User Guide

DVD Recorder/VCR

NS-DRVCR

INSIGNIA™

Welcome

Congratulations on your purchase of this high-quality Insignia product. Your NS-DRVCR DVD Recorder/VCR represents the state of the art in DVD/VCR recorders and is designed for reliable and trouble-free performance.
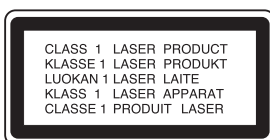
Contents

Warning:

To reduce the risk of fire or electric shock, do not expose your recorder to rain or moisture.

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.

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.

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

Caution:

This product employs a Laser System. To ensure correct use of this product, read this owner's manual carefully and retain it for future reference. Should the recorder require maintenance, contact qualified service personnel.

Making adjustments to controls or performing procedures other than those specified herein may result in hazardous radiation exposure.

To prevent direct exposure to laser beam, do not try to open the enclosure. Visible laser radiation when open. DO NOT STARE INTO BEAM.

Caution:

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

Caution:

Class 2M visible and invisible laser radiation when open and interlocks defeated. Do not stare into the beam or view directly with optical instruments.

Caution	Most recorder manufacturers recommend their recorders be placed upon a dedicated circuit. That is, a single outlet circuit which powers only that recorder and has no additional outlets or branch circuits.
	Do not overload wall outlets. Overloaded wall outlets, loose or damaged wall outlets, overloaded extension cords, frayed power cords, or damaged or cracked wire insulation are dangerous. Any of these conditions could result in electric shock or fire. Periodically examine the cord of your recorder, and if its appearance indicates damage or deterioration, unplug it, discontinue use of the recorder, and have the cord replaced with an exact replacement part by an authorized servicer.
	Protect the power cord from physical or mechanical abuse, such as being twisted, kinked, pinched, closed in a door, or walked upon. Pay particular attention to plugs, wall outlets, and the point where the cord exits the recorder.
	To disconnect power from the power outlet, pull out the power cord plug. When installing the product, make sure that the plug is easily accessible.

Important safeguards

- **Read instructions**– Read all the safety and operating instructions before operating your recorder.
- **Retain instructions**–Retain the safety and operating instructions for future reference.
- **Follow warnings**–Follow all warnings on your recorder and in the operating instructions.
- **Follow instructions**–Follow all operating and use instructions.
- **Cleaning**–Unplug your recorder from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

  Exception: A product that is meant for uninterrupted service and, that for some specific reason, such as the possibility of the loss of an authorization code for a CATV converter, is not intended to be unplugged by the user for cleaning or any other purpose, may exclude the reference to unplugging your recorder in the cleaning description otherwise required in this instruction.
- **Attachments**–Do not use attachments not recommended by your recorder manufacturer because they may cause hazards.
- **Water and moisture**–Do not use your recorder near water, for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.

- **Accessories**–Do not place your recorder on an unstable cart, stand, tripod, bracket, or table. Your recorder may fall, causing serious injury to someone and serious damage to your recorder. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with your recorder.

  If you mount your recorder, follow the manufacturer's instructions and use a mounting accessory recommended by the manufacturer. Move a recorder and cart combination with care. Quick stops, excessive force, and uneven surfaces may cause your recorder and cart combination to overturn.

- **Ventilation**–Slots and openings in the cabinet and the back or bottom are provided for ventilation, to ensure reliable operation of your recorder and to protect it from overheating. Do not block openings. Do not place your recorder on a bed, sofa, rug, or other similar surface. Your recorder should never be placed near or over a radiator or heat register. Do not place your recorder in a built-in installation such as a bookcase or rack unless correct ventilation is provided or the manufacturer's instructions have been adhered to.

- **Power sources**–Use only the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your recorder dealer or local power company. For recorders intended to operate from battery power, or other sources, refer to the operating instructions.

- **Grounding or polarization**–Your recorder is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

- **Power-cord protection**–Route power-supply cords so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from your recorder.

- **Outdoor antenna grounding**–If an outside antenna or cable system is connected to your recorder, make sure that the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA No. 70, provides information with respect to correct grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
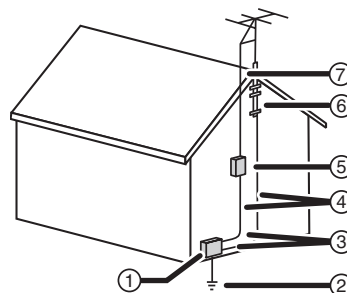
Reference	Grounding component
1	Electric service equipment
2	Power service grounding electrode system (NEC Art 250, Part H)
3	Ground clamp
4	Grounding conductors (NEC Section 810-21)
5	Antenna discharge unit (NEC Section 810-20)
6	Ground clamp
7	Antenna lead-in wire

- **Lightning**–For added protection for your recorder during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to your recorder due to lightning and power-line surges.

- **Power lines**–An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, do not touch power lines or circuits because contact with them might be fatal.

- **Overloading**–Do not overload wall outlets and extension cords because this can result in a risk of fire or electric shock.

- **Object and liquid entry**–Never push objects of any kind into your recorder through openings because they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on your recorder.

- **Servicing**–Do not attempt to service your recorder yourself because opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

- **Damage requiring service**–Unplug your recorder from the wall outlet and refer servicing to qualified service personnel under the following conditions:
  - When the power supply cord or plug is damaged or frayed.
  - If liquid has been spilled, or objects have fallen into your recorder.
  - If your recorder has been exposed to rain or water.

- If your recorder does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, because incorrect adjustment of other controls may result in damage and often requires extensive work by a qualified technician to restore your recorder to its normal operation.
- If your recorder has been dropped or damaged in any way.
- When your recorder exhibits a distinct change in performance, this indicates a need for service.
- **Replacement Parts**–When replacement parts are required, make sure that the service technician uses replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, injury to persons, or other hazards.
- **Safety Check**–Upon completion of any service or repairs to your recorder, ask the service technician to perform routine safety checks to determine that your recorder is in correct operating condition.
- **Heat**–Place your recorder away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

Note	This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for correct grounding and, in particular, specifies that the cable ground should be connected to the grounding system of the building as close to the point of cable entry as practical.

Note	Batteries should never be thrown away or incinerated but disposed of in accordance with your local regulations concerning chemical wastes.

Caution	To prevent electric shock, match the wide blade of plug to the wide slot in the power outlet and fully insert the plug.

Introduction

To ensure correct use of your recorder, read this owner's manual carefully and retain for future reference.

About the ⊘ symbol

The ⊘ symbol may appear on your TV display during operation and indicates that the function is not permitted by the recorder or specific media.

Symbols used in this manual

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

DVD ALL   All DVDs listed below.

-RWVR   DVD-RW with VR recording mode

-RWVideo   DVD-RW with Video recording mode

+RW   DVD+RW disc

-R   DVD-R disc

+R   DVD+R disc

DVD   DVD-Video disc

DivX   DivX files

ACD   Audio CDs

MP3   MP3 files

WMA   WMA files

JPEG   JPEG files

VCR   VHS Tape

Recordable and playable discs

Disc	Characteristics
DVD R W ™	**DVD-RW (DVD - ReWritable)** • DVD-RWs can be formatted for VR mode recording or Video mode recording. • These DVDs can be recorded on repeatedly. Recordings can be erased, then recorded again on the same DVD. **VR mode** • Recordings can be extensively edited. • Playable only on VR mode compatible players (after finalization). **Video mode** • Playable on regular DVD players (after finalization). • Limited editing features. Recommended—Mitsubishi (4x), Verbatim (4x), JVC (4x), Victor (4x), Maxell (4x)

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Disc	Characteristics
DVD-R	**DVD-R (DVD - Recordable)** • These DVDs can be recorded only once. After you finalize a DVD-R, you cannot record on it or edit it. • DVD-Rs can be only formatted to Video mode. • Playable on regular DVD players (after finalization). • Limited editing features. Recommended—Mitsubishi (8x, 16x), That's (8x, 16x), Verbatim (8x)
DVD+ReWritable	**DVD+RW (DVD + ReWritable)** • These DVDs can be recorded on repeatedly. Recordings can be erased, then recorded again on the same DVD. • Playable on DVD+RW compatible players (automatically finalization). • The edited contents are playable on DVD+RW compatible players only after finalization. • Recordings can be edited. Recommended—Mitsubishi (4x), Sony (4x), Imation (4x), Maxell (4x), Ricoh (4x)
DVD+R	**DVD+R (DVD + Recordable)** • DVDs can be recorded only once. After a DVD+R is finalized, it cannot be recorded or edited any more. • Playable on DVD+R compatible players (after finalization). • Any edited contents may not be compatible with DVD+R compatible players (Hide, chapter combine, added chapter mark, and so on). • Limited title/chapter editing features. Recommended—Mitsubishi (8x, 16x), Ricoh (8x, 16x), Verbatim (8x)

Playable discs

Disc	Characteristics
DVD VIDEO	**DVD (8 cm / 12 cm disc)** DVDs such as movies that can be purchased or rented.
COMPACT disc DIGITAL AUDIO	**Audio CD (8 cm / 12 cm disc)** Music CDs or CD-Rs/CD-RWs in music CD format that can be purchased.
COMPACT DISC DIGITAL AUDIO Recordable ReWritable	**CD-R/CD-RW (8 cm / 12 cm disc)** CD-R/CD-RWs that contain audio titles, MP3, WMA, JPEG or DivX files.

Note

• Depending on the conditions of the recording equipment or the CD-R/RW (or DVD±R/RW) disc itself, some CD-R/RW (or DVD±R/RW) discs cannot be played on the recorder.
• Do not attach any seal or label to either side (the labeled side or the recorded side) of a disc.
• Do not use irregularly shaped CDs (for example, heart-shaped or octagonal). Doing so may result in malfunctions.
• Depending on the recording software and the finalization, some recorded discs (CD-R/RW or DVD±R/RW) may not be playable.
• DVD-R/RW, DVD+R/RW and CD-R/RW discs recorded using a personal computer or a DVD or CD recorder may not play if the disc is damaged or dirty or if there is dirt or condensation on the recorder's lens.
• If you record a disc using a personal computer, even if it is recorded in a compatible format, there are cases in which it may not play because of the settings of the application software used to create the disc. (Check with the software publisher for more detailed information.)
• Your recorder requires discs and recordings to meet certain technical standards in order to achieve optimal playback quality. Pre-recorded DVDs are automatically set to these standards. There are many different types of recordable disc formats (including CD-R containing MP3 or WMA files) and these require certain pre-existing conditions (see above) to ensure compatible playback.
• You should note that permission is required in order to download MP3 or WMA files and music from the Internet. Our company has no right to grant such permission. Permission should always be sought from the copyright owner.

Regional code

Your recorder has a regional code printed on the back of the case. Your recorder can play only DVDs labeled with the same regional code or **ALL**.

Note

• Most DVDs have a globe with one or more numbers in it clearly visible on the cover. This number must match your recorder's regional code or the DVD cannot play.
• If you try to play a DVD with a different regional code from the recorder, the message "Check Regional Code" appears on the TV screen.

Restrictions on video recording

• You cannot record copy-protected video using your recorder. Copy-protected video includes video DVDs and some satellite broadcasts. If copy-protected material is encountered during a recording, the recording pauses or stops automatically and an error message is displayed on-screen.
• Video that is 'copy-once only' can only be recorded using a DVD-RW disc in VR mode with CPRM (see below).

CPRM copy protection

CPRM is a copy protection system (with scramble system) only allowing the recording of 'copy once' broadcast programs. CPRM stands for Content Protection for Recordable Media.

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

Copying copyrighted material

- You should only use recording equipment for lawful copying. Make sure that you follow legal guidelines in your area. Copying of copyrighted material, such as films or music, is unlawful unless permitted by a legal exception or consented to by the rights owner.

- This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only, unless otherwise authorized by Macrovision corporation. Reverse engineering or disassembly is prohibited.

Using progressive scan

Consumers should note that not all high definition televisions are fully compatible with this product and may cause artifacts to be displayed in the picture.

In case of progressive scan picture problems, we recommend that you switch the connection to the standard definition output. If there are questions regarding your television's compatibility with this DVD/VCR recorder, contact our customer service center.

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Controls and connections

Front panel
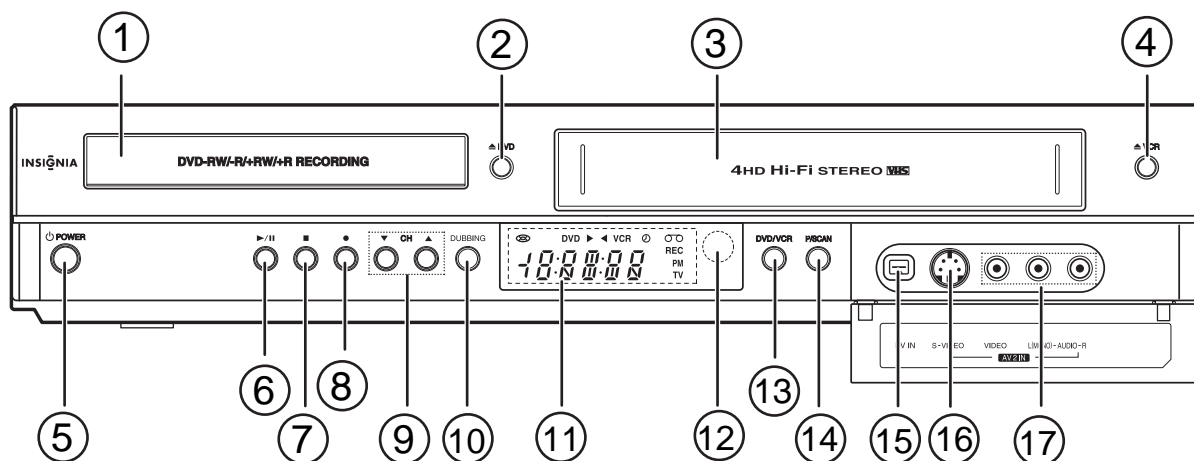
Item	Description	Function
1	Disc tray (DVD deck)	Place a disc on the tray when it opens.
2	⏏ DVD button	Press to open or close the disc tray.
3	Cassette compartment (VCR deck)	Insert the video cassette here.
4	⏏ VCR button	Press to eject the tape in the VCR deck.
5	⏻ POWER button	Turns the recorder on and off.
6	▶❙❙ (Play/Pause) button	Press to start playback. When a DVD or video cassette is playing, press to pause playback. Press again to resume playback.
7	■ (STOP) button	Press to stop the playback of the DVD or video cassette.
8	● (REC) button	Press to start recording. Press repeatedly to set the recording time (duration).
9	CH ▲ or ▼ buttons	Press to change the channels.
10	DUBBING button	Press to copy a DVD to the VCR (or video tape to a DVD). The button lights when the recorder is dubbing.

