations.

The on-screen displays give you the information on the loaded disc, the disc/file in playback, the HDMI status, etc.

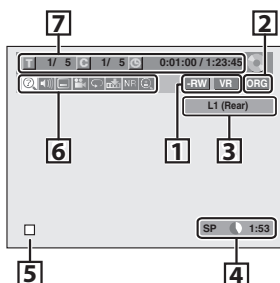
The menus allow you to change the various kinds of settings for playback, recording, or editing to suit your preference.

The on-screen display changes in the following order as you press [DISPLAY].



Disc Information / Menu

DVD mode

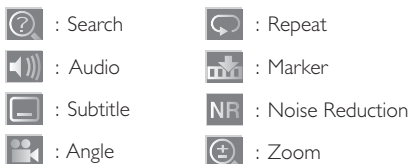


This is an example screen for explanation purposes only. Displayed items vary depending on the disc you inserted.

1. Indicates the disc type and format mode.
2. Indicates the type of titles for VR mode DVD-RW.
3. Indicates the selected external input channel.
4. Indicates the recording mode and possible recording time left.

5. Indicates the operation status.

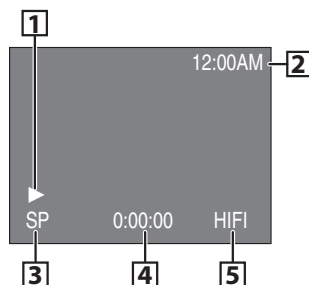
6. Each icon means:



7. Indicates the current title number/total number of titles, the current chapter number/total number of chapters, and time lapse of the current title playback/ total duration of the title.

VCR Information

VCR mode



- This is an example screen for explanation purposes only. Displayed items vary depending on the cassette tape you inserted.
- During stop mode or pause, VCR information is not available with HDMI connection.

1. Indicates the current video status.
2. Indicates the current time.
3. Indicates recording or playback mode
4. Indicates the tape counter.
5. Audio status of the current cassette tape.

Note(s)

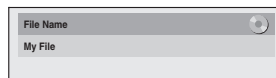
- VCR information does not appear on the screen when the unit is connected by an HDMI, component, or S-video cable, except during playback.

Title/File Name Information

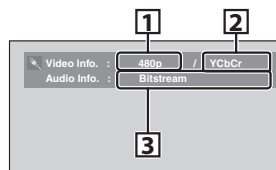
Title Name Information



File Name Information



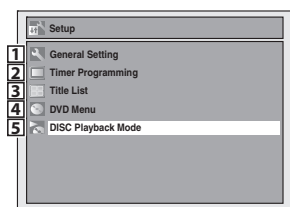
HDMI Information



1. Indicates the resolution of the HDMI output image.
 2. Indicates the HDMI video format.
 3. Indicates the HDMI audio format.
- "- - -" will be displayed when it does not have any information.

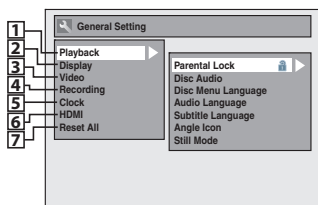
Main Menu

Press **[SETUP]** to display the "Setup" menu. The "Setup" menu provides entries to all main functions of the unit. Use **[▲ / ▼]** to select an item, then press **[OK]**.



1. **General Setting:**
To go to the general setting menu.
2. **Timer Programming:**
To program a timer recording.
3. **Title List:**
To call up the title list.
4. **DVD Menu:**
To configure the DVD setting.
5. **DISC Playback Mode:**
To configure the disc playback setting.
 - "DISC Playback Mode" is only available when an audio CD, or CD-RW/-R or DVD-RW/-R with JPEG files is inserted into the unit.

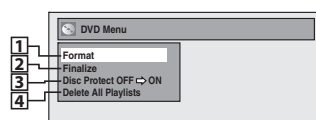
General Setting Menu



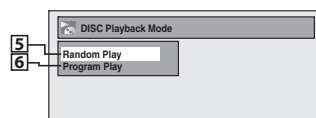
1. **Playback:**
To configure the unit for disc playback.
2. **Display:**
To configure the On-Screen Display (OSD) screen.
3. **Video:**
To configure the video setting.
4. **Recording:**
To configure the unit for disc recording.
5. **Clock:**
To set the clock on the unit.
6. **HDMI:**
To configure the HDMI connection setting.
7. **Reset All:**
To reset the unit to the factory default settings.

DVD Menu / DISC Playback Mode

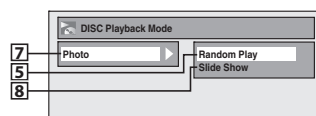
<DVD Menu (DVD-RW)>



<DISC Playback Mode menu (audio CD)>



<DISC Playback Mode menu (JPEG)>

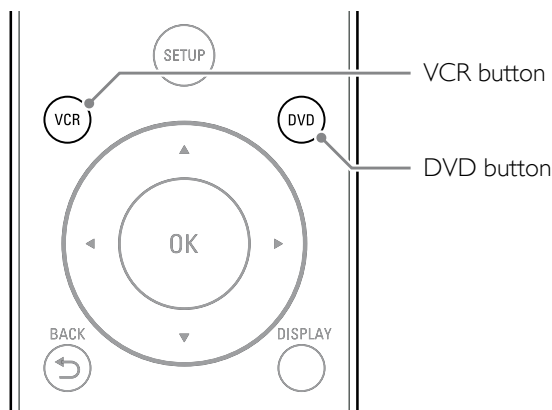


1. **Format:** (DVD-RW only)
Allows you to format the disc.
2. **Finalize:**
Allows you to finalize a disc containing recorded titles.
3. **Disc Protect:** (VR mode DVD-RW only)
Allows you to protect a disc from accidental editing or recording.
4. **Delete All Playlists:** (VR mode DVD-RW only)
5. **Random Play:**
Allows you to activate the random playback feature.
6. **Program Play:** (audio CD only)
Allows you to activate the program playback feature.
7. **Photo:** (JPEG files only)
Allows you to configure settings for JPEG playback.
8. **Slide Show:** (JPEG files only)
Allows you to select the display time for the slide show mode.

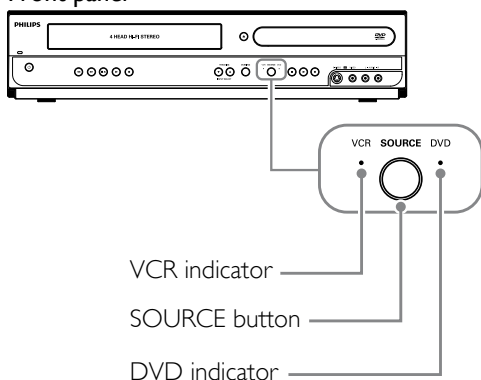
Switching DVD / VCR Mode

Because this product is a combination of a VCR and a DVD recorder, you must first select which component you would like to operate.

Remote control



Front panel



DVD mode

Press **[SOURCE]** on the front panel or press **[DVD]** on the remote control. (Verify that the DVD indicator is lit.)

VCR mode

Press **[SOURCE]** on the front panel or press **[VCR]** on the remote control. (Verify that the VCR indicator is lit.)

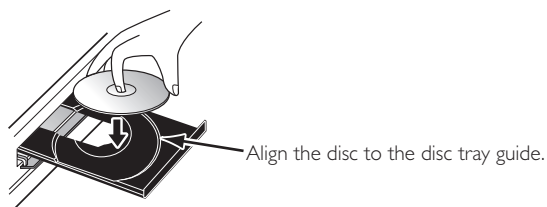
Note(s)

- You cannot switch component while the unit is in timer-standby mode.
- If you switch component during playback, the playback will stop.

How to Insert a Disc / Cassette Tape

How to Insert a Disc

- 1 Press **[DVD]**.
- 2 Press **[▲]** to open the disc tray.
- 3 Place a disc on the disc tray with its label side facing up.



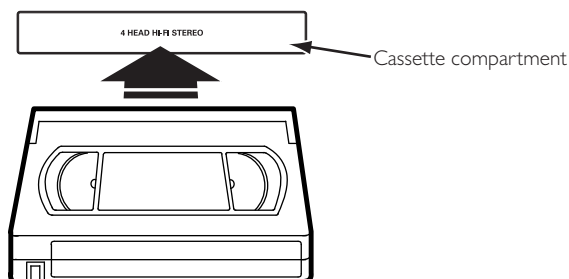
- 4 Press **[▲]** to close the disc tray.
 - It may take a while to load the disc.

To eject the disc:

Press **[▲]** to open the disc tray, then remove the disc before switching the unit to standby mode.

How to Insert a Cassette Tape

- 1 Press **[VCR]**.
- 2 Insert a cassette tape as illustrated below.



- Insert from the flap side first with the window side facing up.

To eject the cassette tape:

Press **[■▲]** on the front panel or press **[▲]** on the remote control.

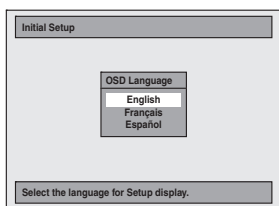
Note(s)

- When the unit is in standby mode, press **[■▲]** on the unit as **[▲]** on the remote control is not available.

Initial Setting

Perform the following steps when you turn On this unit for the first time.

- Follow the procedure in "Finding the Viewing Channel on Your TV" (p.22) to display the "Initial Setup" menu.
- Use **[▲ / ▼]** to select your desired language, then press **[OK]**.

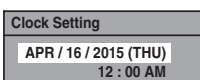


- Proceed to step 4 in "Clock Setting".

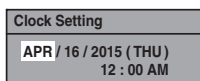
Clock Setting

Set the clock before you try timer programming. Perform the following steps below.

- Press **[SETUP]**, then use **[▲ / ▼]** to select "General Setting", then press **[OK]**.
 - The "General Setting" menu will appear.
- Use **[▲ / ▼]** to select "Clock", then press **[OK]**.
 - The "Clock Setting" menu will appear.
- Use **[▲ / ▼]** to select the date or time, then press **[OK]**.



- Use **[◀ / ▶]** to select an item to set, then use **[▲ / ▼]** to change the item, then press **[OK]** when you finish setting all items.



- Your setting will be activated.
The clock starts counting when you press **[OK]**.

- Press **[SETUP]** to exit.

Note(s)

- The clock setting will be cancelled if you press **[SETUP]** before pressing **[OK]** in step 4.
- When setting the clock manually, the setting will be lost if there is a power failure or the unit is unplugged for more than 30 seconds.
- To set Day, Year, Hour, and Minute, the **[Number buttons]** can also be used.
- The built-in calendar can be set for any year in the range of 2014 up to 2064.

Information on DVD Recording

Before you make a recording, read the following information.

Recordable Discs

This unit can record to DVD-RW and DVD-R. DVD-R can be recorded only once whereas DVD-RW can be recorded and erased multiple times.

Logos	Attributes
 DVD-RW	 DVD-R
	8cm/12cm, single-sided, single layer disc Approx. max. recording time (SLP mode): 360 minutes (4.7GB) (for 12cm) 108 minutes (1.4GB) (for 8cm)

- The following discs are recommended for good recording quality and are proven to be compatible with this unit. However, depending on the media condition, the unit may not read the disc properly.

Verbatim	DVD -R 8x,	DVD-RW 2x
JVC	DVD-RW 4x	
Maxell	DVD-R 8x/16x	

Performance of any other discs are not guaranteed.

Unrecordable Discs

- DVD-RW recorded in the non compatible recording format
- DVD-R recorded in VR mode
- DVD+RW/+R

Recording Mode

You can choose a recording mode from 5 options. Recording time will depend on the recording mode you select as follows:

Disc size	Recording mode	Recording time	Video/sound quality
8cm Disc	XP (1Hr)	18 min	☆☆☆☆☆ (good)
	SP (2Hr)	36 min	☆☆☆☆
	LP (4Hr)	72 min	☆☆☆
	EP (6Hr)	108 min	☆☆
	SLP (8Hr)	144 min	☆ (poor)
12cm Disc	XP (1Hr)	60 min	☆☆☆☆☆ (good)
	SP (2Hr)	120 min	☆☆☆☆
	LP (4Hr)	240 min	☆☆☆
	EP (6Hr)	360 min	☆☆
	SLP (8Hr)	480 min	☆ (poor)

- The recording time is only an estimate. The actual recording time may differ.
- The audio and video quality will be poorer as the recording time becomes longer.
- On each press of **[REC MODE]**, recording mode and its allowed recording time will be displayed.

Note(s)

- This unit cannot record to CD-RW or CD-R.
- All high definition pictures will be down-converted to standard definition pictures when they are recorded on this unit.
- DVD-RW/-R and CD-RW/-R recorded on a PC or a DVD/CD recorder may not be playable if ...
 - the disc is damaged or dirty.
 - there is condensation on the player's lens.
- Discs recorded on a PC may not be playable on this unit depending on the recording settings of the authoring software. Check with the software publisher for details.
- Because recording on this unit is in Variable Bit Rate (VBR) mode, the actual remaining time for recording may be shorter than the estimated remaining time which is displayed on screen.

Recording Restrictions

You cannot record copy-protected programs on this unit. Copy-protected video signal is included in DVD videos, some satellite broadcasting, some pay-per-view programs, and some "premium" stations.

If copy-protected material is detected, recording will pause or stop automatically and an error message will appear on screen.

"Copy-once only" video can only be recorded to CPRM compatible DVD-RW formatted in VR mode.

What is "CPRM"

CPRM is a copy protection technology with a scramble system for the recording of "copy-once" broadcast programs. CPRM stands for Content Protection for Recordable Media. This unit is CPRM compatible, which means you can record copy-once broadcast programs, but you cannot make another copy of those recordings. CPRM recordings can only be made on CPRM compatible DVD-RW formatted in VR mode, and CPRM recordings are only playable on DVD players that are specifically compatible with CPRM.

Making discs playable on other DVD players (Finalization)

For DVD-RW/-R, it is necessary to finalize the disc after recording in order to make them playable on other DVD players. (Refer to pages 37)

When a video mode disc is finalized, the title menu will be created. This unit cannot finalize the discs created on other DVD recorders.

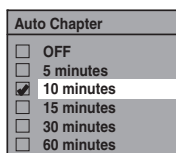
Before Recording

Auto Chapter Setting



You can set a specified time for chapter marks.

- 1 Press [SETUP], then use [▲ / ▼] to select "General Setting", then press [OK].
 - The "General Setting" menu will appear.
- 2 Use [▲ / ▼] to select "Recording", then press [OK].
 - The "Recording" menu will appear.
- 3 Use [▲ / ▼] to select "Auto Chapter", then press [OK].
- 4 Use [▲ / ▼] to select a desired time option, then press [OK].



- 5 Press [SETUP] to exit.

Note(s)

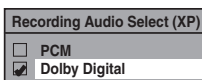
- The interval for auto chapter may be up to two minutes different from the time option you set.
- A blank chapter may be created depending on the remaining time of the disc.

Recording Audio Select (XP)



You can enjoy high quality sound recording. This function works only when the recording mode is set to XP.

- 1 Press [SETUP], then use [▲ / ▼] to select "General Setting", then press [OK].
 - The "General Setting" menu will appear.
- 2 Use [▲ / ▼] to select "Recording", then press [OK].
 - The "Recording" menu will appear.
- 3 Use [▲ / ▼] to select "Recording Audio Select (XP)", then press [OK].
- 4 Use [▲ / ▼] to select "PCM" or "Dolby Digital", then press [OK].



PCM

Records PCM audio for the best sound quality.

Dolby Digital

Records Dolby Digital audio for good sound quality.

- 5 Press [SETUP] to exit.

Note(s)

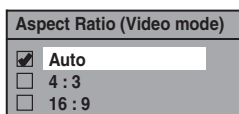
- "PCM" stands for Pulse Code Modulation. It changes analog sound to digital sound without compressing audio data.
- When the recording mode is set something other than XP, the unit records "Dolby Digital" audio automatically even if "PCM" is selected.

Setting Aspect Ratio for Video Mode Recording



You can set aspect ratio for video mode recording.

- 1 Follow step 1 to 2 in "Recording Audio Select (XP)".
- 2 Use [▲ / ▼] to select "Aspect Ratio (Video mode)", then press [OK].
- 3 Use [▲ / ▼] to select an item, then press [OK].



Auto (default)

It will be recorded with the same aspect ratio as the program being broadcast.

4:3

Recorded in the aspect ratio of 4:3.

16:9

Recorded in the aspect ratio of 16:9.

- 4 Press [SETUP] to exit.

Note(s)

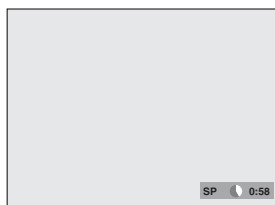
- For DVD-RW VR mode, the image will be recorded with the aspect ratio of the program being broadcast, regardless of the "Aspect Ratio (Video mode)" setting.

Basic Recording & One-touch Timer Recording

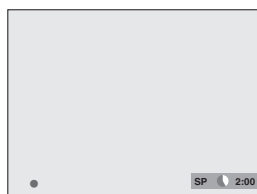


Follow the steps to record TV programs from an external tuner. This unit is not equipped with a tuner; it cannot receive TV broadcasts without an external tuner or such devices.

- 1 Press [DVD], then insert a recordable disc*.
 - * For recordable discs, refer to "Recordable Discs" (p.26).
 - Refer to "How to Insert a Disc" (p.25).
 - **It may take a while to load the a disc.**
 - When inserting a brand-new DVD-RW, the unit will automatically format the disc.
- 2 Press [REC MODE] repeatedly until your desired recording mode is selected.
 - Refer to "Recording Mode" (p.26).



- 3 Press [INPUT] to select the appropriate external input position (L1/L2) to which your external tuner is connected. Then select a desired channel to record on the external tuner.
- 4 Press [REC] to start recording.
 - "●" will be displayed for 4 seconds.



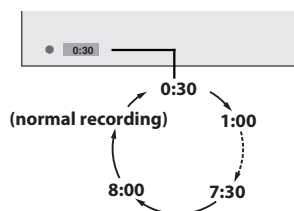
- Press [||] to pause the recording.
Press [||] or [REC] again to resume the recording.

