

marantz®

Model DV8300 User Guide

SACD/DVD Player

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT



RW
COMPATIBLE



COMPACT
disc
DIGITAL AUDIO

CONGRATULATIONS ON YOUR PURCHASE OF THIS FINE MARANTZ PRODUCT.

MARANTZ is on the leading edge of SACD, DVD research for consumer products and this unit incorporates the latest technological developments.

We are sure you will be fully satisfied with the SACD, DVD player.

Thank you for your support.

WARNING:

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

Do not remove the cover from the equipment.

Do not insert anything into the equipment through the ventilation holes.

Do not handle the mains lead with wet hands.

Make a space of about 0.1 meter around the unit.

IMPORTANT NOTICE

[For U.S. model]

The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep it in a secure area. This is for your security.

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

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

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

Information to User

Alteration or modifications carried out without appropriate authorization may invalidate the user's right to operate the equipment.

CAUTION

- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
- The use of optical instruments with this product will increase eye hazard.

[For Canadian model]

This Class B digital apparatus complies with Canadian ICES-003.

[Pour le modèle Canadien]

Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada.

[For Canadian model]

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

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

This product 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.

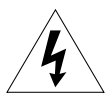
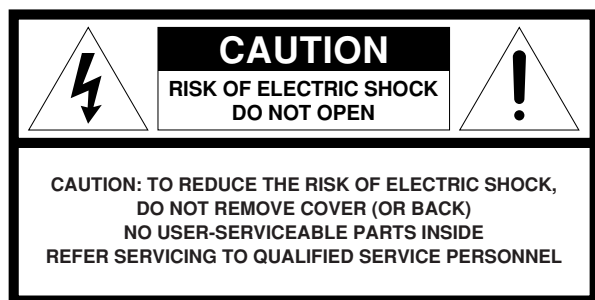
CAUTION:

LASER SAFETY: This unit employs a LASER. Only a qualified person should remove the cover or attempt to service this device, due to possible eye injury.

“CAUTION-USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURE OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.”

Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.

- This player is not suitable for commercial use.



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



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

IMPORTANT SAFETY INSTRUCTIONS

READ INSTRUCTIONS — All the safety and operating instructions should be read before the product is operated.

RETAIN INSTRUCTIONS — The safety and operating instructions should be retained for future reference.

HEED WARNINGS — All warnings on the product and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS — All operating and use instructions should be followed.

CLEANING — Unplug this product from the wall outlet before cleaning. The product should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzene, insecticides or other volatile liquids since they may corrode the cabinet.

ATTACHMENTS — Do not use attachments not recommended by the product manufacturer as they may cause hazards.

WATER AND MOISTURE — Do not use this product near water — for example, near a bathtub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.

ACCESSORIES — Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

CART — A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.



VENTILATION — Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

POWER SOURCES — This product should be operated only from 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 product dealer or local power company.

LOCATION — The appliance should be installed in a stable location.

NONUSE PERIODS — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

GROUNDING OR POLARIZATION

- If this product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other), it will fit into the 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.
- If this product is equipped with a three-wire grounding type plug, a plug having a third (grounding) pin, it will only fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug.

POWER-CORD PROTECTION — Power-supply cords should be routed 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 the product.

OUTDOOR ANTENNA GROUNDING — If an outside antenna or cable system is connected to the product, be sure 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 70, provides information with regard to proper 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. See Figure A.

LIGHTNING — For added protection for this product 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 the product 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, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

OVERLOADING — Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

OBJECT AND LIQUID ENTRY — Never push objects of any kind into this product through openings as 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 the product.

SERVICING — Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

DAMAGE REQUIRING SERVICE — Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power-supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the product.
- If the product has been exposed to rain or water.
- If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
- If the product has been dropped or damaged in any way.
- When the product exhibits a distinct change in performance — this indicates a need for service.

REPLACEMENT PARTS — When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

SAFETY CHECK — Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

WALL OR CEILING MOUNTING — The product should not be mounted to a wall or ceiling.

HEAT — The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

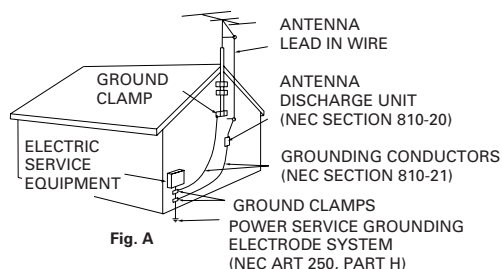


Fig. A

NEC — NATIONAL ELECTRICAL CODE

WARNING: Slot and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, to prevent fire hazard, the openings should never be blocked and covered with items, such as newspapers, table-cloths, curtains, etc. Also do not put the apparatus on the thick carpet, bed, sofa, or fabric having a thick pile.

WARNING: BEFORE PLUGGING IN THE UNIT FOR THE FIRST TIME, READ THE FOLLOWING SECTION CAREFULLY. THE VOLTAGE OF THE AVAILABLE POWER SUPPLY DIFFERS ACCORDING TO COUNTRY OR REGION, BE SURE THAT THE POWER SUPPLY VOLTAGE OF THE AREA WHERE THIS UNIT WILL BE USED MEETS THE REQUIRED VOLTAGE (E.G., 230V OR 120V) WRITTEN ON THE REAR PANEL.

WARNING: NO NAKED FLAME SOURCES, SUCH AS LIGHTED CANDLE, SHOULD BE PLACED ON THE APPARATUS. IF NAKED FLAME SOURCES ACCIDENTALLY FALL DOWN, FIRE SPREAD OVER THE APPARATUS THEN MAY CAUSE FIRE.

Operating Environment

Operating environment temperature and humidity:
+5°C to +35°C (+41°F to +95°F); less than 85%RH (cooling vents not blocked)

Do not install in the following locations

- Location exposed to direct sunlight or strong artificial light
- Location exposed to high humidity, or poorly ventilated location

This product is for general household purposes. Any failure due to use for other than household purposes (such as long-term use for business purposes in a restaurant or use in a car or ship) and which requires repair will be charged for even during the warranty period.



With their experience in movie making and DVD mastering, Lucasfilm engineers researched the capabilities of the DVD format. They have identified many key areas of importance within the DVD player system that are necessary to ensure the highest quality possible for video and audio playback.

The THX select DVD specification was created to realize the full potential of the format.

The THX DVD program is a number of technical and performance specifications developed to make certain that the audio and video quality of every DVD recording is reproduced as accurately as possible.

Thus exploiting the medium's maximum potential.

Lucasfilm and THX are trademarks of Lucasfilm Ltd.

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Features

525 line digital progressive-scan component video output

Compared to standard interlaced video, progressive scan effectively doubles the amount of video information fed to your TV or monitor. The result is a stable, flicker-free image. (Check your TV/monitor for compatibility with this feature.)

For the very highest picture quality, try watching a movie on DVD-Video on a progressive-scan compatible TV.

Superlative audio performance with DVD-Audio, Dolby*¹ Digital and DTS*² software

Logos:  

The DV8300 delivers breathtaking sound quality with Dolby Digital and DTS discs.

TruSurround*³

Logo: 

When used with stereo sources, TruSurround creates a realistic surround-sound effect using just two speakers (see page 42).

MP3 compatibility

This player is compatible with CD-R, CD-RW and CD-ROM discs that contain MP3 audio tracks (see pages 8, 35).

Video Adjust

This new type of DNR (Digital Noise Reduction) for encoding video enables you to adjust the video settings on a more detailed and exact level. There are three possible settings to choose from. These include: TV (CRT), PDP, and Professional. This technology can remember which setting you've chosen and employ it at the proper time. (see page 49).

High quality 24-bit/192kHz DAC


The high specification 24-bit/192kHz DAC delivers dynamic, smooth and expansive analog sound from CDs and DVDs.

Graphical Setup Navigator

Setting up your DVD player is easy using the graphical Setup Navigator. Answer the questions that appear on-screen and the Setup Navigator makes the necessary audio, video and language settings for you (see page 17).

*¹ Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories. Confidential unpublished works. © 1992-1997 Dolby Laboratories. All rights reserved.

*² "DTS" and "DTS Digital Surround" are registered trademarks of Digital Theater Systems, Inc.

*³ TruSurround and the  symbol are trademarks of SRS Labs, Inc. TruSurround technology is incorporated under license from SRS Labs, Inc.

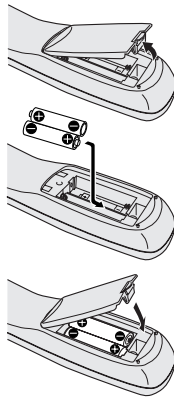
What's in the box

Thank you for buying this MARANTZ product. Please confirm that the following accessories are in the box when you open it.

- Remote control
- AA/R6P dry cell batteries x2
- Audio/Video cable (yellow/red/white)
- System control cable
- Power cable
- Operating instruction (this manual)
- Warranty card

Putting the batteries in the remote control

- 1 **Open the battery compartment cover on the back of the remote control.**
- 2 **Insert two AA/R6P batteries into the battery compartment following the indications (+, -) inside the compartment.**
- 3 **Close the cover.**



Note

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

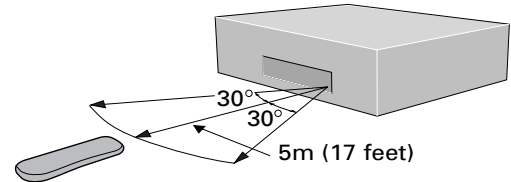
- Don't mix new and old batteries together.
- Don't use different kinds of battery together—although they may look similar, different batteries may have different voltages.
- Make sure that the plus and minus ends of each battery match the indications in the battery compartment.
- Remove batteries from equipment that isn't going to be used for a month or more.

When disposing of used batteries, please comply with governmental regulations or environmental public instruction's rules that apply in your country or area.

Using the remote control

Keep in mind the following when using the remote control:

- Make sure that there are no obstacles between the remote and the remote sensor on the unit.
- Use within the operating range and angle, as shown.



- Remote operation may become unreliable if strong sunlight or fluorescent light is shining on the unit's remote sensor.
- Remote controllers for different devices can interfere with each other. Avoid using remotes for other equipment located close to this unit.
- Replace the batteries when you notice a fall off in the operating range of the remote.


Note

When using this player independently, set a **REMOTE CONTROL** switch on the rear panel to **INTERNAL**. (page 10)

Discs compatible with this player


Any disc that displays one of the following logos should play in this player. Other formats, including DVD-RAM, DVD-ROM, CD-ROM (except those that contain MP3 files) and Photo CD will not play.

DVD Video compatibility:

- Logos: 
- Single-sided or double-sided discs
- Single layer or dual layer discs
- Dolby Digital, DTS, MPEG or Linear PCM digital audio
- MPEG-2 digital video

Discs are generally divided into one or more *titles*. Titles may be further subdivided into *chapters*.


DVD Audio compatibility:

- Logos: 
- Single sided discs
- Single layer or dual layer discs
- Linear or packed PCM digital audio
- Some discs may contain MPEG-2 video, and Dolby Digital, DTS or MPEG digital audio

Discs are generally divided into one or more *groups*. Groups may be further subdivided into *tracks*.


DVD-R compatibility:

This unit can play DVD-R discs. Please note the following points when using these discs:

- Logo: 
- This unit can play DVD-R discs recorded as DVD video format.


DVD-RW compatibility:

This unit can play DVD-RW discs. Please note the following points when using these discs:

- Logo: 
- This unit can play DVD-RW discs recorded as DVD video format or DVD video recording format.
- DVD-RW discs that were recorded with copy-once only permission cannot be played. The message, 'COPY PROTECT PROGRAM, UNPLAYABLE' appears in the display during these parts of the disc.
- When playing a DVD-RW disc that was edited on a DVD recorder, the screen may go momentarily black at the edited point.

- When playing a DVD-RW disc that was edited on a DVD recorder, you may see scenes from just before the edited point.
- Up to 20 characters of a title name can be displayed.


Audio CD compatibility:

- Logos: 
- 12cm (5in.) or 8cm (3in.) discs
- Linear PCM digital audio
- CD-Audio, CD-R* and CD-RW* formats

CDs are divided into *tracks*.


*This unit can play CD-R and CD-RW discs recorded in CD Audio or Video CD format, or with MP3 audio files.

Video CD compatibility:

- Logo: 
- 12cm (5in.) or 8cm (3in.) discs
- MPEG-1 digital audio
- MPEG-1 digital video

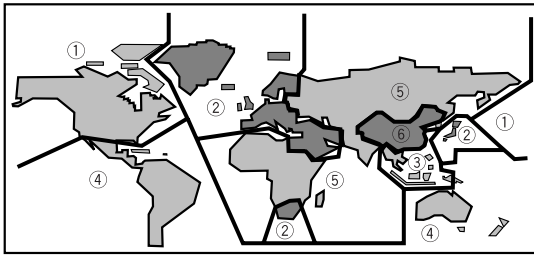
Video CDs are divided into *tracks*.

SACD compatibility:

- Logo: 
- Single layer, dual layer or Hybrid layer
- 12cm (5in.) or 8cm (3in.) discs
- Digital audio (DSD)

SACDs are divided into *tracks*.

DVD Video regions



All DVD Video discs carry a region mark on the case somewhere that indicates which region(s) of the world the disc is compatible with. Your DVD player also has a region mark, which you can find on the rear panel. Discs from incompatible regions will not play in this player. Discs marked **ALL** will play in any player.

MP3 compatibility information

- The CD-ROM must be ISO 9660 compatible.
- Files should be MPEG1 Audio Layer 3 format, 44.1 or 48kHz. Incompatible files will not play and “UNPLAYABLE MP3 FORMAT” will be displayed.
- Not compatible with some variable bit-rate (VBR) files.
- VBR files may not show play times correctly.
- This player only plays tracks that are named with the file extension “.mp3” or “.MP3”.
- This player is not compatible with multi-session discs. If you try and play a multi-session disc, only the first session will be played.
- Use CD-R or CD-RW media for recording your MP3 files. The disc must be finalized in order to play.
- Audio encoded at 128Kbps should sound close to regular audio CD quality. Although this player will play lower bit-rate MP3 tracks, the sound quality becomes noticeably worse at lower bit-rates.
- Only the first 8 characters of folder and track names (excluding the “.mp3” extension) are displayed.
- This player can recognize a maximum of 250 folders and 250 tracks. Discs containing more than 250 folders or tracks will play, but only the first 250 folders/tracks.

Caution!

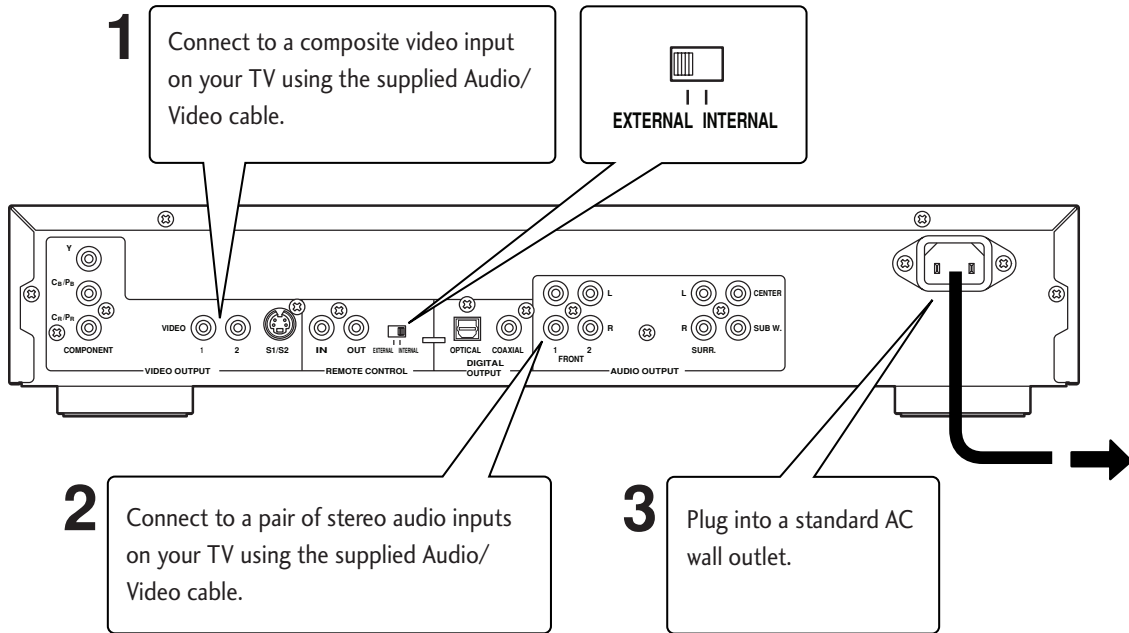
- DVD-R/RW and CD-R/RW discs recorded using a personal computer or a DVD or CD recorder may not play if the disc is damaged or dirty, or if there is dirt or condensation on the player’s lens.
- If you record a disc using a personal computer, even if it is recorded in a compatible format, there are cases 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.)
- Unfinalized DVD-R/RW discs cannot be played.
- Unfinalized CD-R/RW discs can be played, but not all time information (playing time, etc.) will be displayed.
- For more information on using DVD-R/RW and CD-R/RW discs, see *Handling discs* starting on page 58.