Item	Description	Function
11	Display window	Shows the current status of the recorder.
		⬭ lights when a disc is in the DVD deck.
		DVD lights when the DVD deck is selected.
		▶ ◀ lights when the recorder is in play mode or flashes when in search mode.
		VCR lights when the VCR deck is selected.
		⊘ lights when the recorder is in timer recording or when a timer recording is programmed.
		⊙⊙ lights when a video tape is inserted in the VCR deck.
		REC lights when the recorder is recording.
		PM lights to indicate PM time.
		TV lights to indicate that TV mode is active.
		10:00:00 indicates total playing time, elapsed time, remaining time, or current deck status.
12	Remote sensor	Receives signals from the remote control.
13	DVD/VCR button	Toggles control between the DVD deck and the VCR deck.
14	P/SCAN	Sets the output resolution to 480p format for progressive scan mode.
15	DV IN	Connect the digital video output of a digital camcorder to this jack.
16	S-VIDEO	Connect the S-Video output of an external source (such as a TV, monitor, or VCR to this jack.

Back panel

Item	Description	Function
17	VIDEO/AUDIO	Connect the audio/video output of an external source (such as an audio system, TV, monitor, VCR, or camcorder) to these jacks.
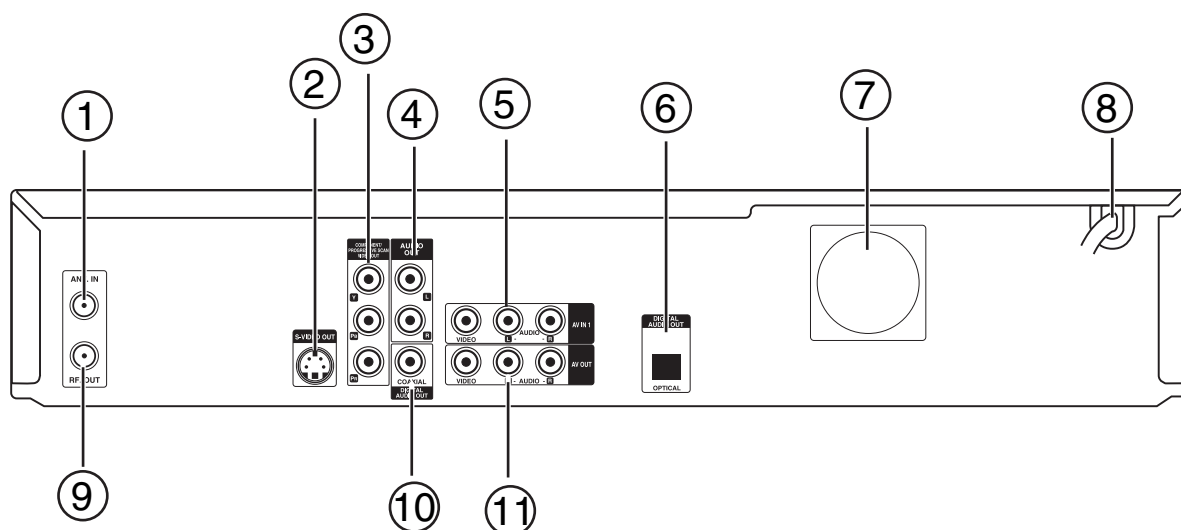
Item	Description	Function
1	ANT. IN	Connect the antenna cable to this jack.
2	S-VIDEO OUT	Connect to the S-Video input jack on a TV.
3	COMPONENT/ PROGRESSIVE SCAN VIDEO OUT (Y Pb Pr)	Connect to the component input jacks on a TV (if available).
4	AUDIO OUT (left/right)	Connect to the audio input jacks (left and right) of a TV, amplifier, or other equipment.
5	AV IN 1 (VIDEO, AUDIO L and AUDIO R)	Connect to the video and audio output jacks on an external source, such as a VCR or camcorder, to this jack.
6	OPTICAL (DIGITAL AUDIO OUT) jack	Connect to the digital audio optical jack on an external amplifier, such as a Dolby Digital decoder.
7	Cooling fan	Keeps the recorder at a safe operating temperature.
8	AC power cord	Plug into an AC power outlet.
9	RF. OUT	Connect to the RF coaxial input on a TV.
10	COAXIAL (DIGITAL AUDIO) out jack	Connect the digital audio coaxial cable from this jack to an external amplifier, such as a Dolby Digital decoder.
11	AV OUT (VIDEO, AUDIO L and AUDIO R)	Connect to the video and audio input jacks (left and right) of a TV.

Caution ⚠	Do not touch the inner pins of the jacks on the back panel. Electrostatic discharge may cause permanent damage to the recorder.

Remote control
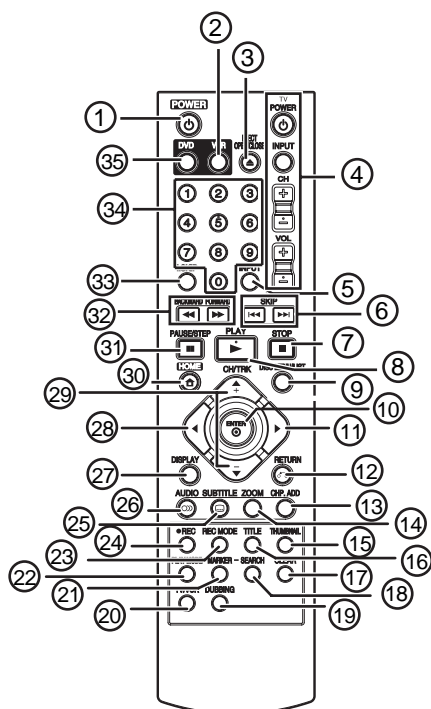
Item	Button	Function
1	**POWER** ⏻	Press to turn your recorder on or off.
2	**VCR**	Press to change the recorder's function mode to VCR.
3	**EJECT/OPEN/ CLOSE**	Press to open and close the disc tray or to eject the tape from the VCR.
4	**TV control**	Press to control your TV's power, input, channel, and volume.
5	**INPUT**	Press to toggle through input choices (Tuner, AV1, AV2, or DV IN).
6	▶▶❙ ❙◀◀**SKIP**	Press to advance to the next chapter (DVD) or track (CD). Press to return to the previous chapter (DVD) or track (CD).
7	■ **STOP**	Press to stop playback or recording.
8	▶ **PLAY**	Press to start playback.
9	**DISC MENU/LIST**	Press to open the DVD menu, or a title list or playlist.
10	⊙ **ENTER**	Press to confirm menu selections.
11	▶ (Direction)	Press to select menu options.

Item	Button	Function
12	↶ **RETURN**	Press to close the on-screen display and return to normal viewing.
13	**CHP. ADD**	Press to insert a chapter marker when playing or recording a DVD.
14	**ZOOM**	Press to enlarge the DVD image to 2, 3, or 4 times the original size.
15	**THUMBNAIL**	Press to select a thumbnail picture for the current title in the Title List menu.
16	**TITLE**	Press to display the title menu of the DVD, if available.
17	**CLEAR**	Press to remove a marker from the marker search menu.
18	**SEARCH**	Press to display the marker search menu.
19	**DUBBING**	Press to copy a DVD to the VCR (or video tape to a DVD). The button lights when the recorder is dubbing.
20	**TV/VCR**	Press to toggle between viewing the TV tuner or the VCR tuner.
21	**MARKER**	Press to mark any point on a DVD during playback.
22	**PLAY MODE**	Press to select the play mode.
23	**REC MODE**	Press to select the record mode: • DVD–SP, LP, EP, or XP • VCR–SP or SLP
24	● **REC**	Press to start recording. Press repeatedly to set the recording time (duration).
25	**SUBTITLE**	Press to select a subtitle language.
26	**AUDIO**	Press to select an audio language or audio channel.
27	**DISPLAY**	Press to open the on-screen display, which provides current status information and where you can change settings and options.
28	◀ (Direction)	Press to select menu options.
29	**CH/TRK +** or **–**	Press to select a channel or adjust the picture on the screen.
30	**HOME**	Press to open or close the HOME menu.
31	❙❙ **PAUSE/STEP**	Press once to pause playback or recording. Press repeatedly to advance frame by frame.

Item	Button	Function
32	◄◄ **BACKWARD** and ►► **FORWARD**	DVD - Press to search backward or forward. VCR - Press to search a tape on fast backward or forward. In STOP mode, press to rewind or advance the tape (picture not visible).
33	**I.SKIP** (instant skip)	Press to skip ahead 30 seconds during DVD playback.
34	0 - 9 number buttons	Press to select numbered options in a menu or to enter a channel number directly.
35	**DVD**	Press to change the recorder's function mode to DVD.

Setting up your recorder

Unpacking and setup

Your carton should contain:
- DVD/VCR recorder
- User Guide
- Remote control unit
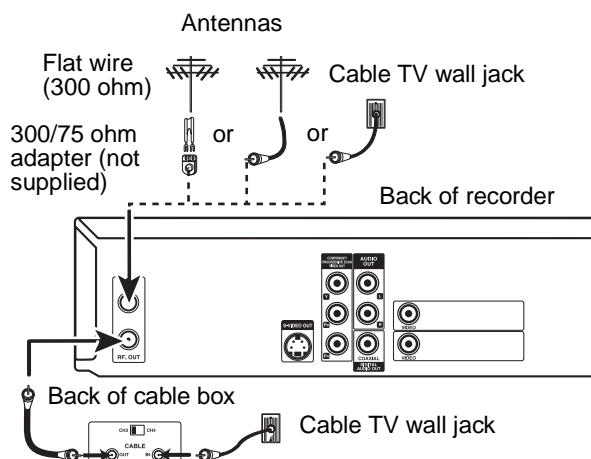- Video cable
- Audio cable
- Batteries (2)

If you need to replace any of these items, call our help line mentioned in the Warranty section of this guide.

Carefully remove all the components from the carton and make sure that you have all the necessary components before you dispose of the carton.

- Remove all packing materials from the individual components.
- Do not remove any labels or stickers on the back panel of your recorder.
- Place your recorder in the location you want. Your recorder is designed to be used on a level, stable, flat surface, such as a table, desk, shelf, or stand convenient to a power outlet, out of direct sunlight, and away from sources of excess heat, dust, moisture, or vibration.
- Unwind the AC power cord on the back of your recorder and extend the cord to its full length.

Power source

Use the polarized AC line cord provided for operation on AC power. Insert the AC cord plug into a standard 120 V 60 Hz polarized AC outlet.

If you cause a static discharge when touching your recorder and your recorder fails to function, unplug your recorder from the AC outlet and plug it back in. Your recorder should return to normal operation.

Warning ⚠	• The system uses a polarized AC plug with one wide blade and one narrow blade. The plug will only fit into matching polarized power outlets. This is a safety feature to reduce the possibility of electric shock. If the plug will not fit in your power outlets, you probably have outdated, non-polarized outlets which should be changed by a qualified, licensed electrician. Do not file the wide blade on the plug or use an adapter to make the plug fit into your outlet. This defeats the safety feature and could expose you to electric shock. • Never connect the AC cord plug to other than the specified voltage (120 V 60 Hz). Use the attached power cord only.

Connecting to an antenna or cable TV

Depending on your TV and other equipment, there are various ways you can connect the recorder. Refer to the manuals of your TV, VCR, stereo system, or other devices, as necessary, for additional information.

Note 📌	• Make sure that the recorder is connected directly to the TV and tune the TV to the correct video input channel. • Do not connect the recorder's AUDIO OUT jack to the Phono in jack (record deck) of your audio system. Do not connect the recorder through another VCR. The DVD image could be distorted by the copy protection system. • The picture and sound of a nearby TV, VCR, or radio may be distorted during playback. Position the units away from each other or turn off your recorder after removing the disc.

Antennas

Flat wire (300 ohm)   Cable TV wall jack

300/75 ohm adapter (not supplied)   or   or

Back of recorder

RF. OUT

Back of cable box   Cable TV wall jack

CABLE

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To connect the recorder to an antenna:

- Disconnect the antenna from the back of the TV and identify the antenna cable.

  If your antenna cable is a round 75 ohm coaxial cable, connect it directly to the jack marked ANT. IN on your recorder.

  - OR -

  If your antenna cable is flat, connect it to a 300-ohm to 75-ohm antenna adapter (not supplied) and slip the adapter over the ANT. IN jack. Do not try to screw it into to the recorder.

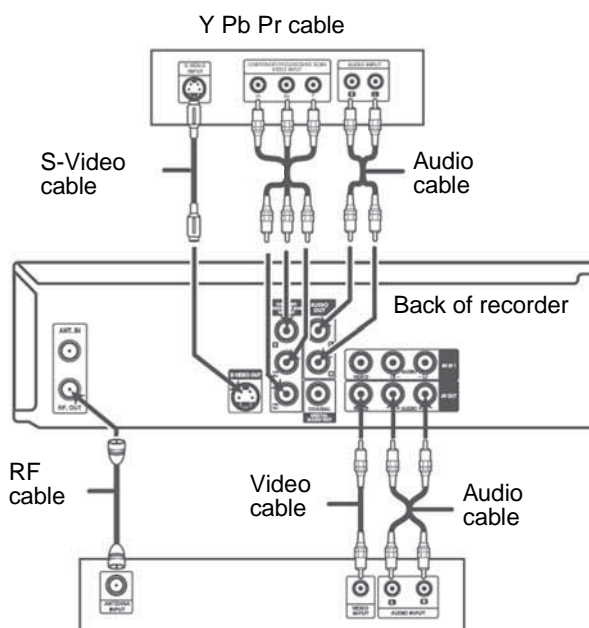**To connect the recorder to cable TV:**

- If your cable connection has no converter or descrambler, unscrew the cable from your TV and attach it to the ANT. IN jack on the recorder.

  - OR -

  If a converter is required, connect a coaxial cable from the wall jack to the IN connector on the converter, and a coaxial cable from the OUT connector on the converter to the ANT. IN on your recorder. This cable hookup permits both TV and recorder operation.

Connecting your recorder to a TV

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

RF coaxial connection

To connect to your TV with an RF coaxial cable:

- Connect the RF OUT jack on the recorder to the antenna in jack on the TV using the supplied 75-ohm Coaxial Cable.

Note	If you use this connection, you must set the recorder's RF output channel, then set the TV to receive this channel. See "Setting your recorder's RF output channel" on page 12 for additional information.

Video connection

To connect to your TV with a video cable:

- Connect the VIDEO OUT jack on the recorder to the VIDEO IN jack on the TV using the video cable supplied.

Note	If you use this connection, set the TV's source selector to VIDEO.