To set one-touch timer recording (OTR)

This is a simple way to set the recording time in blocks of 30 minutes.

Press **[REC]** repeatedly until a desired recording time (30 minutes to 8 hours) appears on the TV screen.

One-touch timer recording will start.



To change the recording length during the one-touch timer recording:

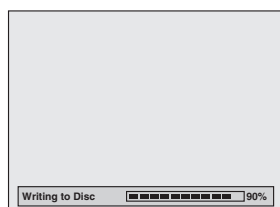
Press **[REC]** repeatedly until a desired length appears.

To cancel the one-touch timer recording within the specified time:

Press **[■]**.

5 Press **[■]** to stop recording.

- The recorded title will appear in the title list. Refer to "Title List" (p.49).



- This operation may take a while to complete.

Note(s)

- When you press **[REC]**, recording starts immediately and continues until the disc is full or you stop recording.
- When the unit clock has not been set, the space for date and time of the title names will be blank.
- You cannot change the recording mode during the recording pause mode.
- You can change a channel (external input) to be recorded during the recording pause mode.

Notes for one-touch timer recording

- The remaining recording time will be displayed on the front panel display during one-touch timer recording. Press **[DISPLAY]** to see it on the TV screen.
- Unlike the timer recording, you can perform the following operations during one-touch timer recording.
 - Switching the unit to standby mode to stop one-touch timer recording.
 - Using **[REC]** or **[■]** on the remote control.
- You cannot use the pause function during one-touch timer recording.
- If a DVD one-touch timer recording is complete during VCR playback or recording, the DVD will be in stop mode and the VCR keeps the current mode.
- When a one-touch timer recording is finished and the power is turned to standby, the unit will switch to timer-standby mode automatically if a timer recording has been programmed. Press **[TIMER SET]** to cancel timer-standby mode to use the unit continuously.

Timer Recording



You can program the unit to record up to 12 programs within a month in advance. Daily or weekly program recordings are also available.

Before recording, make sure:

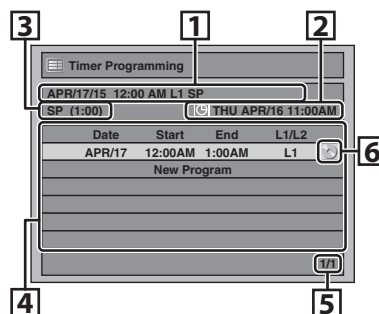
- Set the clock before setting a timer programming.
- Insert a recordable disc with enough recordable space or a cassette tape with an erase-protection tab.

Note(s)

If you have not yet set the clock:

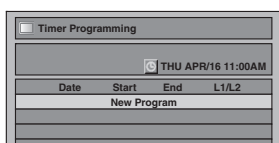
- The entry screen for the clock setting will appear instead of the timer programming list in step 1. Continue with step 4 in "Clock Setting" (p.26) before setting a timer programming.
- Use **[◀/▶]** to move the cursor to the left and the right in the entry screen for the timer programming.
- If a basic recording or one-touch timer recording is in progress on one component (e.g., VCR) and the timer recording set for the other component (e.g., DVD) is about to begin, the unit automatically switches to the programmed channel for timer recording 2 minutes before the programmed starting time, and the recording in progress (for VCR) will be cancelled UNLESS their recording channels are the same. If their recording channels are the same, the timer recording will start without canceling the recording currently in progress. In this case, the recording of the same channel will be made on both DVD and VCR.
- You cannot make a program whose recording time exceeds 12 hours.
- Cancel timer-standby mode by pressing **[TIMER SET]** before operation for either DVD or VCR. When finished operating, press **[TIMER SET]** to resume timer-standby mode.
- In timer-standby mode, you can turn on the power and use the component (VCR or DVD) which is not currently timer-programmed.

Timer Programming Display



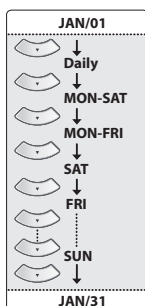
- Title of a timer program (Contains date, time, selected external input position, recording mode of the program)
- Current date and time
- Recording mode, and length of the recording
- Timer program list
- Total number of pages and current page (2 pages maximum)
- Recording media ("DVD" (DVD) or "VCR" (VCR))

- 1 Press **[TIMER]**.
- 2 Use **[▲ / ▼]** to select "New Program", then press **[OK]**.



- If there are 6 or more programs, use **[◀◀ / ▶▶]** to change pages.

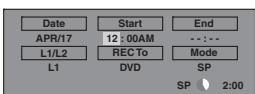
- 3 Use **[▲ / ▼]** to enter the date, then press **[▶]**.



When pressing **[▼]** at the current date, the date will change as follows.

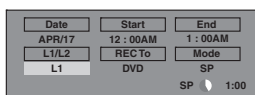
(e.g., January 1st)

- 4 Use **[▲ / ▼ / ◀ / ▶]** or the **[Number buttons]** to enter the start and end time, then press **[▶]**.



- You cannot make a program in which recording time exceeds 12 hours.

- 5 Use **[▲ / ▼]** to select the appropriate external input position (L1 / L2) to which your external tuner is connected, then press **[▶]**.

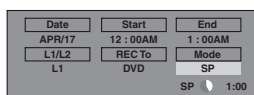


- 6 Use **[▲ / ▼]** to select the recording media ("DVD" or "VCR"), then press **[▶]**.

(e.g., Recording to DVD)



- 7 Use **[▲ / ▼]** to select a recording mode.



Refer to "Recording Mode" (p.26).

- When recording to DVD, you can check the remaining recordable space of the disc when you select the recording mode.



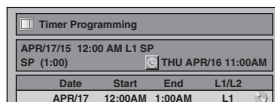
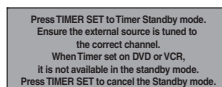
Auto recording mode select (DVD only)

When "Auto" is selected as a recording mode, the unit calculates how much time is available on the disc and selects the best recording mode available automatically to complete recording the program.



- "Auto" is only available for one program in the timer program list.
- The recording may be cut short when the available recording space of the disc is too limited.

- 8 Press **[OK]** when all items are entered.
- After displaying an instructive message for 10 seconds, the timer program list will appear.



Your program setting is now stored.

- To set another program, repeat steps 2 to 8.
- To exit, press **[TIMER]** or **[SETUP]**.
- When 2 or more programs are overlapped, "Timer program overlapped" appears, and the overlapped program will be displayed in blue.
- To correct the timer program refer to "Checking, canceling or correcting the timer programming information." (p.31).

- 9 Press **[TIMER SET]** to set a timer programming.

- will appear on the front panel display, while this unit makes the timer recording.



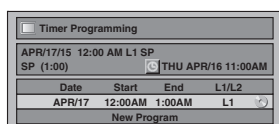
"VCR" will appear on the front panel display if VCR timer recording has been set.

To stop the timer recording in progress

- 1 Press **[■]** on the remote control.
 - Confirmation window will appear.
- 2 Use **[▲ / ▼]** to select "Yes", then press **[OK]**.
 - To stop the timer recording immediately, press **[■]** on the unit.

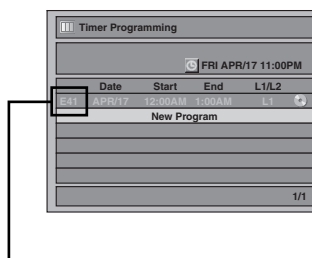
Checking, canceling or correcting the timer programming information.

- 1 Press **[TIMER SET]**.
- 2 Press **[TIMER]**.
- 3 Check the information.



- 4-A** To delete the timer program:
1. Use **[▲ / ▼]** to select the program you would like to delete, then press **[OK]**.
 2. Use **[▲ / ▼]** to select "Delete", then press **[OK]**.
 - Confirmation window will appear.
 3. Use **[▲ / ▼]** to select "Yes", then press **[OK]**.
- 4-B** To correct the timer program:
1. Use **[▲ / ▼]** to select the program you would like to correct, then press **[OK]**.
 2. Use **[▲ / ▼]** to select "Program Change", then press **[OK]**.
 3. Correct the timer program by using **[▲ / ▼ / ◀ / ▶]**, then press **[OK]**.
- 5 Press **[TIMER]** to exit.
 - 6 Press **[TIMER SET]** to return to the timer standby mode.

If the timer program did not complete correctly, an error number appears in the timer programming list.



Each error number means:

E1 - 22	Recording error other than below
E37-39	
E23-24	Unrecordable disc
E25-28	Copy prohibited program
E29	Disc protected
E30	Disc full
E31-32	Already 99 titles recorded
E33	Already 999 chapters recorded
E34	No space for Control information
E35	PCA* full
E36	Already finalized video format disc
E40	Some portion has not been recorded because of program overlapping. Recording did not start at the start time.
E41	Power failed
E42	No disc when recording

- A program with an error number is grayed out in the timer programming list.
- A timer program with an error number will be cleared once the entry screen for the program is displayed.
- * PCA is a disc's space reserved for recording test.

Note(s)

- Press **[TIMER]** to check the timer recording in progress. While the timer recording is proceeding, that program will be highlighted in red. In this case, you cannot select any other program.

Hints for Timer Recording

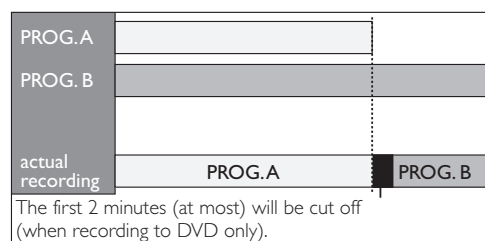
- If there is a power failure or this unit has been unplugged for more than 30 seconds, the clock setting and all timer programming will be lost.
- If no disc or a non-recordable disc is inserted, timer recording cannot be performed. In some cases,  will appear momentarily around the start time as the unit attempts to record. Please insert a recordable disc.
- If a cassette tape with an erase-protection tab is not in the cassette compartment or there is no cassette tape in the cassette compartment, timer recording cannot be performed. Please insert a recordable cassette tape.
- If a cassette tape ends during the timer recording, the unit will automatically stop, eject the cassette tape, and switch itself to standby mode. To continue recording, insert a recordable tape.
- If both DVD and VCR are timer programmed, you cannot use any functions for either unit during timer standby or timer recording. If you would like to use functions other than recording under such conditions, cancel timer recording by pressing [TIMER SET] during timer standby or stop recording by pressing [■] / [■▲] on the front panel of the unit during timer recording.
- To cancel timer standby mode, press [TIMER SET].
- When the starting and ending times are the same, "Exceeds 12 hours" appears and the program setting will not be accepted.
- When the disc or cassette tape becomes full during the recording, the unit switch itself to standby mode.
- If the starting time is earlier and the ending time is later than the current time, the recording will start right after you press [TIMER SET] in step 9 on page 30.
- The timer recording cannot be performed for DVD and VCR at the same time. If you set 2 programmings with the same channel and time in both devices, the program which is set first will have priority.
- "Press TIMER SET for timer recording" will appear on the TV screen 5 minutes before the programmed starting time.

The Priority of Overlapped Settings

- The timer program which has the earlier start time will be placed first in the timer program list, and be given priority over the programs with the later start time when timer programs overlap.
- When timer programs overlap, the first 2 minutes (at most) of the later recording will be cut off.
- When 2 or more timer programs have the same start time, the program set first will be given priority.
- A timer recording of lower priority will be cancelled or start from the middle.
- Check the overlapped timer programmings and change the priority if necessary.

■ When the starting time is the same:

A program set previously (PROG.A) has priority.

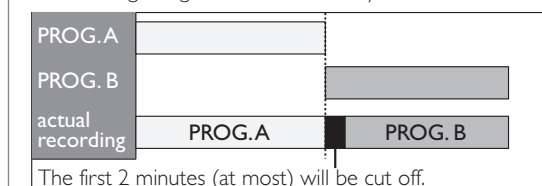


Notes for DVD recording

- When the recording time of 2 programs are overlapped, or the end time of a program and the start time of another program is the same, the first 2 minutes (at most) of the subsequent program will be cut off.
- If the cut-off portion is 3 minutes or more, this program will be displayed with error number E40 in the timer programming list.

■ When the end time of the programming currently being recorded and the start time of the subsequent program are same:

The beginning of the PROG. B may be cut off.



Satellite Link

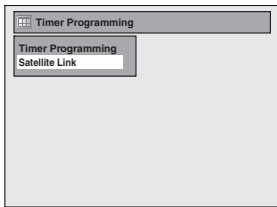


You can set the unit to start recording whenever it detects the video signal from the external tuner.

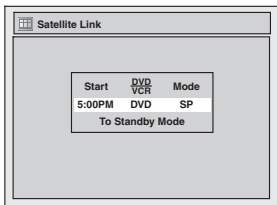
Preparing for the satellite link timer recording: Preparation on the tuner

- The satellite link accepts only the connection from L1 (rear) with the external tuner. (The connection from L2 cannot read any signals from the external tuner.)
- The external tuner should be equipped with some kind of timer function. Using the timer function of the tuner, set it to output audio/video signals when it is time to start recording, and stop output audio/video signals when it is time to finish recording. Refer to the tuner's manual on how to set the timer.
- Make sure to set the satellite link standby mode when you finish programming.

- 1 Press [SETUP].
- 2 Use [▲ / ▼] to select "Timer Programming", then press [OK].
- 3 Use [▲ / ▼] to select "Satellite Link", then press [OK].

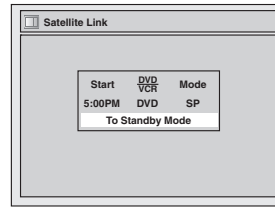


- 4 Use [▲ / ▼] to select the time, media and recording mode, then press [OK].



- 5 Use [▲ / ▼] to set a desired starting time, then press [▶].
 - The hour can be selected from 1 to 12 with AM or PM.
 - Repeat the procedures in step 5 to set a desired minutes.
 - If you would like to go back to the left, press [◀].
- 6 Use [▲ / ▼] to select the recording media ("DVD" or "VCR"), then press [▶].
- 7 Use [▲ / ▼] to select the recording mode.
 - Refer to "Recording Mode" (p.26) for details.
- 8 Press [OK].
 - "To Standby Mode" will be highlighted.

- 9 Press [OK] again.



- The unit will then turn Off automatically as it goes into satellite link standby mode.

To cancel the satellite link function while in satellite link standby mode:

Press [TIMER SET] to turn On the unit.

To cancel the satellite link function while the satellite link recording is in progress:

Press [■] on the front panel to stop the disc recording.

Press [■▲] on the front panel to stop the cassette tape recording.

Note(s)

- If the signal of the external input breaks up over 5 seconds, the satellite link function will be cancelled.
- If you have not set the clock, the "Clock Setting" menu will appear in step 4. Follow step 4 in "Clock Setting" (p.26).
- You cannot set the ending time for the satellite link timer recording on this unit.
- Recording picture will be distorted if the copy protection signal is being detected during satellite link timer recording.
- You can record the satellite link by using S-video input jacks on the rear panel. Refer to "Connecting to a TV with an S-Video Input Jack" (p.19) for more information.
- When a regular timer recording and the satellite link timer recording are overlapped, those recordings are recorded as illustrated below.
- Press [TIMER] during the satellite link timer recording in progress.

	example 1
timer recording	
satellite link	
actual recording	

The first 2 minutes (at most) will be cut off.

	example 2
timer recording	
satellite link	
actual recording	

The first 2 minutes (at most) will be cut off.

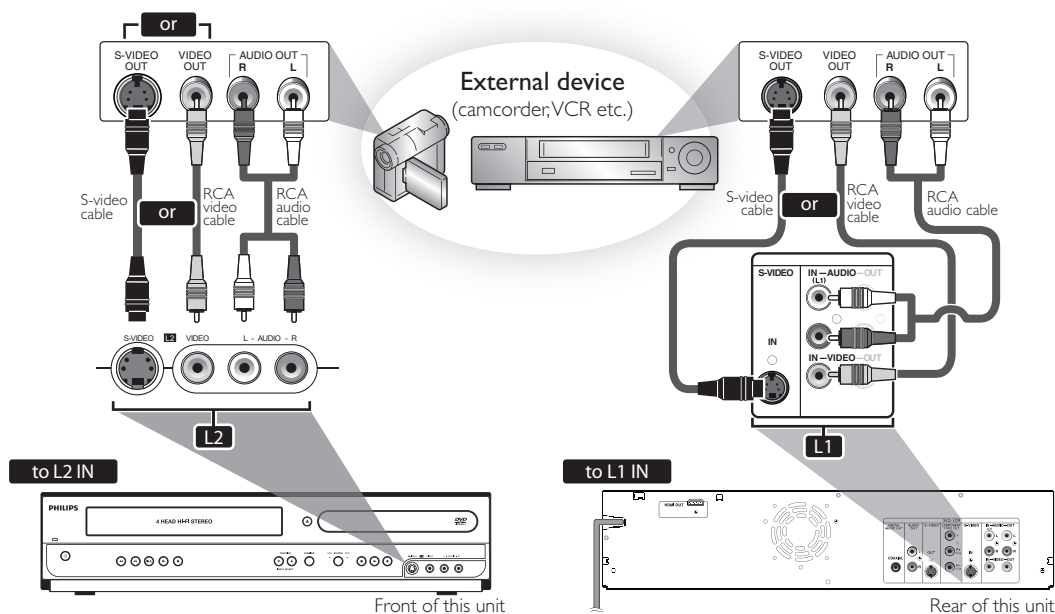
	example 3
timer recording	
satellite link	
actual recording	

The first 2 minutes (at most) will be cut off.

Settings for an External Device

Connection to an External Device

Connect the external device to the unit by using either input jacks L2 (Front) or L1 (Rear). If the external device has monaural output, use the AUDIO L jack of L2 (Front) or L1 (Rear). Use an S-video or the RCA audio/video cable for this connection.