Easy Setup

This easy setup is the minimum set of connections you need to start watching DVD video discs. Both sound and picture are fed directly to your TV using the supplied Audio/Video cables. For other possible connections, see pages 11 and 12.

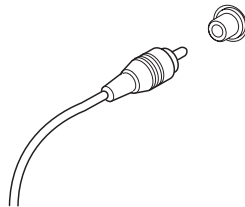
Important

Before making or changing any rear panel connections, make sure that all components are switched off and unplugged from the wall outlet.



Connecting audio/video cables

Be sure to insert each plug fully for the best connection. The plugs and jacks are colour-coded to make connection easier.



Connecting system control cables

By connecting this DVD player to another Marantz audio component using a supplied System Control cable, you can remotely operate the components as a single system.

- When connecting to component with a remote sensor (such as the SR8200, SR7200), be sure to connect the **REMOTE CONTROL IN** jack of this DVD player to the **REMOTE CONTROL OUT** jack of the component with the remote sensor.
- When connecting to component which is not equipped with a remote sensor, be sure to connect the component to the **REMOTE CONTROL OUT** jack of this DVD player.

Synchronized power on and off

- Connect with the remote control output jack of a component (such as the SR8200, SR7200) which is compatible with Marantz remote control system. The remote control allows to switch the power of this DVD player to "POWER ON and Standby mode".

Note

Be sure to leave power switch on the Front panel in the power mode.

Remote switch

- When using this DVD player independently, set this switch to **INTERNAL**. When using this DVD player in a system with a Marantz receiver equipped with a remote sensor, set the switch to **EXTERNAL**.

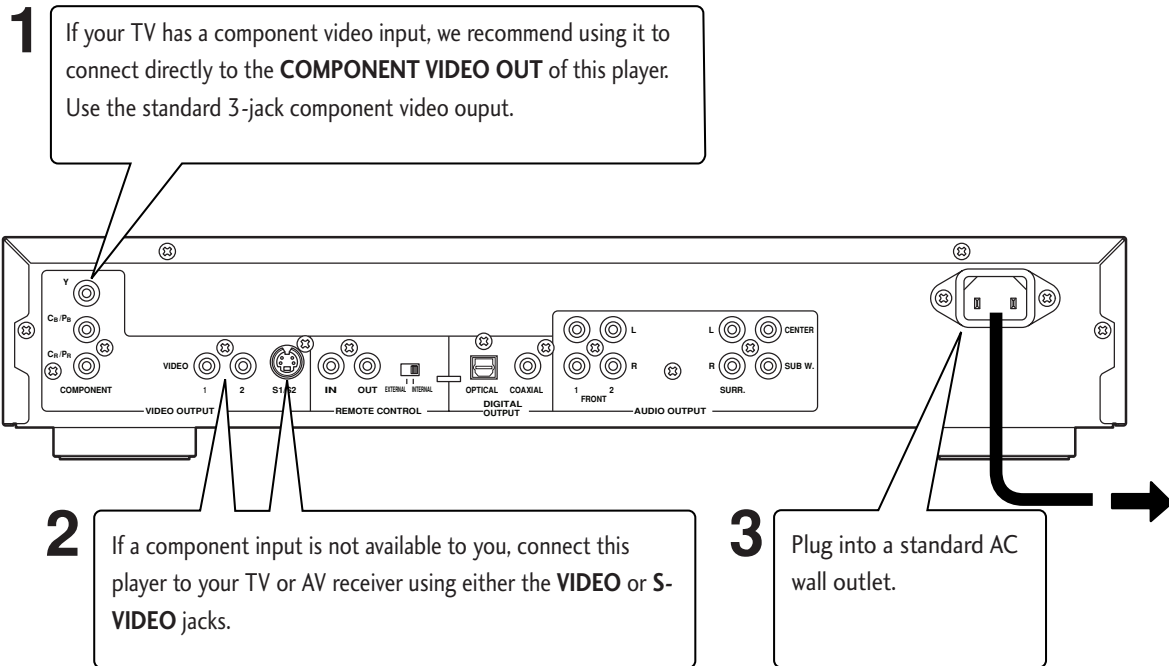
Home theater video connections

This player outputs video in a number of different ways. Choose the one most suitable for your system using the guide below.



Important

Before making or changing any rear panel connections, make sure that all components are switched off and unplugged from the wall outlet.



Connecting S-Video cables

S-Video cables will only plug in one way, so make sure the plug is correctly lined up with the jack before inserting. Be sure to fully insert for a good connection.

S-Video or composite video?

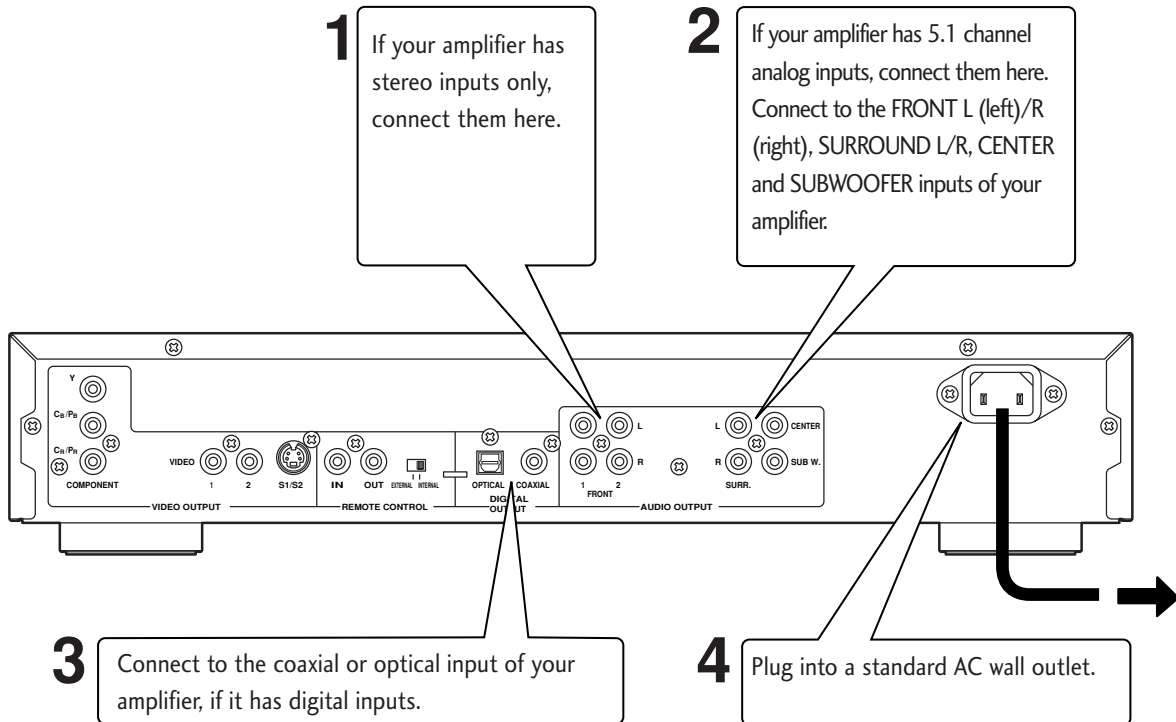
S-Video should give a better picture, so if you have an S-Video input, use it. S-Video cables are available from any good audio/visual dealer.

Home theater audio connections

This player outputs multi-channel audio in both analog and digital form. Check the manual for your amplifier/receiver to see what equipment it is compatible with (especially which digital formats—Dolby Digital, DTS, etc.—it can decode).

Important

Before making or changing any rear panel connections, make sure that all components are switched off and unplugged from the wall outlet.

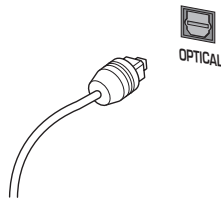


Connecting analog audio cables

Be sure to fully insert each plug for the best connection. The plugs and jacks are colour-coded to make connection easier.

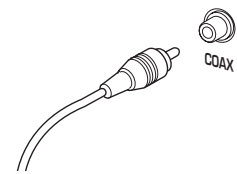
Connecting optical cables

Optical interconnects only plug in one way, so make sure the plug is correctly lined up with the jack before inserting. When inserting the plug, the protective shutter will open and you should hear it click into position when fully inserted. Be careful that you do not force the plug, because this could result in damage to the protective shutter, the cable, or the unit itself.



Connecting coaxial cables

Use an interconnect with a pin-type (also called RCA or phono) plug on each end to connect up digital coaxial-type jacks. Make sure that the plug is pushed fully home.

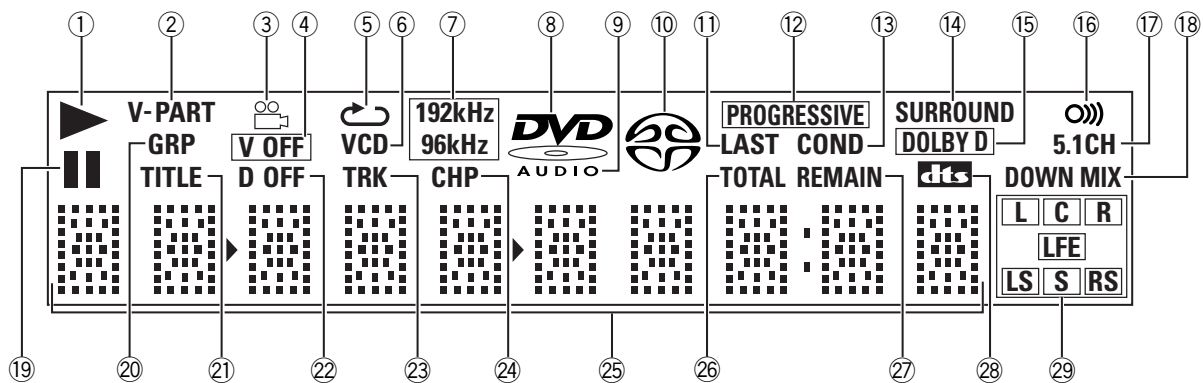


Note

If you listen to multichannel DVD-Audio through one of the digital outputs, it will be downmixed to stereo. Also, high sampling rate DVD-Audio (192kHz or 176.4kHz) will be downsampled to 96kHz, 88.2kHz, 48kHz or 44.1 kHz, depending on the disc. Multi channel and high sampling rate DVD-Audio is only available through the analog outputs.

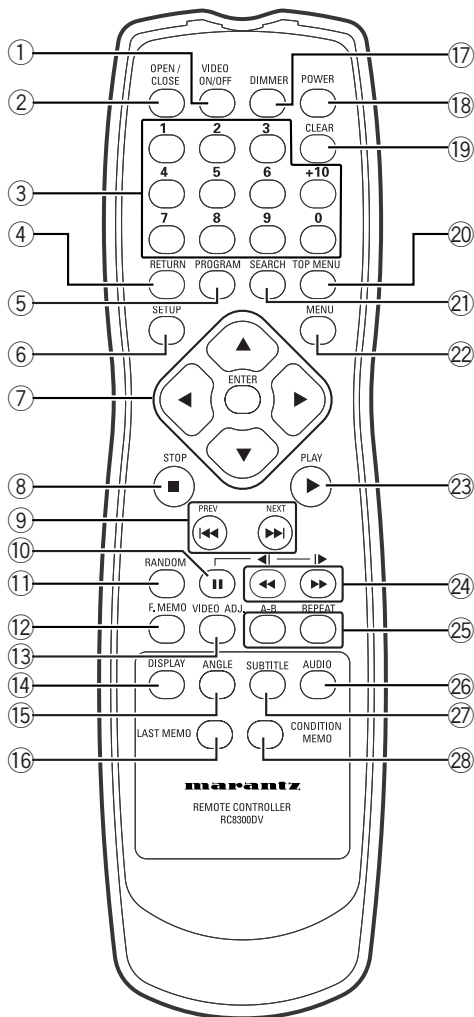
All DVD-Audio and all SACD audio is output only through the analog outputs.

Display



- 1 ► – Lights when a disc is playing
- 2 **V-PART** – Lights during playback of the video part of DVD discs
- 3 – Lights during a multi-angle section of a DVD-Video disc
- 4 **V OFF** – Indicates that video output is turned off
- 5 Lights during repeat play
- 6 **VCD** – Lights when a Video CD is loaded
CD – Lights when a Audio CD is loaded
- 7 **192kHz/96kHz** – Indicates a DVD disc containing high-sampling rate (192kHz/96kHz) audio is playing
- 8 **DVD** – Lights when a DVD is loaded
- 9 **DVD-AUDIO** – Lights when a DVD-Audio disc is playing
- 10 – Lights when a Super Audio CD (SACD) is loaded
- 11 **LAST** – Lights when the disc has a bookmark memory (see **page 31**)
- 12 **PROGRESSIVE** – Lights when unit is outputting 525 line progressive scan (non-interlaced) video.
- 13 **COND** – Lights when the disc has had preferences set (see **page 32**)
- 14 **SURROUND** – Lights when playing a disc with TruSurround switched on
- 15 **DOLBY D** – Lights when a disc with Dolby Digital audio is playing
- 16 – Lights when Remote Control Signal is received
- 17 **5.1CH** – Lights when the audio output is set to 5.1 channel
- 18 **DOWNMIX** – Lights when multi-channel DVD-Audio, Dolby Digital, DTS or MPEG audio is downmixed, for example to two channel stereo
- 19 **||** – Lights when a disc is paused
- 20 **GRP** – Indicates that the number below in the character display is a DVD-Audio group number
- 21 **TITLE** – Indicates that the number below in the character display is a DVD-Video title number
- 22 **D OFF** – Lights when unit is set to Digital Out off
- 23 **TRK** – Indicates that the number below in the character display is a DVD-Audio, CD, Video CD or MP3 track number
- 24 **CHP** – Indicates that the number below in the character display is a DVD-Video chapter number
- 25 **Character display**
- 26 **TOTAL** – Indicates that the time shown in the character display is the total playing time of the disc
- 27 **REMAIN** – Indicates that the time shown in the character display is the remaining playing time of the disc
- 28 – Lights when a disc with DTS audio is playing
- 29 **L, C, R, LS, S, RS, LFE** – show which channels are recorded on the disc playing

Remote control

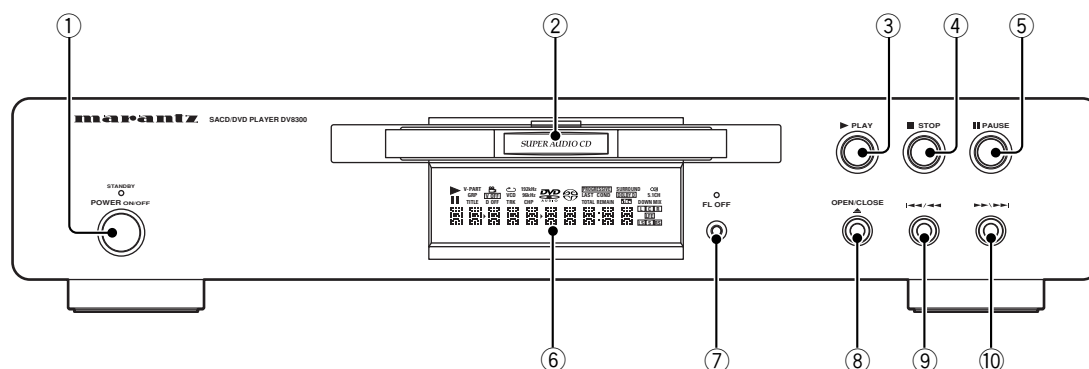


- 1 **VIDEO ON/OFF** – press to turn video output off and on (page 51)
- 2 **OPEN/CLOSE** – Disc tray open/close
- 3 **Number buttons** – pages 21, 22
- 4 **RETURN** (↶) – Return
- 5 **PROGRAM** – pages 27, 38
- 6 **SETUP** – pages 17, 39
- 7 **Cursor** (↶/↷/↶/↷) / **ENTER** button – page 22
- 8 **■** – Stop
- 9 **⏮ ⏭** – Skip
- 10 **⏸** – Pause
- 11 **RANDOM** – pages 29, 36
- 12 **F.MEMO** – Function memory (page 33)
- 13 **VIDEO ADJ.** – Video adjust (page 49)
- 14 **DISPLAY** – pages 34, 36
- 15 **ANGLE** – page 25
- 16 **LAST MEMO** – page 31
- 17 **DIMMER** – Press to change the display brightness
- 18 **POWER** – switches player on or into standby.
- 19 **CLEAR** – Clear
- 20 **TOP MENU** – page 22
- 21 **SEARCH** – page 23
- 22 **MENU** – page 22
- 23 **▶** – Play
- 24 **⏮ ⏭** – Scan
- 25 **REPEAT — A-B** – page 30
- 26 **AUDIO** – page 26
- 27 **SUBTITLE** – page 25
- 28 **CONDITION MEMO** – page 32

- This remote control supports two remote control codes: DVD1 and DVD2.
- When the unit is shipped from the factory, the remote control is set to DVD1.
- To set the remote control to DVD2, hold down both the **■ (Stop)** button and the **“2”** number button on the remote control for at least five seconds. (If the batteries in the remote control are replaced while the remote control is set to DVD2, the setting will revert to DVD1.)
- To set the remote control back to DVD1, hold down both the **■ (Stop)** button and the **“1”** number button on the remote control for at least five seconds.
- To check which remote control code is set at any time, hold down both the Stop and Pause buttons; the current setting (either “DVD1” or “DVD2”) will be displayed in the display window on the main unit.
- Also set the REMOT CODE on the **FL menu** to the same setting as the remote control. (This setting is set to DVD1 when the unit is shipped from the factory.) (page 16)

Controls & Displays

Front panel



- 1 POWER ON/OFF
- 2 Disc tray
- 3 ► – Play
- 4 ■ – Stop
- 5 || – Pause
- 6 Display – page 13

- 7 FL OFF – Lights when the display is switched off using the **FL OFF** button and **DIMMER** button on the remote unit.
- 8 ▲ – Disc tray open/close
- 9 ◀◀/◀ – Reverse scan/skip
- 10 ▶▶/▶▶ – Forward scan/skip

Using the FL menu

The FL menu has been designed to set “DISP MODE”, “AUTO P OFF” and “REMOT CODE”.