S-Video connection

To connect to your TV with an S-Video cable:

- Connect the S-VIDEO OUT jack on the recorder to the S-VIDEO IN jack on the TV using an optional S-Video cable.

Component video/progressive scan connection

If your television is a high-definition or "digital ready" television, you can take advantage of the recorder's progressive scan output for the highest quality video possible.

To connect to your TV with a component video cable:

- Connect the COMPONENT/PROGRESSIVE SCAN VIDEO OUT jacks on the recorder to the corresponding in jacks on the TV using an optional Y Pb Pr cable.

Note	• Set the resolution to 480p using the P/SCAN button on the front panel. • Progressive Scan does not work with the RF, Audio/Video, or S-Video connections. • If your TV does not accept the Progressive Scan format, the picture will appear scrambled.

Audio connection

To connect to your TV with audio source:

- Connect the Left and Right AUDIO OUT jacks on the recorder to the audio left and right in jacks on the TV using the supplied audio cables.

Connecting to an amplifier

Digital coaxial cable | Audio cable | Digital optical cable
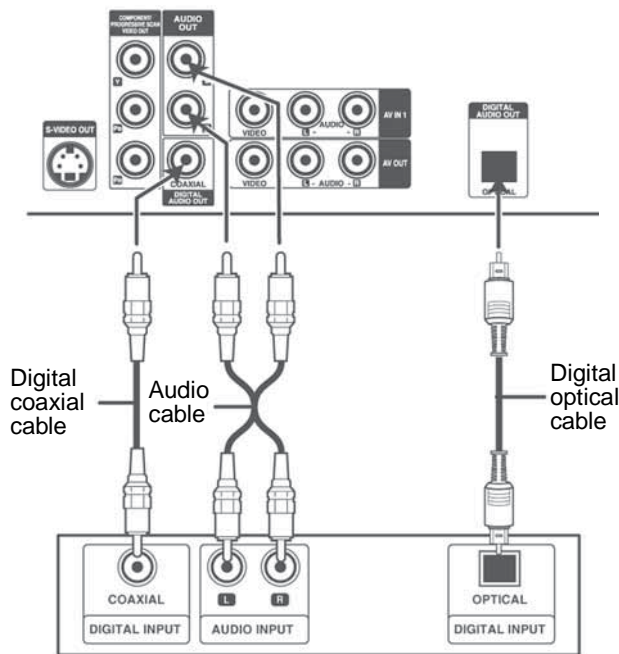
To connect two-channel analog stereo or Dolby Pro Logic II/Pro Logic:

- Connect the Left and Right AUDIO OUT (or AV AUDIO OUT) jacks on the recorder to the audio left and right in jacks on your amplifier, receiver, or stereo system using the audio cables supplied.

To connect a two channel digital stereo or A/V receiver with multi-channel decoder:

1 Connect one of the recorder's DIGITAL AUDIO OUT jacks (optical or coaxial) to the corresponding in jack on your amplifier. Use an optional digital (optical or coaxial) audio cable.

2 Activate the recorder's digital output. (See "Audio Settings" on page 16).

Digital multi-channel sound

A digital multi-channel connection provides the best sound quality. For this you need a multi-channel audio/video receiver that supports one or more of the audio formats supported by your recorder, including MPEG 2, Dolby Digital and DTS. Check the receiver manual and the logos on the front of the receiver to verify this.

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

- Due to the DTS Licensing agreement, the digital output will be in DTS digital out when DTS audio stream is selected.
- If the audio format of the digital output does not match the capabilities of your receiver, the receiver will produce a strong, distorted sound or no sound at all.
- To play six-channel digital surround sound though a digital connection, your receiver must have a Digital Multi-channel decoder.
- To see the audio format of the current DVD displayed on the screen, press **AUDIO**.
- Your recorder does not perform internal (2-channel) decoding of a DTS sound track. To enjoy DTS multi-channel surround, you must connect your recorder to a DTS compatible receiver through one of your recorder's digital audio outputs.

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

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

Accessory audio/video (A/V) connections

Jack panel of component
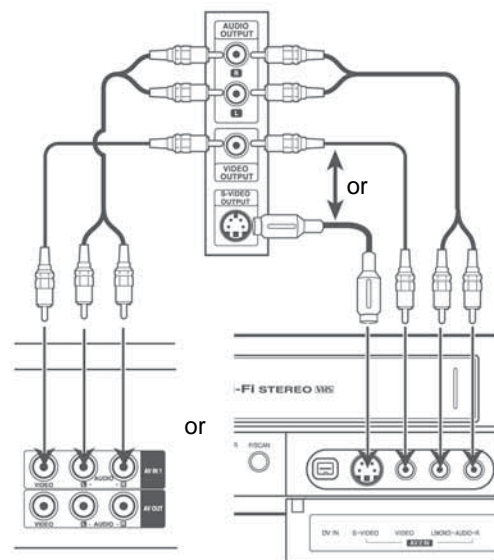
### To connect the recorder to an accessory component:

- Connect the AV IN 1 or AV 2 IN jacks on the recorder to the audio/video out jacks on your accessory component, such as a VCR or camcorder, using the optional audio/video cables. (Refer to "Recording from external components" on page 23.)

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

Connecting a digital camcorder

DV digital camcorder
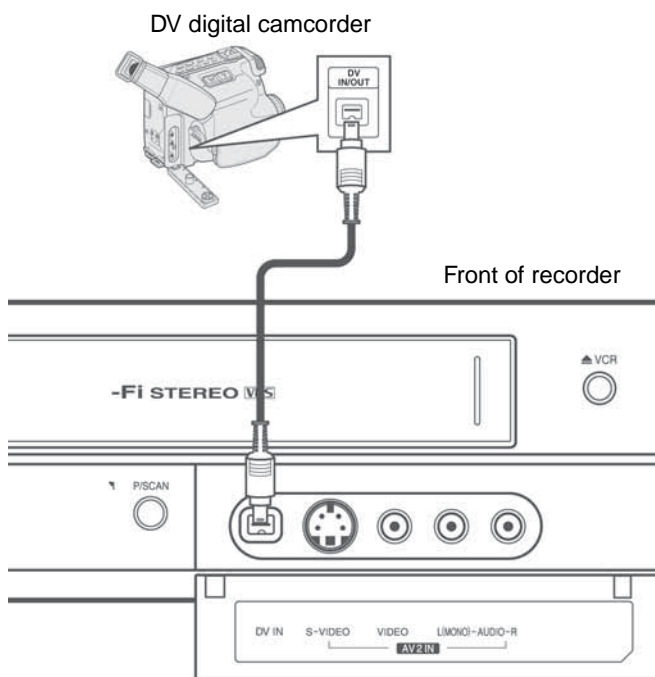
Front of recorder

- Use a DV cable (not supplied) to connect the DV in/out jack of your DV digital camcorder to the front panel DV IN jack of your recorder.

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

Remote control batteries

The remote control requires two AAA (RO3) batteries (not included). We recommend that you replace the batteries on a yearly basis or when the operation of the remote control becomes intermittent or unsatisfactory. Replace the original batteries with new AAA batteries. Do not mix old and new batteries or different types of batteries.

To replace the batteries:
1 Press the lock tab of the battery holder and open the battery compartment.
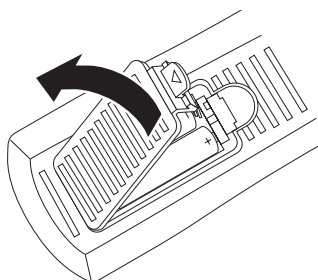
2 Place two AAA batteries in the battery holder, matching the + and – in the battery compartment.

3 Close the battery holder.

Caution
⚠
- Use only the size and type of batteries specified.
- Make sure that you follow the correct polarity as indicated in the battery compartment. Reversed batteries may damage the device.
- Do not mix different types of batteries together (for example, Alkaline and Carbon-Zinc) or old batteries with new ones.
- If the remote is not to be used for a long period of time, remove the batteries to prevent damage or injury from possible battery leakage.
- Do not try to recharge batteries not intended to be recharged. They can overheat and rupture.

Setting your recorder's RF output channel

If you use the RF cable connection to connect the recorder to your TV, you must set the recorder's RF channel output and tune your TV to this channel to be able to see the Setup Wizard and various menus used in setting up your recorder.

To set the recorder's RF output channel:
1 When the recorder is turned off, press and hold CH (▲ / ▼) on the front panel for more than five seconds. [RF03] or [RF04] appears in the display window.
2 Press CH (▲ / ▼) to change the RF output channel (RF03 or RF04).
3 Tune the TV to this channel.

Using your recorder

Turning your recorder on and off

To turn your recorder on and off:
1 Plug the power cord into an electrical outlet.
2 Press the **POWER** button to turn on your recorder.
3 Press the **POWER** button again to turn off your recorder.

Initial Setup Wizard

The first time you turn on the recorder, the Initial Setup Wizard opens so you can set the language, channels, and clock.

To set up your recorder with the Setup Wizard:
1 Use ▲ / ▼ to select a language for the *Setup* menu and on-screen display, then press **ENTER**.
2 Check your antenna connections, then press ►.
3 Press **ENTER** to begin the channel search.

4 Select **Auto** or **Manual** to set the clock, then press **ENTER**.

Auto

- Press ▲ / ▼ to choose your Time Zone.
- Press ► to choose the Daylight Savings option. Press ▲ / ▼ to choose Auto, ON, or OFF.
- Press **ENTER** to confirm your setting.

Manual

- Enter the necessary information for year, date, and time.

  ◄ / ► (left/right): Moves the cursor to the previous or next column.

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

- Press **ENTER** to confirm your setting.

5 Press **ENTER** to exit the menu.

| Note | You can reset the Initial Setup Wizard from the Factory Set option in the setup menu (see "General Settings" on page 15). |

Playing a tape

To play a tape:

1 Press **VCR** to switch control to the VCR deck.

2 Insert a pre-recorded video cassette.

- If the recorder is turned off, it turns on automatically when the tape is loaded.
- If the Timer indicator lights on the front panel display window, press **POWER** once.

3 Press **PLAY** (►) to start playback.

If a tape without a safety tab is inserted, the recorder starts playback automatically.

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

If the tape reaches the end before you press **STOP** (■) the recorder automatically stops, rewinds, then ejects the tape.

| Note | S-VHS Quasi Playback (*SQPB*)
• Your recorder can play back S-VHS recorded tapes, however, it cannot make recordings using S-VHS format tapes. |

VCR playback options

Buttons	Operations
EJECT (⏏)	Press to eject the tape in the VCR deck.
PAUSE (❚❚)	Press to pause playback. Press repeatedly to step forward one frame at a time Note: After 5 minutes in STILL mode the recorder stops to protect the tape and video heads.
FORWARD (►►)	Press to scan forward. In STOP mode, fast forwards the tape. In PAUSE mode, starts slow motion playback Note: After 3 minutes in SEARCH or SLOW MOTION mode the recorder returns to PLAY mode to protect the tape and video heads.

Buttons	Operations
BACKWARD (◄◄)	Press to scan backward. In STOP mode, rewinds the tape. Note: After 3 minutes in SEARCH mode the recorder returns to PLAY mode to protect the tape and video heads.
CLEAR	Press to reset the current tape counter to 0:00:00. To automatically go to tape counter position 0:00:00, press RETURN while the tape is in STOP mode.
TRACK (▲+/ ▼-)	Press to manually reduce noise on the screen during tape playback. Tracking is set automatically when a tape is inserted.
AUDIO	Press to set the tape audio to HIFI, LEFT, RIGHT, or NORMAL. Press the ◄ / ► buttons to select the tape audio you want.
I.SKIP	Press repeatedly during playback to skip forward 30 seconds on the tape (max. 120 seconds.)

Playing a disc

To play a disc:

1 Press **DVD** to switch control to the DVD deck.

2 Press **OPEN/CLOSE** (⏏) to open the disc tray.

3 Load the disc into the tray, with the playback side down.

4 Press **OPEN/CLOSE** (⏏) to close the tray. Playback starts automatically. If playback does not start, press **PLAY** (►) or start the playback using the *HOME* menu.

5 To stop the playback, press **STOP** (■).

The recorder records the stopped point, depending on the disc. ■ appears on the screen briefly.

Press **PLAY** (►) to resume playback (from the stopped point). If you press **STOP** (■) again or unloaded the disc, (■ appears on the screen and the recorder clears.

6 Press **OPEN/CLOSE** (⏏) to open the tray and remove the disc.

Press **OPEN/CLOSE** (⏏) to close the disc tray, or press **POWER** (⏻). The disc tray closes automatically and recorder turns off.

| Note | If parental control is set and the DVD is not within the rating settings, you must input the password.
(See "Lock Settings" on page 16). |

Disc playback features

Buttons	Operations	Discs
OPEN/CLOSE (⏏)	Press to open or close the disc tray.	All

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Buttons	Operations	Discs
PAUSE (❚❚)	Press to pause playback.	All
	Press repeatedly to play frame-by-frame. Note: You can also use the ◄ / ► buttons to step backward or forward while in PAUSE mode.	**DVD ALL**
BACKWARD (◄◄◄) FORWARD (►►)	During playback, press repeatedly to select the scan speed (either backward or forward). DVD—5 steps DivX, audio CD—3 steps	**DVD ALL** **DivX** **ACD**
	In PAUSE mode, press for slow motion playback (4 steps)	
SKIP (►►❙ ❙◄◄)	Press during playback to go to the next chapter or track or to return to the beginning of the current chapter or track. Press SKIP (❙◄◄) twice briefly to step back to the previous chapter or track. • To go directly to any chapter during DVD playback, press **DISPLAY** twice and press ▲ / ▼ to select the chapter icon. Then, input the chapter number or press ◄ / ►. • On an audio CD, to go directly to any track, enter the track number using the numbered buttons (0-9) during playback.	**DVD ALL** **DivX** **ACD** **MP3** **WMA**
ZOOM	Press to enlarge the video image. (x1 size – x2 size – x4 size – x1 size (normal size)) You can move through the zoomed picture using the ▲ / ▼ ◄ / ► buttons.	**DVD ALL**
TITLE	Press to open the Title menu on the screen, if the current DVD title has a menu. Otherwise, the disc menu may open.	**DVD**
DISC MENU/LIST	Press to open the disc menu on the screen.	**DVD**
SUBTITLE	During playback, press **SUBTITLE,** then press the ◄ / ► buttons repeatedly to select the subtitle language you want.	**DVD** **DivX**
I.SKIP	Press repeatedly during playback to skip forward 30 seconds.	**DVD ALL**

Buttons	Operations	Discs
PLAY MODE	Press during playback to select the play mode you want. **A-**—Repeats a sequence between A (start point) and B (end point) during playback. Press **ENTER** at the selected end point, then the repeat sequence begins.	**DVD ALL** **ACD** Karaoke DVD
	CHAPTER—Repeats the current chapter.	**DVD ALL**
	TITLE—Repeats the current title.	**DVD ALL** Karaoke DVD
	ALL—Repeats all titles or tracks.	**ACD** **-RW**vr
	TRACK—Repeats the current track.	**ACD** **MP3** **WMA**
	RANDOM—Plays tracks in random order.	Karaoke DVD
	Folder—Repeats all the tracks on a folder of a disc.	**MP3** **WMA**
	OFF—Does not repeat.	**DVD ALL**
	• If you press **SKIP** (►►❙) once during Repeat Chapter (Track) playback, the repeat playback is cancelled. • By pressing **SKIP** (►►❙) during Random playback, the recorder selects another title (track) and resumes Random playback.	