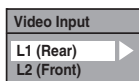
Supplied cables used in this connection are as follows:

- RCA audio cable (L/R) × 1
- RCA video cable × 1

Please purchase the rest of the necessary cables at your local store.

Setting the Video Input

- 1 Press **[SETUP]**, then use **[▲ / ▼]** to select "General Setting", then press **[OK]**.
 - "General Setting" menu will appear.
- 2 Use **[▲ / ▼]** to select "Video", then press **[OK]**.
 - The submenu will appear.
- 3 Use **[▲ / ▼]** to select "Video Input", then press **[OK]**.
- 4 Use **[▲ / ▼]** to select desired external input, then press **[OK]**.
- 5 Use **[▲ / ▼]** to select the input jack type, then press **[OK]**.
 - To use the VIDEO IN jack, select "Video In".
 - To use the S-VIDEO IN jack, select "S-Video In".
- 6 Press **[SETUP]** to exit.



Recording from an External Device



Before recording from an external device, refer to "Connecting to an External Tuner" (p.17).

1 Recording to a DVD

Press **[DVD]**, then insert a recordable disc.

- Refer to "How to Insert a Disc" (p.25).
- **It takes a while to load the disc.**

Recording to a Cassette tape

Press **[VCR]**, then insert a cassette tape with an erase-protection tab intact.

- Refer to "How to Insert a Cassette Tape" (p.25).

2 Select the appropriate external input channel (L1 or L2) by pressing **[INPUT]**.

- If the external device is connected to the rear of this unit, select L1.
- If the external device is connected to the front of this unit, select L2.
- You can also select L1 or L2 channel by using the **[Number buttons]**. (e.g., For L1, press **[0]**, **[0]**, **[1]**)

3 Press **[REC MODE]** repeatedly to select a recording mode.

- Refer to "Recording Mode" (p.26) for DVD or "Recording" (p.64) for VCR.

4 Press **[●REC]** on the unit to start recording.

5 Start playback on the external device.

6 For disc

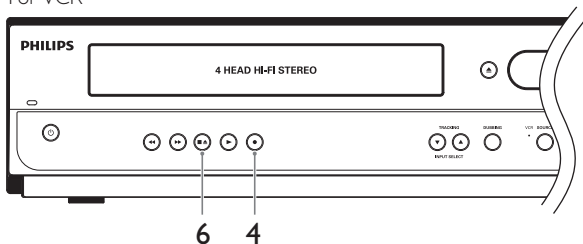
Press **[■]** on the unit to stop recording.

For cassette tape

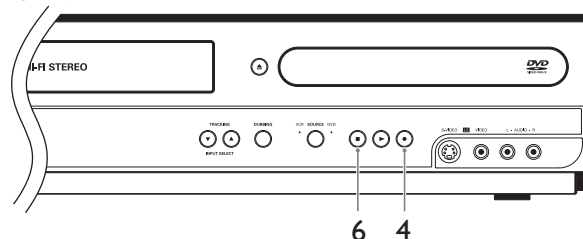
Press **[■▲]** on the unit to stop recording.

- **This operation may take a while to complete.**

For VCR



For DVD



Bi-directional Dubbing



You can copy the contents of a DVD to a cassette tape or do vice versa. This function is only available when the contents are not copy-protected. (Before you start, refer to page 26 for the list of compatible discs.)

Notes for dubbing

- The dubbing direction setting in the "Dubbing Mode" menu is always reset to "VCR → DVD" whenever you switch the unit to standby mode.
- You cannot change the output mode during VCR to DVD or DVD to VCR duplication.

Notes for recording to a cassette tape

- Make sure
 - the cassette tape's erase-protection tab is intact.
 - the cassette tape is long enough.

Notes for recording to a disc

- Make sure
 - the disc is compatible (refer to page 26).

Preparing for dubbing (cassette tape to DVD):

- Insert a cassette tape to be dubbed.
- Insert a recordable DVD.
- Make sure there is enough space on the DVD.

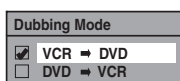
Preparing for dubbing (DVD to cassette tape):

- Insert a disc to be dubbed.
- Insert a cassette tape with an erase-protection tab intact.
- Make sure there is enough recordable length on the tape.

- 1 Press **[SETUP]**, then use **[▲ / ▼]** to select "General Setting", then press **[OK]**.
 - The "General Setting" menu will appear.
- 2 Use **[▲ / ▼]** to select "Recording", then press **[OK]**.
 - The "Recording" menu will appear.
- 3 Use **[▲ / ▼]** to select "Dubbing Mode", then press **[OK]**.
 - The selection menu will appear.

VCR to DVD

- 4 Use [▲ / ▼] to select "VCR → DVD", then press [OK].

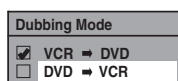


Press [SETUP] to exit.

- 5 Press [DVD], then press [REC MODE] repeatedly to select a desired recording mode.
- 6 Press [VCR], then press [▶] to find the point where you would like to start dubbing.
- 7 Press [III] when you come to a desired start point.
- 8 Press [DUBBING].
- VCR to DVD duplication will start.
- 9 Press [■] to stop the dubbing.

DVD to VCR

- 4 Use [▲ / ▼] to select "DVD → VCR", then press [OK].



Press [SETUP] to exit.

- 5 Press [VCR], then press [REC MODE] repeatedly to select a desired recording mode.
- Rewind or fast forward the tape to the point where you would like to start recording.
- 6 Press [DVD], then press [▶] to find the point where you would like to start dubbing.
- 7 Press [III] when you come to a desired start point.
- 8 Press [DUBBING].
- DVD to VCR duplication will start.
- 9 Press [■] to stop the dubbing.

Notes for DVD to VCR duplication

- This function is available for audio CDs, but not CDs with JPEG files.
- The recording mode for VCR cannot be displayed in step 5 when using an HDMI / Component / S-Video connection. To display the VCR recording mode on the screen, the unit must be connected through the VIDEO OUT jack and the TV's input select should be set to the appropriate external input channel.

Notes for VCR to DVD duplication

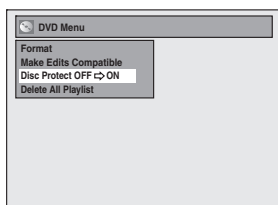
- After starting VCR to DVD duplication, the picture may be distorted because of the auto tracking function. This is not a malfunction. Play the tape until the picture is stabilized, then set the starting point where you would like to start recording, and start VCR to DVD duplication.
- This unit will automatically stop the duplication if playback with no image is detected for more than 3 minutes during VCR to DVD duplication.
- Playback sound mode of the dubbed contents is determined by the playback sound mode of the VCR at the point of dubbing.

Protecting a Disc

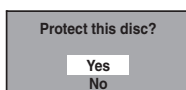


To prevent the accidental recording, editing, or erasing of the titles, you can set disc protection in the "DVD Menu".

- 1 Press [SETUP].
- 2 Use [▲ / ▼] to select "DVD Menu", then press [OK].
- 3 Use [▲ / ▼] to select "Disc Protect OFF → ON", then press [OK].



- 4 Use [▲ / ▼] to select "Yes", then press [OK].

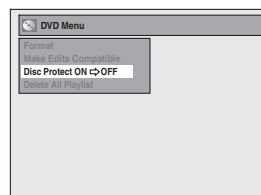


- The disc will be protected.
- This operation may take a while to complete.

Note(s)

To cancel the disc protect:

- When you insert a disc protected with this unit, "Disc Protect ON → OFF" will appear instead of "OFF → ON" in step 3.



- To release the protection for the disc, select "Disc Protect ON → OFF" in step 3, then follow rest of the procedures.

Make a Disc Playable on Other DVD Players

Finalizing a Disc



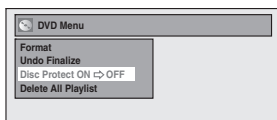
In order for DVD-RW or DVD-R to be playable on other DVD players, the disc needs to be finalized.

Finalizing a disc may take several minutes up to an hour.

A shorter recording period on the disc will take longer for finalization. Do not unplug the power cord during finalization.

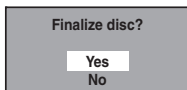
Note(s)

- Once you have finalized a DVD-R, you cannot edit or record anything on that disc.
- Even if you have finalized a DVD-RW recorded in VR mode, you can edit, record or delete a title.
- When you insert a DVD-RW finalized with this unit, "Undo Finalize" will appear instead of "Finalize".



- To release the finalizing for the disc, select "Undo Finalize" in step 3.
- **DO NOT** turn the power Off or put the unit in standby mode during finalization. Doing so will result in malfunction.

- 1 Press [SETUP].
- 2 Use [▲ / ▼] to select the "DVD Menu", then press [OK].
- 3 Use [▲ / ▼] to select "Finalize", then press [OK].
- 4 Use [▲ / ▼] to select "Yes", then press [OK].

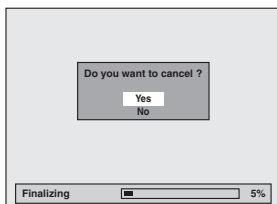


- Finalizing will start.



To cancel finalizing (DVD-RW only)

- To cancel finalizing in step 4, press [■], then select "Yes" using [▲ / ▼], then press [OK]. Finalizing is cancelled and the unit will be in stop mode.



- If [■] appears when pressing [■], you cannot cancel finalizing because the finalizing is in progress.
- Finalizing will continue if you select "No", then press [OK] (or if you press [BACK]).
- You cannot cancel finalizing the DVD-R once it has started.

- This operation may take a while to complete.

- 5 Finalization is complete.

EN

Auto Finalizing

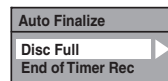


You can finalize discs automatically using this function. You can use this function to finalize discs after finishing timer recordings and at the end of the disc space.

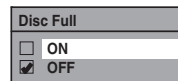
Note(s)

- This function is not available after finishing daily or weekly program recording.

- 1 Press [SETUP], then use [▲ / ▼] to select "General Setting", then press [OK].
 - The "General Setting" menu will appear.
- 2 Use [▲ / ▼] to select "Recording", then press [OK].
 - The "Recording" menu will appear.
- 3 Use [▲ / ▼] to select "Auto Finalize", then press [OK].
- 4 Use [▲ / ▼] to select "Disc Full" or "End of Timer Rec", then press [OK].



- 5 Use [▲ / ▼] to select "ON", then press [OK]. (e.g., "Disc Full")



- Your setting will be activated.

- 6 Press [SETUP] to exit.

Information on Playback

Before you play DVD, read the following information.

Playable Discs and Files

This unit is compatible to play the following discs. To play a DVD, make sure that it meets the requirements for region codes and color systems as described below. You can play discs that have the following logos. Other disc types are not guaranteed to play.

Playable discs	Logos
DVD-video	
DVD-RW (VR or Video mode)	
DVD-R (Video mode)	
CD-DA (audio CD)	
CD-RW	
CD-R	
Playable files	Media
JPEG	CD-RW/-R DVD-RW/-R

 is a trademark of DVD Format/Logo Licensing Corporation.

Unplayable Discs

The following discs will not play on this unit.

- CD-ROM
- Compact Disc-Interactive (CD-I)
- DVD-RAM
- Video Single Disc (VSD)
- DVD-ROM
- DVD-audio
- Unfinalized disc
- Video CD (VCD)
- DVD or CD contains Windows Media™ Audio/DivX®/MP3 files
- Blu-ray Disc™
- HD DVD
- Super Video CD

On the following disc, the sound may not be heard.

- Super audio CD - Only the sound on the CD layer can be heard. The sound on the high-density super audio CD layer cannot be heard.

Note(s)

- In some cases, discs other than the ones shown above may not be playable on this unit.

Color Systems

DVD is recorded in different color systems throughout the world. The most common color system is NTSC (which is used primarily in the United States and Canada). This unit uses NTSC; DVDs you play must be recorded in the NTSC system. You cannot play DVDs recorded in other color systems.

Region Codes

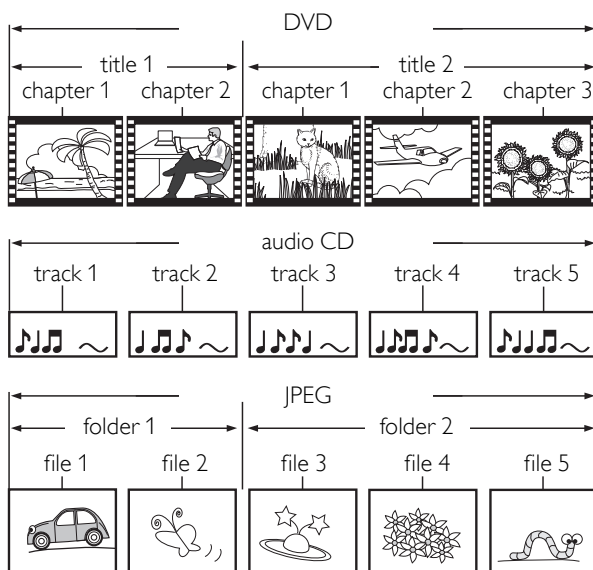
This unit has been designed to play DVDs with region 1. DVDs must be labeled for ALL regions or for region 1 in order to play on this unit. You cannot play DVDs that are labeled for other regions. Look on your DVD for the symbols on the right. If these region symbols do not appear on your DVD, you cannot play the DVD on this unit. The number inside the globe refers to region of the world.

A DVD labeled for a specific region can only play on a unit with the same region code.



Hint for DVD Playback

The contents of DVDs are generally divided into titles. Titles may be further subdivided into chapters.



Basic Playback

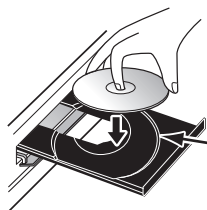
Direct Playback



Note(s)

- Some discs may start playback automatically.
- Playback will stop when you change the output mode.

- 1 Press **[DVD]**, then insert a playable disc*.
 - * For playable discs, refer to "Playable Discs and Files" (p.38)
 - Refer to "How to Insert a Disc" (p.25).
 - **It may take a while to load the disc.**



Align the disc to the disc tray guide.

- 2 Press **[▶]** to start playback.
 - If you are playing a DVD-video, the menu may appear.
 - Refer to "Using the Title / Disc Menu" (p.40)
- 3 Press **[■]** once to stop playback temporarily.
 - Refer to "Resume Playback" (p.41)

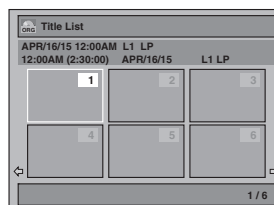
Playback from the Title List



Note(s)

- Some discs may start playback automatically.

- 1 Press **[DVD]**, then insert a playable disc*.
 - * For playable discs, refer to "Playable Discs and Files" (p.38)
 - Refer to "How to Insert a Disc" (p.25).
 - **It may take a while to load the disc.**
- 2 Press **[TITLE]**.
 - The title list will appear.
 - Press **[DISC MENU]** to switch Original/Playlist if necessary.
 - To exit the title list, press **[■]**.
 - To resume the title list, press **[TITLE]**.
- 3 Use **[▲ / ▼ / ◀ / ▶]** to select a desired title, then press **[OK]**.
(e.g., VR mode DVD-RW original)



- Press **[▶▶]** to display the next page, and press **[◀◀]** to display the previous page.
- 4 Use **[▲ / ▼]** to select "Play From Start", then press **[OK]**.



- Playback will start.
- 5 Press **[■]** once to stop playback temporarily.
 - Refer to "Resume Playback" (p.41)

Note(s)

- You can also start playback by pressing **[▶]** instead of **[OK]** in step 3.

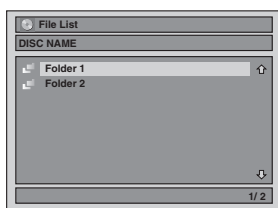
Playing an Audio CD, Viewing JPEG files on CD-RW/R or DVD-RW/-R



Note(s)

- Files whose extension is other than ".jpg / .jpeg (JPEG)" will not be listed.
- Some unplayable folders or files may be listed due to the recording status.
- High-resolution JPEG files take longer to be displayed.
- Progressive JPEG files (JPEG files saved in progressive format) cannot be displayed on this unit.

- Press [DVD], then insert a playable disc*.
 - * For playable discs, refer to "Playable Discs and Files" (p.38)
 - Refer to "How to Insert a Disc" (p.25).
 - It may take a while to load the disc.**
 - When an audio CD is inserted, the track list will appear.
 - When a CD-RW/-R or DVD-RW/-R with JPEG files is inserted, the file list will appear.
 - When you insert a CD-RW/-R or DVD-RW/-R mixed with JPEG files, the playback media selection screen will be displayed. For JPEG, select "Photo".
 - To exit the track/file list, press [■].
 - To resume the title list, press [TITLE].
- Use [▲ / ▼] to select a desired folder or track/file, then press [OK].
(e.g., File list)



When selecting a track/file:

Playback will start.

When selecting a folder (Not available for audio CD):

The files in the folder will appear.

Use [▲ / ▼] to select the file or folder you would like to play, then press [OK].

- Press [▶], [OK] or [▶] to move to any lower hierarchies.
- Press [◀] or [BACK ↶] to move back to the previous hierarchy.

Hints for audio CD tracks and JPEG files:

- Folders are shown by .
- Audio CD tracks are shown by .
- JPEG files are shown by .
- The number of tracks/files/folders for each disc type which the unit can recognize are...

audio CD:	99 tracks
CD-RW/-R:	999 files, 255 folders
DVD-RW/-R:	9999 files, 255 folders
- Letters of a file/folder name overflowing the given space will be displayed as "...". Unrecognizable characters will be replaced with asterisks.
- If there are no files in the folder, "No Files" will be displayed.

It is recommended that files to be viewed on this unit are recorded under the following specifications:

<JPEG>

- Upper limit: 6,300 × 5,100 dots.
- Lower limit: 32 × 32 dots.
- File size of image maximum: 12 MB.

Notes on JPEG files

- After the track is displayed for 5 seconds or 10 seconds (set in "Slide Show" (p.44)), the display moves to the next track.
- During JPEG playback, press [▶] or [◀] to rotate a picture 90 degrees clockwise or counterclockwise respectively. (Not available when the display menu appears.)