The FL menu can not be used if a disc is playing.

It is recommended to set the FL menu before loading a DVD.

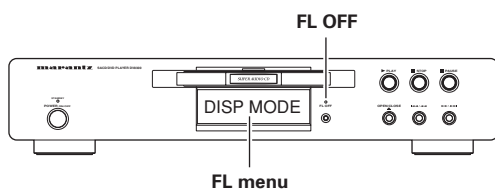
If a DVD has been loaded, be sure to press **STOP** ■ twice before proceeding. (If “RESUME” is displayed in the FL display, press **STOP** ■.)

Selecting the FL menu

Press **SETUP** for longer than 1 sec.

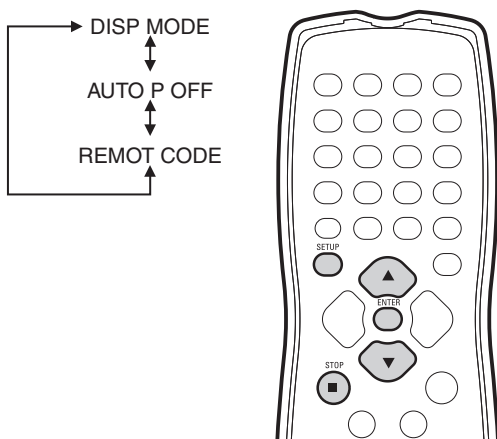
The **FL OFF** indicator on the player turn on and off.

FL menu is displayed in the FL display.



Use the cursor buttons (▲/▼) to select the FL menu you want as follows.

(Example)



To exit the FL menu

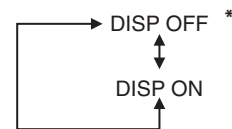
When you have completed setting up the FL menu or if you want exit the FL menu. Press **SETUP** to close the FL menu.

DISP MODE setting

Select **DISP MODE**, then press **ENTER**.

Use the cursor buttons (▲/▼) to select the type of **DISP MODE** you want to set as follows.

(Example)



* Factory setting

Press **ENTER** you want to set.
The menu select is set.

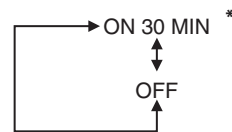
- If you play a CD, MP3 or SACD while **DISP ON** is selected, FL display and video output shut off automatically. FL display is on and video output is off during Stop. And if you push the **DIMMER** button on the remote control or **FL OFF** button on the front panel during **DISP ON**, for three seconds, only FL display is displayed.
- Depending on the disc, it may not operate normally. When this happens, use it after turning off **DISP MODE**.

AUTO P OFF setting

Select **AUTO P OFF**, then press **ENTER**.

Use the cursor buttons (▲/▼) to select the type of **AUTO P OFF** you want to set as follows.

(Example)



* Factory setting

Press **ENTER** you want to set.

The menu select is set.

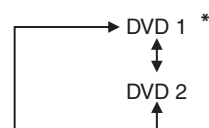
- The standby mode is automatically selected to save power if the player is left in the stop mode for about 30 minutes.

REMOT CODE setting

Select **REMOT CODE**, then press **ENTER**.

Use the cursor buttons (▲/▼) down to select the type of **REMOT CODE** you want to set as follows.

(Example)

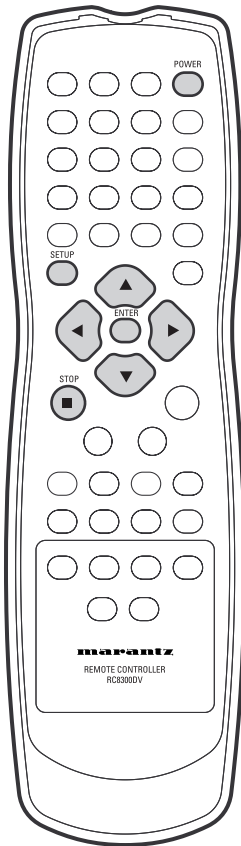


* Factory setting

Press **ENTER** you want to set.

The menu select is set.

- The DVD player support two remote control codes: DVD 1 and DVD 2.
- Set the remote control code of the Remote Control to the same setting.
- See page 14 for more information.



Using the Setup Navigator

Before playing any discs, we strongly recommend using the Setup Navigator. This makes all the basic DVD player settings for you.

1 Press **POWER** button on the front panel to switch on.

Also turn on your TV and make sure that it is set to the correct video input.

- The **POWER** button on the remote switches the player between standby and on.
- If a disc that's already loaded starts to play, press ■ to stop it.

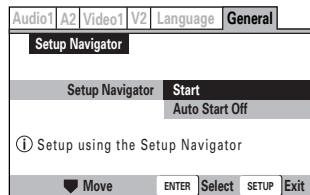


Note

When it is required to remote control the power mode of this DVD player, be sure to leave this switch in the power on mode.

2 Press **SETUP**.

The Setup Navigator on-screen display (OSD) appears:



Navigate all of the following OSDs using these controls:

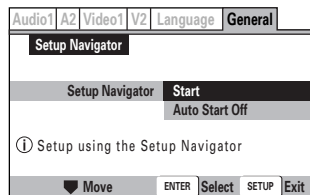
Cursor (▲/▼) – cursor up/down

ENTER – select the highlighted menu option

Cursor (◀) – go back to the previous question.

The control possibilities for the current OSD are shown at the bottom of each screen.

3 Select '**Start**'.

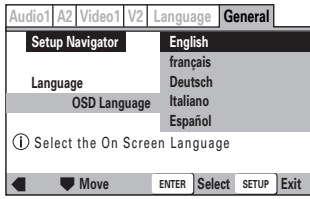


Remember

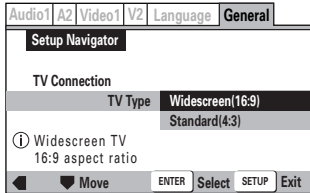
Press **ENTER** to select an option.

- If you decide you don't want to use the Setup Navigator, select **Auto Start Off** here instead.

4 Choose an OSD menu language.

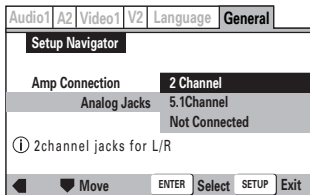


5 Select the type of TV you have.



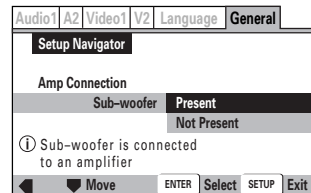
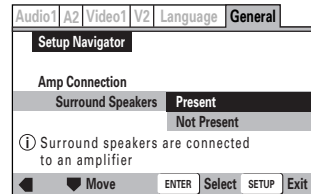
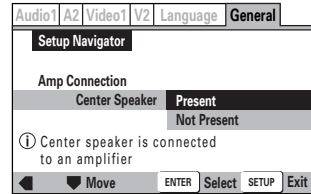
- See *Aspect ratio* in the *Glossary* on **page 60** if you're unsure of the difference between widescreen and standard TVs.

6 Select the type of analog audio connections you made to your amplifier/receiver.

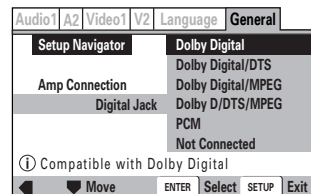


- If you connected the audio output directly to your TV following the *Easy setup* on **page 10**, choose **2 Channel**.

7 If you selected 5.1 Channel audio connections in step 6, confirm which speakers are connected to your amplifier.

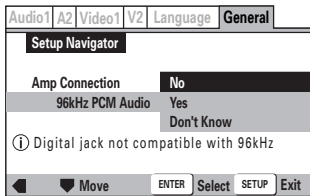


8 Confirm the digital audio formats your amplifier is compatible with (if you made a digital connection).



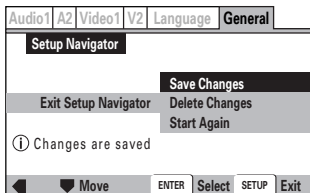
- All options (except **Not Connected**) assume PCM compatibility. The PCM option means only compatible with PCM.
- More information on these audio formats is available in the *Glossary* on **page 60**.
- Consult the manual that came with your amplifier if you're unsure about compatibility with any of these formats.

9 Confirm whether your amplifier is compatible with 96kHz audio.



- You won't see this screen if you selected **Not Connected** in step 8.
- Selecting **Don't Know** has the same effect as selecting **No**: any 96kHz audio will be downsampled to 48kHz. This is a more compatible sampling frequency. See *Sampling frequency* in the *Glossary* on **page 61** for more on this.

10 Select 'Save Changes' to make the settings.

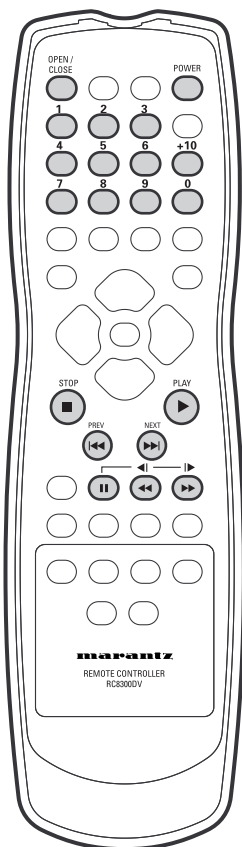


11 Press **SETUP** to exit.

- You may not need to do this step, depending on when you use the Setup Navigator.

Congratulations, set up is complete!

If you want to use the Setup Navigator again at any time, it is available from the **General** menu. Also, each individual setting can be changed using the appropriate menu option—**chapter 7** explains all menu options in detail.



Playing discs

The basic playback controls for playing discs are covered here. Further functions are detailed in the next chapter.

Note

Throughout this manual, the term 'DVD' means DVD-Video, DVD-Audio and DVD-R/RW. If a function is specific to a particular kind of DVD disc, it is specified.

1 Switch the player on.

If you're playing a DVD or Video CD, also turn on your TV and make sure that it is set to the correct video input.

2 Press OPEN/CLOSE to open the disc tray.











3 Load a disc.

Load a disc with the label side facing up, using the disc tray guide to align the disc (if you're loading a double-sided DVD disc, load it with the side you want to play face down).



4 Press ► to start playback.



If you're playing a DVD or Video CD, a menu may appear. See [page 22](#) for how to navigate these.

Basic playback controls

Button	What it does
	Starts playback. DVD and Video CD: if the display shows RESUME , playback starts from the resume point.
	Pauses a disc that's playing, or restarts a paused disc.
	Stops playback. DVD and Video CD: Display shows RESUME . Press  again to cancel the resume function.
	<ol style="list-style-type: none"> 1. Press & hold for fast reverse scanning. Release to resume normal playback. 2. Press once to start reverse scanning. Press again to increase the scan speed. (SACD, CD and Video CD have two scan speeds; DVD has three.) Press  to resume normal playback.
	<ol style="list-style-type: none"> 1. Press & hold for fast forward scanning. Release to resume normal playback. 2. Press once to start forward scanning. Press again to increase the scan speed. (SACD, CD and Video CD have two scan speeds; DVD has three.) Press  to resume normal playback.
	Skips to the start of the current track or chapter, then to previous tracks/chapters.
	Skips to the next track or chapter.
Numbers	<ol style="list-style-type: none"> 1. If the disc is stopped, playback starts from the selected title/group (DVD) or track number (SACD/CD/Video CD). 2. If the disc is playing, playback jumps to the start of the selected chapter or track (within the current group for DVD-Audio).
+10	Selects titles/groups/chapters/tracks 10 and over. (For example, for 24, press +10, +10, 4.)

Important

While using the DVD playback controls, you may see the  or  mark displayed on-screen.

-  means that the operation is not allowed by the player.
-  means that the operation is not allowed by the disc.

Navigating DVD disc menus

Many DVD discs contain menus. Sometimes these are displayed automatically when you start playback; others only appear when you press **MENU** or **TOP MENU**. For DVD Audio discs, use **TOP MENU**.

Note

Some DVD-Audio discs feature a 'bonus group'. To access this group you have to input a password, which you can find on the disc's packaging. See page 57 for more information.

Button	What it does
TOP MENU	Displays the 'top menu' of a DVD disc—this varies with the disc.
MENU	Displays a DVD disc menu—this varies with the disc and may be the same as the 'top menu'.
RETURN	Returns to the previously displayed menu screen. On some DVD-Audio discs featuring browsable pictures, press to display the browser screen.
Cursor (◀/▶/▲/▼)	Moves the cursor around the screen.
ENTER	Selects the current menu option.
Numbers	Selects a numbered menu option (some discs only).
+10	Selects a numbered menu option 10 and over. (For example, for 24, press +10, +10, 4.) (Some discs only.)

Navigating Video CD PBC menus

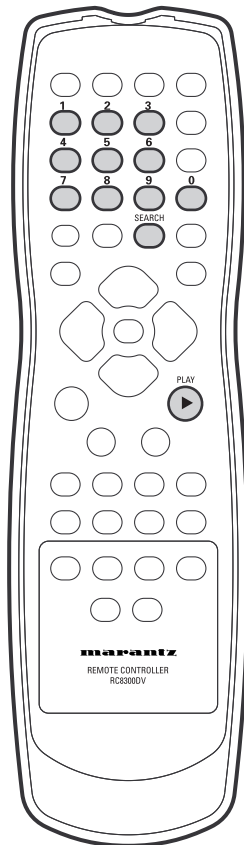
Some Video CDs have menus from which you can choose what you want to watch. These are called PBC (Playback control) menus.

You can play a PBC Video CDs without having to navigate the PBC menu by starting playback using a number button to select a track, rather than the ▶ button.



Button	What it does
RETURN	Displays the PBC menu.
Numbers	Selects a numbered menu option.
+10	Selects a numbered menu option 10 and over. (For example, for 24, press +10, +10, 4.)
◀◀	Displays the previous menu page (if there is one).
▶▶	Displays the next menu page (if there is one).

Navigating DVD-RW discs menus

- 1 Press **MENU**.
- 2 Use the cursor buttons (◀/▶) to toggle between **Original** and **Play List**.
The **Original** screen shows the contents of the disc as recorded. The **Play List** screen shows the contents in the order programmed by the person who recorded the disc (not all DVD-RW discs contain a **Play List**).
 - You can't switch between **Original** and **Play List** while a disc is playing.
- 3 Use the cursor buttons (▲/▼) to highlight a menu item in the list, then press **ENTER** to select it.
 - Use the ◀◀ and ▶▶ to see the previous/next page.
 - To preview the first frame of the highlighted menu item, use the cursor button (▶).
 - To display this disc menu during playback, press **MENU**.



Introduction

- Many of the functions covered in this chapter apply to DVD discs, Video CDs, SACDs and CDs, although the exact operation of some varies slightly with the kind of disc loaded.
- When playing DVD discs, if the  or  icon appears on-screen when you try and use a particular function, either the player or the disc doesn't allow the use of that function.
- When playing Video CDs, some of the functions are not available in PBC mode. If you want to use them, start the disc playing using a number button to select a track.