Buttons	Operations	Discs
AUDIO	Press **AUDIO** then press the ◄ / ► buttons repeatedly repeatedly to hear a different audio language or audio track. **Note:** Some discs feature both Dolby Digital and DTS soundtracks. There is no analog audio output when DTS is selected. To listen to the DTS soundtrack, connect your recorder to a DTS decoder through one of the digital outputs. See "To connect a two channel digital stereo or A/V receiver with multi-channel decoder:" on page 11 for connection details.	**DVD**
	Press **AUDIO,** then press the ◄ / ► buttons repeatedly during playback to hear a different audio channel. With DVD-RWs recorded in VR mode that have both a main and a bilingual audio channel, you can switch between main (L), bilingual (R), or a mix of both (main + bilingual) by pressing **AUDIO**.	**-RW**VR **-RW**Video **+RW** **-R** **+R** **MP3** **WMA**

Accessing the settings menus

From the Home Menu screen you can access all playback and recording options.

To use the Home menu:
1 Press **HOME**. The *Home* menu opens.
2 Press ◄ / ► (left/right) to select the main option you want.
3 Press ▲ / ▼ (up/down) to select the sub option you want, then press **ENTER** to confirm your selection.
4 To exit the *HOME* menu, press **HOME**.

Menu	Available options
SETUP	**Start:** Displays the Setup menu.
TV	• **Auto Ch. Scan:** Displays Auto Channel Set menu. (See "General Settings" on page 15) • **Ch. Edit:** Displays CH. Add/Del menu. (See "General Settings" on page 15) • **Timer Record:** Displays Timer Record menu. (See "Recording Settings" on page 16)
Movie	• **VCR:** Plays a video tape. • **DISC:** - Displays TITLE LIST menu for recordable DVD (See "Title List and Chapter List menu overview" on page 24) - Displays Movie menu for DivX. (See "Movie menu options" on page 18) - Plays a video DVD (See "Disc playback features" on page 13).

Menu	Available options
Photo (See "Photo menu options" on page 20)	• **DISC:** Displays the Photo menu for a disc.
Music (See "Audio CD and Music menu options" on page 19)	• **DISC:** Displays the Music (or Audio CD) menu for a disc.
Easy Menu	• **Dubbing:** Displays the Dubbing menu. • **Disc Manager:** Displays the Disc Setup menu. • **Rec. Mode:** Displays the Record Mode setup menu. • **DV Input:** Changes to DV Input mode.

Using the Setup Menu

In this menu system there are several ways to customize the settings. Most menus consist of three levels to set up the options, but some require more levels for some settings.

To change settings using the Setup menu:
1 Press **HOME**. The *Home* menu opens.
2 Select **SETUP** and **Start**, then press **ENTER**. The *Setup* menu opens with the **General Settings** icon highlighted.
3 Press ▲ / ▼ to select the option you want, then press ► to move to the second level.
4 Press ▲ / ▼ to select the second option you want, then press ► to move to the third level.
5 Press ▲ / ▼ to select the setting you want, then press **ENTER** to confirm your selection. Some items require additional steps.
6 Press ↻ **RETURN** or **HOME** to exit the Setup menu.

Note	Press ◄ to go back to the previous level.

Menu	Available settings
General Settings	**Tuning Band**–You can select **TV** or **CATV**. **Auto Channel Set**–Press **Start** to begin auto channel selection. **CH. Add/Del**–You can manually add or erase channels from memory. **Clock Set**–You can manually or automatically (using XDS) set the clock. **TV Aspect**–You can select from **4:3 Letter box**, **4:3 Pan scan**, or **16:9 Wide**. **Power Save Mode**–You can set Power Save Mode to **ON** to enable an economic power save mode. **Factory Set**–You can reset your recorder to original factory settings.

Menu	Available settings
Language Settings 🅰	**Display Menu**–You can select a language for the setup menu and information display. **Disc Menu**–You can select a language for the DVD menu. **Disc Audio**–You can select a language for the DVD audio. **Disc Subtitle**–You can select a language for the DVD subtitle.
Audio Settings	**Dolby Digital/DTS/MPEG**–You can select **Bitstream** (if you connect to equipment with Dolby Digital, DTS, or MPEG decoder), or **PCM** (to automatically downmix to two-channel PCM audio). **Sampling Freq.**–You can select **96 kHz** or **48 kHz** (if your receiver or amplifier is not capable of decoding 96 kHz signals). **DRC (*Dynamic Range Control*)**–You can set the DRC to **On** if you want to listen to a movie at a lower volume, without losing clarity.
Lock Settings 🔒	**Rating**–You can select the rating restrictions for your DVD player. Ratings are 1–8 (1 is the most restrictive). When you select this option, you must enter a password. **Set Password**–You can enter or change your password. **Note:** If you forget your password, you can clear the password by going to the *Setup* menu, selecting **Start**, then pressing **ENTER**. Input the six-digit number (**210449**), select **OK** when the message appears, then press **ENTER**. The password is cleared. **Area Code**–You can enter the area code whose standards were used to rate the DVD (see "Area code list" on page 31).
Recording Settings	**Disc Record Mode**–You can set the picture quality for recording a DVD. (**XP**=excellent, **SP**=standard, **LP**= low, **EP**=extended.) **VCR Record Mode**–You can set the picture quality for recording a video tape. (SP=standard, SLP=long play.) **DV Record Audio**–You can set this to choose which of two digital camcorder soundtracks to use. Audio 1 (to use the sound that was recorded when a recording was made), or Audio 2 (to use the overdubbed sound). **Auto Chapter**–You can set the auto chapter markings (made during recording) to 5 minute intervals, 10 minute intervals, or None.

Menu	Available settings
Disc Settings	**Initialize**–Formats a DVD for recording. For DVD-RWs, you can choose **VR Mode** or **Video Mode**. For DVD+RWs you can choose **OK**. **Caution**: If you change the format of a DVD, the disc is erased. **Finalize**–Fixes the recordings in place so the DVD can be played on a regular DVD player or a computer with a suitable DVD-ROM drive. **Caution**: If you finalize a DVD-R or DVD+R, you cannot edit or record anything else on the disc. **Disc Label**–You can enter a name for the DVD. See "Naming a title" on page 27 for information on using the Keyboard menu. **Disc Protect**–You can protect recordings, depending on the type of DVD you are using. For DVD+RWs, it prevents editing, erasing, overwriting, or regular recording. For DVD+Rs or DVD-RWs (VR mode), it prevents editing, erasing, and regular recording. It is not compatible with DVD-RWs in Video mode or DVD-Rs. To unlock a DVD, select **OFF**. **AutoPlay**–Turning this **ON** will bypass the Disc menu and trailers and start playing the movie automatically. **About DivX®**–Provides you with a registration code that lets you rent and purchase videos using the DivX VOD service. For more information, visit www.divx.com/vod. **Note:** The videos downloaded from DivX VOD can only be played back on your recorder.

The on-screen display

Some DVDs require specific operation or allow only limited operation during playback. When this occurs, ⊘ is displayed, action prohibited or not available.

Displaying information while watching TV

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

In the example a DVD-RW in VR mode is inserted.

Disc name and format   Record mode, free space, and elapsed time   Channel number and audio input

Audio output   Date and time

Operational mode of recorder
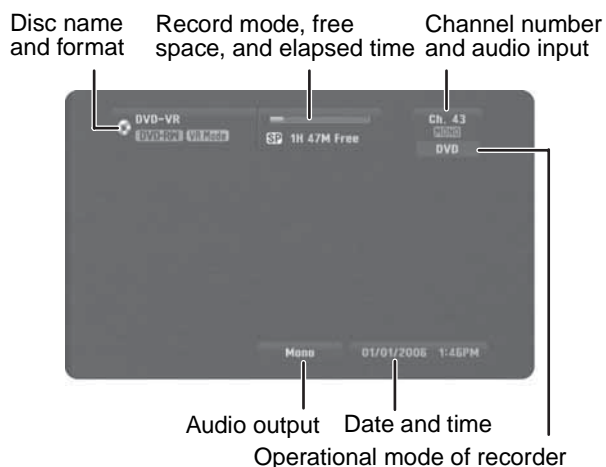
Displaying disc information on screen

You can display various information about the disc or tape loaded on screen. Some items can be changed using the menu.

To display disc information on screen:

1 Press **DISPLAY** once to show current status.

Example: DVD-RW in VR mode

2 Press **DISPLAY** again to show playback information.

The items displayed differ depending on the disc type or playing status.

3 Select an item by pressing ▲ / ▼ and change or select the setting by pressing ◄ / ► .

For details about each item, see the tables on "VCR playback options" on page 13 and "Disc playback features" on page 13.

- **Title**—Current title (or track) number/total number of titles (or tracks)
- **Chapter**—Current chapter number/total number of chapters
- **Time**—Elapsed playing time
- **Audio**—Selected audio language (DVD VIDEO only) or audio channel
- **Subtitle**—Selected subtitle
- **Angle**—Selected angle/total number of angles
- **Sound**—Selected sound mode

Note	If no button is pressed for 10 seconds, the on-screen display disappears.

Changing the TV audio channel

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

To change the TV audio:

- Press **AUDIO** repeatedly to change between the available TV audio options.
  - **STEREO+SAP Audio Signal**
    Stereo – SAP – Mono – Stereo
  - **STEREO Audio Signal**
    Stereo – L – R – Mono – Stereo
  - **SAP Audio Signal**
    Mono – SAP – Mono
  - **MONO Audio Signal**
    Mono

The current audio channel is displayed on-screen.

- If SAP is selected, but there is no SAP channel being broadcast, you still hear the main audio (Mono or Stereo) channel.
- If the sound is poor quality when set to Stereo, you can often improve it by changing to Mono.

Special playback options

If a menu screen is displayed

In some cases, the disc menu might appear.

Press the ◄ / ► ▲ / ▼ buttons to select the title/chapter you want to view, then press **ENTER** to start. Press **TITLE** or **DISC MENU/LIST** to return to the menu screen.

Time search DVD ALL DivX

To start playing at a selected time on the disc:

1 Press **DISPLAY** twice during playback. The time search box shows the elapsed playing time.

2 Press ▲ / ▼ to select the time clock icon. The time input box [-:--:--] appears.

3 Input the required start time in hours, minutes, and seconds from left to right. If you enter the wrong numbers, press ◄ / ► to move curser to the wrong number. Then enter the correct number.

4 Press **ENTER** to confirm. Playback starts from the selected time.

Marker search DVD ALL

To enter a marker:

1 Press **MARKER** at the desired point on the disc. The Marker icon briefly appears on the TV screen.

2 Repeat to enter up to six markers.

To recall or clear a marked scene:

1 During disc playback, press **SEARCH**. The marker search menu appears on the screen.

2 Press ◄ / ► ▲ / ▼ to select a marked scene that you want to recall or clear.

3 Press **ENTER**. Playback starts from the marked scene.

- OR -

Press **CLEAR** and press ◄ / ► to select **OK,** then press **ENTER** to delete marked scene from the list.

4 To remove the Marker Search menu, press **RETURN** (⌂).

Camera angle DVD

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

To change the camera angle:

1 Press **DISPLAY,** then select the Camera Angle icon during playback.

2 Press ◄ / ► to select the angle you want. Note that the number of the current angle appears on the display.

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

3D surround sound DVD ALL DivX

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

To turn on 3D surround sound:

1 Press **DISPLAY** twice, then press ▲ / ▼ to select the sound icon.

2 Press ◄ / ► to select **3D SUR.**

3 To turn off the 3D Surround effect, select **NORMAL**.

Last scene memory DVD

Your recorder memorizes last scene from the last disc that is viewed. The last scene remains in memory even if you remove the disc from the recorder or switch off the recorder. If you load a disc that has the scene memorized, the scene is automatically recalled.

Note	• Settings are stored in memory for use at any time.
	• Your recorder does not memorize settings of a disc if you switch off the recorder before you play it.
	• The Last Scene Memory function for a previous DVD title is erased once a different DVD title is played.

Playing a DivX movie file

Your recorder can play DivX files. Before playing DivX files, read "About DivX movie files" on page 18.

To play a DivX movie file:

1 Press **HOME**. The *Home* menu opens.
2 Select **Movie**, **DISC**, then press **ENTER**.
3 Press ▲ / ▼ to select a folder, then press **ENTER** twice. A list of files in the folder appears.
4 Press ▲ / ▼ to select a file, then press **PLAY** (►). Playback starts.

 You can use variable playback functions. Refer to "Special playback options" on page 17.
5 Press **STOP** (■) to stop the playback. The Movie menu opens.

Displaying DivX subtitles

To correctly display DivX subtitles:

1 Press **HOME**. The *Home* menu opens.
2 Select **SETUP**, **Setup Start**, then press **ENTER**.
3 Press ◄ / ► ▲ / ▼ to select **LANGUAGE**, **Disc Subtitle,** then select the language for the DivX subtitle.

 Refer to "Disc Settings" on page 16.

Movie menu options

To select movie menu options:

1 Press ▲ / ▼ to select a folder or file on the *Movie* menu then press **ENTER**. The *Movie* menu options appear.
2 Press ▲ / ▼ to select an option, then press **ENTER**.
 • **Play**—Start the playback of the selected title.
 • **Open**—Opens the folder and a list of files in the folder appears.
 • **Dubbing**—Dubs the DivX movie to VCR. (see "Dubbing from DVD to VCR" on page 22)

About DivX movie files

Available resolution size
Under 720 x 576 (W x H) pixel.

Playable DivX file
.AVI, .DIVX

Playable DivX subtitle
.SMI, .SRT (SubRip only), .SUB (Micro DVD format only), DivX subtitles, except those listed here are not displayed on the TV screen.

Playable Codec format
"DIV3", "DIV4", "MP43", "DIVX", "XVID", "DX50", "DXSB".