Using the Title / Disc Menu



DVDs may contain a title list which describes the contents of the disc, or a disc menu which guides you through the available functions in the disc.

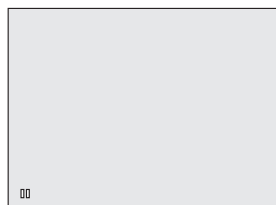
- Press [DVD], then, insert a playable disc*.
 - * For playable discs, refer to "Playable Discs and Files" (p.38)
 - Refer to "How to Insert a Disc" (p.25)
 - It may take a while to load the disc.**
- Press [TITLE] or [DISC MENU] to call up the title list or disc menu.
- Use [▲ / ▼ / ◀ / ▶] to make a selection, and then press [OK] to enable your selection.
- Press [■] to exit.

Note(s)

- You can also select a numbered menu using the [Number buttons].
- Menus vary among discs. Refer to the information accompanying the disc for details.
- [TITLE] or [DISC MENU] will not always be active with all DVDs.

Pause

- During playback, press [II].
 - Playback will be paused and sound will be muted.



- Press [▶] to return to the normal playback.

Note(s)

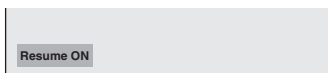
- On DVDs, set "Still Mode" to "Field" in the "Playback" menu if pictures in pause mode are blurred. (Refer to page 60.)

Special Playback

Resume Playback

You can play from where you last stopped playback.

- 1 During playback, press [■].
 - The resume message will appear.



Resume ON

- 2 Press [▶].
 - In a few seconds, playback will resume from the point at which it last stopped. You can resume playback at the same point even if you switch the unit to standby mode.
 - To cancel the resume playback and start playing the disc from the beginning, press [■] again while the playback is stopped.

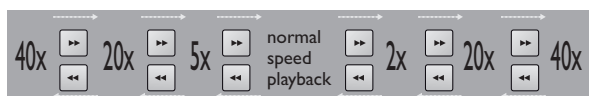
Note(s)

- For JPEG files, playback will resume from the beginning of the file at which play was stopped.

Fast Forward / Fast Reverse Playback



- 1 During playback, press [▶▶] or [◀◀].
 - Every time you press [▶▶] or [◀◀], approximate speed will be changed as follows.



- Fast forward or fast reverse playback across titles (for DVD) is not possible.
- For audio CDs, approximate speed is fixed at 8x with sound (indicated with ▶▶▶▶ / ▶▶▶▶).

- 2 Press [▶] to return to the normal playback.

Note(s)

- Forward/reverse speed will be indicated with icons as follows.
forward (approx. speed)
 2x: ▶▶
 20x: ▶▶▶▶
 40x: ▶▶▶▶▶
reverse (approx. speed)
 5x: ▶▶▶
 20x: ▶▶▶▶
 40x: ▶▶▶▶▶

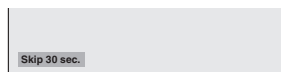
Skipping TV Commercials during Playback



You can skip TV commercials to enjoy the recorded programs without interruption.

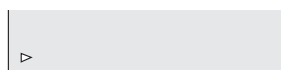
- 1 During playback, press [SKIP].
 - Normal playback will start at 30 seconds ahead from the point you press [SKIP].
 - Every time you press [SKIP], the searching point will be extended by 30 seconds ahead.
 - You can press [SKIP] up to 6 times (180 seconds).

(e.g., Press [SKIP] once.)



Skip 30 sec.

(forwarding 30 seconds)



Playback will return to the normal playback.

Rapid Playback



Rapid playback function is only available during playback.

This function is only available on discs recorded in the Dolby Digital format, and plays in a slightly faster/slower speed while keeping the sound quality just as normal playback.

- 1 During playback, press [RAPID PLAY].
 - ▶x0.8: Press [RAPID PLAY] once during playback. Plays approximately at 0.8 times of normal playback.
 - ▶x1.3: Press [RAPID PLAY] twice during playback. Plays approximately at 1.3 times of normal playback.
 - ▶x1: Press [RAPID PLAY] 3 times to play in normal speed. No effects.

- 2 Press [▶] to return to the normal playback.

Note(s)

- Audio (language) setting cannot be changed while using this mode.
- This feature may not work at some points on a disc.
- Audio is PCM during rapid playback mode except when using digital audio connection.
- When using digital audio connection (COAXIAL), the LPCM sound (2 channel) will be output.

Step by Step Playback

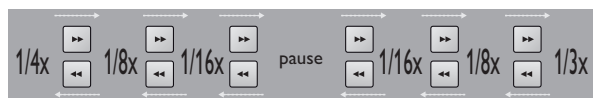


- 1 During playback, press [II].
 - Playback will be paused and sound will be muted.
- 2 Press [FWD] repeatedly.
 - Playback will advance one frame (or step) at a time when you press [FWD] with the sound muted.
 - To play step by step backward: Press [REV] repeatedly.
 - Every time you press the button, the playback will go backward by one frame.
 - Press and hold [REV] / [FWD] to reverse/ advance continuously.
- 3 Press [PLAY] to return to the normal playback.

Slow Forward / Slow Reverse Playback



- 1 During playback, press [II], then press [FWD] or [REV].
 - Every time you press [FWD] or [REV], approximate speed will be changed as follows. (The sound will remain muted.)



- 2 Press [PLAY] to return to the normal playback.

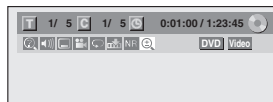
Note(s)

- Forward/reverse speed will be indicated with icons as follows.
forward (approx. speed)
 1/16x: [FWD] (16 times)
 1/8x: [FWD] (8 times)
 1/3x: [FWD] (3 times)
reverse (approx. speed)
 1/16x: [REV] (16 times)
 1/8x: [REV] (8 times)
 1/4x: [REV] (4 times)

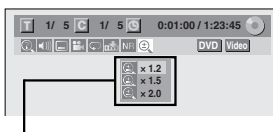
Zoom



- 1 During playback, press [DISPLAY] to call up the display menu.
- 2 Use [LEFT] / [RIGHT] to select [ZOOM] to display the zoom menu. (e.g., DVD-video)



- 3 Use [UP] / [DOWN] to select a desired zoom factor to zoom, then press [OK].



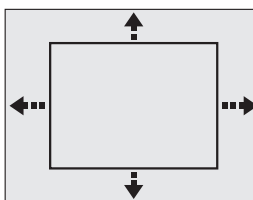
The zoom menu will appear.

There are four options:

x1.0, x1.2, x1.5 and x2.0. These are displayed excluding the current zoom rate.

- Zoom area will be displayed.

- 4 Use [UP] / [DOWN] / [LEFT] / [RIGHT] to select a desired zoom position, then press [OK].



- Zoom playback will start.

Note(s)

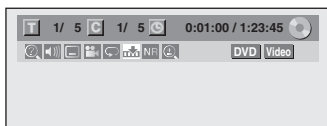
- When selecting a smaller factor than the current one, the zoom area will not be displayed.
- To exit the zoom menu, press [BACK] repeatedly in step 3.
- To cancel the zoom function, select "x1.0" using [UP] / [DOWN], then press [OK].
- You cannot slide the zoomed picture on some JPEG files.

Marker Setting

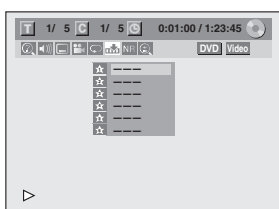


This feature allows you to assign a specific point on a disc to be called back later.

- 1 During playback, press **[DISPLAY]** to call up the display menu.
 - If the display menu is already shown, skip to step 2.
- 2 Use **[◀ / ▶]** to select to display the marker list. (e.g., DVD-video)



- 3 Use **[▲ / ▼]** to select a desired marker number. When it reaches a desired point, press **[OK]**.



- The title (track) number and the time will be displayed.

- 4 To return to the marker later:
Use **[▲ / ▼]** to select a desired marker number, then press **[OK]**.

Note(s)

- To clear a marker, select the marker number to be cleared, then press **[CLEAR]**.
- All markers will be erased when you perform the operations listed below.
 - Opening the disc tray
 - Switching the unit to standby / Off
 - Recording on a recordable disc
- You can mark up to 6 points.

Repeat Playback

Available repeat function may vary depending on the discs.

- 1 During playback press **[DISPLAY]** to call up the display menu, then proceed to step 2 or press **[REPEAT]** then proceed to step 3.
 - If the display menu is already shown, skip to step 2.
- 2 Use **[◀ / ▶]** to select to display the selection menu.



- 3 Use **[▲ / ▼]** to select a desired repeat type, then press **[OK]**.
 - The selected repeat playback will start.

(e.g., DVD-video)



(e.g., audio CD)



(e.g., JPEG files)



Title:

The current title will be played repeatedly.

Chapter:

The current chapter will be played repeatedly.

All:

The current disc will be played repeatedly.

A-B:

A desired section can be played repeatedly.

1. Use **[▲ / ▼]** to select "A-B", then press **[OK]**.
2. Press **[OK]** at a desired starting point A.
3. Press **[OK]** at a desired ending point B.

Track:

The current track or file will be played repeatedly.

Group:

The current folder will be played repeatedly.

Note(s)

- Point B for the repeat A-B playback should be set within the same title or track as point A.
- To cancel the repeat playback, select "OFF" in step 3. The repeat setting will also be cancelled when you stop playback.
- You cannot select "Group" during the random playback.
- During the A-B repeat, if you reach point A with any reverse playback, the reverse playback will be cancelled and the A-B repeat playback resumes from point A.

Random Playback



You can play a disc randomly instead of playing in the original order.

- 1 Press **[SETUP]**.
- 2 Use **[▲ / ▼]** to select "DISC Playback Mode", then press **[OK]**.
 - The "DISC Playback Mode" menu will appear.
 - For JPEG, use **[▲ / ▼]** to select "Photo", then press **[OK]**.
- 3 Use **[▲ / ▼]** to select "Random Play", then press **[OK]**.
 - Random playback will start.

Note(s)

- To cancel random playback, press **[■]** twice during random playback. "OFF" appears on the TV screen.

Slide Show



You can select the display time from 5 seconds to 10 seconds.

- 1 Follow steps 1 and 2 in "Random Playback" on this page.
- 2 Use **[▲ / ▼]** to select "Slide Show", then press **[OK]**.
- 3 Use **[▲ / ▼]** to select the display time, then press **[OK]**.
- 4 Press **[SETUP]** to exit.

Note(s)

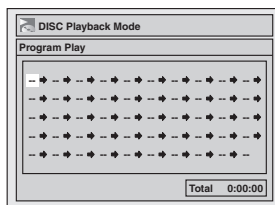
- Large-size JPEG files take a few moments to be displayed.

Program Playback



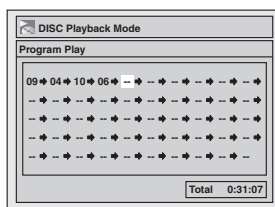
You can program the disc to play in your desired order.

- 1 Press **[SETUP]**.
- 2 Use **[▲ / ▼]** to select "DISC Playback Mode", then press **[OK]**.
 - "DISC Playback Mode" menu will appear.
- 3 Use **[▲ / ▼]** to select "Program Play", then press **[OK]**.
- 4 Use **[▲ / ▼]** to select a desired track, then press **[OK]** or **[▶]**.



Repeat this step until you program all a desired tracks.

- 5 Press **[▶]**.



- Program playback will start.

Note(s)

- To erase tracks you selected, press **[CLEAR]** in step 4.
- You can make program settings for up to 50 tracks.
- To cancel program playback, press **[■]** twice during program playback. "OFF" appears on the TV screen.
- You may also select a desired track using the **[Number buttons]** in step 4.

Chasing Playback during Recording



You can play a title being recorded from the beginning while recording continues. This function works from 1 minute after the start of the recording. Make sure to use a DVD-RW disc in VR mode, and the recording mode is set to LP, EP, or SLP.

1 During recording, press [▶].

- Playback of the title you are recording will start from the beginning.
- If you fast forward the playback, and the playback reaches the scene recorded 1 minute before, the forwarding playback will automatically return to the normal playback.

2 To stop playback, press [■] once.

- The resume message will appear.
- To stop recording, press [■] again.
- To cancel the resume playback, press [■] again.

Note(s)

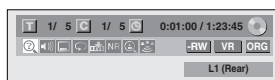
- Playback image may freeze momentarily when using this function. This does not affect the recording.
- The 2x fast forward playback is not available when using this function.
- [REC] is not available during this function. You must cancel this function first by pressing [■] once. Then you can use [REC] to use OTR (one-touch timer recording) function or change recording time for the OTR.
- "Wait for a moment." will be displayed on the screen if you press [▶] before 1 minute of recording.
- This function is only available when you are recording on a DVD-RW disc in VR mode, with the recording mode LP, EP, or SLP.
- Use DVD-RW discs capable of 2x or 4x speed recording.

Simultaneous Playback and Recording



You can also play back a recorded title during current recording or Timer Recording on the same disc.

1 During recording, press [DISPLAY].



2 Use [◀ / ▶] to select [?], then press [OK].

- The title number next to T will be highlighted.

Title:

Enter the desired title number using [▲ / ▼] or the [Number buttons], then press [OK] to search. The selected title playback will start.

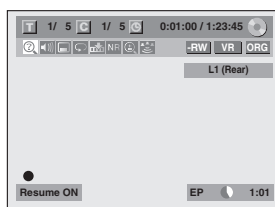
Chapter:

To move to C for chapter, press [▶]. Enter the desired chapter number using [▲ / ▼] or the [Number buttons], then press [OK] to search. The selected chapter playback will start.

If you play the currently recording program and the playback reaches the scene recorded 1 minute before, the forwarding playback will automatically return to the normal playback.

3 Press [■] once to stop playback.

- The resume message will appear.



- To stop recording, press [■] again.
- To cancel the resume, press [■] again.

Note(s)

- Playback image may freeze momentarily when using this function. This does not affect the recording.
- The 2x fast forward playback is not available when using this function.
- This function is only available when you are recording on a DVD-RW disc in VR mode, with a recording mode of EP, LP, or SLP.
- Only the titles (chapters) in the "Original" can be selected. You cannot select titles from the title list.
- When you stop the playback after the timer recording is complete, the unit will be switched to timer-standby mode if another program has been set to record. (Refer to "Hints for Timer Recording" (p.32))
- Use DVD-RW discs capable of 2x or 4x speed recording.

Search

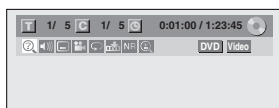


Using [**◀◀**] / [**▶▶**]:

- During playback, press [**▶▶**] to skip the current title or chapter and move to the next.
 - The title or chapter will move forward by one each time you press [**▶▶**].
 - If there is no chapter in a title, the current title will be skipped.
 - To go back to the beginning of the current title or chapter, press [**◀◀**]. Press it repeatedly to go to the previous title or chapter. The title or chapter will move backward by one each time you press [**◀◀**].

Using [**DISPLAY**]:

- During playback, press [**DISPLAY**] to call up the display menu.
- Use [**◀**] / [**▶**] to select , then press [**OK**].
(e.g., DVD-video)



- The number next to **T** will be highlighted.

3 Title:

Use [**▲**] / [**▼**] or the [**Number buttons**] to enter a desired title number to search, then press [**OK**].

- Title search will start.

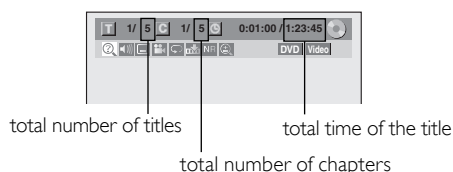
Chapter:

Press [**▶**] to move to the number next to **C** for chapter. Use [**▲**] / [**▼**] or the [**Number buttons**] to enter a desired chapter number to search, then press [**OK**].

- After the search, playback will start automatically.

Note(s)

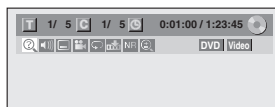
- In the search mode display, the total number of each search content (title/chapter/time) is shown after a slash (/).



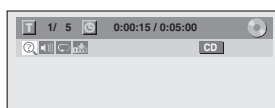
Time Search



- During playback, press [**DISPLAY**] to call up the display menu.
 - If the display menu is already displayed, skip to step 2.
- Use [**◀**] / [**▶**] to select , then press [**OK**].
(e.g., DVD-video)



(e.g., audio CD)



- The number next to **T** will be highlighted.

To move to the number next to , Press [**▶**].

- When time search is not available,  and time counter are not displayed.

- Use [**▲**] / [**▼**] / [**◀**] / [**▶**] or the [**Number buttons**] to enter a desired time to search, then press [**OK**].
 - After the search, playback will start automatically.

Note(s)

- Time search is only available in the same track, file or title.

Selecting Audio/Video Format

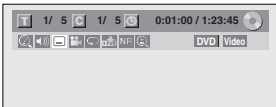
You can select the format of audio and video depending on the contents of the disc you are playing.

Switching Subtitles

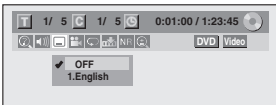


DVD-video may have subtitles in one or more languages. Available subtitle languages can be found on the disc case. You can switch subtitle languages anytime during playback.

- 1 During playback, press **[DISPLAY]** to call up the display menu.
- 2 Use **[◀ / ▶]** to select  to display the selection menu. (e.g., DVD-video)



- 3 Use **[▲ / ▼]** to select a desired subtitle language, then press **[OK]**.



- Subtitle will be displayed in the selected language. When selecting "OFF", subtitle will disappear.

Note(s)

- Some discs will only allow you to change the subtitle from the disc menu. Press **[TITLE]** or **[DISC MENU]** to display the disc menu.
- If a 4-digit language code appears in the subtitle menu, refer to "Language Code" (p.71).

Switching Audio Sound Track



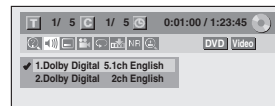
When playing a DVD-video recorded with two or more sound tracks (these are often in different languages), you can switch them during playback.