Finding what you want on a disc

DVD Video CD SACD CD

You can directly access any point on a disc using one of the search modes. Use these search modes while a disc is playing, or when it's stopped. Playback jumps to the point specified.

1 Press SEARCH repeatedly to choose between:

- **Title/Group** search (DVD only)
- **Chapter/Track** search
- **Page** search (DVD-Audio discs with browsable pictures only)
- **Time** search (DVD-Video and Video CD only)
- **Frame & Time** search (DVD-Video only)

(The Frame Search option in the **Video1** menu must be On to use this) (page 47)

- **Off**

2 Enter the title/chapter/group/track number or time (minutes & seconds).

For example, for title 4, press 4.

For chapter/track 12, press 1 , 2.

For 45 minutes into the disc, press 4, 5, 0, 0.

3 Press ► to start/restart playback.



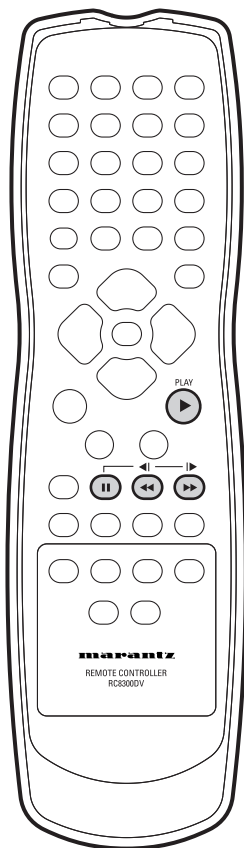
Note

The Frame Search option in the Video menu must be On to use this.

Press **DISPLAY** while a still picture is displayed to see the frame number.

Depending on the disc, it may not be possible to search for a specific frame. Also, when using frame advance, forward step or reverse step.

Each frame may not appear in exact order when stepping through them. The number assigned to a specific frame may be different when stepping through the frames in forward or reverse mode.



Still Frame/Slow Play/Frame Advance Playback

DVD Video CD

The video images on DVD and Video CD can be viewed as a still frame, played back at slow speeds and even advanced frame by frame.

Viewing a still frame

Press II.

When viewing a DVD, if the paused picture shakes, select the [Field] setting in the Setup screen Video menu [Still Picture] setting as described on page 51.

To return to normal playback

When viewing a still frame playback, pressing II or ► restores normal playback operation.

Viewing slow playback

With this function, DVDs can be viewed in both forward and reverse direction. Video CDs can only be moved in the forward direction.

Press ►► for longer than one second during Pause.

- Slow playback is engaged.
- During slow playback, the speed of playback can be adjusted from 1/16 normal playback speed to 1/2 normal playback speed in four steps using ►►.
- During slow playback, the player return to pause when pressing ◀◀.

1/16 – 1/8 – 1/4 – 1/2

Press ◀◀ for longer than one second during Pause.

- Slow playback in the reverse direction is engaged.
- During slow playback, the speed of playback can be adjusted from 1/16 normal playback speed to 1/2 normal playback speed in four steps using ◀◀.
- During slow playback, the player return to pause when pressing ►►.

1/2 – 1/4 – 1/8 – 1/16

To return to normal playback

When viewing still frames or slow playback, pressing ► restores normal playback operation.

Frame by frame advance playback: Viewing one frame at a time

With this function, DVDs can be viewed in both forward and reverse directions. Video CDs can only be moved in the forward direction.

1 Press II.

2 Press ►► or ◀◀ rapidly.

►►: The picture advances one frame each time the button is pressed.


◀◀: The picture backs up a DVD a few frames each time the button is pressed.

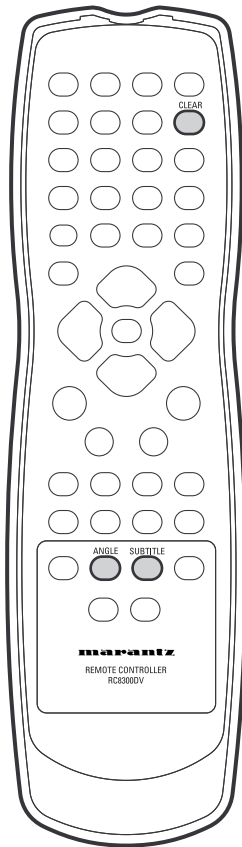
To return to normal playback

When viewing frame by frame playback, pressing II or ► restores normal playback operation.




Note

- There is no sound when viewing still frames or slow playback, or when advancing one frame at a time.
- Still frame, slow play, or frame advance playback may not be possible with certain titles. In this case, the  mark is displayed.
- If a Browsable picture (page 60) is recorded on a DVD-Audio disc, frame advance playback is possible.
- Depending on the disc, it may automatically return to normal replay at the transition between chapters. And when this happens, it may not fast forward or rewind even if you push the scan (◀◀/►►) button. In this case, push the PLAY button once more, then push the scan button (◀◀/►►) again.



Switching camera angles

DVD-Video

Some DVD Video discs feature scenes shot from two or more angles—check the disc box for details: it should be marked with a  icon if it contains multi-angle scenes.

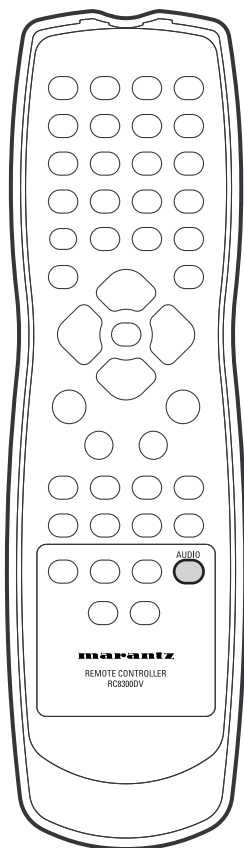
- **To switch the camera angle, press ANGLE.**
If the disc was paused, playback starts again with the new angle.
 - To hide the TV angle indicator, choose **Angle Indicator > Off** from the **Video 2** menu (see [page 51](#)).

Switching subtitles

DVD-Video

Many DVD Video discs have subtitles in one or more languages—the disc box will usually tell you which subtitle languages are available. You can switch subtitle language anytime during playback.

- **To display/switch the subtitle language, press SUBTITLE repeatedly.**
The current subtitle language is shown on-screen.
- **To switch off subtitles, press SUBTITLE then CLEAR.**
- **To set subtitle preferences, see [page 53](#).**



Switching audio language

DVD-Video

When playing a DVD Video disc recorded with dialog in two or more languages, you can switch audio language anytime during playback.

- **To display/switch the audio language, press AUDIO repeatedly.** The current audio language is shown on-screen.
- **To set audio language preferences, see page 52.**

Switching audio channel

DVD-Audio

Depending on the disc, you may be able to switch channels, when playing DVD-Audio discs—see the disc box for details.

- **To switch the audio channel, press AUDIO repeatedly.**

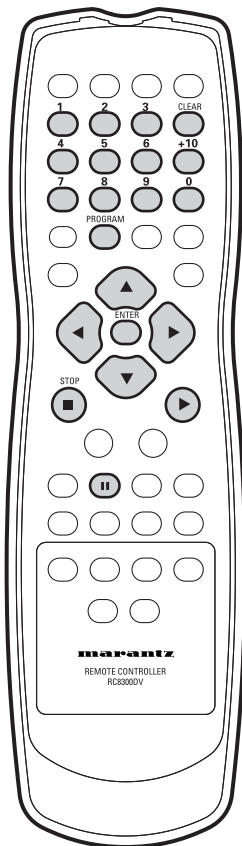
Switching audio channel

DVD-RW Video CD CD MP3

On Video CDs, CDs and MP3s you can switch between stereo, just the left channel or just the right channel.

On DVD-RW discs that have both L and R audio channel, you can switch between the L, R, or a mix of both.

- **To switch the audio channel, press AUDIO repeatedly.** The current playback channel(s) are indicated on-screen.



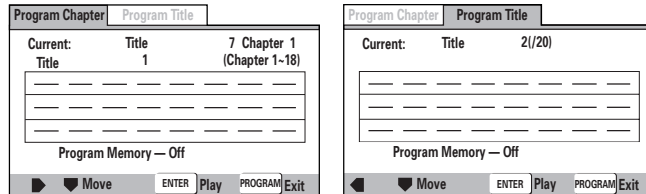
Making a program list

This feature lets you program the play order of titles/groups/chapters/tracks on a disc. You make a program list via an on-screen display, using the cursor buttons to navigate and the number buttons to enter titles/chapters/tracks.

Note that programmed playback is not available for DVD-RWs.

DVD

1 Press PROGRAM.



2 Use the cursor buttons (◀/▶) to select 'Program Chapter' or 'Program Title'.

3 Use the cursor button (▼) to the program list window.

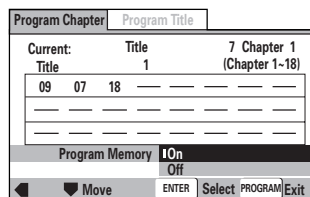
If you selected Program Chapter, use the cursor button (▲) and enter a title number (all the programmed chapters will come from this title).

4 Enter the title/chapter numbers for your program list.

For titles/chapters 1–9, use the corresponding number buttons. For 10 and over, use the +10 button (+10, +10, 4 for 24, etc.)

- You can program a pause instead of a title/chapter: press **II** instead of entering a number in the program list. (A pause can't be the first or last step in the list.)
- A program list can contain up to 24 steps.

5 If you want to save the program list, use the cursor button (▼) to 'Program Memory' and set it to 'On'.



If you do this, the program list is automatically recalled when you next load the disc.

- You can save program lists for up to 24 discs.
- After setting to **On**, move the cursor back up to the program list window.

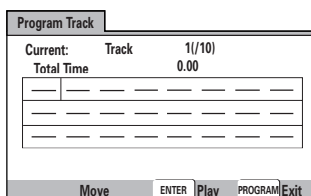
- 6 Press **ENTER** or **▶** to start playback immediately, or **PROGRAM** to exit if you want to start playback later.

During program play, you may occasionally see the start of a chapter that was not programmed when the chapter number changes. This is not a malfunction.

Video CD SACD CD

For Video CDs that feature PBC, make sure that the disc is stopped before you start.

- 1 Press **PROGRAM**.



- 2 Enter the track numbers for your program list.

For tracks 1–9, use the corresponding number buttons. For 10 and over, use the **+10** button (**+10**, **+10**, **4** for 24, etc.)

- You can program a pause instead of a track/chapter: press **■** instead of entering a number in the program list. (A pause can't be the first or last step in the list.)
- A program list can contain up to 24 steps.

- 3 Press **ENTER** or **▶** to start playback immediately, or **PROGRAM** to exit if you want to start playback later.

- You can't start playback later with a PBC Video CD; press **ENTER** or **▶** to start.

Note

You can't program track numbers over 100 on SACDs.

Programming tips

- To view the program list press **PROGRAM**.
- To delete a step in the program list, position the cursor on the title/group/chapter/track and press **CLEAR**.
- To insert a step into the program list, position the cursor where you want the new step to appear, then enter the title/group/chapter/track number.

All the following steps move up one.

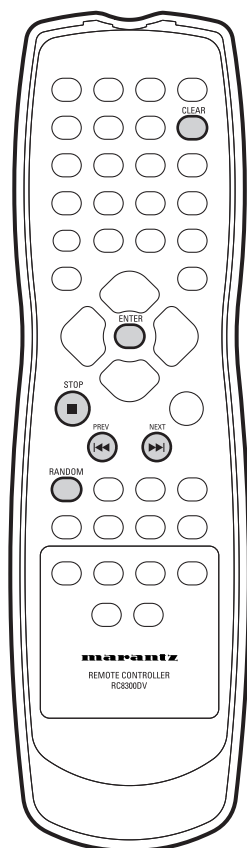
- To add the currently playing title/group/chapter/track to the program list, press and hold **PROGRAM** for about a second.

If there is no current program list, a new one is created (for DVD, if the last list created was a title list then the a title program list is created, otherwise a chapter program list is created).

- To delete the program list, stop playback (press **■**), then press **CLEAR**.

The program list is also erased when you remove the disc from the player or turn the power off (standby).

- To delete a memorized DVD program list, load the DVD, press **PROGRAM**, then change the **Program Memory** option to **Off**. Press **ENTER** to confirm.



Using random play

DVD Video CD CD

Use the random play function to play titles/chapters/groups/tracks (DVD) or tracks (CD or Video CD) in a random order.

You can't use random play with DVD-RW discs, SACD or Video CD playing in PBC mode.

1 Press RANDOM repeatedly to select a random play mode.

The mode is displayed on-screen:

DVD

- Random Chapter/Track (from within the current title)
- Random Title/Group

Video CD CD

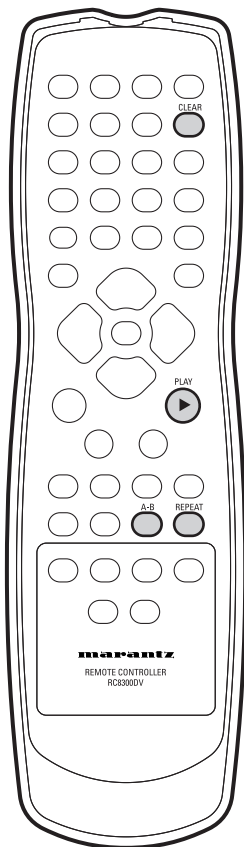
- Random (random play starts immediately)

2 DVD only: Press ENTER or ► to start random play.

- To stop the disc and cancel random playback, press ■.
- To cancel random playback without stopping playback, press CLEAR. The rest of the disc plays out.

Tip

- During random play, the ◀◀ and ▶▶ buttons function a little differently to normal: ◀◀ returns to the beginning of the current track/chapter/. You can't go back further than this. ▶▶ selects another track/chapter at random from those remaining.
- You can't use random play together with program or repeat play.



Using repeat play

DVD Video CD CD

You can set the player to repeat individual tracks on CDs or Video-CDs, chapters/tracks or titles/group on DVD discs, or the whole disc. It's also possible to loop a section of a disc.

You can use the repeat together with the programming mode to repeat the tracks/chapters in the program list (see page 27 for how to make a program list).

You can't use any repeat mode or looped play with a Video CD playing in PBC mode.

Looped playback is not possible with SACD.



Note

- You can't use repeat and random play at the same time.
- If you switch camera angle during repeat play, repeat play is cancelled.

1 Press REPEAT during playback to select a repeat mode.

Each press switches the repeat mode:

DVD

- Repeat **Chapter/Track**
- Repeat **Title/Group**
- Repeat **Off**

Video CD SACD CD

- Repeat **Track**
- Repeat **All**
- Repeat **Off**

2 To resume normal playback, press CLEAR.



Tip

You can use repeat play with program play. During program play, press REPEAT.

Looping a section of a disc

DVD Video CD CD

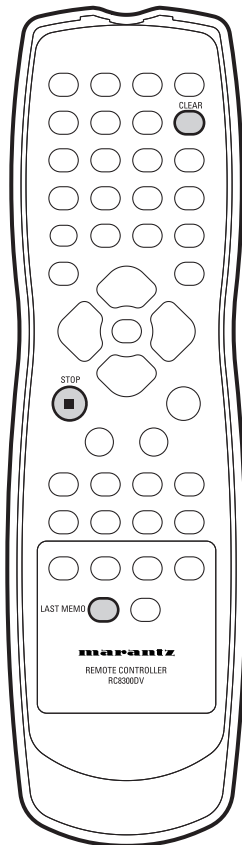
1 Press (REPEAT) A-B once at the start of the section you want to repeat, then again at the end.

Playback immediately jumps back to the start point and plays the loop round and round.

- On a DVD disc, the start and end points of the loop must be in the same title/group.

2 To resume normal playback, press CLEAR.

- You can also repeat a section of a disc just once by pressing ► to mark the end point (instead of A-B).



Bookmarking a place in a disc (LAST MEMORY)

DVD-Video Video CD

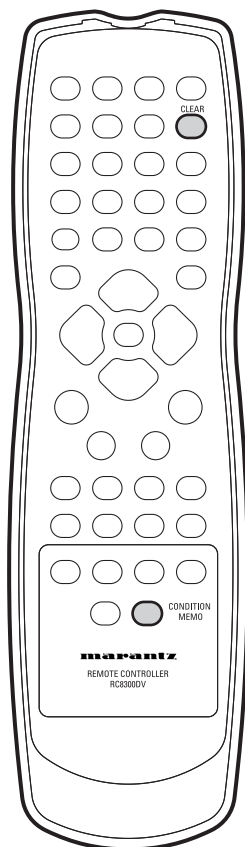
If you watch only part of a DVD Video disc with the intention of picking up later where you left off, you can bookmark the place then resume playback at a later date without having to manually search for the right place.