Playable Audio format
"AC3", "PCM", "MP2", "MP3", "WMA".
• Sampling frequency: within 8 - 48 kHz (MP3), within 32 - 48kHz (WMA)
• Bit rate: within 8 - 320kbps (MP3), 32 - 192kbps (WMA)

CD-R Format
ISO 9660 and JOLIET

DVD±R/RW Format
ISO 9660 (UDF Bridge format)

Maximum Files/Disc
Less than 1999 (total number of files and folders)

Note	• The file name of the DivX subtitle is limited to characters.
	• If there is impossible code to express in the DivX file, it may be displayed as an underline (_) mark on the display.
	• If the number of the screen frame is over 29.97 frames per second, the recorder may not operate normally.
	• If the video and audio structure of recorded file is not interleaved, you are returned to the menu screen.
	• If the file is recorded with GMC*, the recorder supports only 1-point of the record level.
	*GMC is the acronym for Global Motion Compensation. It is an encoding tool specified in MPEG4 standard. Some MPEG4 encoders, like DivX or Xvid, have this option.
	There are different levels of GMC encoding, usually called 1-point, 2-point, or 3-point GMC.

Playing an audio CD or MP3/WMA files

Your recorder can play audio CDs and MP3/WMA files. Before playing MP3/WMA files, read the following MP3/WMA audio file requirement.

MP3/WMA audio file requirement

File extensions
.MP3, .WMA.

Sampling frequency
within 8 - 48 kHz (MP3), within 32 - 48 kHz (WMA)

Bit rate (within)
8 - 320 kbps (MP3), 32 - 192 kbps (WMA)

CD-R Format
ISO 9660 and JOLIET

DVD±R/RW Format
ISO 9660 (UDF Bridge format)

Maximum Files/Disc
Less than 1999 (total number of files and folders)

To play an audio CD or MP3/WMA files:

1   Press **HOME**. The *Home* menu opens.

2   Select **Music**, **DISC**, then press **ENTER**. The *Audio CD* or *Music* menu opens.

3   Press ▲ / ▼ to select a track or file, then press **PLAY** (►). Playback starts.

   You can use variable playback functions as described in "Special playback options" on page 17.

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

Tip	• You can view the TV channel or video input source by pressing **RETURN** (↺). If you want to return to the Music menu, press **DISC MENU/LIST.** • Press **DISPLAY** to view ID3-Tag information for the MP3 file. If ID3-Tag information is not present, "MP3 ID3 tag :None" will appear. If you select a folder, the number of subfolders and number of MP3/WMA files in the folder are displayed. Press **DISPLAY** again to close the information screen. • On the Music menu, you can display the folders on the disc. Press ◄ / ► ▲ / ▼ to select the **Folder** icon on the Music menu, then press **ENTER** twice. • On CDs or DVDs with mixed content (audio tracks, MP3/WMA files, DivX files, or JPEG files), you can select among the Music menu, Movie menu, and Photo menu by pressing **TITLE** repeatedly. • If you are in a File list and want to return to the Folder list, use the ▲ / ▼ to highlight, then press **ENTER** to return to the previous menu screen.

Audio CD and Music menu options

To select audio CD and music menu options:

1   Press ▲ / ▼ to select a track, file, or folder on the *Audio CD* or *Music* menu, then press **ENTER**.

2   Press ▲ / ▼ to select an option, then press **ENTER**.

   • **Play**—Start playback of the selected track or file.

   • **Open**—Opens the folder and a list of files in the folder appears.

   • **Random**—Start or stop random playback.

Random

To select random playback:

1   Press ▲ / ▼ to select a file, then press **ENTER**. The menu options appear.

2   Press ▲ / ▼ to select **Random**, then press **ENTER**.

   The recorder automatically begins random playback and **RANDOM** appears on the menu screen.

3   To return to normal playback, select **Random** again. then press **ENTER**.

Note	By pressing **SKIP** (|◄◄ /►►|) during random playback, the recorder selects another track and resumes random playback

Viewing JPEG files

Your recorder can view JPEG files. Before viewing JPEG files, read the Photo file requirements below:

Photo file requirements

   File extensions
   .JPE, .JPEG

   Photo size
   Less than 4 MB recommended

   CD-R Format
   ISO 9660 and JOLIET

   DVD±R/RW Format
   ISO 9660 (UDF Bridge format)

   Maximum Files/Disc
   Less than 1999 (total number of files and folders)

   Notes on JPEG files
   Progressive and lossless compression JPEG image files are not supported.

To view JPEG files:

1   Press **HOME**. The *Home* menu opens.

2   Select **Photo**, **DISC**, then press **ENTER**.

3   Press ◄ / ► ▲ / ▼ to select a file or folder, then press **ENTER**.

   If you select a folder, repeat this step to select a file.

4   Press ▲ / ▼ to select an option (such as rotate, previous, or next), then press **ENTER**.

5   Press ▲ / ▼ to select **Full Screen**, then press **ENTER**. The selected image is displayed in full screen.

6   To stop viewing at any time, press **STOP** (■).

Note	• If the [?] icon appears in the Photo menu, it means you cannot view those JPEG files. • You can view a TV channel or video input source by pressing **RETURN** (↺). If you want to return to the Photo menu, press **DISC MENU/LIST**. • If you are in a File list and want to return to the Folder list, press ▲ / ▼ to highlight ▭ , then press **ENTER** to return to the previous menu screen. • On CDs or DVDs with mixed content (audio tracks, MP3/WMA files, DivX files or JPEG files), you can choose between the Music menu, Movie menu, and Photo menu by pressing **TITLE** repeatedly.

Photo menu options

To select the photo menu options:

1   Press ◄ / ► ▲ / ▼ to select a file, then press **ENTER**. The menu options appear.

2   Press ▲ / ▼ to select an option, then press **ENTER** to confirm your selection.

- **Open**—Opens the folder, and a list of files in the folder appears.
- **Full Screen**—Shows the selected file as full screen.
- **Slide Show**—Opens the Slide Show menu.

Still picture

Press **PAUSE/STEP** (‖) while showing a picture to pause the slideshow.

Skip Images

While viewing a picture, press **SKIP** (I◄◄ or ►►I) once to return to the previous file or advance to the next file.

Rotate Images

Press ▲ / ▼ while viewing a picture to flip the picture clockwise or counterclockwise.

Viewing a slide show

To view a slide show:

1   Select the **Slide Show** option on the *Photo* menu, then press **ENTER**.

2   Press ◄ / ► ▲ / ▼ to set the options.
Object:
- Selected Views shows only selected files.
- All Views shows all files.

Speed:
- Sets the slide show speed to **Normal**, **Slow**, or **Fast**.

3   Select **Start**, then press **ENTER** to start the slide show.

4   Press **STOP** (■) to stop the slide show and return to the *Photo* menu.

Tip	• Press **CLEAR** to select all files, or cancel all marked files. • To select multiple files, press **MARKER**. A check mark appears on the file. Press **MARKER** again to cancel the marked file. Repeat to mark additional files.

Making recordings

Note	• Your recorder cannot record CD-R or CD-RW discs. • Fingerprints and small scratches on a disc can affect playback or recording performance. Take proper care of your discs. • The company does not hold any responsibility to compensate anyone for material which should have been recorded, and any losses or damages (for example, losses of business profit, or business intermission) that may arise from any malfunction of your recorder (that is, not recording or editing as intended).

Disc types and recording formats, modes, and settings

Your recorder can play many different kinds of DVDs, including pre-recorded DVD-Video discs, DVD-RW, DVD-R, DVD+RW, and DVD+Rs. The disc format for DVD-R, DVD+R, DVD+RWs is always "Video format"—the same as pre-recorded DVD-Video discs. This means that once finalized, you can play a DVD-R, DVD+R, or DVD+RW in a regular DVD player.

The DVD-RW disc format is Video Recording (VR) format or Video format. You can change the recording format, if required. (Reinitializing the disc will erase the contents of the disc.)

The recording mode is closely related to the disc format. If the disc format is Video Recording, then the recording mode is VR mode. If the disc format is Video format, then the recording mode is Video mode (except for DVD-Video, which is not recordable, and so does not have a recording mode). These can be changed as required for each recording and determine the picture quality and how much space the recording will take up on the disc.

General information for recording

- The recording times shown are not exact because the recorder uses variable bit-rate video compression. This means that the exact recording time will depend on the material being recorded.
- When recording a TV broadcast, if the reception is poor or the picture contains interference, the recording times may be shorter.
- If you record still pictures or audio only, the recording time may be longer.
- The displayed times for recording and time remaining may not always add up to exactly the length of the disc.
- The recording time available may decrease if you heavily edit a disc.
- If using a DVD-RW disc, make sure that you change the recording format (Video mode or VR mode) before you record anything on the disc. See "Disc Settings" on page 16 (Initialize) for how to do this.
- When using a DVD-R or DVD+R disc, you can keep recording until the disc is full, or until you finalize the disc. Before you start a recording session, check the amount of recording time left on the disc.
- When using a DVD-RW disc in Video mode, recording time available will only increase if you erase the last title recorded on the disc.
- The **Delete Title** option in the Title List (Original) menu only hides the title, it does not actually erase the title from the disc and increase the recording time available (except for the last recorded title on a DVD-RW disc in Video mode).
- Overwrite recording is available using DVD+RWs.
- When using a DVD+R/RW, the recorder will execute the Menu-making operation to update the new title and editing when you remove the disc from the recorder.

Recording from a TV

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

To record from a TV:

1 Turn on the recorder, select the recording device (VCR or DVD) for recording, then load a recordable disc or tape. Also make sure that the TV signal input is set to your recorder.
2 Set the recording mode, as necessary, by pressing **REC MODE** repeatedly.
   • DVD—XP, SP, LP or EP
   • VCR—SP or SLP
3 Select the TV channel to record.
4 Press **AUDIO** to select the audio channel to record. The table shows what will be recorded on the different settings for different types of broadcast. The last column (Monitor Audio) shows what you will hear as it is recording.

TV broadcast	Selected audio	Broadcast audio		Monitor audio
		L Ch	R Ch	
Mono	Mono	Mono	Mono	Mono
	Stereo	L	R	Stereo
	Left	L	L	Left
	Right	R	R	Right
	Mono	Mono	Mono	Mono
Mono+ SAP	Mono	Mono	Mono	Mono
	SAP	SAP	SAP	SAP
Stereo+ SAP	Stereo	L	R	Stereo
	SAP	SAP	SAP	SAP
	Mono	Mono	Mono	Mono

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

5 Press ● **REC** once to start recording. The **REC** indicator lights in the display window.
6 Press **STOP** (■) to stop recording.

Note 📌

• The maximum number of DVD titles you can record is:
  DVD-R/RW–99
  DVD+R/RW–49
• If the recorder is turned off during DVD recording, the recording will not be saved.

Viewing and recording a CATV channel

To view or record a CATV channel:

1 Tune the TV to the recorder output channel (CH 3 or 4).
2 Set the recorder channel selector to the cable output channel. (Example: CH3)
3 Select a channel using the cable converter.

Note 📌

With this connection, you cannot record one program while viewing another.

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

Instant timer recording

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

To make an instant timer recording:

1 Follow Steps 1-4 in "Recording from a TV" on page 21.
2 Press ● **REC** repeatedly to select the recording time length. Recording starts after the first press.
   • DVD—Each subsequent press increases the recording time by 10 minutes.
   • VCR—Each subsequent press increases the recording time by 30 minutes (maximum 540 minutes). Confirm that the VHS tape has enough remaining time to be recorded before recording.

Checking the recording time

To check the recording time:

• Press ● **REC** or **DISPLAY** once to check the total recording time and the time left for the recording.

Extending the recording time

To extend the recording time:

• The recording time can be extended anytime by pressing ● **REC**.

   Each subsequent press increases the recording time by 10 minutes (DVD) or 30 minutes (VCR).

Pausing the recording

To pause the recording:

1 Press **PAUSE/STEP** (❙❙) to pause the recording.
2 When you want to continue recording, press **PAUSE/STEP** (❙❙) or ● **REC**.

Note 📌

• If you press **PAUSE/STEP** (❙❙) during the instant timer recording, the recording will be canceled.
• Your recorder will automatically power off when the instant timer recording ends.
• If the recorder is DVD mode when the VCR Instant timer recording ends, the recorder will not automatically turn off.

Timer recording

The timer recording function lets you record up to 16 programs within a period of one month.
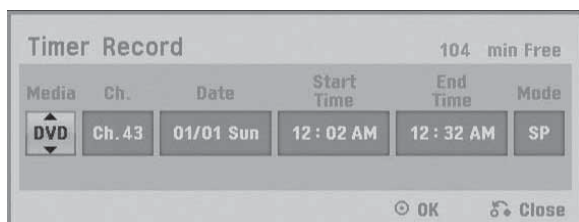
To use timer recording:

1 Press **HOME.** The *Home* menu opens.
2 Select **TV**, **Timer Record**, then press **ENTER**.

3 Select **NEW**, then press **ENTER**. The *Timer Record* menu opens.

```
Timer Record                    104  min Free

Media   Ch.      Date      Start      End       Mode
                           Time       Time
 ▲
DVD   Ch. 43  01/01 Sun  12 : 02 AM  12 : 32 AM  SP
 ▼

                                    ⊙ OK    ⌒ Close
```

4 Enter the necessary information for your timer recording(s). Press ◄ / ► (left/right) to move the cursor left or right, and press ▲ / ▼ (up/down) to change the setting at the current cursor position.

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

5 Press **RETURN** (⌒) to exit the *Timer Record* menu.

6 Press **ENTER** to save the record settings.

7 Press **RETURN** (⌒) to exit the *Timer Record List*.

Note	• You must insert a recordable disc or tape. • The Timer indicator lights on the front panel display. • The recorder will record the audio according to the current TV tuner setting (Stereo, Mono or SAP). Press the **AUDIO** button to set the audio before switching the recorder to Standby mode. • The recorder will automatically power off when the Timer Recording ends. • If the recorder is in DVD mode when the VCR timer recording ends, the recorder will not automatically turn off. • There is a short delay when a timer recording finishes to confirm the recorded program. If two timer recordings are set to record sequentially (one right after the other), the very beginning of the later program may not be recorded. • You must press **STOP** (■) to stop the timer recording.

Checking timer recording details

Programming can be checked whenever the recorder is turned on.

To check timer recording details:

1 Press **HOME.** The *Home* menu opens.

2 Select **TV**, **Timer Record**, then press **ENTER**.

3 Press ▲ / ▼ to select a program.

4 Press **ENTER** to edit the selected program. The *Timer Record* menu opens.

Canceling a timer recording

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

To cancel a timer recording:

- Press ▲ / ▼ to select a program you want to erase on the Timer recorder List, then press **CLEAR** and select **OK**, then press **ENTER**.