When playing audio CD you can switch "L/R"(stereo), "L"(left) or "R"(right).

- 1 During playback press **[DISPLAY]** to call up the display menu, then proceed to step 2 or press **[AUDIO]**, then proceed to step 3.
 - If the display menu is already shown, skip to step 2.
- 2 Use **[◀ / ▶]** to select  to display the selection menu.
- 3 Use **[▲ / ▼]** to select a desired audio sound track or audio channel, then press **[OK]**.

For DVD-video

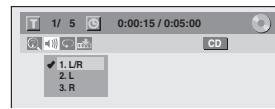
- Audio sound track will switch.



- If the title contains both main and sub audio, you can further select "L" (main), "R" (sub) or "L/R" (mixed of main and sub).

For audio CD

- Audio channel will switch.



Note(s)

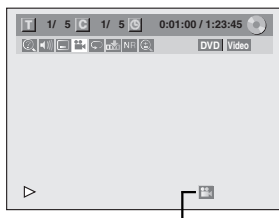
- Some discs will only allow you to change the sound track from the disc menu. Press **[TITLE]** or **[DISC MENU]** to display the disc menu.

Switching Camera Angles



Some DVD-video have scenes shot from two or more angles. Angle information should be on the disc case if the disc contains multi-angle scenes.

- 1 During playback, press **[DISPLAY]** to call up the display menu.
- 2 Use **[◀ / ▶]** to select , then press **[OK]**.
(e.g., DVD-video)



-  appears when an alternate camera angle is available.
- The angle will switch each time you press **[OK]**.



Note(s)

-  does not appear on the TV screen if the "Angle Icon" is set to "OFF" in the "Playback" menu. Refer to page 60.

Reducing Block Noise

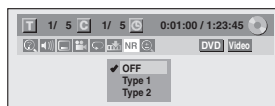


This function reduces noise in the playback picture.

- 1 During playback, press **[DISPLAY]** to call up the display menu.
- 2 Use **[◀ / ▶]** to select **NR** to display the selection menu.
(e.g., DVD-video)



- 3 Use **[▲ / ▼]** to select a desired option, then press **[OK]**.



- Your setting will be activated.

OFF: When playing titles with a few noises such as DVD-video.

Type 1: For the titles recorded in long time mode such as EP or SLP mode.

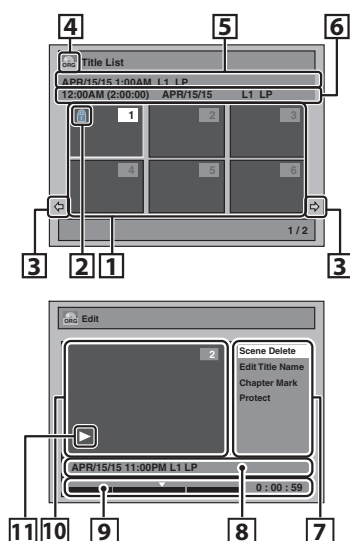
Type 2: Same as type 1, only more effective.

Information on Disc Editing

Title List

Title List allows you to check the titles recorded on the disc. You can choose a title to play from this list and edit the titles.

- 1 Press [DVD], then press [TITLE].



1. **Title list:** List of the titles recorded on the disc, and their information.
2. **The protect icon:** Appears when the title has been protected. (Original titles only)
3. **Arrow:** Indicates that there is a previous / next page.
4. **Title list icon:** Indicates a type of the displayed title list.
 : VR (Original)
 : VR (Playlist) : Video mode
5. **Title name**
6. **Title information:** Displays various information on the selected title.
7. **Submenu:** Submenus for the selected menu are displayed here.
8. **Title name (editable):** If you do not name the title, the recorded date, time and recording mode are displayed here.
9. **Progress bar:** Indicates the progress of the playback. The vertical lines in the bar indicate chapter marks, and "▽" sliding on the bar indicates the current point of playback displayed in the preview window.
10. **Preview window:** Preview of the selected title is displayed here.
11. **Playback status:** Indicates the current playback status of the selected title.

- 2 Press [■] to exit the title list.

Editing Discs

You can edit discs for the following items. Note that once you edit a title, the original title is overwritten.

- Adding Titles to a Playlist (Refer to page 51.)
- Deleting All Playlists (Refer to page 51.)
- Deleting Titles (Refer to page 52.)
- Deleting Part of a Title (Refer to page 52.)
- Putting Names on Titles (Refer to page 53.)
- Setting Chapter Marks (Refer to page 54.)
- Setting or Clearing All Chapter Marks at Once (Refer to page 55.)
- Dividing a Title (DVD-RW only) (Refer to page 55.)
- Combining Titles (Refer to page 56.)
- Setting or Releasing the Title Protection (Refer to page 56.)
 (Possible editing functions depend on the recording format and editing method.)

Original and playlist (VR mode)

For VR mode DVD-RW, you can edit the recordings in the playlist without changing the original recordings. The playlist does not take up much disc space. After you make a recording to VR mode DVD-RW, a playlist will be created automatically.

What "Original" or "Playlist" is for

Throughout this manual, you will find original and playlist which refer to the actual content and the edited version.

- **Original** content refers to what's actually recorded in the VR mode on a DVD-RW.
- **Playlist** content refers to the edited version of the VR mode DVD-RW; how the original content is to be played.

Finalizing a disc

- This will allow a disc that is recorded on this unit to be played on other DVD players. Without finalization, it will not be playable on other DVD players.
- After finalizing a DVD-RW/-R, you cannot edit any information that is on that disc.

Note(s)

- When selecting "Edit" in the pop-up menu of the title list and editing the title, the title list will be displayed after writing the edited contents onto the disc.
- The capacity indicator on the right side of the title list may not indicate the precise capacity of the disc.
- The capacity indicator may not include titles with a short recording time.
- Once you have finalized a DVD-R, you cannot edit or record anything on that disc.

Formatting a Disc

Choosing the Recording Format of a Brand-new DVD-RW

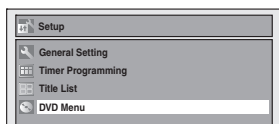


When inserting a brand-new DVD-RW, the unit automatically starts to initialize the disc. The DVD-RW will be formatted in either video or VR mode according to the recording format mode setting of the unit. Before inserting a brand-new DVD-RW, you need to set the recording format to a desired mode. You can also manually format a DVD-RW once it has been used.

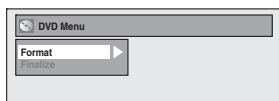
Note(s)

- The recording format setting is effective only for DVD-RW. You cannot change the recording format for a DVD-R.
- You cannot mix two formats on one DVD-RW disc. If you insert a disc that has been formatted before, the recording format is not changed if you select another format in the "Setup" menu only. To reformat a disc (change disc format type), refer to "Reformatting a Disc Manually" (p.50).

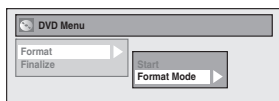
- 1 Press **[SETUP]**.
- 2 Use **[▲ / ▼]** to select "DVD Menu", then press **[OK]**.



- 3 Use **[▲ / ▼]** to select "Format", then press **[OK]**.



- 4 Use **[▲ / ▼]** to select "Format Mode", then press **[OK]**.



- 5 Use **[▲ / ▼]** to select "Video mode" or "VR mode", then press **[OK]**.
- 6 Press **[SETUP]** to exit.
- 7 Insert a brand-new disc.



- Formatting will start.

- 8 Formatting is complete.
 - "100%" is indicated.

Reformatting a Disc Manually

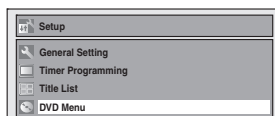


If you are using a DVD-RW, you can format the disc by performing "Format". You can format a DVD-RW for either video mode recording or VR mode recording.

Note(s)

- The recording format setting is effective only for DVD-RW. You cannot change the recording format for a DVD-R.
- You cannot mix two formats on one DVD-RW disc. If you insert a disc that has been formatted before, the recording format is not changed if you select another format in the "Setup" menu only. To reformat a disc (change disc format type), refer to "Reformatting a Disc Manually" (p.50).

- 1 Insert a DVD-RW disc to reformat, then press **[SETUP]**.
- 2 Use **[▲ / ▼]** to select "DVD Menu", then press **[OK]**.



- 3 Use **[▲ / ▼]** to select "Format", then press **[OK]**.
(e.g., VR mode DVD-RW)

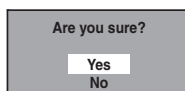


- 4 Use **[▲ / ▼]** to select "Start", then press **[OK]**.



- The selection menu will appear and prompt you to confirm.

- 5 Use **[▲ / ▼]** to select "Yes", then press **[OK]**.



- Formatting will start.
- If you would like to cancel formatting, select "No".

- 6 Formatting is complete.



- "100%" is indicated.

Creating/Deleting a Playlist

Adding Titles to a Playlist



For VR mode DVD-RW, you can create the playlist as you wish.

You can add up to 99 titles to a playlist (as long as the total number of chapters does not exceed 999).

Note(s)

- When a playlist contains 99 titles or more or 999 chapters or more, "Add to Playlist" cannot be selected.

- Press **[DVD]**, then **[TITLE]**.
 - If the "Playlist" screen appears, press **[DISC MENU]** to switch to the "Original" screen.
- Use **[▲ / ▼ / ◀ / ▶]** to select a desired title, then press **[OK]**.
- Use **[▲ / ▼]** to select "Add to Playlist", then press **[OK]**.



- Use **[▲ / ▼]** to select "Yes", then press **[OK]**.



- The title is added to playlist.

- Press **[BACK ↵]** or **[■]** to exit.
 - Data will be written onto the disc momentarily.
 - This operation may take a while to complete.**

Deleting All Playlists

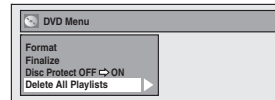


A playlist can be deleted if it is no longer needed.

Note(s)

- Deleting a playlist will not increase the available recording time on the disc.

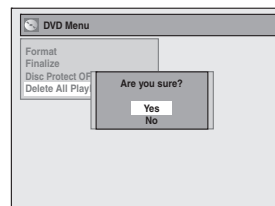
- Press **[DVD]**, then **[SETUP]**.
 - The main menu will appear.
- Use **[▲ / ▼]** to select "DVD Menu", then press **[OK]**.
- Use **[▲ / ▼]** to select "Delete All Playlists", then press **[OK]**.



- Use **[▲ / ▼]** to select "Yes", then press **[OK]**.



- "Are you sure?" will appear.
Use **[▲ / ▼]** to select "Yes" and then press **[OK]**.



- The playlist will be deleted.
- Data will be written onto the disc momentarily.
- This operation may take a while to complete.**

Deleting Titles

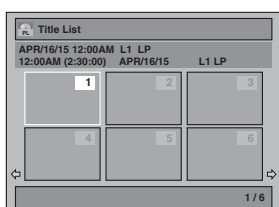


You can delete a title which you do not need anymore. Please be advised that the titles once deleted cannot be brought back to the disc.

For DVD-RW, when the last recorded title in the title list is deleted, the available disc space to record on will be increased. For DVD-R, the disc space to record on will not be changed.

- 1 Press **[DVD]**.
In stop mode, press **[TITLE]**.
 - Title list original or playlist will appear.
 - For VR mode DVD-RW, press **[DISC MENU]** to switch between "Original" and "Playlist".
- 2 Use **[▲ / ▼ / ◀ / ▶]** to select a desired title, then press **[OK]**.

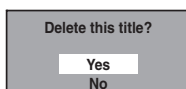
(e.g., VR mode DVD-RW original)



- 3 Use **[▲ / ▼]** to select "Title Delete", then press **[OK]**.



- 4 Use **[▲ / ▼]** to select "Yes", then press **[OK]**.



- "Are you sure?" will appear. Select "Yes" using **[▲ / ▼]**, then press **[OK]**.
- The title will be deleted.

- 5 Press **[BACK ↵]** or **[■]** to exit.



- Data will be written onto the disc momentarily.
- This operation may take a while to complete.

Editing Discs

Deleting Part of a Title



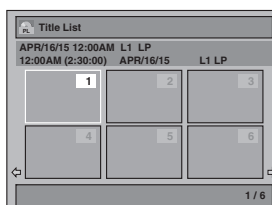
You can delete a specific part of a title. Even when parts of a title are deleted from the playlist, the original title will remain as it is.

Note(s)

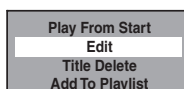
- When a scene is deleted from an original, the playlist related to the original will be deleted.
- You cannot select "Scene Delete" if the number of chapter marks in the original or playlist is more than 999. (Depending on the content, there is a case where you cannot select "Scene Delete" even if there are 999 or fewer chapter marks.)
- The recordable disc space will not increase even after deleting a part of a title on the playlist.

- 1 Press **[DVD]**.
In stop mode, press **[TITLE]**.
 - Title list original or playlist will appear.
 - For VR mode DVD-RW, press **[DISC MENU]** to switch between "Original" and "Playlist".
- 2 Use **[▲ / ▼ / ◀ / ▶]** to select a desired title, then press **[OK]**.

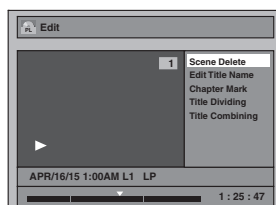
(e.g., VR mode DVD-RW original)



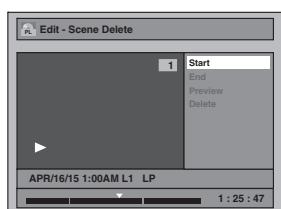
- 3 Use **[▲ / ▼]** to select "Edit", then press **[OK]**.



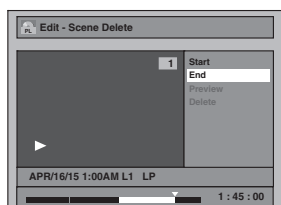
- 4 Use **[▲ / ▼]** to select "Scene Delete", then press **[OK]**.
(e.g., VR mode DVD-RW playlist.)



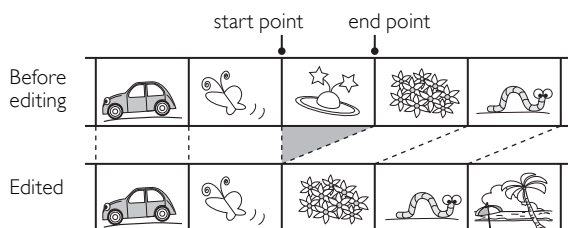
- 5 Use [**◀◀/▶▶**], [**◀◀**], [**▶▶**], [**▶**], and [**■**] to find the start point, then press [**OK**].



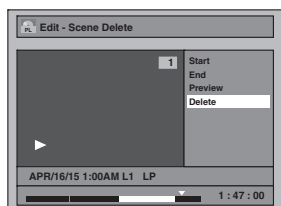
Then use [**◀◀/▶▶**], [**◀◀**], [**▶▶**], [**▶**], and [**■**] again to move to the end point, then press [**OK**].



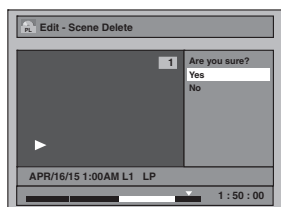
- The cursor will move to "Preview".
- The bar at the bottom of the screen indicates the area selected for deletion is indicated in red.
- You can check the preview by pressing [**OK**].
- 5 seconds before and after the deleted point will be played for preview.



- 6 Use [**▲ / ▼**] to select "Delete" then press [**OK**].



- 7 Use [**▲ / ▼**] to select "Yes" then press [**OK**].
- "Are you sure?" will appear. Select "Yes" using [**▲ / ▼**] and then press [**OK**].



- The selected part of the title is deleted.

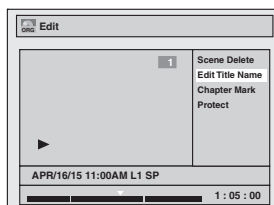
- 8 Press [**BACK ↵**], then [**BACK ↵**] or [**■**] to exit.
- Data will be written onto the disc momentarily.
 - This operation may take a while to complete.

Putting Names on Titles

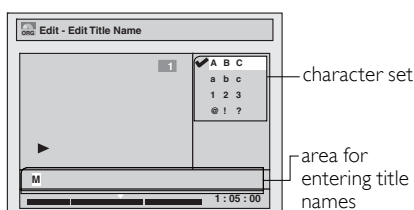


You can put title names on the titles and change the names from this menu.

- Follow steps 1 to 3 in "Deleting Titles" (p.52) to display "Edit" menu.
- Use [**▲ / ▼**] to select "Edit Title Name", then press [**OK**].

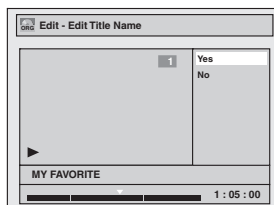


- To enter a title name, follow the steps in "Edit Title Name" (p.54).



- When you finish entering a title name, press [**OK**].

- Use [**▲ / ▼**] to select "Yes", then press [**OK**].



- The name you entered will be saved for the title.

- After this operation is complete, press [**BACK ↵**] to exit.
- Data will be written onto the disc momentarily.
- This operation may take a while to complete.

Edit Title Name

- 1 Use **[▲ / ▼]** to select a desired character set, then press **[OK]**.
- 2 Follow the list below using the **[Number buttons]** repeatedly until a desired letter appears.
When you finish entering a title name, press **[OK]**.

Select Press	ABC	abc	123	@!?
0	<space>	<space>	0	<space>
1	(*1)	(*1)	1	!"#\$%&'()* *+,-./:;<=> ?@[] ^ _ { }
2	ABC	abc	2	
3	DEF	def	3	
4	GHI	ghi	4	
5	JKL	jkl	5	
6	MNO	mno	6	
7	PQRS	pqrs	7	
8	TUV	tuv	8	
9	WXYZ	wxyz	9	

- * Press **1** to change the character set to "@!?" mode.
Press **2** to **9** to go back to the previous character set.
- To delete letters, press **[CLEAR]** repeatedly.
Hold **[CLEAR]** to delete all letters.
 - Use **[◀ / ▶]** to move the cursor left and right.
 - You can enter up to 30 letters.