You can use this feature for up to five discs (after that the oldest bookmark is deleted to make space for a new one).

Bookmarking also works with Video CDs, but for one disc only, and you must leave the disc in the player—opening the disc tray erases the memory. Last Memory may not work reliably with some PBC Video CDs.

You can't use bookmarking with DVD-Audio and DVD-RW discs. Depending on the disc, you may not be able to use bookmarking with DVD-Video or Video CD discs.

- **At the point from which you want to resume playback next time, press LAST MEMO.**
Press ■ if you want to stop playback here.
- **To resume playback, load the disc and press LAST MEMO.**
If the disc starts auto playback, stop it first.
- **To clear the bookmark for the disc loaded, press LAST MEMO then CLEAR while 'Last Memory' is displayed on-screen.**



Memorizing disc settings (CONDITION MEMORY)

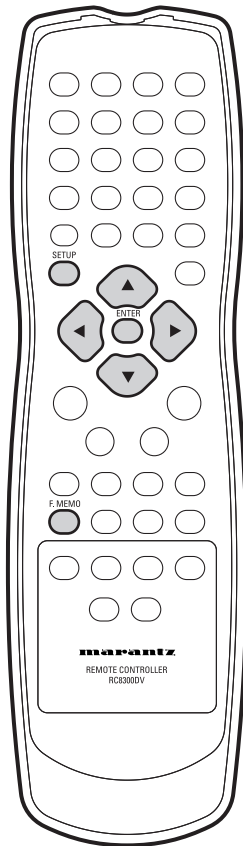
DVD-Video

If you have a particular set of preferences for a disc, you can memorize them using the Condition Memory function. Once memorized, your settings will be recalled automatically whenever you load that disc. The player can store settings for 15 discs; after this, memorizing another replaces the oldest one stored.

Condition Memory does not work with DVD-Audio and DVD-RW discs.

The settings memorized are:


- Multi-Angle (page 25)
 - Subtitle Language (page 25)
 - Audio Language (page 26)
 - On Screen Display (page 40)
 - Video Adjust (page 49)
 - Parental Lock level (page 55)
- To memorize settings for the current disc, press **CONDITION MEMO** during playback.
 - To recall memorized settings, just load the disc.
The display shows **COND_MEM** and 'Condition Memory' appears on-screen.
 - To clear memorized settings, load the disc and press **CLEAR** while 'Condition Memory' is displayed on-screen.



Using setup menu shortcuts (FUNCTION MEMORY)

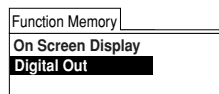
You can create a shortcut menu of up to 5 setup menu items that you often access. Rather than navigate through the whole setup menu each time you want to alter a setting, you can access the setting straight from the shortcut.





To add a menu item to the shortcut list:

- 1 Press **SETUP**.
- 2 Select the menu item you want to add.
- 3 Press **F.MEMO**.
The item is marked **FM**. (Some items in the Setup menu cannot be added to the shortcut menu. In this case, the  mark or 'ⓘ This item cannot be registered in the function memory' is displayed on-screen.)
- 4 Repeat steps 2 and 3 to add up to five items to the shortcut menu.
- 5 Press **SETUP** to exit.

To use the shortcut menu:

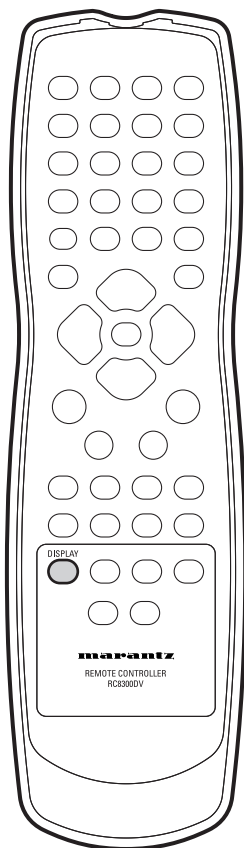
- 1 Press **F.MEMO**.



- 2 Select the item you want using the cursor buttons (///) and press **ENTER**.
- 3 The Setup menu opens on the item you selected.
Select from the options in the normal way.
- 4 Press **SETUP** to exit.

To delete an item from the shortcut menu:

- 1 Press **SETUP**.
- 2 Select the menu item you want to delete from the shortcut menu.
It should be marked **FM**.
- 3 Press **F.MEMO** to clear the **FM** mark.
- 4 Press **SETUP** to exit.



Displaying disc information

DVD Video CD SACD CD

Various track, chapter and title information, as well as the video transmission rate for DVD discs, can be displayed on-screen while a disc is playing, or while it's stopped.

- To show/switch the information displayed, press **DISPLAY**. When a disc is playing, the information appears at the top of the screen. Keep pressing **DISPLAY** to change the displayed information.

Example:

Play	2-1	0.24
Track	-6.05/	6.29

DVD-Audio display

Play	3
Tr. Rate :	■■■■■■■■■■ 9.2

DVD display showing the data transmission rate

When a disc is stopped, all title/group/chapter, or track information for the disc loaded appears on-screen. Press **DISPLAY** again to exit the screen.

DVD-Video

Title	Chapter	Title	Chapter
01	1-30	06	1-10
02	1-21	07	1-13
03	1-46	08	1-5
04	1-12	09	1-4
05	1-8	10	1-8

1/2 ▶ DISPLAY Exit

Titles and number of chapters in each title

Video CD CD

Total time		72.04	
Track	Time	Track	Time
01	5.23	06	6.51
02	4.55	07	3.18
03	6.13	08	6.50
04	5.45	09	4.16
05	5.10	10	3.22

1/2 ▶ DISPLAY Exit

Total playing time of disc, tracks and track times

DVD-RW

disc name (if programmed)

Information: DVD-RW		
Disc	<input type="text"/>	
Title	Original	1-6
	Play List	1-3

DISPLAY Exit

Disc name (if programmed) and number of titles in the Original recording and the Play List

DVD-Audio

Group	Track	Group	Track
01	1-1	06	1-1
02	1-1	07	1-1
03	1-1	08	1-1
04	1-1	09	1-4
05	1-1		

1/1 DISPLAY Exit

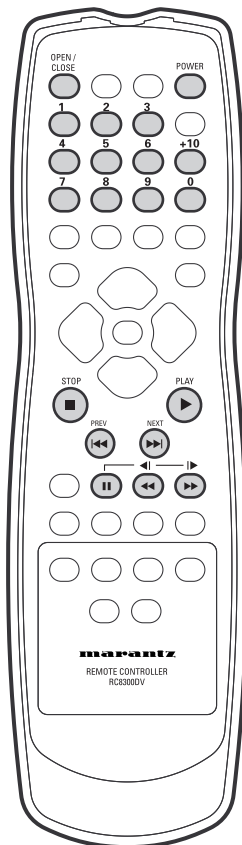
Groups and number of tracks in each group

SACD

Information: SACD 2ch Area			
Total time		72.04	
Track	Time	Track	Time
001	5.23	006	6.51
002	4.55	007	3.18
003	6.13	008	6.50
004	5.45	009	4.16
005	5.10	010	3.22

1/2 ▶ DISPLAY Exit

Total playing time of disc, tracks and track times



Playing MP3s

This player can play MP3 files on a CD-ROM disc. MP3 is a popular audio format on computers and the Internet because file sizes are small (compared to uncompressed CD audio), while the sound quality remains surprisingly good.

- 1 Switch the player on.
- 2 Press **OPEN/CLOSE** button to open the disc tray.
- 3 Load a **CD-ROM** containing **MP3** tracks
- 4 Press **▶** to start playing the first MP3 track on the disc.
 - It may take a few seconds for the player to locate the track on the disc, depending on the complexity of the file structure. During this time, **'Please wait a moment'** is displayed.
 - The track name is displayed for the first five seconds of the track. After the selected track has played out, the next track recorded on the disc starts playing.
 - Press **||** while a track is playing to pause. Press again to restart playback.
 - Press **|◀◀ / ▶▶|** to skip to the previous/next track on the disc.
 - Press and hold **◀◀ / ▶▶** to scan backward/forward.
 - Press **■** to stop playback. Except in program or random play, the player remembers the current folder as long as the disc remains in the player. Press **▶** to restart playback from the first track of that folder.

Searching for folders and tracks

- 1 Use the **SEARCH** to choose between:
 - Folder search
 - Track search
 - Off
- 2 Enter the folder/track number.
For example, for folder 4, press **4**.
For track 12, press **1** , **2**.
- 3 Press **ENTER** or **▶** to start/restart playback.

Using random play

Files can be mono or stereo. Use the random play feature to play tracks on a disc in a random order. Playback stops when all the tracks have played.

- 1 Press **RANDOM** to start random play.
- 2 To cancel random play, press **■**.
Random play is also canceled if the disc tray is opened, you press **PROGRAM**, or you use the number buttons to jump to another track.

Using repeat play

Use the repeat play feature to repeat the current track, or all the tracks on the disc.

- 1 During playback, press **REPEAT** to select a repeat play mode.

Each press changes the repeat play mode:

 - Repeat **Track**
 - Repeat **Folder**
 - Repeat **Disc**
 - Repeat **Off**

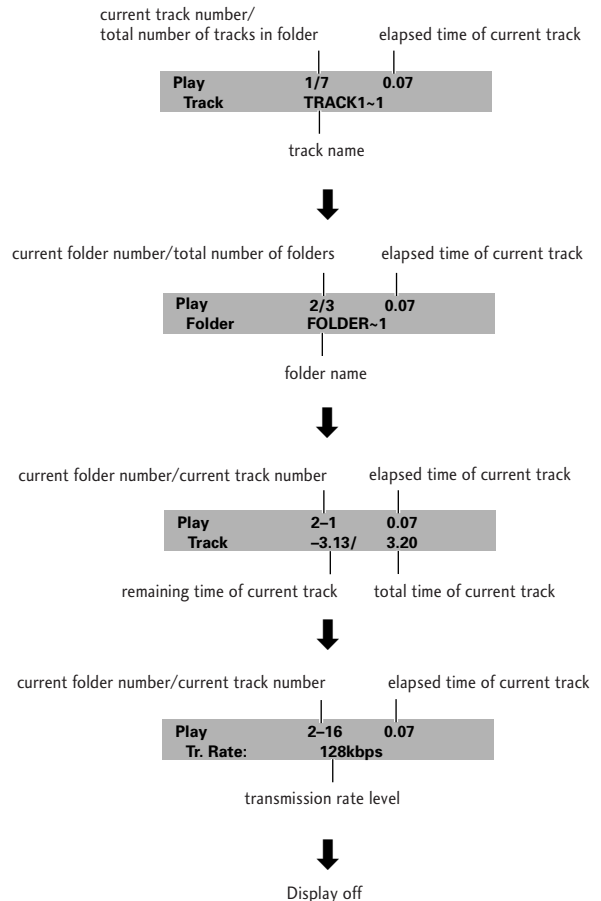
If you stop playback or open the disc tray, repeat play is also canceled.

Displaying MP3 information

- 1 Press **DISPLAY** repeatedly during playback to display various MP3 information on-screen.

There are four information screens:

Displays when playing



Displays when stopped

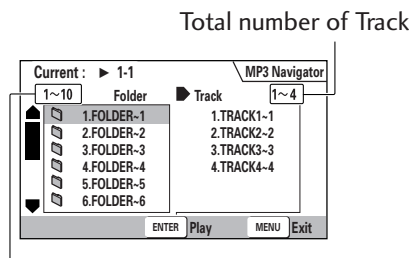
Information: MP3			
Folder	Track	Folder	Track
001	1~9	006	1~10
002	1~11	007	1~13
003	1~3	008	1~5
004	1~22	009	1~4
005	1~15	010	1~8
1/2 ▶		DISPLAY Exit	

Folders and number of tracks in each folder

Using the MP3 Navigator

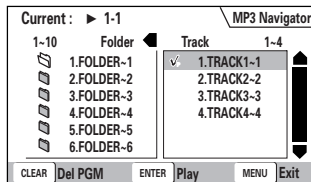
Use the MP3 Navigator to make searching for the track(s) you want to play easier. You can also use it to add or clear tracks from the program list.

- 1 Load a CD-ROM containing MP3 tracks.
- 2 Press **MENU** to enter the MP3 Navigator screen.
 - The left side of the screen shows a list of folders containing MP3 tracks.
 - If you display the MP3 Navigator when a disc is playing, the currently playing folder and track numbers are shown at the top left of the screen.



Total number of Folder

- On the right side is a list of MP3 tracks from the first folder in the list.



Navigate using the following controls:

Cursor buttons (◀/▶) – Select folder and tracks from the current screen.

Cursor buttons (▲/▼) – Select the previous/next of folders and tracks. To move rapidly up or down a long list of folders or tracks, press and hold the **Cursor buttons (▲/▼)**.

ENTER – Play the currently selected folder or track. MP3 tracks that are unplayable on this player are automatically skipped and the display shows **'UNPLAYABLE MP3 FORMAT'**.

MENU – Exit the MP3 Navigator

PROGRAM – Add the currently selected track to the program list. (Tracks in the program list are marked ✓.) Pressing **PROGRAM** repeatedly will add the track to the program list repeatedly.

See *Making a program list of MP3 tracks* on **page 38** for how to use program play.

(Press **MENU** to exit the MP3 Navigator first.)

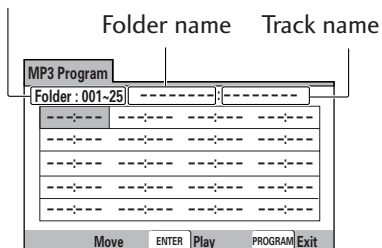
CLEAR – Clear the currently selected track from the program list.

Making a program list of MP3 tracks

- 1 Press **PROGRAM** to enter the MP3 Program screen.

If you added tracks to the program list from the *Using the MP3 navigator* on page 37, the tracks are displayed here.

Total number of folder or track

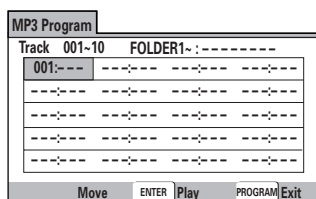


From this screen you can enter folder and track numbers directly to build up a program list.

- 2 Use the number buttons to enter a three-digit folder number.

The number of folders on the disc is displayed in the top-left of the screen.

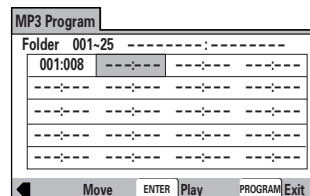
Once you've entered a valid folder number, the name of the folder appears.



- 3 Use the number buttons to enter a three-digit track number.

The number of tracks in the current folder is displayed in the top-left of the screen.

Once you've entered a valid folder number, the name of the folder appears.



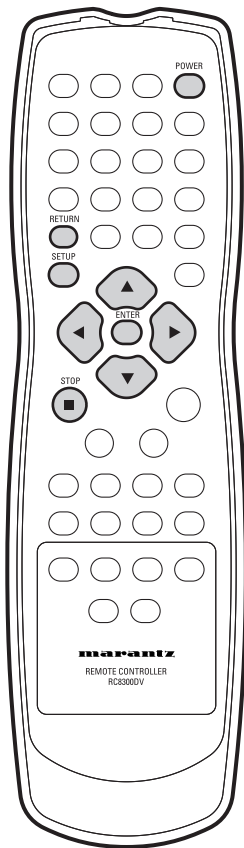
Navigate using the following controls:

Cursor buttons – Navigate the program list.

CLEAR – Clear the currently selected item in the program list.

ENTER – Start playing the program list.

PROGRAM – Exit the **MP3 Program** screen.



Using the Setup menu

The Setup menu gives you access to all the player's settings. Press **SETUP** to display/leave the menu and the **Cursor** and **ENTER** buttons on the remote to navigate and select options. In some screens you can press **RETURN** to leave the screen without making any changes. The controls for each menu are shown at the bottom of the screen.

If an option is grayed out it means that it cannot be changed at the current time. This is usually because a disc is playing. Stop the disc, then change the setting.

The current setting for any option is marked with a colored box. The color of the box indicates what kind of disc the setting is applicable to: blue for DVD only; yellow for DVD and Video CD; orange for DVD-Audio and SACD/CD; green for any type of disc.

Note

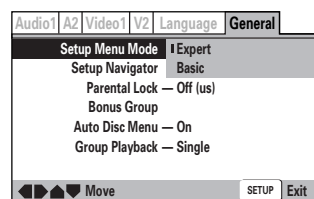
The language options shown in the on-screen display illustrations on the following pages may not correspond to those available in your country or region.