Timer recording troubleshooting

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

- There is no disc (or tape) loaded.
- A non-recordable disc (or tape) is loaded.
- Disc Protect is set to ON in the *Disc* menu (see "Disc Settings" on page 16).
- There are already 99 titles (DVD-RW, DVD-R), 49 titles (DVD+RW, DVD+R) recorded on the disc.

You cannot set up a timer program when:

- A recording is already underway.
- The time you're trying to set has already passed.
- There are already 16 timer programs set.

If two or more timer programs overlap:

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

If the disc is damaged, the recording may not complete successfully. In this case even though the Check field shows [Rec. OK], it may not be.

Recording one TV program while watching another

To record one TV program while watching another:

1 Press **TV/VCR** to select the TV mode during recording. The TV indicator appears.

2 Using the TV, select the channel to be viewed.

Tip	**VCR mode only** Always use **PAUSE/STEP** (❙❙) for best results when making changes during recording. For example: To change channels during recording, first press **PAUSE/STEP** (❙❙) to put the recorder in pause mode. Then select the desired channel on the recorder, and press **PAUSE/STEP** (❙❙) again to resume recording.

Dubbing from DVD to VCR

You can copy the contents of a DVD to a VHS tape using the DUBBING button.

To dub from DVD to VCR:

1 Insert a blank VHS videotape into the VCR deck.

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

3 Find the place on the DVD (or disc) from which you want to start dubbing using **PLAY, FF, REW,** and **PAUSE**. For best results, pause playback at the point from which you want to start recording.

4 Press the **DUBBING** button. The *Dubbing* menu opens.

5 Press ▲ / ▼ ◄ / ► to select the record mode you want: SP or SLP (3 times SP).

6 Select **Dubbing,** then press **ENTER** or **DUBBING** to start copying.

7 To stop dubbing at any other time, press **STOP** (■).

You must stop the dubbing process manually when the DVD movie ends, or the recorder may replay and record over again.

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

Tip	If you press **PAUSE** during Dubbing mode, both the DVD and VCR decks go into Pause mode and the **DUBBING** button blinks on the front panel. While in Pause mode, you can adjust the DVD playback position using **PLAY, REW, FF, PAUSE/STEP**, and so on. The VCR deck will remain in Pause mode. To resume Dubbing, press the **DUBBING** button twice.

Dubbing from VCR to DVD

You can copy the contents of a VHS tape to a DVD using the DUBBING button. This lets you archive your old VHS tapes to DVD.

To dub from VCR to DVD:

1 Insert a blank DVD disc into the DVD deck and close the disc tray.

2 Insert the VCR tape you want to copy in the VCR deck.

3 Find the place on the tape from which you want to start dubbing using **PLAY, FF, REW** and **PAUSE**. For best results, pause playback at the point from which you want to record.

4 Press the **DUBBING** button. The *Dubbing* menu opens.

5 Press ▲ / ▼ ◄ / ► to select the record mode you want: EP, LP, SP or XP.

6 Select **Dubbing** then press **ENTER** or **DUBBING** to start copying.

7 To stop dubbing at any other time, press **STOP** (■).

Dubbing will stop automatically when the VHS tape ends.

Note	If the tape you are attempting to copy is copy protected, you will not be able to copy the tape. It is not permitted to copy Macrovision encoded tapes.

Tip	If you press **PAUSE** during Dubbing mode, both the DVD and VCR decks go into Pause mode and the **DUBBING** button blinks on the front panel. While in Pause mode, you can adjust the VCR playback position using **PLAY, REW, FF, PAUSE/STEP**, and so on. The DVD deck will remain in Pause mode. To resume Dubbing, press the **DUBBING** button twice.

Recording from external components

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

To record from an external component:

1 Make sure that the component you want to record from is connected correctly to the recorder.

2 Press **INPUT** repeatedly to select the external input to record from.
- **AV1**—Audio/Video Input on the back panel.
- **AV2**—Audio/Video Input on the front panel.
- **DV**—DV Input on the front panel.

3 Load a recordable disc or tape.

4 Set a recording mode as necessary by pressing **REC MODE** repeatedly.
- **DVD**—XP, SP, LP or EP.
- **VCR**—SP or SLP

5 Press ● **REC** once to start recording. The **REC** indicator lights in the display window.

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

Note	• Make sure that the Audio In settings DV Record Audio are set as you want them. See "Audio Settings" on page 16. • If your source is copy-protected using CopyGuard, you will not be able to record it using your recorder. See "Copying copyrighted material" on page 5 for more details. • Recording continues until you press **STOP** (■) or the disc is full. • To record for a fixed length of time, see "Instant timer recording" on page 21.

Additional information

Simultaneous play and record

You can play or record a DVD during the VCR playback or recording. Press DVD to change DVD mode and play or record a DVD.

Note	• You cannot play or record with both the DVD and VCR at the same time. • You can not change VCR mode during the DVD recording mode. • If you want to use VCR playback or record during the DVD playback, press **VCR** to change VCR mode and use the VCR playback or recording.

Recording from DV Input

Before DV dubbing

You can connect a DV-equipped camcorder to your recorder using a single DV cable for input and output of audio, video, data, and control signals.

- Your recorder is only compatible with DV-format (DVC-SD, DV25) camcorders. Digital satellite tuners and Digital VHS video recorders are not compatible.
- You cannot connect more than one DV camcorder at a time to your recorder.
- You cannot control your recorder from external equipment connected through the DV IN jack (including two recorders).
- You may not be able to control the connected camcorder through the DV IN jack.
- Digital camcorders can usually record audio as stereo 16-bit/48 kHz, or twin stereo tracks of 12- bit/32 kHz. Your recorder can only record one stereo audio track. Set the DV Record Audio option to **Audio 1** or **Audio 2** as required (see "Recording from DV Input" on page 24).
- Audio input to the DV IN jack should be 32 or 48 kHz (not 44.1 kHz).
- Picture disturbance on the recording may occur if the source component pauses playback or plays an unrecorded section of tape, or if the power fails in the source component, or the DV cable becomes disconnected.

Recording from a digital camcorder

You can record from a digital camcorder connected to the DV IN jack on the front panel of your recorder. Using the recorder's remote, you can control both the camcorder and your recorder.

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

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

To record from a digital camcorder:

1. Make sure your digital camcorder is connected to the front panel DV IN jack. See "Recording from DV Input" on page 24.
2. Make sure that the DV audio input is set correctly. You can choose between **Audio 1** (original audio) and **Audio 2** (overdubbed audio).
   - DV Input is set from the DV Record Audio in sub-menu of the Setup menu. See "Recording from DV Input" on page 24 for more information.
3. Press **INPUT** repeatedly to select the DV input.
4. Find the place on the camcorder tape that you want to the recording to start from.

   For best results, pause playback at the point you want to start recording from.
   - Depending on your camcorder, you can use your recorder's remote to control the camcorder using **STOP, PLAY, BACKWARD, FORWARD** and **PAUSE**.
5. Press ● **REC** once to start recording.
   - Recording is automatically stopped if the recorder detects no signal.
   - You can pause or stop the recording by pressing **PAUSE/STEP** (▋) or **STOP** (▆). You cannot control the camcorder from this remote control during recording.
   - In Video mode, the final frame of the recording may remain displayed on screen for a while after recording stops.

Troubleshooting

If you cannot get a picture or audio through the DV IN jack, check the bullet points:
- Make sure that the DV cable is correctly connected.
- Try switching off the connected equipment then switching it back on.
- Try switching the audio input.

Note	Depending on the connected camcorder, you may not be able to control it using the remote control supplied with your recorder.

Editing recordings

Title List and Chapter List menu overview

Using the Title List menu you can edit video content. The editing features available in the Title List menu depend on whether you are editing video on DVD, and whether you are editing original content or a playlist.

There are two ways to edit VR mode DVD-RWs. You can directly edit the original content of the disc, or you can create and edit a playlist. The playlist does not actually change any of the content on the disc, but just controls how the content is played back.

To use the Title List menu:

1 If the DVD is playing, press STOP (■).
2 Press **DISC MENU/LIST** to open the *TITLE LIST* menu. Playback should be stopped when you do this.

- When selecting titles, press the ▲ / ▼ buttons to display the previous/next page if there are more than six titles.
- If you are editing a VR mode disc, press **DISC MENU/LIST** to switch between *Original* and *Playlist* menus.
- On the left side of the screen are the menu options. The main part of the screen shows thumbnails of the titles (or chapters) on the DVD. You can change these thumbnails by pressing the **THUMBNAIL** button. (see "Changing title thumbnails" on page 26.)
- Press **DISPLAY** to display the information about the selected title on the Title List menu.
- After selecting a title or chapter on the Title List or Chapter List menu, press **ENTER**. The menu options are on the left side of the menu. Press the ▲ / ▼ buttons to select an option, then press **ENTER** to confirm your selection.

3 To exit the *TITLE LIST* menu, press **RETURN** (↺) repeatedly.

Item	Description	Function

1	Menu options	To display menu option, select a title or chapter, then press **ENTER**. The options displayed differ depending on the disc type.
		
		• Play–Start playback of the selected title or chapter. The hidden titles and chapters on a DVD+R/RW cannot be play back.
		• Search:
		  - Chapter–Displays the Chapter List of the Title.
		  - Time–Search for the starting time of the title.
		• Delete–Deletes the title or chapter.
		• Move–Moves chapter position on the Chapter List - Playlist menu.
		• Protect–Protects accidental recording, editing, or deleting of the title.(
		• Edit–Edits or deletes a part of the title.
		  - Title Name–Edits the title name.
		  - Delete Part–Deletes part of the title name.
		  - Divide–Divides a title into two.
		  - Hide (Show)–Hides (or shows) the selected title or chapter.
		• Playlist Add–Adds the title or chapter to the playlist.
		• Dubbing–Dubs the title to VCR.
		• Title–Displays Title List of the chapter.
		• Combine–Combines two chapters into one.
		• Full Play–Starts playback of the selected title including the hidden chapters.

2	Current media	Type of DVD being edited
3	Recording information	Indicates the record mode, free space, and elapsed time progress bar
4	Currently selected title	The title that is currently selected is highlighted
5	Thumbnail	A thumbnail picture of the title
6	Selected title	Shows the selected title number and total number of titles
7	Title information	Shows the title name, date recorded, and recording length

VR Mode: Original and playlist editing

Titles, chapters, and parts

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

Note	• When editing using the Delete, Add, and Move functions, the start and end frames may not be exactly as set in the start and end point display. • During playlist playback, you may notice a momentary pause between edits. This is not a malfunction.

Editing a DVD is not like editing a video tape

When you edit a video tape you need one video deck to play the original tape and another to record the edits. With DVD, you edit by making a "Playlist" of what to play and when to play it. On playback, the recorder plays the disc according to the playlist.

Original and Playlist -RWvr

Throughout this manual, you will see the words *Original* and *Playlist*, which refer to the actual content and edited versions of a DVD.

• **Original**—content refers to what is actually recorded on the disc.
• **Playlist**—content refers to the edited version of the disc, which is how the original content is to be played.

Adding chapter markers

Chapter   -RWvr   +RW   +R

You can create chapters within a title by inserting chapter marks at the points you want.

Note	Chapter markers are automatically inserted at regular intervals. You can change this interval from the Initial Setup menu (see "Using the Setup Menu" on page 15).

During recording or playing back, at the point you want to start a new chapter, press **CHP. ADD**. A chapter marker icon appears on the TV screen.

Changing title thumbnails

Thumb.   -RWvr   +RW   +R

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

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

• Press **THUMBNAIL** to make the currently displayed picture the one that appears in the Title List menu. The still picture that you choose appears in both the Original or Playlist menu.

Tip	You can also change the thumbnail picture of the title on the Chapter List menu. Select a chapter on the Chapter List menu, then press **THUMBNAIL**. The thumbnail picture of the title that includes the chapter is changed.

Making a new playlist   -RWvr

Use this function to add an original title or chapter to the playlist. When you do this, the whole title is put into the playlist (you can delete bits that you do not need later - see "Deleting an original or playlist title or chapter" on page 27).

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

To make a new playlist:
1 Choose a title or chapter on the *TITLE LIST Original* menu or *Chapter List-Original* menu to put into the playlist, then press **ENTER**. The menu options appears on the left side of the menu.
2 Press ▲ / ▼ to select **Playlist Add**, then press ▶ .
3 Select **New Playlist**, then press **ENTER**. The new title appears in the updated playlist. All chapters of the title are added to the playlist.

Adding additional Title or Chapters to the playlist

-RWvr

You can add an original title, or chapter to a playlist title.

To add additional titles or chapters to the playlist:
1 Choose a title or chapter on the *TITLE LIST Original* menu or *Chapter List-Original* menu to put into the playlist, then press **ENTER**. The menu options appear on the left side of the screen.
2 Press ▲ / ▼ to select **Playlist Add**, then press ▶ .
3 Choose a Title List-Playlist that is already saved to insert a title or chapter, then press **ENTER**.
4 Repeat steps 1-3 to add additional titles or chapters to the playlist. You can view the added chapters on the *Chapter List-Playlist* menu.
5 Press **RETURN** (↰) to exit or **DISC MENU/LIST** to go back to the *Title List-Original* menu.

Deleting an original or playlist title or chapter

When you erase a title or chapter from the *Playlist* menu, you only remove it from the playlist. The title or chapter remains in the original menu.

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

Note	You cannot delete chapters that are less than 3 seconds long.

To delete a chapter or title:

1   Press ▲ / ▼ ◄ / ► to choose a chapter or title you want to delete on the *TITLE LIST* or *Chapter List* menu, then press **ENTER**. The menu options appear on the left side of the screen.

2   Select **Delete** from the options on the menu.

3   Press **ENTER** to confirm. A confirmation message appears.

4   Press ◄ / ► to select **OK**, then press **ENTER**. The selected chapter or title is deleted.

    After pressing **ENTER** the updated menu opens.

5   Repeat steps 1 - 4 to delete additional chapters or titles from the menu.

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

Note	• When recording a DVD+RW, the deleted title's name is changed to "Deleted Title." • If more than two titles are repeatedly deleted, the titles are combined into one. • When you are deleting a title or chapter, only when you delete the last one on the DVD+R/RW do you increase the remaining recording time.

Deleting a part -RW_{VR}

To delete part of a title:

1   Press ▲ / ▼ ◄ / ► to choose a title you want to delete on the *Title List* menu, then press **ENTER**. The options appear on the left side of the menu.

2   Select the **Edit, Delete Part** option, then press **ENTER**. The *Edit* menu opens.

3   Start the playback and use **PAUSE, STEP, SEARCH**, and **SLOW-MOTION** to find the starting point.

4   Press **ENTER** at the starting point of the section you want to delete. The **End Point** icon is highlighted and the section to be deleted is indicated on the progress bar.