Note(s)

- Undefined letters in a title name are shown by "*". If you delete them, adjoining letters may change to "*" or others.

Setting Chapter Marks



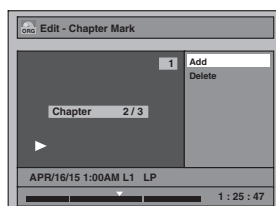
You can put chapter marks in each title. Once a chapter is marked, you can use it for the chapter search feature.

Note(s)

- The maximum number of chapters for each DVD: VR mode DVD: 999 chapters per entire original and playlist
- Besides the above-mentioned, it is not likely to be able to add according to recorded time and number of chapters.

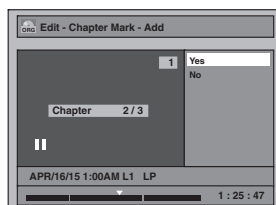
- 1 Follow steps **1** to **3** in "Deleting Titles" (p.52) to display the "Edit" menu.
- 2 Use **[▲ / ▼]** to select "Chapter Mark", then press **[OK]**.
• The submenu will appear.
- 3 Use **[◀◀ / ▶▶]**, **[◀◀ / ▶▶]**, **[▶]**, and **[■]** to find the point where you would like to create a new chapter mark, or, use **[◀◀ / ▶▶]** to find a chapter mark that you would like to delete.
- 4 Use **[▲ / ▼]** to select "Add" or "Delete", then press **[OK]**.

(e.g., VR mode DVD-RW original)



- 5 Use **[▲ / ▼]** to select "Yes", then press **[OK]**.
• If you select "Add" in step **4**, a new chapter mark will be added. If you select "Delete" in step **4**, the chapter mark will be deleted.

(e.g., Add)



- A new chapter mark will be added.

- 6 Press **[BACK ↵]**.
- 7 Press **[BACK ↵]** again, then **[BACK ↵]** or **[■]** to exit.
• Data will be written onto the disc momentarily.
• This operation may take a while to complete.

Setting or Clearing All Chapter Marks at Once



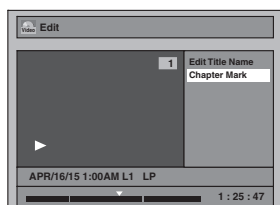
For titles in video mode DVD-RW, you can set or edit chapters at every time interval. You can clear the chapter mark too.

You can specify the interval of chapter marks for titles which last more than 5 minutes.

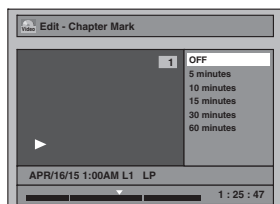
Note(s)

- You cannot select a chapter mark interval that exceeds the length of a title.
- The length of chapters may slightly deviate from the one specified in step 3.
- A chapter mark may be delayed depending on the recording content.
- The maximum number of chapters for video mode DVD is 99 chapters per title.
- The interval for auto chapter may be up to two minutes different from the time option you set.

- 1 Follow steps 1 to 3 in "Deleting Titles" (p.52) to display "Edit" menu.
- 2 Use **[▲ / ▼]** to select "Chapter Mark", then press **[OK]**.



- 3 Use **[▲ / ▼]** to select a desired interval, then press **[OK]**.



- 4 Use **[▲ / ▼]** to select "Yes", then press **[OK]**.
 - Chapter marks are added.
 - If you select "OFF" in step 3, all of the chapter marks are erased.
- 5 Press **[BACK ↵]**, then **[BACK ↵]** or **[■]** to exit.
 - Data will be written onto the disc momentarily.
 - This operation may take a while to complete.

Dividing a Title

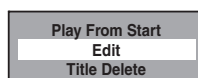


You can divide one title into two new titles.

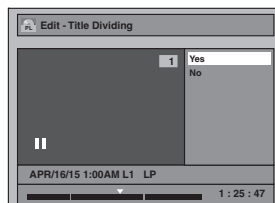
Note(s)

- You cannot divide a title on the disc when the number of recording titles reaches the maximum of 99, and the number of recording chapters reaches the maximum of 999.

- 1 Press **[DVD]**.
In stop mode, press **[TITLE]**.
 - For VR mode DVD-RW, press **[DISC MENU]** to select "Playlist".
- 2 Use **[▲ / ▼ / ◀ / ▶]** to select a desired title, then press **[OK]**.
- 3 Use **[▲ / ▼]** to select "Edit", then press **[OK]**.
(e.g., VR mode DVD-RW playlist)



- 4 Use **[◀◀ / ▶▶]**, **[◀◀]**, **[▶▶]**, **[III]** and **[▶]** to find the point where you would like to divide the title.
- 5 Use **[▲ / ▼]** to select "Title Dividing", then press **[OK]**.
- 6 Use **[▲ / ▼]** to select "Yes", then press **[OK]**.
(e.g., VR mode DVD-RW playlist)



- The title will be divided into two new titles.
- Both title names are identical.



- This operation may take a while to complete.

For VR mode DVD-RW: Proceed to step 7.

- 7 Press **[BACK ↵]** or **[■]** to exit.
 - Data will be written onto the disc momentarily.
 - This operation may take a while to complete.

Combining Titles

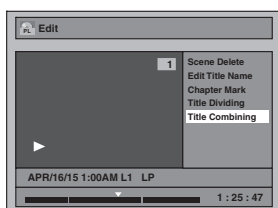


You can combine two titles into a single title.

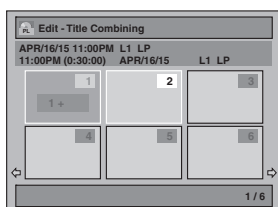
Note(s)

- You cannot select the same title twice and combine it into a single title.
- If either one of the two original titles is deleted, the combined new title is also deleted.

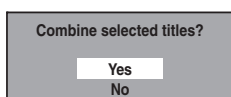
- 1 Follow steps 1 to 3 in "Dividing a Title" (p.55) to display the "Edit" menu.
- 2 Use **[▲ / ▼]** to select "Title Combining", then press **[OK]**.



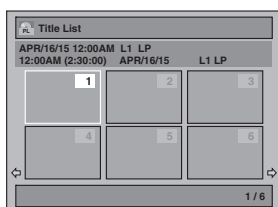
- Title Combining setting window will appear.
- Selected title grays out, and the frame of the next title becomes yellow.



- 3 Use **[▲ / ▼ / ◀ / ▶]** to select another title to combine, then press **[OK]**.
 - The selection menu will appear.
- 4 Use **[▲ / ▼]** to select "Edit", then press **[OK]**.



- The two titles will combine into a single title.



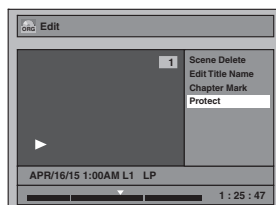
- 5 Press **[BACK ↵]** or **[■]** to exit.
 - Data will be written onto the disc momentarily.
 - This operation may take a while to complete.

Setting or Releasing the Title Protection



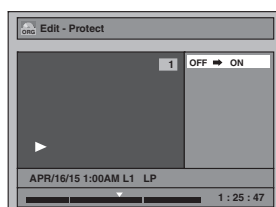
To prevent the accidental editing or erasing of the titles, you can protect them in the "Edit" menu. You can cancel the title protection feature after it is applied.

- 1 Follow steps 1 to 3 in "Putting Names on Titles" (p.53) to display the "Edit" menu.
- 2 Use **[▲ / ▼]** to select "Protect", then press **[OK]**.



- If the title is protected, icon will appear in the original list.

- 3 Confirm the indication "OFF ➔ ON", then press **[OK]** again.
 - If the title is already protected, "ON ➔ OFF" will appear. If you press **[OK]**, the title will be released from protection.



- icon will appear on the title in the original list.

- 4 Press **[BACK ↵]**, then **[BACK ↵]** or **[■]** to exit.
 - Data will be written onto the disc momentarily.
 - This operation may take a while to complete.

To protect a whole disc (VR mode DVD-RW only):

Select "Disc Protect OFF ➔ ON" from the DVD Menu, then select "Yes".

Refer to "Protecting a Disc" (p.36).

List of Settings

The following table contains configurable system settings and their defaults.

Setup		Items (highlight is the default)		Contents	
General Setting	Playback → Pages 59-60	Parental Lock		OFF level 8 "Adult" to 1 "Kid Safe"	Set the parental level for DVD playback.
		Disc Audio	Dynamic Range Control	ON OFF	Compress the range of sound volume.
			PCM	48kHz 96kHz	Set whether the sound recorded in 96kHz will be down sampled at 48kHz.
			Dolby Digital	PCM Stream	Set the type of sound signal which is output from the digital audio output jack.
		Disc Menu Language		English French Spanish Other	Set the language for disc menu language.
		Audio Language		Original English French Spanish Other	Set the language for audio.
		Subtitle Language		OFF English French Spanish Other	Set the language for subtitles.
		Angle Icon		ON OFF	Set whether or not to display the angle icon.
	Still Mode		Auto Field Frame	Set the type of still image while pausing playback.	
	Display → Page 61	OSD Language		English Français Español	Set the language for OSD (on-screen display).
Screen Saver		OFF 1minute 5minutes 10minutes 15minutes	Set the idling time before the screen saver starts.		
FL Dimmer		Bright Dark	Set the brightness of the front panel display.		

General Setting

Setup	Items (highlight is the default)		Contents	
Video → Page 61	Progressive Scan		ON OFF	Set to progressive scan mode (set to "ON") or to interlace scan mode (set to "OFF").
	TV Aspect		4:3 Letter Box 4:3 Pan & Scan 16:9 Wide	Set picture size according to the aspect ratio of your TV.
	Video Input → Page 34	L1(Rear)	Video In S-Video In	Set the video input type for the external input.
		L2(Front)	Video In S-Video In	
Recording → Page 27	Auto Chapter		OFF 5 minutes 10 minutes 15 minutes 30 minutes 60 minutes	Insert chapter marks at time intervals.
	Recording Audio Select (XP)		PCM Dolby Digital	Set the recording audio type. (Only when the rec mode is set to XP.)
	Auto Finalize → Page 37	Disc Full	ON OFF	Set the unit to finalize the disc automatically.
		End of Timer Rec	ON OFF	
	Aspect Ratio (Video mode)		Auto 4:3 16:9	Set an aspect ratio for video mode recording.
	Dubbing Mode → Pages 35-36		VCR → DVD DVD → VCR	Set the dubbing direction.
	Clock → Page 26	Clock Setting		
HDMI → Page 62	Format		RGB YCbCr	Set the color space for the HDMI output.
	HDMI Audio		ON OFF	Set whether to output the HDMI audio signal or not.
	RGB Range		Normal Enhanced	Set the black-white contrast level for HDMI RGB output.
Reset All → Page 63			Yes No	Reset all settings to their defaults.



Note(s)

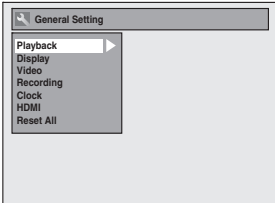
- Your change to each setting stays on even when the power is Off except for Dubbing Mode.
- An item which is not currently available is grayed out in the settings.

Setups

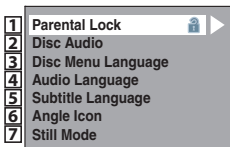
Playback

Press [■] if you are playing a disc.

- 1 Press [SETUP], then use [▲ / ▼] to select "General Setting", then press [OK].
 - The "General Setting" menu will appear.
- 2 Use [▲ / ▼] to select "Playback", then press [OK].



- 3 Use [▲ / ▼] to select an item, then press [OK].

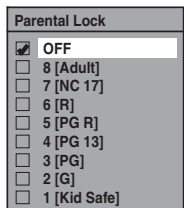


- The submenu will appear.
- 4 Refer to [1] to [7] on pages 59-60 and set the selected item.
 - 5 When you are finished with these settings, press [SETUP] to exit.

1 Parental Lock (Default: OFF)

Some DVD-videos feature a parental lock level. Playback will stop if the ratings exceed the levels you set. It will require you to enter a password before the disc will playback. This feature prevents your children from viewing inappropriate material.

Use [▲ / ▼] to select a desired level, then press [OK].



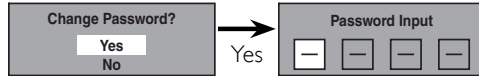
- If a password has not been set, proceed to [A].
- If a password has been set, proceed to [B].

Note(s)

- Parental lock function may not be available on some discs.
- With some DVDs, it may be difficult to find if they are compatible with parental lock. Be sure to check if the parental lock function operates in the way that you have set.
- Record the password in case you forget it.
- If there is a DVD in the unit when you set up the parental lock, press [▲] to activate the parental lock level.

A A password has not been set

Use [▲ / ▼] to select "Yes". Use the [Number buttons] to enter a new password (except for 4737), then press [OK].



- Your setting will be activated.

B A password has been set

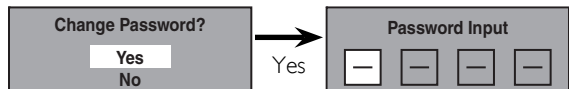
Use the [Number buttons] to enter the current password.



- Your setting will be activated.

If you would like to change the password, use [▲ / ▼] to select "Yes". Use the [Number buttons] to enter a new password (except for 4737), then press [OK].

<change the password>



- Your setting will be activated.

Note(s)

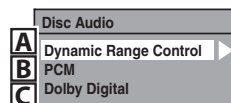
- Press [CLEAR] to erase numbers entered incorrectly.
- When you forget the password or you would like to clear all settings in the "Parental Lock" menu, enter 4737 using the [Number buttons] in the password input window. The password will be cleared and parental levels will be set to "OFF".

2 Disc Audio

Choose the appropriate audio setting for your external device.

It will only affect disc playback.

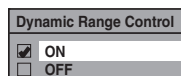
Use [▲ / ▼] to select an item, then press [OK].



A Dynamic Range Control (Default: ON)

Set to "ON" to compress the range between soft and loud sounds.

Use [▲ / ▼] to select an item, then press [OK].



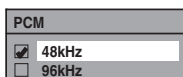
- Your setting will be activated.

Note(s)

- The dynamic range control function is only available on discs which are recorded in the Dolby Digital format.

B PCM (Default: 48kHz)

Use **[▲ / ▼]** to select an item, then press **[OK]**.



- Your setting will be activated.

48kHz: If your amplifier/decoder is NOT compatible with 96kHz PCM, select "48kHz". 96kHz sound will be output in 48kHz.

96kHz: If your amplifier/decoder is compatible with 96kHz PCM, select "96kHz". 96kHz sound will be output.

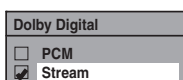
Note(s)

When playing a disc with copyright protection:

- Even if you select "96kHz", the sound will be down sampled at 48kHz.

C Dolby Digital (Default: Stream)

Use **[▲ / ▼]** to select an item, then press **[OK]**.



- Your setting will be activated.

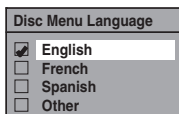
PCM: Converts the Dolby Digital into PCM (2 channel). When your amplifier/decoder is NOT compatible with Dolby Digital, set to "PCM".

Stream: Outputs Dolby Digital signals. When your amplifier/decoder is compatible with Dolby Digital, set to "Stream".

3 Disc Menu Language (Default: English)

Set the language for the disc menu.

Use **[▲ / ▼]** to select an item, then press **[OK]**.

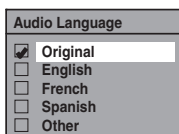


- Your setting will be activated.

4 Audio Language (Default: Original)

Set the audio language.

Use **[▲ / ▼]** to select an item, then press **[OK]**.

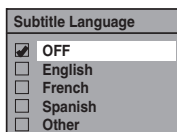


- Your setting will be activated.
- When "Original" is selected, the audio language will be in the disc's default language.

5 Subtitle Language (Default: OFF)

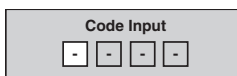
Set the subtitle language.

Use **[▲ / ▼]** to select an item, then press **[OK]**.



- Your setting will be activated.

If "Others" is selected for **[3]** to **[5]**, press the 4-digit code using the **[Number buttons]**. Refer to "Language Code" (p.71).



- When you finish entering the code, press **[OK]**.

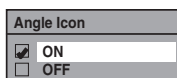
Note(s)

- Only the languages supported by the disc can be selected.
- Audio language setting may not be available on some discs.
- You can also change or switch Off the subtitles on a DVD from the disc menu if it is available.
- Press **[CLEAR]** or **[◀]** to erase numbers entered incorrectly.

6 Angle Icon (Default: ON)

Set to "ON" to show the angle icon during the playback.

Use **[▲ / ▼]** to select an item, then press **[OK]**.

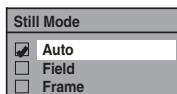


- Your setting will be activated.

7 Still Mode (Default: Auto)

Select "Auto" usually.

Use **[▲ / ▼]** to select an item, then press **[OK]**.



- Your setting will be activated.

Auto: Optimum resolution setting ("Field" or "Frame") will be selected.

Field: Images in the still mode will be stabilized.

Frame: Images in the still mode will be highly defined.

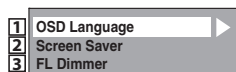
Note(s)

- Frame is 1 completed video image made up of 2 fields (There are 30 frames per second in NTSC video).

Display

Press **[■]** if you are playing a disc.

- 1 Press **[SETUP]**, then use **[▲ / ▼]** to select "General Setting", then press **[OK]**.
- 2 Use **[▲ / ▼]** to select "Display", then press **[OK]**.
- 3 Use **[▲ / ▼]** to select an item, then press **[OK]**.



- The selection menu will appear.

- 4 Refer to the following instructions **1** to **3** and configure the settings.
- 5 When you are finished with these settings, press **[SETUP]** to exit.