Setup Menu Mode

- Default setting: **Expert**

The **Expert** setup menu gives you access to all the player's settings. Switch to **Basic** for a reduced set of more commonly used settings. The **Basic** menu also features an information bar which tells you more about what the currently highlighted option means.

Sections below marked with the **Expert** icon are available only in **Expert** mode.

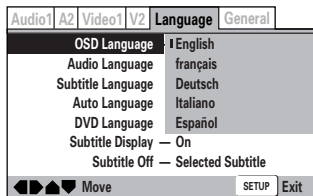


OSD Settings

OSD Language

- Set in Setup Navigator (default: **English**)

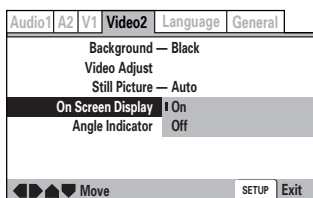
Choose the language you want the OSDs in.



On Screen Display Expert

- Default setting: **On**

If you prefer not to have the operation displays shown on-screen, change the setting to **Off**.



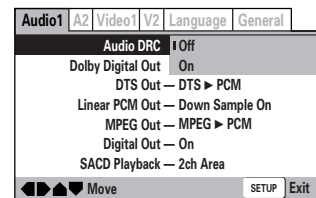
Audio settings

Audio DRC

- Default setting: **Off**

When watching Dolby Digital DVDs at low volume, it's easy to lose the low level sounds completely—including some of the dialog. Switching on Audio DRC (Dynamic Range Control) can help things by bringing up the low level sounds, while keeping the lid on high level peaks.

The **Off** setting leaves the original dynamics intact; **On** 'squashes' the dynamics; but exactly how much difference you can hear between the settings will depend on the material you're watching.



Remember

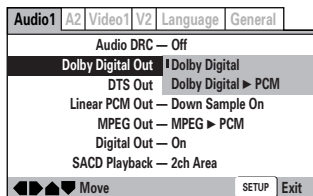
- Audio DRC is only effective with Dolby Digital audio sources.
- The effect of Audio DRC depends on your speakers and AV amplifier settings.

Dolby Digital Out

- Default: **Dolby Digital**

You only need to make this setting if you connected this system to another component (AV amplifier, etc.) using one of the digital outputs.

If your AV amplifier (or other connected component) is Dolby Digital compatible, set to **Dolby Digital**, otherwise set to **Dolby Digital ▶ PCM**.

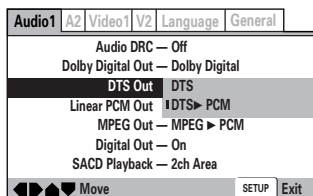


DTS Out

- Default setting: **DTS ▶ PCM**

You only need to make this setting if you connected the player to another component (AV amplifier, etc.) using one of the digital outputs.

If your AV amplifier (or other connected component) has a built-in DTS decoder, set this to **DTS**, otherwise set to **DTS ▶ PCM**. Check the manual that came with the other component if you're unsure whether it is DTS compatible.



Important

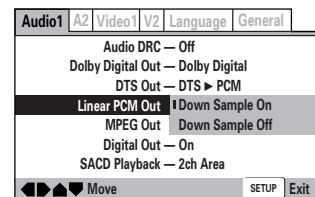
If you set to **DTS** with a non-DTS compatible amplifier, noise will be output when you play a DTS disc.

Linear PCM Out

- Default setting: **Down Sample On**

You only need to make this setting if you connected the player to another component (AV amplifier, etc.) using one of the digital outputs.

If your AV amplifier (or other connected component) is compatible with high sampling rates (96 kHz), set this to **Down Sample Off**, otherwise set it to **Down Sample On** (96 kHz audio is converted to a more compatible 48 kHz). Check the manual that came with the other component if you're unsure whether it is 96 kHz compatible.



Note

Even when set to **Down Sample Off**, some discs will only output down sampled audio through the digital outputs.

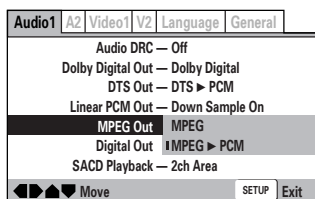
High sampling rate DVD-Audio discs (192kHz or 176.4kHz) always output audio down sampled to 96kHz or 88.2kHz through the digital outputs.

MPEG Out

- Default setting: **MPEG ▶ PCM**

You only need to make this setting if you connected the player to another component (AV amplifier, etc.) using one of the digital outs.

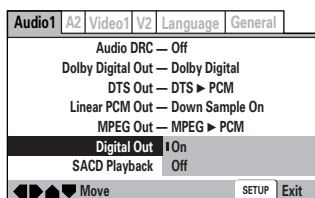
If your AV amplifier (or other connected component) is compatible with MPEG audio, set this to **MPEG**, otherwise set it to **MPEG ▶ PCM** (MPEG audio is converted to more compatible PCM audio). Check the manual that came with the other component if you're unsure whether it is MPEG audio compatible.



Digital Out Expert

- Default setting: **On**

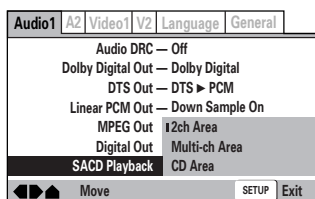
If at any time you need to switch off the digital audio output, set this to **Off**, otherwise leave it **On**. Note that you can't switch on/off the optical and coaxial outputs individually.



SACD Playback Expert

- Default setting: **2ch Area**

SACD discs can be divided up into several different areas – stereo audio, Multi channel audio and, for hybrid SACDs, standard CD audio. The SACD Playback setting enables you to select which area of the disc you want to play.



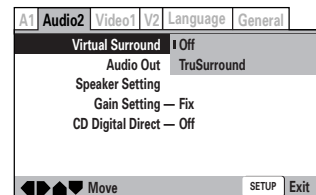
Note

If you select an area that isn't on the disc loaded, a different area of the disc will play. For example, if you choose standard CD audio but the disc loaded is not a hybrid SACD, the stereo SACD audio will play.

Virtual Surround

- Default setting: **Off**

If you connected your DVD player using only the stereo analog outputs and set **Audio Out** (see below) to **2 Channel**, you can simulate surround sound by setting Virtual Surround to **TruSurround**.

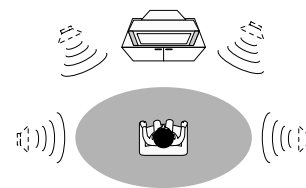


Note

- There is no effect when the audio source is DVD-Audio, DTS or 96 kHz LPCM or during CD, MP3 or SACD playback.
- The digital audio output level is reduced when playing 2 channel Dolby Digital DVDs or Video CDs with TruSurround selected. If you play a multichannel Dolby Digital DVD with Dolby Digital to PCM conversion (see [page 41](#)) and TruSurround selected, there is no digital output.
- How good the surround effect is varies with the disc.

TruSurround

TruSurround uses technology that simulates multichannel surround sound using only two speakers.

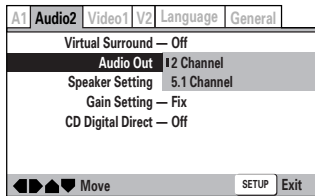


TruSurround™
by **SRS** (S)®

Audio Out

- Set in Setup Navigator (Default: **2 Channel**)

If you connected this player to your amplifier using the 5.1 channel analog outputs (front, surround, center and subwoofer outs), set this to **5.1 Channel**; if you connected only the stereo outs, set to **2 Channel**.



Note

- Even if you set **Audio Out** to **5.1 Channel**, you'll only get sound from all speakers when playing a multi-channel DVD-Audio disc, or Dolby Digital, DTS or MPEG encoded DVD disc.
- If you set to **2 Channel**, Dolby Digital, DTS and MPEG audio is mixed down to two channels so you still hear all the audio recorded on the disc.
- Some DVD-Audio discs don't allow down-mixing of audio. These discs always output multi-channel audio regardless of the setting made here.

About source audio output

When the source output mode has been switched between the **5.1 Channel** and **2 Channel** mode settings using the **Audio Out** setting in the Setup screen **Audio 2** menu, audio output for each source will be as shown on the following table.

AUDIO CONTENTS	OUTPUT MODE	AUDIO OUT (2 CH)		AUDIO OUT (5.1 CH)			DIGITAL OUTPUT (S/PDIF)	
		L, R (Front L,R)		Center	Surround L,R	Sub Woofer	Dolby Digital or MPEG ► PCM	Dolby Digital or MPEG
DVD	Dolby Digital	5.1 CH	Front Lch, Rch	Center	Surround LS, RS	LFE	2 ch DOWNMIX Lch, Rch	Dolby Digital
		2 CH	2 ch DOWNMIX Lch, Rch	MUTE				
	Dolby Digital Karaoke	5.1 CH	Lch, Rch	MUTE			Lch, Rch	Dolby Digital
		2 CH		MUTE				
	LPCM	5.1 CH / 2 CH	Lch, Rch	MUTE			Lch, Rch	
	DTS	5.1 CH	Front Lch, Rch	Center	Surround LS, RS	LFE	DTS	
		2 CH	2 ch DOWNMIX Lch, Rch	MUTE				
	MPEG	5.1 CH	Front Lch, Rch	Center	Surround LS, RS	LFE	Lch, Rch	MPEG
		2 CH	Lch, Rch	MUTE				
	DVD -Audio	5.1 CH	Front Lch, Rch	Center	Surround LS, RS	LFE	2 ch DOWNMIX Lch, Rch ²	
		2 CH	2 ch DOWNMIX Lch, Rch ¹	MUTE				
	CD	5.1 CH / 2 CH	Lch, Rch	MUTE			Lch, Rch	
SACD	5.1 CH	Front Lch, Rch	Center	Surround LS, RS	LFE	MUTE		
	2 CH	2 ch DOWNMIX Lch, Rch	MUTE					
Video CD	5.1 CH / 2 CH	Lch, Rch	MUTE			Lch, Rch		
DVD-RW	5.1 CH / 2 CH	Lch, Rch ³	MUTE			Dolby Digital, MPEG or PCM (Lch, Rch)		

¹: Discs that prohibit downmixing will be output as 5.1 channel even if **2 Channel** is selected.

²: Discs that prohibit downmixing also mute the digital output.

³: If the sound is mono, Lch and Rch audio will be the same.

Speaker Setting

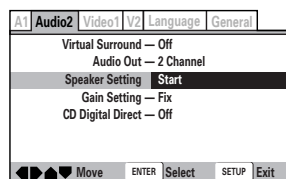
- Set in Setup Navigator (default: **Center: Large** | **Sub: On** | **Surround: Large** | **Distance: all 10 feet (3.0m)**)

You only need to make this setting if you connected this player to your amplifier using the 5.1 channel analog outputs. This setting does not affect digital audio output.

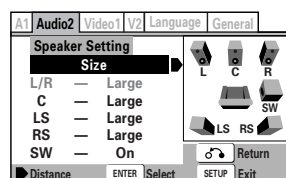
Follow the on-screen displays to describe which speakers are in your system and their sizes and positions.

Set the size of your speakers in the Size screen. The front left/right (L/R) speakers have a fixed setting of **Large**. The center (C), left surround (LS) and right surround (RS) speakers can each be set to **Large**, **Small** or **Off**. Set a speaker to **Large** if the main speaker cone is 12cm or more; set to **Small** if it's less than 12cm. Note that the **LS** and **RS** speakers cannot be set independently.

The subwoofer (**SW**) can only be set to **On** or **Off**. The graphic on the right of the screen represents your speaker setup, with the currently selected speaker's name highlighted in blue, and the speakers set to **On** highlighted in yellow.



Press ENTER



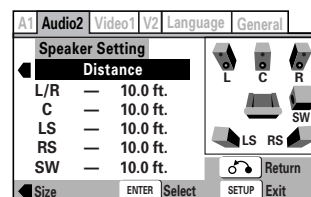
Note

- When listening to a DVD audio source, the **C**, **LS**, and **RS** speakers will automatically be set to the **Large** size setting. However, the sound will not be affected by the change. Listening to another source will return the speakers to their original settings.
- For DVD-Audio only, if the **C**, **LS**, or **RS** speakers is set to **Off**, the audio is automatically downmixed to stereo.

Set the distance from your main listening position to each speaker in the Distance screen. The distance setting for any speaker that was set to **Off** in the Size screen will be grayed out. For the other speakers, enter the distance to the nearest 0.5 feet (0.1m). You can set the distance for the **L/R** speakers between 1.0 feet (0.3m) and 30 feet (9m). Note that you must set the **C** and **SW** speakers within 6.5 feet (2m) of the **L/R** setting. The **LS** and **RS** speakers must be set within -20 feet (-6m) and +6.5 feet (+2m) of the **L/R** setting. The graphic on the right of the screen represents your speaker setup, with the currently selected speaker's name highlighted in blue, and the speakers set to **On** highlighted in yellow.

Note

- If your subwoofer is placed beyond the adjustment range ($L/R \pm 6.5$ feet (2m)), set to the nearest setting possible. Surround sound cohesion should not be affected very much.
- This setting does not apply to SACD playback.



Gain Settings Expert

- Default setting: **Fix**

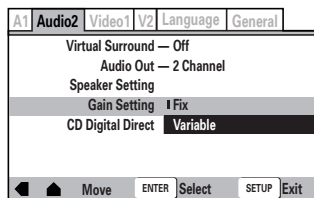
You may want to make this setting if you connected this player to your amplifier using the 5.1 channel analog outputs.

Under the default setting, all channels are output at the relative volumes they were recorded at. Change the setting to **Variable** if you want to adjust the relative volume levels of any of the speakers. Adjustment is in the range of -6dB to +6dB, in steps of 0.5dB.

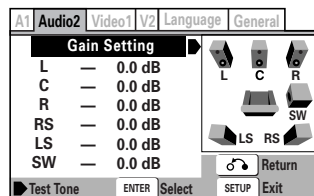
- When set to **Variable**, the overall output level may sound quieter than when set to **Fix**. This is not a malfunction.

Note

Gain settings are not effective when playing a CD with **CD Digital Direct** set to **On**.



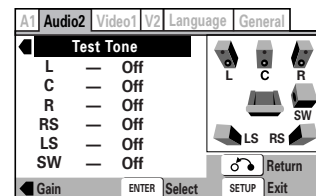
Press ENTER



To help you gauge the correct gain levels, set the **Test Tone** to **On** (test tone from just that speaker) or **Auto** (test tone from each speaker in turn, excluding the subwoofer) then adjust the gain so that all speakers appear to be the same volume from your listening position.

Follow the on-screen displays to select speakers and set the channel levels.

- You can adjust the **Test Tone** setting only when the player is stopped.
- Many AV amplifiers allow you to make similar settings at the amplifier stage. In this case, set the channel levels at the player or the amplifier, not both.
- As the test tone plays through a speaker, its name is highlighted in yellow on-screen.



Remember

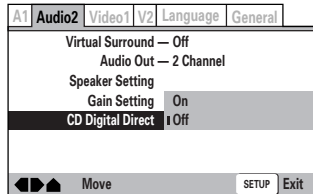
You can't use the test tone function when the **Audio Out** setting is **2 Channel** (see [page 43](#)). The test tone will not work with the disc tray open, or while a disc is playing.

CD Digital Direct Expert

- Default setting: **Off**

Setting this to **On** increases CD audio quality by bypassing certain audio circuits in the player that audio signal would otherwise pass through.

However, this must be set to **Off** for proper playback of DTS encoded CDs.



Remember

If this setting is set to **On** when a DTS CD is playback, noise is produced.

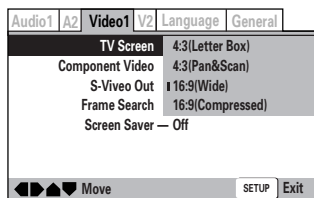
Video settings

TV Screen

- Set in Setup Navigator (Default: **16:9 (Wide)**)

If you have a widescreen TV, select the **16:9 (Wide)** setting—widescreen DVD software is then shown using the full screen area. When playing software recorded in conventional (4:3) format, the settings on your TV will determine how the material is presented—see the manual that came with your TV for details on what options are available. If your TV does not have settings for how 4:3 sources look, choose the **16:9 (Compressed)** setting. The picture you see on your TV will be determined by the disc. See [page 68](#) for more information.

If you have a conventional TV, choose either **4:3 (Letter Box)** or **4:3 (Pan & Scan)**. In Letter Box mode, widescreen software is shown with black bars at the top and bottom of the screen. Pan & Scan chops the sides off widescreen material to make it fit the 4:3 screen (so even though the picture looks larger on the screen, you're actually seeing less of the movie).