5   Use **PAUSE, STEP, SEARCH**, and **SLOW-MOTION** to find the ending point.

6   Press **ENTER** at the ending point of the section you want to delete.

    To cancel the selected point, press ▲ / ▼ to select the **Cancel** icon, then press **ENTER**.

7   When you finish editing, select the **Done** icon, then press **ENTER**. A confirmation message appears.

8   Press ◄ / ► to select **OK**, then press **ENTER**. The selected part is deleted from the title and the *Title List* menu opens.

Note	• You may not be able to delete parts that are less than 3 seconds long. • If you select **Cancel** then press **ENTER**, the recorder will go to the previous option and into Pause mode.

Naming a title

You can name original and playlist titles independently.

To name a title:

1   Choose the title you want to name from the *Title List* menu, then press **ENTER**. The menu options appear on the left side of the menu.

2   Press ▲ / ▼ to select **Edit, Title Name**, then press **ENTER**. The *Keyboard* menu opens.

3   Enter a name for the title. Press ▲ / ▼ ◄ / ► to select a character, then press **ENTER** to confirm your selection.

    • **Language**—Selects a language for the keyboard menu.
    • **Space**—Inserts a space at the cursor position.
    • **Delete**—Deletes the character to the left of the cursor position.
    • ◄ / ► —Moves the cursor left or right.
    • **OK**—Confirms the name you have entered.
    • **Cancel**—Deletes all characters and exits the *Keyboard* menu.

    Use these remote control buttons to enter a name:

    • **PLAY** (►)—Inserts a space at the cursor position.
    • **PAUSE/STEP** (❙❙)—Deletes the character to the right of the cursor position.
    • **SKIP** (❙◄◄ ►►❙)—Moves the cursor left or right.
    • **STOP** (■), CLEAR—Deletes the character to the left of the cursor position.
    • **0-9**—Enters the character corresponding to the selected column.
    • **DISC MENU/LIST, DISPLAY**—Switches the keyboard type.

4   Select **OK**, then press **ENTER** to confirm the name and return to the previous menu screen.

5   Press **RETURN** (♒) repeatedly to exit the menu.

Note	• Names can be as many as 32 characters long. • For discs formatted on a different recorder, you will see only a limited character set. • When recording on DVD-R, DVD+R, or DVD+RWs, the entered name is displayed on the DVD player only after finalization.

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Time searching

You can select the start point of the title.

To select the starting point of the title:

1 Press ▲ / ▼ ◄ / ► to choose a title on the *TITLE LIST* menu, then press **ENTER**. The options appear on the left side of the menu.
2 Select **Search, Time**, then press **ENTER**. The *Time* menu opens.

End time
Selected point
Selected time
Current picture
Start time
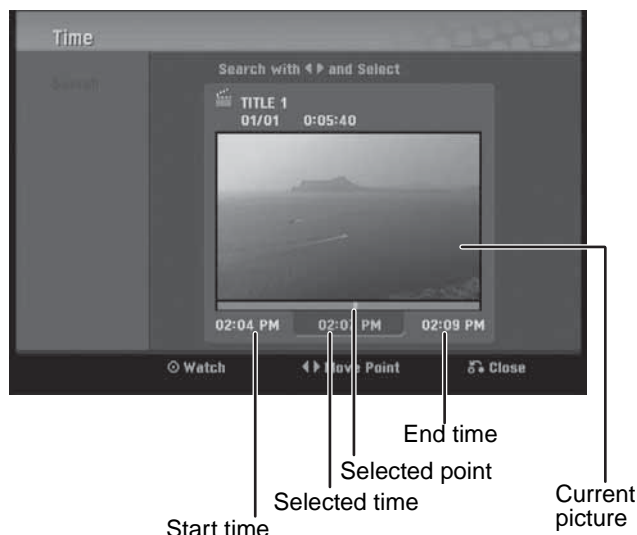
3 Press ◄ / ► to find the point at which you want to start. The point increases 1 minute per step.

If you press and hold ◄ / ►, the point increases 5 minutes per step.

4 Press **ENTER** to start at the selected point.

Moving a playlist chapter -RWVR

Use this function to re-arrange the playing order of playlist chapters on the *Chapter List-Playlist* menu (not available if there is only one chapter).

To move a playlist chapter:

1 Select a chapter on the *Chapter List-Playlist* menu, then press **ENTER**. The menu options appear on the left side of the menu.
2 Press ▲ / ▼ to select **Move** from Playlist options, then press **ENTER**.
3 Press ▲ / ▼ ◄ / ► to choose the place you want to move the chapter, then press **ENTER**. The updated menu opens.

Hiding a chapter or title +RW +R

You can skip playing chapters or titles without deleting them from the disc.

To hide a chapter or title:

1 Press ▲ / ▼ ◄ / ► to choose a chapter or title you want to hide on the *TITLE LIST* or *Chapter List* menu, then press **ENTER**. The options appear on the left side of the screen.
2 Select **Edit**, then **Hide**.

3 Press **ENTER** to confirm. The chapter's or title's thumbnail will dim.

Tip	If you select a hidden chapter or title on the *TITLE LIST* or *Chapter List* menu, you can show it by choosing **Show** on the options menu. After that, you can see the chapter or title.

Protecting a title +RW +R -RWVR

Use this function to protect against accidental rerecording, editing, or deleting of the title.

To protect a title:

1 Press **DISC MENU/LIST**. The *TITLE LIST* menu opens.
2 Press ▲ / ▼ ◄ / ► to select the title you want to protect, then press **ENTER**. Options appear on the left side of the screen.
3 Select **Protect** from the options.
4 Press **ENTER** to confirm. The lock mark appears on the title's thumbnail.

Tip	If you select a title that has already been protected on the Title List menu, you can 'unprotect' it by choosing the **Unprotect** option from the Title List menu options, then you can edit and delete the title.

Dividing one title into two +RW

Use this command to split a title up into two new titles.

To divide a title into two:

1 On the *Title List* menu, select a title you want to divide, then press **ENTER**. The menu options appear on the left side of the screen.
2 Select **Edit**, **Divide**, then press **ENTER**. The *Edit (Divide)* menu opens.

Current picture

First title thumbnail
Second title thumbnail
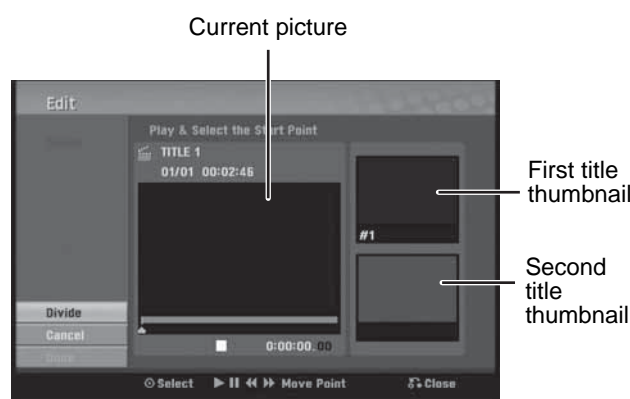
3 Use **PAUSE, STEP, SEARCH**, and **SLOW-MOTION** to find the point at which you want to divide the title.
4 Select **Divide** from the options, then press **ENTER**.

To reset the point, select **Cancel** from the options, then press **ENTER**. Repeat from step 3.

5 Choose **Done** from the options, then press **ENTER** to set the dividing point. The title is divided into two new titles.

It takes as much as 4 minutes to divide.

Note	You cannot select a dividing point less than 3 seconds from the end of the program.

Combining two chapters into one

-RWᴠʀ **+RW** **+R**

Use this function to combine two adjacent chapters into one.

To combine two chapters into one:

1. On the *Chapter List* menu, select the second chapter of the two chapters you want to combine, then press **ENTER**. The menu options appear on the left side of the screen.
2. Press ▲ / ▼ to select **Combine** from the options. The combine indicator appears between the two chapters you want to combine.
3. Repeat steps 1 - 2 to combine additional chapters.
4. Press **RETURN** (↶) repeatedly to exit the menu.

Note	This function does not work if;
	• There is only one chapter within the title.
	• You select the first chapter.
	• Two chapters are created by erasing a part from an original title.
	• Two chapters are created from different titles.
	• Two chapters are created by moving an order from an original title.

Overwriting a recording   **+RW**

To overwrite a new video recording on a previously recorded title, follow these steps. This feature is not available for DVD+Rs that always record at the end of the Disc.

To overwrite a recording:

1. Select the input source you want to record (TV channel, AV1-2, DV).
2. Press **DISC MENU/LIST** to display the *TITLE LIST* menu.
3. Press ▲ / ▼ ◄ / ► to choose the title you want to overwrite.
4. Press ● **REC** to start the overwrite recording. Overwrite recording starts from the start point of the title.
5. Press **STOP** (■) to stop the overwrite recording. The new title is created and the updated menu is displayed.

Note	• This function is not available for a protected title.
	• If the overwrite is longer than the recording length of the current title, the next title is overwritten. If the next title is protected, the overwriting stops at the starting point of the title.
	• If the selected title's recording length is less than 10 seconds, the next title is overwritten. But if the next title is protected, overwriting stops.

Viewing the Title List menu displayed on other DVD recorders or players   **+RW**   **+R**

You can view the Title List menu displayed on the other DVD player that is capable of playing DVD+RW or DVD+Rs.

To view the Title List menu:

1. Insert a previously recorded DVD+R or DVD+RW disc.
2. Press **TITLE** in Play mode or DVD tuner mode. The *Title List* menu opens.
3. To play back a title, select the title you want, then press **ENTER** or **PLAY** (►).

Tip	You can remove the Title List menu by pressing **STOP** (■).

Playing your recordings on other DVD players (finalizing a disc)

Most regular DVD players can play finalized discs recorded in Video mode, finalized DVD+R, or DVD+RWs. A small number of players can also play DVD-RWs recorded in VR mode, finalized or not. Check the manual that came with the other player to check what formats it will play.

Finalizing "fixes" the recordings and editings in place so that the disc can be played on a regular DVD player or computer equipped with a suitable DVD-ROM drive.

Finalizing a Video mode disc creates a menu screen for navigating the disc. The menu can be accessed by pressing **DISC MENU/LIST** or **TITLE**.

To finalize a disc, refer to "Disc Settings" on page 16.

Note	• Unfinalized DVD+RWs are playable on regular DVD players.
	• The edited contents of a DVD+RW disc is compatible with regular DVD players only after finalization.
	• The edited contents of a DVD+R disc is not compatible with regular DVD players. (Hide, chapter combine, added chapter mark, and so on.)
	• How long finalization takes depends on the type of disc being finalized, how much is recorded on the disc, and the number of titles on the disc.

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Reference

Controlling your TV with the supplied universal remote control

You can control the sound level, input source, and power switch of your LG TV with the supplied universal remote control.

You can control your TV using the following buttons.
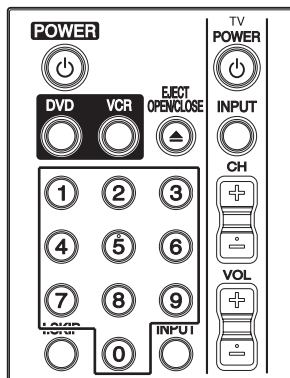
Press	To...
POWER	Turn the TV on or off
INPUT	Switch the TV's input source between the TV and other input sources.
CH +/–	Scan up or down through memorized channels
VOL +/–	Adjust the volume of the TV

Note

Depending on the you are connecting, you may not be able to control your TV using some of the buttons.

Controlling other TVs with the universal remote control

You can control the sound level, input source, and power switch of non-LG TVs as well. Enter the appropriate manufacturer code from the table below.

To enter the manufacturer code:

1 While holding down the **TV POWER** button, press the number buttons to select the manufacturer code for your TV (Refer to table).

2 Release the **TV POWER** button. The remote control is set to control the TV.

Code numbers of controllable TVs

If more than one code number is listed, try entering them one at a time until you find the one that works with your TV.

Manufacturer	Code #	Manufacturer	Code #
Admiral	16, 33, 37, 44, 45	MONTGOMERY	01,06,08,09
AIWA	70	WARD	23,24,32,33,34
AKAI	01	NEC	01,08,56
AMARK	09	NOBLEX	07

Manufacturer	Code #	Manufacturer	Code #
AOC	01	PACKARD BELL	43
BELL & HOWELL	33	PANASONIC	07,11,13,25,35,36
BROKSONIC	18,19	PHILCO	01,06,07,08,09,15,38,43,58
CANDLE	51	PHILIPS	06,07,43,61,62,65
CCE	07	PIONEER	30
CENTURION	08	PORTLAND	09
CINERAL	43	PROSCAN	03,37,44
CITIZEN	49,50,51,52,53,54,55	QUASAR	11,13
CORONADO	09	RADIO SHACK	16,17,23
CROWN	09	RCA	01,03,37,44,69
CURTIS MATHES	01,03,08,33,35,37,44	REALISTIC	16,17,23
DAEWOO	16,38,39,40,41,42,43	SAMPO	08
DAYTRON	01,08	SAMSUNG	01,08,09,25,68
EMERSON	01,09,16,17,18,19	SANYO	28,29
FISHER	28,29	SCOTT	01,08
FUNAI	46,47	SEARS	09,25,26,27,28,29
GENERAL ELECTRIC	03,10,11,13,37,44	SEMP	64
GRADIENTE	01,56,57,63,67	SHARP	09,22,23,24,60,66
HITACHI	09,14,15,43	SIGNATURE 2000	01,06,08,09,10,23,24,33,34
JC PENNEY	01,08,10,27,35	SONY	12,62,93
JVC	20,21,63,67	SOUNDESIGN	51
KIOTE	43	SYLVANIA	01,04,05,06,07,08,35,51
KMC	09	SYMPHONIC	46,47
KTV	01,08,09,31	TATUNG	11
LG (GOLDSTAR)	01,07,08,09,35,39,40	TEKNIKA	07,09,16,33,51
LODGENET	33	TELERENT	09,33
LOGIK	33	THOMSON	69
LXI	09,24,25,26,27,28,29	YORX	08
MAGNAVOX	01,02,04,05,06,07,08,09,20,34,35,43,51,61,62,65	TOSHIBA	01,25,26,27,64
MAJESTIC	33	WARDS	01,06,08,09,10,33,34
MARANTZ	01,32	XR1000	48
MEMOREX	33	ZENITH	01, 02,33,59
MGA/MITSUBISHI	01,08,32,34		

Note

- Depending on your TV, some or all buttons may not function on the TV, even after entering the correct manufacturer code.
- If you enter a new code number, the code number previously entered will be erased.
- When you replace the batteries of the remote, the code number you have set may be reset to the default setting. Set the appropriate code number again.