1 OSD Language (Default: English)

Set the language for the on-screen display.

Use **[▲ / ▼]** to select an item, then press **[OK]**.

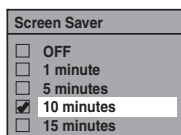


- Your setting will be activated.

2 Screen Saver (Default: 10 minutes)

Set the number of minutes of inactivity before the screen saver is activated.

Use **[▲ / ▼]** to select an item, then press **[OK]**.

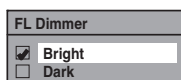


- Your setting will be activated.

3 FL Dimmer (Default: Bright)

Set the front panel display brightness.

Use **[▲ / ▼]** to select an item, then press **[OK]**.

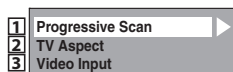


- When the unit is in standby mode, the front panel display will be Off in either setting.

Video

Press **[■]** if you are playing a disc.

- 1 Press **[SETUP]**, then use **[▲ / ▼]** to select "General Setting", then press **[OK]**.
- 2 Use **[▲ / ▼]** to select "Video", then press **[OK]**.
- 3 Use **[▲ / ▼]** to select an item, then press **[OK]**.



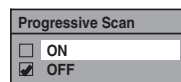
- The submenu will appear.

- 4 Refer to the following instructions **1** to **2** and configure the settings.
 - For **3**, refer to "Setting the Video Input" (p.34).
- 5 When you are finished with these settings, press **[SETUP]** to exit.

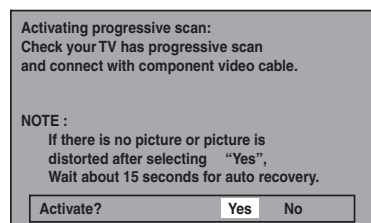
1 Progressive Scan (Default: OFF)

This unit is compatible with the progressive scan system. This feature provides you with higher definition images than the traditional output system. To utilize this feature, you must set mode to "ON".

Use **[▲ / ▼]** to select "ON", then press **[OK]**.



Use **[◀ / ▶]** to select "Yes", then press **[OK]**.



Use **[▲ / ▼]** to select "Yes" within 15 seconds (if the picture is okay), then press **[OK]**.

- Your setting will be activated.

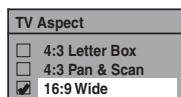
Note(s)

- If your TV is compatible with progressive scan (480p), it is recommend that you use the HDMI or component video cable (commercially available) to connect this unit to the TV. (Refer to page 18.) If not, use the RCA video cable and set the progressive scan to "OFF", or press and hold **[SETUP]** for more than 3 seconds during DVD playback.
- When selecting "No" or not pressing any buttons on the unit or remote control within 15 seconds in step 3, progressive scan will remain "OFF" (interlace scan).

2 TV Aspect (Default: 16:9 Wide)

You can set the TV aspect ratio to match the format of what you are playing or watching (digital TV broadcast) with the unit and your TV screen (4:3 standard or 16:9 widescreen TV).

Use **[▲ / ▼]** to select an item, then press **[OK]**.



If you have a standard TV:

Select "4:3 Letter Box" and black bars will appear on the top and bottom of the TV screen when displaying a wide-screen picture. Select "4:3 Pan & Scan" for a full height picture with both sides trimmed when displaying a wide-screen picture.

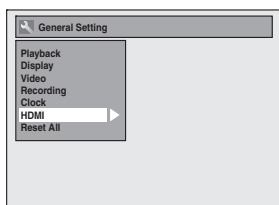
If you have a widescreen TV:

Select "16:9 Wide".

HDMI

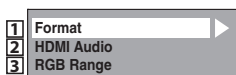
1 Press **[SETUP]**, then use **[▲ / ▼]** to select "General Setting", then press **[OK]**.

2 Use **[▲ / ▼]** to select "HDMI", then press **[OK]**.



- You cannot select HDMI when an HDMI cable is not connected and the items are shown in gray color.

3 Use **[▲ / ▼]** to select an item, then press **[OK]**.



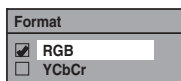
4 When you are finished with the setting, press **[SETUP]** to exit.

1 Format (Default: RGB)

You can select the color space for HDMI output. Set the appropriate color space for your display device.

Use **[▲ / ▼]** to select an item, then press **[OK]**.

- When the connected device is not compatible with Y/Cb/Cr, the HDMI signal is output as RGB regardless of the setting.



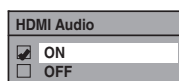
- Your setting will be activated.

2 HDMI Audio (Default: ON)

If you do not want to output the audio through HDMI (e.g., digitally output the audio through the COAXIAL DIGITAL AUDIO OUT jack to your audio system, etc.), you can set the HDMI audio output Off.

Use **[▲ / ▼]** to select an item, then press **[OK]**.

- Set to "OFF" when the HDMI sound is not output.



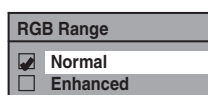
- Your setting will be activated.

3 RGB Range (Default: Normal)

You can adjust the RGB range to make the dark areas of the HDMI images brighter.

Use **[▲ / ▼]** to select an item, then press **[OK]**.

- Select "Enhanced" if the black-white contrast is not clear.
- This setting is effective only for HDMI RGB output.



- Your setting will be activated.

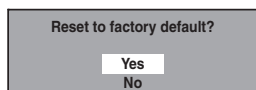
Reset All

You can reset all settings to the defaults.

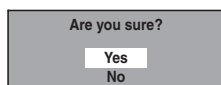
Note(s)

- The settings listed below will remain unchanged even after resetting to the factory defaults.
 - OSD language setting
 - Clock setting
 - Parental lock setting
 - Timer programming information

- Press **[SETUP]**, then use **[▲ / ▼]** to select "General Setting", then press **[OK]**.
 - The "General Setting" menu will appear.
- Use **[▲ / ▼]** to select "Reset All", then press **[OK]**.
- Use **[▲ / ▼]** to select "Yes", then press **[OK]**.



- Use **[▲ / ▼]** to select "Yes" again, then press **[OK]**.



- The settings will now be reset.

VCR Functions

Caution when using S-video, component, or HDMI connections for VCR:

- Only the audio/video playback is available with these connections.
- Under the condition listed below, the playback image cannot be viewed. Use the standard video connection in such case:
 - during DVD recording.
- HDMI video resolution cannot be changed when the unit is in VCR mode.

Playback



- Press **[VCR]**, then insert a prerecorded tape.
 - Refer to "How to Insert a Cassette Tape" (p.25).
- Press **[▶]** to start playback.
- Press **[■]** to stop playback.

To pause playback: Press **[III]**.

Playback will pause and sound will be muted.

To resume playback: Press **[▶]**.

Note(s)

- When a cassette tape without an erase-protection tab is inserted, the unit will start playback automatically.
- Tracking will be automatically adjusted upon playback. To adjust the tracking manually, press **[TRACKING ▲ / ▼]** on the remote control.
- S-VHS cassette tapes are not supported on this unit.
- Playback will stop when you change the output mode.

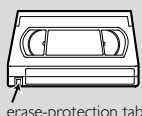
Recording



- 1 Press **[VCR]**, then insert a recordable tape with an erase-protection tab intact.
 - Refer to "How to Insert a Cassette Tape" (p.25).

Accidental erasure prevention

To prevent accidental recording on a recorded cassette tape, remove its erase-protection tab. To record on it later, cover the hole with cellophane tape.



- 2 Select the recording mode using **[REC MODE]**.
 - A desired recording mode is selected in SP (standard play) or SLP (super long play) mode by pressing **[REC MODE]**.

Recording mode:

Tape speed		Recording / playback time		
	Type of tape	T60	T120	T160
SP mode		1 hour	2 hours	2-2/3 hours
SLP mode		3 hours	6 hours	8 hours

- 3 Press **[INPUT]** to select the appropriate external input position (L1/L2) to which your external tuner is connected.
- 4 Press **[REC]** to start recording.
Press **[■]** to stop the recording.

To pause recording: Press **[||]**.

To resume recording: Press **[||]** or **[REC]**.

- After the unit has been in pause mode for 5 minutes, it will stop automatically to protect the tape and the video head from damage.
- Refer to "Timer Recording" (p.29 - 32).

Note(s)

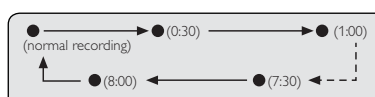
- This function is only available when the unit is connected through the VIDEO OUT jack.

One-touch Timer Recording (OTR)



This feature allows you to set the recording length simply by pressing **[REC]** on the remote control.

- 1 Press **[VCR]**, then insert a recordable tape with an erase-protection tab intact.
 - Refer to "How to Insert a Cassette Tape" (p.25).
- 2 Select the recording mode using **[REC MODE]**.
 - Refer to "Notes for VCR-to-DVD duplication" (p.36) and "Recording" (p.64)
- 3 Press **[INPUT]** to select the appropriate external input position (L1/L2) to which your external tuner is connected.
- 4 Press **[REC]** to begin the one-touch timer recording. You can select a fixed recording time by pressing **[REC]** repeatedly.



- When the one-touch timer recording is finished, the unit will turn to standby mode automatically.

To change the recording length during the one-touch timer recording:

Press **[REC]** repeatedly until a desired length appears.

To cancel the one-touch timer recording within the specified time:

Press **[■]**.

Note(s)

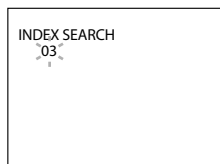
- The remaining recording time will be displayed on the front panel display during one-touch timer recording. Press **[DISPLAY]** to see it on the TV screen.
- **You cannot pause the one-touch timer recording.**
- If VCR one-touch timer recording is complete during DVD playback or recording, the VCR will be in stop mode and the DVD keeps its current mode.
- Unlike a timer recording, you can perform the following operations during the one-touch timer recording:
 - Turning the power to standby mode to stop one-touch timer recording.
 - Using **[REC]** or **[■]** on the remote control.
- When the one-touch timer recording is finished and the power is in standby mode, the unit will switch to the timer standby mode automatically if a timer recording has been programmed. Press **[TIMER SET]** to cancel the timer standby mode to use the unit continuously.
- This function is only available when the unit is connected through the VIDEO OUT jack.

Index Search

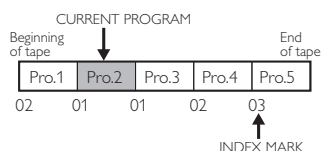


An index mark will be assigned at the beginning of each recording you make. You may skip to a specific marked point by following the steps below.

- 1 Press **[VCR]**, then press **[SEARCH]** to call up the "INDEX SEARCH" menu.
- 2 Using the **[Number buttons]**, enter the number of recordings you would like to skip within 30 seconds.



- 3 Press **[◀◀ / ▶▶]** to start the index search.
 - If you would like to go in the forward direction, press **[▶▶]**.
 - If you would like to go in the reverse direction, press **[◀◀]**.
 - After the index search, the VCR will play the cassette tape automatically.



Note(s)

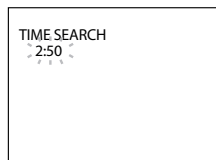
- You can make up to 20 index marks.
- This function is only available when the unit is connected through the VIDEO OUT jack.

Time Search



This feature allows you to go to a specific point on a cassette tape by entering the exact amount of time you would like to skip in order to reach the point.

- 1 Press **[VCR]**, then press **[SEARCH]** repeatedly to call up the "TIME SEARCH" menu.
- 2 Using the **[Number buttons]**, enter your desired time to skip within 30 seconds.
 - The maximum time you can skip is 9:59.



- 3 Press **[◀◀ / ▶▶]** to start the time search.
 - If you would like to go in the forward direction, press **[▶▶]**.
 - If you would like to go in the reverse direction, press **[◀◀]**.
 - After the time search, the unit will play the cassette tape automatically.

Note(s)

- **Index search and time search are not available during recording.**
- Press **[■]** to stop the search.
- If the end of the cassette tape is reached during search, this unit will cancel the search and rewind the cassette tape.
- This function is only available when the unit is connected through the VIDEO OUT jack.

Other Operations



1 Press [VCR].

Fast forward:

When the unit is in stop mode, press [▶▶] to fast forward the cassette tape.

Rewind:

When the unit is in stop mode, press [◀◀] to rewind the cassette tape.

To cue or review picture during playback (picture search):

Press [◀◀], [▶▶] during playback.

Press it again and the unit will search in super high speed. (in the SLP mode only)

To freeze the picture on TV screen during playback (still mode):

Press [II]. Each time you press the button, the picture will be forwarded by one frame.

If the picture begins to vibrate vertically during the still mode, stabilize the picture by pressing [TRACKING ▲ / ▼] on remote control.

Counter reset:

Press [CLEAR] to reset the counter to "0:00:00".

To playback in slow motion:

Press [II] during playback, then press [▶▶].

Press [▶▶] or [◀◀] repeatedly to select a desired speed.

Automatic rewind:

When a cassette tape is played or fast forwarded to its end, the cassette tape will rewind to the beginning, stop and eject itself.

To repeat a playback indefinitely without touching [▶] (Auto Repeat Playback):

During normal playback, press [REPEAT]. When a tape is played to its end, the tape will rewind to the beginning and start playback itself. To cancel the Auto Repeat Playback, press [REPEAT] again.

When you playback a cassette tape recorded in Hi-Fi stereo:

Press [AUDIO] on the remote control to select Hi-Fi or MONO for playback sound mode.

- If you have connected a stereo TV to this unit, select "HIFI".
- If you have connected a monaural TV to this unit, select "MONO".

Your Selection Type of recorded tape	HIFI		MONO
	L-channel	R-channel	
non Hi-Fi tapes	Monaural	Monaural	Monaural
Hi-Fi tapes recorded in Hi-Fi stereo	L	R	L+R
Hi-Fi tapes recorded main audio program	Main audio program	Main audio program	Main audio program
Hi-Fi tapes recorded second audio program	Second audio program	Second audio program	Second audio program



Note(s)

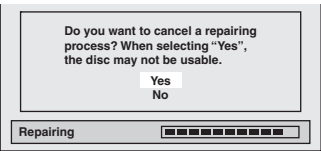
- Still/slow mode will stop after 5 minutes to prevent damage to the cassette tape and the video heads.
- To return to playback from the picture search/still/slow mode, press [▶].

Troubleshooting

Before requesting service for this unit, check the table below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.

		Symptom	Remedy
General		The power does not turn On.	- Check that the AC power cord is connected securely. - Check the breaker (in case of power failure). - Press [TIMER SET] to cancel the timer standby mode.
		There is no picture.	- Re-connect the connecting cords securely. - Check if the connecting cords are damaged. - Check the connection to your TV (p. 17-20). - Switch the input selector on your TV (such as to "L1") so that the signal from the unit appears on the TV screen.
		Cannot record a TV program.	- This unit does not have a tuner to receive TV broadcasting. - You must connect this unit to an external tuner to record TV programs (p. 17).
		There is no sound or the sound is distorted.	- Re-connect all connections securely. - Check if the connecting cord is damaged. - Check the connections to the amplifier input. - Check if the input device setting on the amplifier is correct. - When the unit is in pause mode or in slow-motion playback mode, sound is not output. This is not a malfunction. - When the unit is in fast forward or fast reverse mode, sound is not output. This is not a malfunction. - While the setup menu or timer programming display is shown, or while the screen saver is active, the audio is muted.
		The remote control does not function.	- Batteries are weak. - There are obstacles between the remote control and the unit. - The remote control is too far from the unit. - There are no batteries in the remote control. - Check if the unit is turned On. - Check if you are pointing the remote control at the recorder and NOT the TV. If you have a plasma TV, it may interfere with the IR signal. Try the remote with the plasma TV Off. If the remote works, you may need to move the unit away from the plasma TV. - Press [DVD] or [VCR], whichever is needed. Then, try again. - Press [TIMER SET] to cancel the timer standby mode.
		The unit does not operate properly.	When static electricity, etc., causes the unit to operate abnormally, unplug the unit and then plug it in again.
DVD/VCR		Playback picture is distorted.	Keep away devices which may cause electrical disturbances, such as cellular phones.
		Nothing was recorded even though you set the timer setting correctly.	- There was a power failure during recording. - The unit's internal clock stopped due to a power failure that lasted for more than 30 seconds. Reset the clock (p. 26). - The program contains copy protection signals that restrict copying. - The timer setting overlapped with another setting that had priority.
		Timer recording is not complete or did not start from the beginning.	- The timer setting overlapped with another setting that had priority (p. 32). - There was not enough disc space.
		Timer recording is impossible.	Be sure that you have performed step 9 on page 30. To proceed with Timer recording, place the unit in timer standby mode by pressing [TIMER SET].