Note

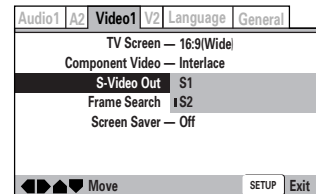
- You cannot change this setting when a disc is playing.
- Some discs will not allow you to change the aspect ratio.

S-Video Out Expert

- Default setting: **S2**

You only need to make this setting if you connected this player to your TV using an S-Video cord.

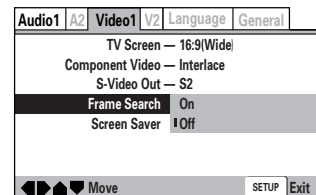
If you find that the picture is stretched or distorted on the default **S2** setting, try changing it to **S1**.



Frame Search Expert

- Default setting: **Off**

Set this to On if you want to be able to do frame-accurate searching of DVD discs (see [page 23](#) for how to do a time & frame search). On the default setting, the time & frame search is not available.

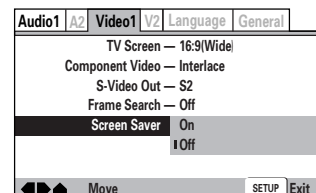


Screen Saver Expert

- Default setting: **Off**

If a constant image is displayed on a conventional CRT-type TV, it can “burn in” leaving a ghost image on the screen. Switch to **On** to make sure that a constant image is not displayed for a dangerously long time.

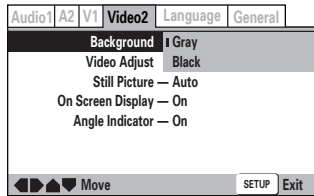
If the **Screen Saver** comes on when the Speaker Setup test tone is playing, the test tone will stop ([page 45](#)).



Background

- Default setting: **Gray**

This specifies what the screen shows when the player is stopped.



Note

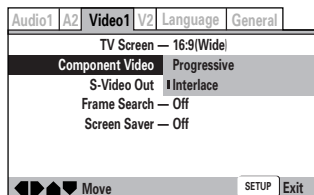
The menu settings may look different from the one shown above.

Component Video

Compared to a standard interlaced TV picture, a progressive scan TV is capable of stable, flicker-free images.

Set only if you connected the **COMPONENT VIDEO OUT** to a progressive scan-compatible TV or monitor.

Make changes to the **Component Video** setting in the Setup screen **Video 1** menu.



- **Progressive** – Use this setting with TVs and monitors that have progressive scan component video inputs. Check the TV's instruction manual if you are not sure about this.
- **Interlace** – (default setting) use this setting with regular TVs that are not compatible with progressive scan. Check the TV's instruction manual if you are not sure about this.

Tip

If this player is set to output progressive-scan video, it's possible that the picture will appear stretched when playing discs recorded in 4:3 format. This happens when the TV's aspect ratio is set 'Full'. To see the picture in its correct aspect ratio, change the TV setting to 'Normal'.

If your TV doesn't have settings to change the aspect ratio of the picture, set this player to **16:9(Compressed)**.

Note

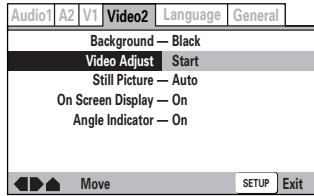
If you connect a TV that is not compatible with a progressive scan signal and choose one of the progressive scan settings, you will not be able to see any picture at all. With your TV connected using either the composite or S-Video terminals, choose the **Interlace** setting in the **Component Video** menu.

Compatibility of this unit with progressive-scan TVs.

'CONSUMERS SHOULD NOTE THAT NOT ALL HIGH DEFINITION TELEVISION SETS ARE FULLY COMPATIBLE WITH THIS PRODUCT AND MAY CAUSE ARTIFACTS TO BE DISPLAYED IN THE PICTURE. IN CASE OF 525 PROGRESSIVE SCAN PICTURE PROBLEMS, IT IS RECOMMENDED THAT THE USER SWITCH THE CONNECTION TO THE "STANDARD DEFINITION" OUTPUT.

Video Adjust

There are several preset picture quality settings that suit different kinds of display device (TV, Plasma display, etc.). Alternatively, set up your own and save them in the player's memory.



- **TV (CRT)** – optimized settings for a standard television set.
- **PDP** – optimized for a plasma display.
- **Professional** – (default setting) optimized for a professional monitor.
- **Memory 1, 2, 3** – User presets (see **page 51** for more on these)

You can highlight a preset while a disc is playing (before you press **ENTER** to select it) to see the effect on the picture immediately.

 **Note**

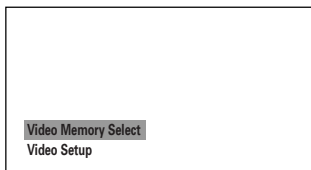
Depending on the disc and your TV/monitor, the effect of these settings may not be clear.

Selecting a preset

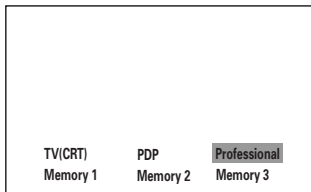
1 Select 'Start'.

You can also access these settings by pressing **VIDEO ADJ.**.

2 Select 'Video Memory Select'.



3 Select a preset.

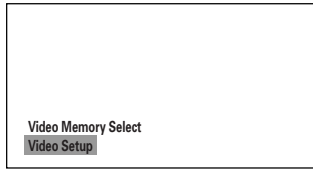


Creating your own setting (1)

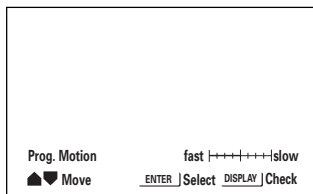
1 Select 'Start'.

You can also access these settings by pressing **VIDEO ADJ.**

2 Select 'Video Setup'



3 Use the cursor buttons (▲/▼) to select a picture quality parameter, then use the cursor buttons (◀/▶) to adjust that parameter.



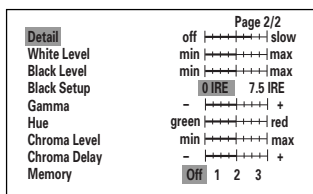
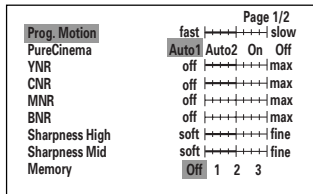
- **Prog. Motion** – When using progressive scan, this adjusts the motion and still picture quality.
- **PureCinema** – When watching DVD movies, PureCinema optimizes the picture quality. The default setting is **Auto1**, but if the picture appears unnatural, then set to **Auto2**, **On** or **Off** as desired and adjust the Prog. Motion setting (see above). See *PureCinema* in the *Glossary* starting on **page 61**.
- **YNR** – Adjusts the amount of noise reduction (NR) applied to the Y (brightness) component.
- **CNR** – Adjusts the amount of noise reduction (NR) applied to the C (colour) component.
- **MNR** (Mosquito Noise Reduction) – Adjusts the amount of noise reduction applied to the mosquito noise (video artifacts on the edge of the image resulting from MPEG compression).
- **BNR** (Block Noise Reduction) – Adjusts the amount of noise reduction applied to the block noise.
- **Sharpness High** – Adjusts the sharpness of the high-frequency (finely detailed) elements in the picture.
- **Sharpness Mid** – Adjusts the sharpness of the mid-frequency (less detailed) elements in the picture.

- **Detail** – Adjusts how sharp edges appear in the picture.
- **White Level** – Adjusts the intensity of white in the picture.
- **Black Level** – Adjusts the intensity of black in the picture.
- **Black Setup** – For correction of floating black colour.
- **Gamma** – Adjusts the brightness of the darker images in the picture.
- **Hue** – Adjusts the overall colour balance between red and green.
- **Chroma Level** – Adjusts how saturated colours appear.
- **Chroma Delay** – Compensates for misalignment of the Y (brightness) and the C (colour) components.

4 Press ENTER to save your changes.

Creating your own setting (2)

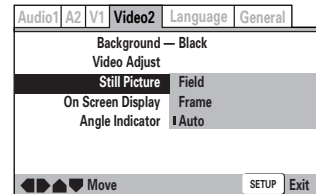
- 1 Select 'Start'.
You can also access these settings by pressing VIDEO ADJ..
- 2 Select 'Video Setup'
- 3 Press DISPLAY.



- 4 Use the cursor buttons (▲/▼) to select a picture quality parameter, then use the cursor buttons (◀/▶) to adjust that parameter.
- 5 To save your changes in one of the user presets, highlight Memory 1, 2 or 3 and press ENTER.

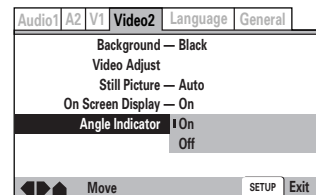
Still Picture Expert

- Default setting: **Auto**
The player uses one of two processes when displaying a still frame from a DVD disc. The default **Auto** setting automatically chooses the best setting each time.
- **Field** – produces a stable, generally shake-free image.
- **Frame** – produces a sharper image, but more prone to shake than field stills.



Angle Indicator Expert

- Default setting: **On**
If you prefer not to see the camera icon on-screen during multi-angle scenes on DVD discs, change this setting to **Off**.



Video ON/OFF

Press Video ON/OFF button to turn the Video Output (Video, S1/S2 and Component) off and then picture is disappeared.
And press it again to turn the all of Video output on.

Language settings

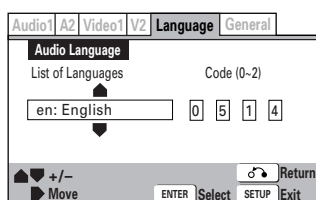
Audio Language

- Default Setting: **English**

This setting is your preferred audio language for DVD discs. If the language you specify here is recorded on a disc, the system automatically plays the disc in that language (although this depends on the **Auto Language** setting—see [page 54](#)).



The DVD format recognizes 136 different languages. Choose **Other** if you want to specify a language other than those listed, then follow the on-screen display to select a language. You may also want to refer to the Language code list on [page 66](#).




Tip

You can switch between the languages recorded on a DVD disc any time during playback using the **AUDIO** button. (This does not affect this setting.)



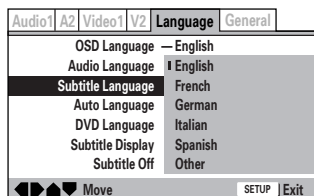
Note

- You cannot switch languages if there is only one language recorded on the disc. In this case, the  mark is displayed.
- For some discs, selection can be made using the DVD menu. In these cases, press **MENU** to display the DVD menu screen and then make your selection.

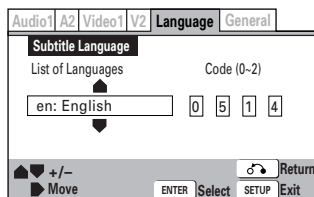
Subtitle Language

- Default Setting: **English**

This setting is your preferred subtitle language for DVD discs. If the language you specify here is recorded on a disc, the system automatically plays the disc with those subtitles (although this depends on the **Auto Language** setting—see [page 54](#)).




The DVD format recognizes 136 different languages. Choose **Other** if you want to specify a language other than those listed, then follow the on-screen display to select a language. You may also want to refer to the Language code list on [page 66](#).



Tip

You can change or switch off the subtitles on a DVD disc any time during playback using the **SUBTITLE** button. (This does not affect this setting.)

Note

- The subtitle language cannot be switched if the subtitle language is not recorded, or if only one language is recorded. In this case, the  mark will be displayed.
- To clear subtitles during playback, press **SUBTITLE** and then press **CLEAR**, or press **SUBTITLE** until **Off** appears.
- For some discs, subtitle language selection can be made using the menu on the DVD. In this case, press **MENU** to display the DVD menu screen and then make your selection.

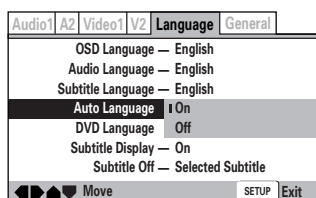
Auto Language

- Default Setting: **On**

When set to **On**, the player always selects the default audio language on a DVD disc (French dialog for a French movie, for example), and displays subtitles in your preferred subtitle language only if that is set to something different. In other words, movies in your native language won't have any subtitles, while foreign language movies will be shown with subtitles.

Set to **Off** to have the system play discs strictly according to your **Audio Language** and **Subtitle Language** settings.

For **Auto Language** to work, the **Audio Language** and **Subtitle Language** settings must be the same—see pages 52, 53.



Tip

You can still switch audio and subtitle languages on playback using the **AUDIO** and **SUBTITLE** buttons.

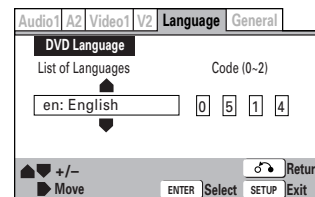
DVD Language Expert

- Default Setting: **w/Subtitle Language**

Some multilingual discs have disc menus in several languages. This setting specifies in which language the disc menus should appear. Leave on the default setting for menus to appear in the same language as your **Subtitle Language**—see page 53.



The DVD format recognizes 136 different languages. Choose **Other** if you want to specify a language other than those listed, then follow the on-screen display to select a language. You may also want to refer to the Language code list on page 66.



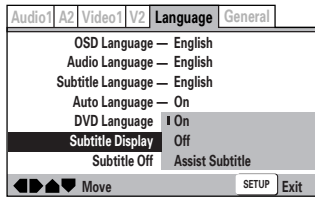
Note

You can also select the DVD language from the DVD disc menu. Press **MENU** to open the DVD menu and make your selection accordingly.

Subtitle Display Expert

- Default Setting: **On**

When set to **On**, the player displays subtitles according to the **Subtitle Language** and **Auto Language** settings. Set to **Off** to switch subtitles off altogether (although see **Subtitle Off** on this page for special cases). Set to **Assist Subtitle** to have the player display the extra assistive subtitles recorded on to some DVD discs.



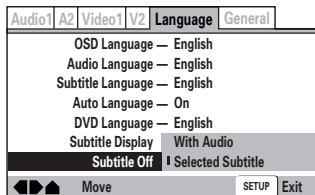
Note

- If there is no subtitle information recorded on the disc, no subtitles are displayed even if this function is set to **On**.
- Whether this setting is **On** or **Off**, you can still switch subtitles (or switch them off) using the **SUBTITLE** button.

Subtitle Off Expert

- Default Setting: **Selected Subtitle**

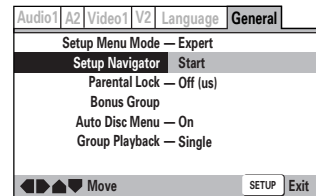
Some discs display subtitles even if the **Subtitle Display** setting (above) is set to **Off**. In this case, you can either have the subtitles displayed in the same language as your preferred audio language (**With Audio**), or in your preferred subtitle language (**Selected Subtitle**). If the **Audio Language** and **Subtitle Language** settings are the same then both of these choices will give the same result.



General settings

Setup Navigator

Use the Setup Navigator to make the basic settings for your DVD player. See **page 17** for detailed instructions.



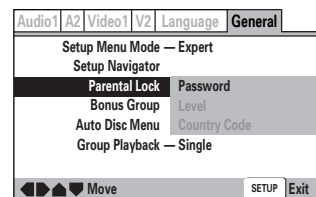
Parental Lock

- Default level: **Off**
- Default password: *none*
- Default country code: **us (2119)**

Some DVD Video discs feature a Parental Lock level. If your player is set to a lower level than the disc, it will require you to enter a password before the disc will play. This gives you some control about what your children watch on your DVD player.

Some discs also support the Country Code feature. The player does not play certain scenes on these discs, depending on the country code you set.

Before you can set the Parental Lock level or the Country Code you must register a password. As the password owner, you can change the Parental Lock level or Country Code whenever you like. You can also change the password.



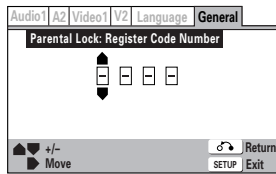
Note

Not all discs that you may consider inappropriate for your children use the Parental Lock feature. These discs will always play without requiring the password first.

Registering a new password

You must register a password before you can change the Parental Lock level or enter a Country Code.

- 1 Select 'Password'.



- 2 Use the number buttons to enter a 4-digit password.

It's also possible to use the **Cursor buttons** to set the password (▲/▼ to set the number; ◀/▶ to change the cursor position).

- 3 Press ENTER to register the password.

If you forget your password, you can reset the system then register a new one. See [page 65](#) for how to reset the player.

Changing your password

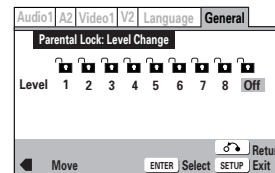
To change your password, confirm your existing password then enter a new one.