Language code list

Use this list to input your desired language for the following initial settings: Disc Audio, Disc Subtitle, Disc Menu.

Language	Code #	Language	Code #
Abkhazian	6566	Lingala	7678
Afar	6565	Lithuanian	7684
Afrikaans	6570	Macedonian	7775
Albanian	8381	Malagasy	7771
Ameharic	6577	Malay	7783
Arabic	6582	Malayalam	7776
Armenian	7289	Maltese	7784
Assamese	6583	Maori	7773
Aymara	6588	Marathi	7782
Azerbaijani	6590	Moldavian	7779
Bashkir	6665	Mongolian	7778
Basque	6985	Nauru	7865
Bengali; Bangla	6678	Nepali	7869
Bhutani	6890	Norwegian	7879
Bihari	6672	Oriya	7982
Breton	6682	Panjabi	8065
Bulgarian	6671	Pashto, Pushto	8083
Burmese	7789	Persian	7065
Byelorussian	6669	Polish	8076
Cambodian	7577	Portuguese	8084
Catalan	6765	Quechua	8185
Chinese	9072	Rhaeto-Romance	8277
Corsican	6779	Rumanian	8279
Croatian	7282	Russian	8285
Czech	6783	Samoan	8377
Danish	6865	Sanskrit	8365
Dutch	7876	Scots Gaelic	7168
English	6978	Serbian	8382
Esperanto	6979	Serbo-Croatian	8372
Estonian	6984	Shona	8378
Faroese	7079	Sindhi	8368
Fiji	7074	Singhalese	8373
Finnish	7073	Slovak	8375
French	7082	Slovenian	8376
Frisian	7089	Somali	8379
Galician	7176	Spanish	6983
Georgian	7565	Sudanese	8385
German	6869	Swahili	8387
Greek	6976	Swedish	8386
Greenlandic	7576	Tagalog	8476
Guarani	7178	Tajik	8471
Gujarati	7185	Tamil	8465
Hausa	7265	Tatar	8484
Hebrew	7387	Telugu	8469
Hindi	7273	Thai	8472
Hungarian	7285	Tibetan	6679

Language	Code #	Language	Code #
Icelandic	7383	Tigrinya	8473
Indonesian	7378	Tonga	8479
Interlingua	7365	Turkish	8482
Irish	7165	Turkmen	8475
Italian	7384	Twi	8487
Japanese	7465	Ukrainian	8575
Javanese	7487	Urdu	8582
Kannada	7578	Uzbek	8590
Kashmiri	7583	Vietnamese	8673
Kazakh	7575	Volapük	8679
Kirghiz	7589	Welsh	6789
Korean	7579	Wolof	8779
Kurdish	7585	Xhosa	8872
Laothian	7679	Yiddish	7473
Latin	7665	Yoruba	8979
Latvian, Lettish	7686	Zulu	9085

Area code list

Choose an area code from this list.

Area	Code	Area	Code
Afghanistan	AF	Malaysia	MY
Argentina	AR	Maldives	MV
Australia	AU	Mexico	MX
Austria	AT	Monaco	MC
Belgium	BE	Mongolia	MN
Bhutan	BT	Morocco	MA
Bolivia	BO	Nepal	NP
Brazil	BR	Netherlands	NL
Cambodia	KH	Netherlands Antilles	AN
Canada	CA	New Zealand	NZ
Chile	CL	Nigeria	NG
China	CN	Norway	NO
Colombia	CO	Oman	OM
Congo	CG	Pakistan	PK
Costa Rica	CR	Panama	PA
Croatia	HR	Paraguay	PY
Czech Republic	CZ	Philippines	PH
Denmark	DK	Poland	PL
Ecuador	EC	Portugal	PT
Egypt	EG	Romania	RO
El Salvador	SV	Russian Federation	RU
Ethiopia	ET	Saudi Arabia	SA
Fiji	FJ	Senegal	SN
Finland	FI	Singapore	SG
France	FR	Slovak Republic	SK
Germany	DE	Slovenia	SI
Great Britain	GB	South Africa	ZA
Greece	GR	South Korea	KR
Greenland	GL	Spain	ES

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Area	Code	Area	Code
Islands	HM	Sri Lanka	LK
Hong Kong	HK	Sweden	SE
Hungary	HU	Switzerland	CH
India	IN	Taiwan	TW
Indonesia	ID	Thailand	TH
Israel	IL	Turkey	TR
Italy	IT	Uganda	UG
Jamaica	JM	Ukraine	UA
Japan	JP	United States	US
Kenya	KE	Uruguay	UY
Kuwait	KW	Uzbekistan	UZ
Libya	LY	Vietnam	VN
Luxembourg	LU	Zimbabwe	ZW

Troubleshooting

Use the following check list for troubleshooting when you have problems with your recorder. Consult your local dealer or service outlet if problems persist. Make sure that all connections are correctly made when using with other devices.

Problem	Cause	Solution
No power	The power cord is disconnected	Plug the power cord into the wall outlet securely.
Abnormal or no picture	The TV is not set to receive recorder signal output	Select the appropriate video input mode on the TV so the picture from the recorder appears on the TV screen.
	The video cable is not connected securely.	Connect the video cable to the jacks securely.
	The recorder output setting and the TV resolution capabilities are mismatched.	Check the TV's capability. Check the mode of connections, such as S-Video or components. Check the recorder Resolution setting according to the TV capability and the mode of connection.
	The wrong connection	Check the connection.
No sound	The equipment connected with the audio cable is not set to receive recorder signal output	Select the correct input mode of the audio receiver so you can listen to the sound from the recorder
	The audio cables are not connected securely	Connect the audio cable to the jacks securely
	The power of the equipment connected with the audio cable is turned off	Turn on the equipment connected with the audio cable
	The AUDIO options are set to the incorrect position	Set the AUDIO options to the correct position

|		
The playback picture is poor	The disc is dirty	Clean the disc
	The TV channels are not tuned in correctly	Check the tuning, carry out tuning again
	The tape heads are dirty	Clean the video heads
	The tape is a rental or was recorded on another VCR.	Use **CH/TRK** (▲ / ▼) for manual tracking adjustment while the tape is playing
The picture from an external input is distorted	The video signal from the external component is copy-protected	You cannot connect through the recorder. Connect the component directly to your TV.
Some channels are skipped over when using **CH** (▲ / ▼)	The skipped channels were deleted with the CH. Add/Del feature	Use the CH. Add/Del feature to restore channels. See "General Settings" on page 15.
The recorder does not start playback	No disc or tape is inserted	Insert a disc or tape (make sure that the disc or tape indicator in the display window is lit)
	An unplayable disc is inserted	Insert a playable disc. (Check the disc type and Regional code.)
	The disc is placed upside down	Place the disc with the playback side down
	The disc is not placed within the guide	Place the disc on the disc tray correctly inside the guide
	The disc is dirty	Clean the disc
	The Rating level is set	Cancel the Rating function or change the rating level
Video tape cannot be inserted	The cassette compartment may not be empty	Eject the tape
The remote control does not work correctly	There is an obstacle in the path of the remote control and your recorder	Remove the obstacle
	The batteries in the remote control are exhausted	Replace the batteries with new ones
	The remote control is not pointed at the remote sensor of the recorder	Point the remote control at the remote sensor of the recorder
	The remote control is too far from the recorder	Operate the remote control within 23ft (7m)
	This remote control uses the same buttons for VCR and DVD functions, such as PLAY	When using a VCR, first press the VCR button. When using a DVD, first press the DVD button
The camcorder image is not shown	The camcorder is off	Turn camcorder on and operate it correctly
The camcorder image is not shown on TV screen	The recorder's source is set incorrectly	Use **INPUT** to select the correct input channel (AV1, AV2 or DV IN)

Timer recording is not possible	The recorder clock is not set to the correct time	Set the clock to the correct time
	The timer has been programmed incorrectly	Reprogram the Timer
	The TIMER Record indicator light does not appear after programming the timer	Reprogram the Timer and turn off the recorder to enable the timer
Picture or sound of a channel is weak or missing	Antenna or cables are loose	Tighten connections or replace the cable
	Wrong tuning band is selected in the Recorder Setup menu.	Try Tuning Band Select options. See "Using the Setup Menu" on page 15
Cannot play disc a recorded on your recorder on another DVD player.	The disc was recorded in Video mode	Finalize the disc. See "Disc Settings" on page 16.
	Some players will not play even a finalized disc recorded in Video mode	No solution
	The disc was recorded in VR mode	The other player must be RW compatible in order to play the disc
	Discs recorded with copy-once material cannot be played on other players	No solution
Cannot record or did not record successfully	The remaining blank space on the disc is insufficient	Use another disc
	The source you are trying to record is copy-protected	You cannot record the source
	When setting the recording channel, the channel is tuned on the TV's own tuner.	Select the channel on the recorder's built-in TV tuner by setting the TV tuner to the recorders RF output channel.
	When recording to a Video mode disc, programs that are copy-once protected cannot be recorded	Use a VR mode formatted disc for copy-once material
Stereo Audio Record or Playback is not present	TV is not Stereo-compatible	No solution
	Broadcast program is not in stereo format	No solution
	Recorder A/V Out jacks are not connected to TV A/V In jacks	Make A/V connections. Stereo is available only on A/V output from recorder.
	Recorder Audio/Video Out is not selected for viewing at the TV	Select AUX or A/V source as TV input
	Recorder's TV audio channel is set to SAP or MONO.	Set TV audio channel mode to Stereo. See "Changing the TV audio channel" on page 17.

Maintenance

Care and handling of discs

Handling discs

Do not touch the playback side of the disc. Hold the disc by the edges so that fingerprints do not get on the surface. Never stick paper or tape on the disc.
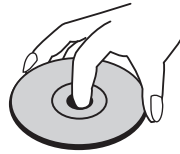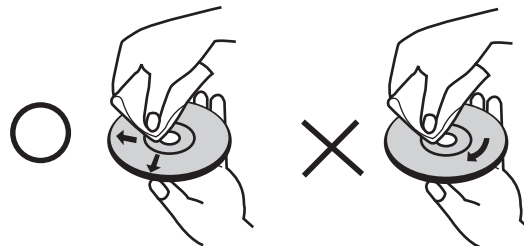

Storing discs

After playing, store the disc in its case. Do not expose the disc to direct sunlight or sources of heat and never leave it in a parked car exposed to direct sunlight.

Cleaning discs

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

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

Note	Never operate this product immediately after moving it from a cold location to a warm location. Leave it for two or three hours without operating it. If you use this product in such a situation, it may damage tapes, discs, or internal parts.

Resetting the recorder

Reset your recorder if you observe any of the following symptoms:

- When the recorder is plugged in, but the power will not turn on or off.
- When the display window does not working.
- When the recorder does not operate normally.

To reset the recorder:

- Press and hold the **POWER** button for more than five seconds. This forces the recorder to turn off. Press the **POWER** button again to turn the recorder back on.

  - OR -

  Unplug the power cord and then plug the power cord again after more than five seconds.

INSIGNIA™

Specifications

General

Power requirements	AC 120V, 60 Hz
Power consumption	27W
Dimensions (approx.) (w × h × d)	16.9 × 3.1 × 13.9 in. (430 × 78.5 × 354 mm)
Mass (approx.)	14.96 lbs (6.8 kg)
Operating temperature	41°F to 95°F (5°C to 35°C)
Operating humidity	5% to 90%
Signal system	NTSC

Recording

Recording format	DVD VideoRecording, DVD-VIDEO
Recordable discs	DVD-ReWritable, DVD-Recordable, DVD+ReWritable, DVD+Recordable
Recordable time	
DVD (Approx.)	1 hr. (XP mode) 2 hr. (SP mode) 4 hr. (LP mode) 6 hr. (EP mode)
VCR	SP: 2 hrs. (T-120) SLP: 6 hrs. (T-120) 8 hrs. (T-160)

Video recording format

Sampling frequency	27 MHz
Compression format	MPEG 2

Audio recording format

Sampling frequency	48 kHz
Compression format	Dolby Digital

VCR Specifications

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

DVD specifications

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

Inputs

ANTENNA IN	Antenna or CATV input, 75 ohms
VIDEO IN (AV1,2)	1.0 Vp-p 75 ohms, sync negative, RCA jack × 2
AUDIO IN (AV1,2)	-6 dBm more than 47 kohms, RCA jack (L, R) × 2
S-VIDEO IN	(Y) 1.0 V (p-p), 75 ohms, neg. sync, Mini DIN 4-pin × 1 (C) 0.286 V (p-p) 75 ohms
DV IN	4 pin (i.LINK/IEEE 1394 standard)

Outputs

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

Accessories:

Video cable (1)
Audio cable (L, R)(1)
RF 75-ohm Coaxial Cable (1)
Remote Control (1)
Batteries (2)
Design and specifications are subject to change without notice.

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Limited warranty

Insignia Products warrants to you, the original purchaser of this Product, that this product shall be free of defects in material or workmanship for a period of three hundred sixty five (365) days from the date of purchase as follows:

1 **LABOR**: During the Warranty Period if this Product is determined to be defective, Insignia will repair or replace the Product, at its option at no charge, or pay the labor charges to any Insignia authorized service facility. After the Warranty Period, you must pay for all labor charges.

2 **PARTS**: In addition, Insignia will supply, at no charge, new or rebuilt replacement parts in exchange for defective parts for the Warranty Period. After the Warranty Period, you must pay all parts costs.

To obtain warranty service, you must take the Product with your original receipt or other proof of purchase, either in its original packaging or packaging affording an equal degree of protection, to your nearest retail store location of the store or online web site from which you purchased the Product.

This warranty does not cover cosmetic damage or damage due to acts of God, lightning strikes, accident, misuse, abuse, negligence, commercial use, or modification of, or to any part of the Product, including the antenna. This warranty does not cover damage due to improper operation or maintenance, connection to improper voltage supply, or attempted repair by anyone other than a facility authorized by Insignia to service the Product. This warranty does not cover Products sold AS IS or WITH ALL FAULTS, or consumables (such as fuses or batteries). This warranty is valid only in the United States and Canada.

This warranty is invalid if the factory applied serial number has been altered or removed from the Product.

REPAIR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER. INSIGNIA SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THIS PRODUCT. EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ANY IMPLIED WARRANTY, REPRESENTATION OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THIS PRODUCT IS LIMITED IN DURATION TO THE DURATION OF THIS WARRANTY.

Some states or provinces do not allow the exclusion 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, and you may have other rights which vary from state to state, or province to province.

For customer service please call
1-877-467-4289

www.insignia-products.com

Insignia Products, Richfield, Minnesota, U.S.A.

Legal notices

FCC compliance statement

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 when the product is operated 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. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the owner's manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

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