	Symptom	Remedy
DVD/VCR	No image from HDMI connection.	- Check the HDMI connection. (Check the status of the HDMI related indications.) - Check whether the connected monitor or other device supports HDCP. (This unit will not output a video signal unless the other device supports HDCP.) - Check the HDMI settings. - Check whether the output format of this unit (HDMI FORMAT) matches the supported input format of the other connected device. - If the unit is connected to the unauthorized display device with an HDMI cable, the audio/video signal may not be output when playing a commercial DVD-video.
	There is no sound or the sound is distorted.	- The HDMI sound is not output when "HDMI Audio" is set to "OFF". - Check the RCA audio cable connection. If you are using an HDMI-DVI conversion cable, you must connect the RCA audio cable, too. - Check whether the output format of this unit (HDMI FORMAT) matches the supported input format of other connected devices.
	Setup menu cannot be called up.	Setup menus cannot be called up during DVD recording or DVD playback.
DVD	There is no picture.	- If the main menu appears on the TV screen, press [BACK ↵] to exit. - Check if the progressive scan mode is set correctly according to your TV (p. 61).
	Picture noise appears.	Clean the disc with a cleaning cloth.
	There is no sound.	- If you are using the DIGITAL AUDIO OUT (COAXIAL) jack, check the setting in "Disc Audio" (p. 59) - Clean the disc with a cleaning cloth.
	Sound is noisy.	Clean the disc with a cleaning cloth.
	No DTS sound is output.	This unit is not compatible with DTS sound.
	The disc does not play.	- No disc is inserted. - A blank disc is inserted. - The disc is upside down. Insert the disc with the labeled side facing up. - The disc is not correctly inserted. - The unit cannot play certain discs (such as CD-ROMs) (p. 38). - The region code on the DVD-video does not match the unit (p. 38). - Moisture has condensed inside the unit. Remove the disc and leave the unit turned On for about 2 hours until the moisture evaporates (p. 4). - If the disc was recorded on another recorder, the unit cannot play the disc if it was not finalized.
	Discs recorded on this unit cannot be played on other DVD players.	If you are using DVD-RW/-R, please ensure you finalized the disc after recording (p. 37).
	The disc does not start playback from the beginning.	- Resume playback was activated (p. 41). Press [■] twice. - You have inserted a disc whose title menu or DVD menu automatically appears on the TV screen when it is first inserted.
	The unit starts playing the disc automatically.	The DVD-video features an auto playback function.
	Some functions such as stop, search or slow-motion playback cannot be performed.	Depending on the disc, you may not be able to do some of the operations. Refer to the instruction manual supplied with the disc.
	The language for the sound track cannot be changed.	- The title does not have the multilingual audio tracks. - The DVD-video prohibits the changing of the language for the sound track.
	The subtitle language cannot be changed or turned Off.	Multilingual subtitles are not recorded on the DVD-video.
	The camera angles cannot be changed.	- Multi-angles are not recorded on the DVD-video being played. - The angle-change operation is available whenever the disc contains a multi-angle feature. Actual change will be performed when the feature comes up. - The DVD-video prohibits changing angles. - Try changing the angle using the DVD-video's menu.
	Recording does not stop immediately after you press [■] .	It may take a few seconds for the unit to input disc data before recording stops.
	The disc tray does not open when you press [▲] .	It may take a few seconds for the disc tray to open after you have recorded or edited a disc. This is because the unit is adding disc data to the disc.

		Symptom	Remedy
DVD		"Repairing" appears on the TV screen. 	- If there is a power failure or the AC power cord is unplugged during recording, finalizing, formatting or editing (even after "Repairing" disappears), a repairing process will begin automatically just after turning the unit On again. - It may take several minutes up to about several hours.
		You need to cancel the repairing process. 	If you intend to cancel the repairing process, press [▲] on the front panel, then select "Yes" and press [OK]. After that, press [▲] to take out the disc. The disc which was cancelled during the repairing process MAY NOT work.
VCR		Picture noise appears.	- Head cleaning for VCR may be necessary. Refer to "Auto head cleaning" (p.8) - Adjust tracking control for better picture by pressing [TRACKING ▲ / ▼] while you are playing a cassette tape.
		The cassette tape does not play.	No cassette tape is inserted.
		Recording does not start after you press [REC] .	Make sure the cassette tape has an erase-protection tab when you record to a cassette tape. If needed, cover the hole with cellophane tape.
		The remote control does not function.	Check if a cassette tape is in this unit.
		The motor rotates even when playback / recording is stopped.	The motor may rotate for a duration of approximately 5 minutes for efficient operation. This is not a malfunction.

Error message	Cause	Solution
Disc Error — Please eject the disc. — Playback feature may not be available on this disc.	- Unplayable disc is inserted in the unit. - The disc is upside down.	- Insert a standardized disc which have the logos on page "Playable Discs and Files" (p.38). - Insert the disc with the labeled side facing up.
Region Error — Please eject the disc. — Playback is not authorized in your region.	Playback is not authorized for the region of the DVD-video which you inserted in the unit.	Insert a DVD-video with region codes 1 or ALL.
Parental Lock On The current selected parental level prohibits playback.	The current selected parental level prohibits playback.	Check the "Parental Lock" setting in the "Playback" menu (page 57).
Recording Error This program is not allowed to be recorded.	You are trying to record a copy of a prohibited program.	You cannot record a copy of a prohibited programs.
Recording Error This program is not recordable in Video mode.	You are trying to record the copy-once program onto a DVD-RW disc in Video mode.	Set "Format Mode" to "VR mode" (pages 50).
Recording Error Can not record on this disc.	- You are trying to record onto a disc which is unrecordable or the disc status is unable to record. - The disc is dirty. - The disc is damaged.	- Insert a recordable disc, and ensure the disc status satisfies the recording requirements (page 26). - Clean the disc with a cleaning cloth. - Replace the disc.
Recording Error This program is not allowed to be recorded.	You are trying to record the copy-once program onto a DVD-RW disc which is not compatible with CPRM.	Insert a DVD-RW disc in VR mode (ver.1.1 or 1.2 compatible with CPRM).
Recording Error This disc is protected and not recordable.	You are trying to record onto a protected disc which is set in the "DVD Menu".	Release the disc protect setting in the "DVD Menu" (page 56).
Recording Error Disc is full. (No area for new recording)	You are trying to record onto a disc which has no space for recording.	Insert a recordable disc with enough recording space.
Recording Error You cannot record more than 99 titles on one disc. (The maximum is 99)	You are trying to record onto a DVD-RW/-R which already contains the maximum number of recording titles (99).	Delete unnecessary titles (page 52).
Recording Error You cannot record more than 999 chapters on one disc. (The maximum is 999)	You are trying to record onto a VR mode DVD-RW which already contains the maximum number of recording chapters (999).	Delete unnecessary chapter marks (page 54).
Recording Error You cannot record on this disc as Control Information is full.	This disc has no space to write the Control Information when recording or deleting contents. When editing has been repeatedly performed, the control Information area may be full even when the recording area has enough space.	Delete unnecessary titles (page 52).
Recording Error You cannot record on this disc as Power Calibration Area is full.	- When recordings are performed repeatedly onto an unstable disc, this area may fill up. - Every time you insert a disc for recording, the disc's working area will be used. If you repeat this frequently, it will be used up sooner and you may not be able to record the full 49 titles.	Insert a new disc.
Recording Error This disc is already finalized.	You are trying to record onto a disc which is already finalized.	Undo the finalizing for a DVD-RW disc (page 37).

If you are still having trouble with the unit after checking "Troubleshooting" write down the error code and the error description, and call our help line (located on the front cover of this User Manual) to find an Authorized Service Center.

Language Code

Language	Code
Abkhazian	4748
Afar	4747
Afrikaans	4752
Albanian	6563
Amharic	4759
Arabic	4764
Armenian	5471
Assamese	4765
Aymara	4771
Azerbaijani	4772
Bashkir	4847
Basque	5167
Bengali; Bangla	4860
Bhutani	5072
Bihari	4854
Bislama	4855
Breton	4864
Bulgarian	4853
Burmese	5971
Byelorussian	4851
Cambodian	5759
Catalan	4947
Chinese	7254
Corsican	4961
Croatian	5464
Czech	4965
Danish	5047
Dutch	6058
English	5160
Esperanto	5161
Estonian	5166
Faroese	5261
Fiji	5256
Finnish	5255
French	5264
Frisian	5271
Galician	5358
Georgian	5747
German	5051
Greek	5158
Greenlandic	5758
Guarani	5360
Gujarati	5367
Hausa	5447
Hebrew	5569
Hindi	5455

Language	Code
Hungarian	5467
Icelandic	5565
Indonesian	5560
Interlingua	5547
Interlingue	5551
Inupiak	5557
Irish	5347
Italian	5566
Japanese	5647
Javanese	5669
Kannada	5760
Kashmiri	5765
Kazakh	5757
Kinyarwanda	6469
Kirghiz	5771
Kirundi	6460
Korean	5761
Kurdish	5767
Laothian	5861
Latin	5847
Latvian; Lettish	5868
Lingala	5860
Lithuanian	5866
Macedonian	5957
Malagasy	5953
Malay	5965
Malayalam	5958
Maltese	5966
Maori	5955
Marathi	5964
Moldavian	5961
Mongolian	5960
Nauru	6047
Nepali	6051
Norwegian	6061
Occitan	6149
Oriya	6164
Oromo (Afan)	6159
Panjabi	6247
Pashto; Pushto	6265
Persian	5247
Polish	6258
Portuguese	6266
Quechua	6367
Rhaeto-Romance	6459
Romanian	6461

Language	Code
Russian	6467
Samoan	6559
Sangho	6553
Sanskrit	6547
Scots Gaelic	5350
Serbian	6564
Serbo-Croatian	6554
Sesotho	6566
Setswana	6660
Shona	6560
Sindhi	6550
Singhalese	6555
Siswat	6565
Slovak	6557
Slovenian	6558
Somali	6561
Spanish	5165
Sundanese	6567
Swahili	6569
Swedish	6568
Tagalog	6658
Tajik	6653
Tamil	6647
Tatar	6666
Telugu	6651
Thai	6654
Tibetan	4861
Tigrinya	6655
Tonga	6661
Tsonga	6665
Turkish	6664
Turkmen	6657
Twi	6669
Ukrainian	6757
Urdu	6764
Uzbek	6772
Vietnamese	6855
Volapuk	6861
Welsh	4971
Wolof	6961
Xhosa	7054
Yiddish	5655
Yoruba	7161
Zulu	7267

Glossary

Analog Audio

An electrical signal that directly represents sound. Compare this to digital audio which can be an electrical signal, but is an indirect representation of sound. See also "Digital Audio".

Aspect Ratio

The width of a TV screen relative to its height. Conventional TVs are 4:3 (in other words, the TV screen is almost square); widescreen models are 16:9 (the TV screen is almost twice as wide as it is high).

Chapter (DVD only)

Similar to how a book is split up into several chapters, a title on a DVD is usually divided into chapters. See also "Title".

Component Video Output

Each signal of luminance (Y) and component (PB/CB, PR/CR) is independent to output so that you can experience picture color as it is.

Also, due to compatibility with progressive video (480p), you can experience a higher-density picture than that in interlace (480i) mode.

Digital Audio

An indirect representation of sound by numbers. During recording, the sound is measured at discrete intervals (44,100 times a second for CD audio) by an analog-to-digital converter, generating a stream of numbers. On playback, a digital-to-analog converter generates an analog signal based on these numbers. See also "Sampling Frequency" and "Analog Audio".

Dolby Digital

The system to compress digital sound developed by Dolby Laboratories. It offers you sound of stereo(2ch) or multi channel audio.

Finalize

To make DVDs, which have been recorded on, possible to play on DVD players. With this unit, it is possible to finalize DVD-RW, and DVD-R.

HDMI™ (high definition multimedia interface)

A digital interface between audio and video source. It can transmit component video, audio, and a control signal with one cable connection.

JPEG (joint photographic experts group)

JPEG is a method of compressing still image files. You can copy JPEG files to CD-RW/-R or DVD-RW/-R from a computer and play the files on this unit.

PCM (pulse code modulation)

The most common system of encoding digital audio, found on CD and DAT. Excellent quality, but requires a lot of data compared to formats such as Dolby Digital and MPEG audio. For compatibility with digital audio recorders (CD, MD and DAT) and AV amplifiers with digital inputs, this unit can convert Dolby Digital and MPEG audio to PCM. See also "Digital Audio".

Progressive Scan (480p)

A type of display that does not split each frame into fields, and instead scans directly through all the scan lines of each frame in order. Progressive scan provides less flickering and higher image resolution than traditional (480i) TV signals. Refer to page 61 for instructions on selective progressive scan mode.

Region Code

Regions associate discs and players with particular areas of the world. This unit will only play discs that have compatible region codes. You can find the region code of your unit by looking on the rear panel. Some discs are compatible with more than one region (or all regions).

Sampling Frequency

The rate which sound is measured by a specified interval to turn into digital audio data. The number of samplings in one second is defined as sampling frequency. The higher the rate, the better the sound quality.

S-Video Output

S-video delivers independent signals of color (C) and luminance (Y) to a TV as video signals, so that a higher-quality picture will be gained.

Title (DVD only)

A collection of chapters on DVD. See also "Chapter".

Track

Audio CDs use tracks to divide up the contents of a disc. The DVD equivalent is called a chapter. See also "Chapter".

Video mode

Video mode is the same recording format as used on the DVD videos you purchase in local shops. You can play the discs recorded in this format in most DVD players, however it offers only limited editing. You will need to finalize discs recorded in video mode before playing them back on other units.

VR mode

A basic recording format for DVD-RW. VR mode offers advanced editing, however it is playable only on VR mode compatible units. Finalization is recommended before playing them on other units.

Specifications

General

VCR video heads	Four heads
Power requirements	120V AC, 60Hz
Power consumption	30W (standby: 0.4W)
Dimensions (width x height x depth)	17.2 x 4.0 x 10.3 inches (435 x 99.5 x 260mm)
Weight	9.33 lbs. (4.23kg)
Operating temperature	41°F (5°C) to 104°F (40°C)
Operating humidity	Less than 80% (no condensation)

Recording

Recording format	-VR (video recording) format, Video format
Recording discs	DVD-Rewritable, DVD-Recordable

Video recording format

Sampling frequency	13.5 MHz
Compression format	MPEG

Audio recording format

Sampling frequency	48 kHz
Compression format	Dolby Digital

Terminals

Front	Audio input	
	RCA jack x 2	2V rms (input impedance: more than 22k Ω)
	Video input	
	RCA jack x 1	1Vp-p (75 Ω)
	S-video input	
	Mini DIN 4-pin x 1	Y: 1Vp-p (75 Ω) C: 286mVp-p (75 Ω)
Rear	Audio input	
	RCA jack x 2	2V rms (input impedance: more than 22k Ω)
	Audio output	
	RCA jack x 4	2V rms (output impedance: more than 1k Ω)
	Video input	
	RCA jack x 1	1Vp-p (75 Ω)
	Video output	
	RCA jack x 1	1Vp-p (75 Ω)
	S-video input	
	Mini DIN 4-pin x 1	Y: 1Vp-p (75 Ω) C: 286mVp-p (75 Ω)
	S-video output	
	Mini DIN 4-pin x 1	Y: 1Vp-p (75 Ω) C: 286mVp-p (75 Ω)
	Component video out	
	RCA jack x 3	Y: 1Vp-p (75 Ω) Pb/Cb: 700mVp-p (75 Ω) Pr/Cr: 700mVp-p (75 Ω)
	Coaxial digital audio out	
	RCA jack x 1	500mVp-p (75 Ω)
	HDMI output	
	HDMI jack x 1	

≡ Note(s)

- The specifications and design of this product are subject to change without notice.

WARRANTY COVERAGE:

This warranty obligation is limited to the terms set forth below.

WHO IS COVERED:

This product is warranted to the original purchaser or the person receiving the product as a gift against defects in materials and workmanship as based on the date of original purchase ("Warranty Period") from an Authorized Dealer. The original sales receipt showing the product name and the purchase date from an authorized retailer is considered such proof.

WHAT IS COVERED:

This warranty covers new products if a defect in material or workmanship occurs and a valid claim is received within the Warranty Period. At its option, the company will either (1) repair the product at no charge, using new or refurbished replacement parts, or (2) exchange the product with a product that is new or which has been manufactured from new, or serviceable used parts and is at least functionally equivalent or most comparable to the original product in current inventory, or (3) refund the original purchase price of the product.

The Company warrants replacement products or parts provided under this warranty against defects in materials and workmanship from the date of the replacement or repair for ninety (90) days or for the remaining portion of the original product's warranty, whichever provides longer coverage for you. When a product or part is exchanged, any replacement item becomes your property and the replaced item becomes the company's property. When a refund is given, your product becomes the company's property.

Note: Any product sold and identified as refurbished or renewed carries a ninety (90) day limited warranty.

Replacement product can only be sent if all warranty requirements are met. Failure to follow all requirements can result in delay.

WHAT IS NOT COVERED - EXCLUSIONS AND LIMITATIONS:

This Limited Warranty applies only to the new products that can be identified by the trademark, trade name, or logo affixed to it. This Limited Warranty does not apply to any non-Philips hardware product or any software, even if packaged or sold with the product. Non-Philips manufacturers, suppliers, or publishers may provide a separate warranty for their own products packaged with the bundled product.

The Company is not liable for any damage to or loss of any programs, data, or other information stored on any media contained within the product, or any non-Philips product or part not covered by this warranty. Recovery or reinstallation of programs, data or other information is not covered under this Limited Warranty.

This warranty does not apply (a) to damage caused by accident, abuse, misuse, neglect, misapplication, or non-Philips product, (b) to damage caused by service performed by anyone other than an Authorized Service Location, (c) to a product or a part that has been modified without written permission, or (d) if any serial number has been removed or defaced, or (e) product, accessories or consumables sold "AS IS" without warranty of any kind by including refurbished Philips product sold "AS IS" by some retailers.

This Limited Warranty does not cover:

- Shipping charges to return defective product.
- Labor charges for installation or setup of the product, adjustment of customer controls on the product, and installation or repair of antenna/signal source systems outside of the product.
- Product repair and/or part replacement because of improper installation or maintenance, connections to improper voltage supply, power line surge, lightning damage, retained images or screen markings resulting from viewing fixed stationary content for extended periods, product cosmetic appearance items due to normal wear and tear, unauthorized repair or other cause not within the control of the company.
- Damage or claims for products not being available for use, or for lost data or lost software.
- Damage from mishandled shipments or transit accidents when returning product.
- A product that requires modification or adaptation to enable it to operate in any country other than the country for which it was designed, manufactured, approved and/or authorized, or repair of products damaged by these modifications.
- A product used for commercial or institutional purposes (including but not limited to rental purposes).
- Product lost in shipment and no signature verification receipt can be provided.
- Failure to operate per Owner's Manual.

TO OBTAIN ASSISTANCE IN THE U.S.A., CANADA, PUERTO RICO, OR U.S. VIRGIN ISLANDS...

Contact Customer Care Center at:
1-866-226-6074

REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY FOR THE CONSUMER.

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EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THIS PRODUCT IS LIMITED IN DURATION TO THE DURATION OF THIS WARRANTY.

Some states do not allow the exclusions or limitation of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you.

This warranty gives you specific legal rights. You may have other rights which vary from state/province to state/province.

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