- 1 Select 'Password Change'.
- 2 Use the number buttons to enter your existing password.
 - The numbers appear as asterisks as you enter them.
 - It's also possible to use the **Cursor buttons** to set the password (▲/▼ to set the number; ◀/▶ to change the cursor position).
- 3 Press ENTER.
- 4 Enter a new password.
- 5 Press ENTER.

Setting/changing the Parental Lock level

- 1 Select 'Level'.
- 2 Use number buttons to enter your password, then press ENTER.
- 3 Select a new level.

Move leftward to lock more levels (more discs will require the password); rightward to unlock levels. You can't lock level 1.



- 4 Press ENTER to set the new level.



Tip

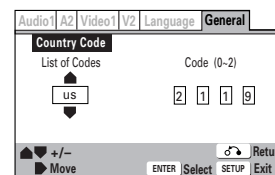
Use the Condition Memory feature ([page 32](#)) to save the Parental Lock level for individual discs.

Setting/changing the Country Code

You may also want to refer to the Country code list on [page 66](#).

- 1 Select 'Country Code'.
- 2 Use number buttons to enter your password, then press ENTER.
- 3 Select a country code.

You can select the country code by letter or number. See [page 66](#) for the list of country codes.

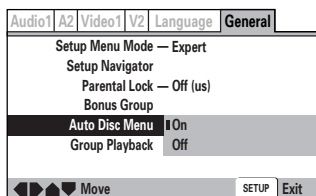


- 4 Press ENTER to set the new Country Code.

Auto Disc Menu Expert

- Default setting: **On**

This specifies whether the menu (Top menu) is automatically displayed after loading a disc. Set to **On** if you want the menu displayed automatically, or **Off** if you don't want it displayed.

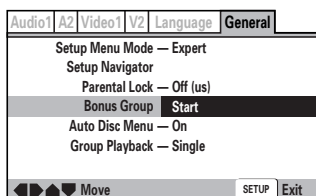


Note

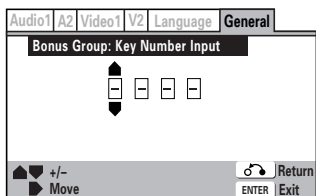
Some DVD discs display a menu automatically regardless of this setting. If you press **▶** while a disc is loading, this setting is ignored.

Bonus Group Expert

Some DVD-Audio discs have an extra 'bonus' group that requires a 4-digit key number to access. See the disc packaging for details and the key number. When you try and play the bonus group, the key number input screen will automatically appear, although it is also available from the **General** menu. Input the number and press **ENTER**.



↓
Press **ENTER** twice



Note

If you eject the disc, switch the power off, or unplug the player, you will need to re-enter the key number.

Group Playback Expert

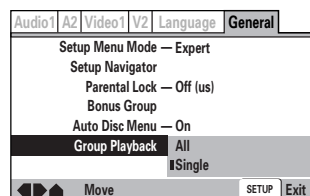
- Default setting: **Single**

DVD-Audio discs can have up to 9 groups of tracks. When set to **Single**, the selected group plays and then the disc stops, or returns to the menu screen. Use Group Search ([page 23](#)) to select the group to play. (You cannot use the track skip **◀◀** / **▶▶** or scan buttons **◀** / **▶** in this mode.)

Set to **All** if you want to play all the groups on a disc consecutively.

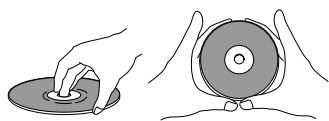
Note

Even if the players is set to **All** but you select a group to play from the disc menu, only that group will play. If you stop playback, all groups will play again when you restart playback.



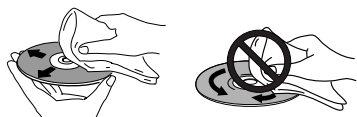
Handling discs

When holding discs of any type, take care not to leave fingerprints, dirt or scratches on the disc surface. Hold the disc by its edge or by the center hole and edge.



Damaged or dirty discs can affect playback performance. Take care also not to scratch the label side of the disc. Although not as fragile as the recorded side, scratches can still result in a disc becoming unusable.

Should a disc become marked with fingerprints, dust, etc., clean using a soft, dry cloth, wiping the disc lightly from the center to the outside edge as shown in the diagram below.



Wipe lightly from the center of the disc using straight strokes.

Don't wipe the disc surface using circular strokes.

If necessary, use a cloth soaked in alcohol, or a commercially available CD/DVD cleaning kit to clean a disc more thoroughly. Never use benzine, thinner or other cleaning agents, including products designed for cleaning vinyl records.

Storing discs

Although CDs and DVD discs are more durable than vinyl records, you should still take care to handle and store discs correctly. When you're not using a disc, return it to its case and store upright. Avoid leaving discs in excessively cold, humid, or hot environments (including under direct sunlight).

Don't glue paper or put stickers onto the disc, or use a pencil, ball-point pen or other sharp-tipped writing instrument. These could all damage the disc.

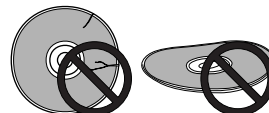


For more detailed care information see the instructions that come with discs.

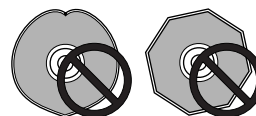
Do not load more than one disc into the player.

Discs to avoid

Discs spin at high speed inside the player. If you can see that a disc is cracked, chipped, warped, or otherwise damaged, don't risk using it in your player—you could end up damaging the unit.



This unit is designed for use with conventional, fully circular discs only. Use of shaped discs is not recommended for this product.



Cleaning the pickup lens

The DVD player's lens should not become dirty in normal use, but if for some reason it should malfunction due to dust or dirt, consult your nearest MARANTZ-authorized service center.

Although lens cleaners for CD players are commercially available, we do not recommend using them since some may damage the lens.

Problems with condensation

Condensation may form inside the player if it is brought into a warm room from outside, or if the temperature of the room rises quickly. Although the condensation won't damage the player, it may temporarily impair its performance. For this reason you should leave it to adjust to the warmer temperature for about an hour before switching on and using.

Hints on installation

We want you to enjoy using this unit for years to come, so please bear in mind the following points when choosing a suitable location for it:

Do...

- ✓ Use in a well-ventilated room.
- ✓ Place on a solid, flat, level surface, such as a table, shelf or stereo rack.

Don't...

- ✗ Use in a place exposed to high temperatures or humidity, including near radiators and other heat-generating appliances.
- ✗ Place on a window sill or other place where the player will be exposed to direct sunlight.
- ✗ Use in an excessively dusty or damp environment.
- ✗ Place directly on top of an amplifier, or other component in your stereo system that becomes hot in use.
- ✗ Use near a television or monitor as you may experience interference—especially if the television uses an indoor antenna.
- ✗ Use in a kitchen or other room where the player may be exposed to smoke or steam.
- ✗ Use on a thick rug or carpet, or cover with cloth—this may prevent proper cooling of the unit.
- ✗ Place on an unstable surface, or one that is not large enough to support all four of the unit's feet.

Moving the player

If you need to move the player, first press **POWER ON/OFF** button on the front panel to turn the player off, then unplug the power cord. Never lift or move the unit during playback—discs rotate at a high speed and may be damaged.

Power cord caution

Handle the power cord by the plug part. Do not pull out the plug by tugging the cord, and never touch the power cord when your hands are wet, as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, or other object on the power cord or pinch the cord in any other way. Never make a knot in the cord or tie it with other cords. The power cords should be routed so that they are not likely to be stepped on. A damaged power cord can cause a fire or give you an electric shock. Check the power cord once in a while. If you find it damaged, ask your nearest MARANTZ authorized service center or your dealer for a replacement.

Glossary

Analog audio

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

Aspect ratio

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

Bonus Group (DVD-Audio only)

An 'extra' group on some DVD-Audio discs that requires a key number to access. See also *Group*.

Browsable pictures (DVD-Audio only)

A feature of some DVD-Audio discs in which the user can browse still pictures recorded on the disc as the audio is played. See also *Slideshow*.

Chapter (DVD-Video, DVD-RW)

Just as a book is split up into several chapters, a title on a DVD disc is usually divided into chapters. See also *Title*.

Digital audio

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

Dolby Digital



Using a maximum of 5.1 channels of audio, this high quality surround system is used in many of the finer movie theaters around the world.

DTS



DTS stands for Digital Theater System. DTS is a surround system different from *Dolby Digital* that has become a popular surround sound format for movies.

Dynamic range

The difference between the quietest and loudest sounds possible in an audio signal (without distorting or getting lost in noise). Dolby Digital and DTS soundtracks are capable of a very wide dynamic range, delivering dramatic cinema-like effects.

File extension

A tag added to the end of a filename to indicate the type of file. For example, ".mp3" indicates an MP3 file.

Group (DVD-Audio only)

A collection of tracks on a DVD-Audio disc. Equivalent to a DVD-Video title. See also *Title* and *Track*.

Interlaced video

A method of displaying a picture in which odd-numbered lines are updated in one pass, then even-numbered lines updated in the next. See also *Progressive scan video*.

MP3

MP3 (MPEG1 audio layer 3) is a compressed audio file format. Files are recognized by their file extension ".mp3" or ".MP3".

MPEG audio

MPEG)|(Multichannel

An audio format used on Video CDs and some DVD discs. This unit can convert MPEG audio to PCM format for wider compatibility with digital recorders and AV amplifiers. See also *PCM*.

MPEG video

The video format used for Video CDs and DVDs. Video CDs uses the older MPEG-1 standard, while DVD uses the newer and much better quality MPEG-2 standard.

Multi-session

A CD-R/RW that contains two or more 'sessions'. Each session is a complete recording process, so each session is read as a complete disc. This player can only read the first session on a disc.

Optical digital output

A jack that outputs digital audio in the form of light pulses. Connect components with optical digital jacks using a special optical cord, available from good audio dealers.

Packed PCM (DVD-Audio only)

A lossless compression system that enables more PCM audio to be stored on a DVD-Audio disc than would otherwise be possible.

PCM (Pulse Code Modulation)

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

PBC (PlayBack Control) (Video CD only)

A system of navigating a Video CD through on-screen menus recorded onto the disc. Especially good for discs that you would normally not watch from beginning to end all at once—karaoke discs, for example.

Progressive scan video

Also called non-interlaced video, this method of displaying a picture updates all the lines in one pass, resulting in a more stable, flicker-free image than interlaced video (for a given scanning rate). See also *Interlaced video*.

PureCinema (DVD-Video only)

Video on a DVD discs may be either video material (originally shot on video) or film material (originally shot on film). Video material has a frame rate of 30 frames/sec. (NTSC), compared with 24 frames/sec. for film. This player converts film material to 60 frames/sec. (in progressive scan mode). PureCinema adjusts the picture so that it matches more closely the picture quality of a cinema screen.

You can see whether video on a DVD disc is film or video material by displaying the video transmission rate (see **page 34**). If a hash mark (#) appears above the transmission rate display, it is film material.

Regions (DVD-Video only)

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

Sampling frequency

The rate at which sound is measured to be turned into digital audio data. The higher the rate, the better the sound quality, but the more digital information is generated. Standard CD audio has a sampling frequency of 44.1 kHz, which means 44,100 samples (measurements) per second. See also *Digital audio*.

Slideshow (DVD, Video CD)

A feature of some DVD discs in which still pictures recorded on the disc cycle automatically as the audio is played. See also *Browsable pictures*.

Title (DVD-Video only)

A collection of chapters on a DVD-Video disc. Equivalent to a DVD-Audio group. See also *Chapter* and *Group*.

Track

Audio CDs, Video CDs and DVD-Audio discs all use tracks to divide up the content of a disc. The DVD-Video equivalent is called a chapter. See also *Chapter* and *Group*.

Troubleshooting

Incorrect operation is often mistaken for trouble or malfunction. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Inspect the other components and electrical appliances being used. If the trouble cannot be rectified after checking the items below, ask your nearest MARANTZ authorized service center or your dealer to carry out repair work.

The disc is ejected automatically after loading.

- Dirty or damaged disc.
See **page 58** for disc care information.
- Disc not seated properly in the disc guide.
Align the disc properly.
- Incompatible region number.
If the region number on a DVD-Video disc does not match the number on the player, the disc cannot be used (**page 9**).
- Condensation inside the player.
Allow time for condensation to evaporate. Avoid using the player near an air-conditioning unit.

Playback is not possible.

- Disc is loaded upside down.
Reload the disc with the label side face up.

Cannot play DVD-RW disc

- If the display shows '**COPY PROTECT PROGRAM, UNPLAYABLE**', this means that this disc cannot be played.

DVD-Audio playback stops.

- The disc may have been illegally copied.

mark appears on screen.

- The operation is prohibited by the player.

mark appears on screen.

- The selected function does not operate for that disc.

When making changes in the Setup OSD menus,

is displayed.

- There is a CD or Video CD loaded and the setting that was changed applies only to DVD discs.
The settings will take effect next time a DVD is loaded.

Picture playback stops and the operation buttons cannot be used.

- Press **■**, then start playback again (**▶**).
- Switch the power off once using the front panel **POWER ON/OFF** and then switch on again using the front panel **POWER ON/OFF**.

New settings made in the Setup screen menus while a disc is playing are ineffective.

- Some settings can be changed while a disc is playing, but are not effective until the disc is stopped then restarted. This is not a malfunction.
Make the same setting when the player is stopped.
Press **■**, then restart playback (**▶**). Note that making settings in the Setup screen menus may cancel the **RESUME** function.

Settings are canceled.

- When the power is cut due to power failure or by unplugging the power cord, settings will be canceled.
Before unplugging the power cord, press **POWER** button on the Remote Control and checking that **STANDBY** indicator light on the front panel, then press **POWER ON/OFF** the front panel to turn the player off.

No picture/No color.

- Incorrect video connections.
Check that connections are correct and that plugs are inserted fully.
- TV/monitor or AV amplifier settings are incorrect.
Check the instruction manual of the connected equipment.
- The **Component Video** menu is set to **Progressive** but your TV/monitor is not compatible with progressive scan.
Reconnect the player to your TV using a composite or S-Video cord and set the TV to the appropriate input. Now choose the Interlace setting in the **Component Video** menu, then switch the TV input back to the component input. (**page 48**).
Reset the player (**page 65**). Component Video will be reset to **Interlace** but you'll also lose other settings.
- Check that **VIDEO ON/OFF** switch is set to the correct position (**page 51**).

Screen is stretched or aspect does not change.

- The **TV Screen** setting in the Setup menu is incorrect.
Set the **TV Screen** option to match the TV/monitor you're using (**page 47**).

Additional Information

Screen is suddenly stretched when the Setup screen is opened.

- If the Setup screen is opened during playback of a DVD being viewed in the letter box format, the screen may switch to the wide screen format.
This is not a malfunction. The screen will return to normal when the Setup screen is closed.

Picture disturbance during playback or dark.

- This player is compatible with Macro-Vision System copy guard. Some discs include a copy prevention signal, and when this type of disc is played back, stripes etc., may appear on some sections of the picture depending on the TV.
This is not a malfunction.
- Discs respond differently to particular player functions. This may result in the screen becoming black for a brief instant or shaking slightly when the function is executed.
These problems are largely due to differences between discs and disc content and are not malfunctions of this player.
- When using progressive-scan.
If your TV is connected using the **COMPONENT VIDEO OUT** jacks, set the **Component Video** menu to **Interlace** (page 48).

When recorded on a VCR or passed through an AV selector, there is disturbance in the playback picture.

- Due to the player's copy protection circuits, connection of this device through a VCR or an AV selector may prevent recording or cause picture problems.
This is not a malfunction.

Some settings in the Setup Menu do not appear.

The Setup Menu Mode is set to **Basic**; set it to **Expert** (page 39).

The remote control doesn't seem to work.

- The **CONTROL IN** jack on the rear panel is connected.
Check that **REMOTE CONTROL SW** is set to the external position (page 10).
- The remote control is too far from the player, or the angle with the remote sensor is too wide.
Use the remote within its operating range (page 7).
- The batteries are exhausted.
Put in new batteries (page 7).
- Check that **REMOTE CODE** setting is set to the correct position (page 14, 16).

Cannot listen to high-sampling rate audio through the digital output.

- **Linear PCM Out** is set to **Down Sample On**.
Set to **Down Sample Off**.
- As a copy-protection measure, some DVDs do not output 96 kHz audio.
In this case, even if **Down Sample Off** is selected, the player automatically outputs the audio at 48 kHz.
This is not a malfunction.

No audio, or audio is distorted.

- Some DVD discs do not output digital audio.
Switch your amplifier to the player's analog outputs.
- Dirt, dust, etc. on the disc.
Clean the disc (page 58).
- Interconnects are not fully inserted into the terminals (or are not connected).
Check that all interconnects are firmly inserted.
- Dirty or oxidized plugs/terminals.
Clean the plugs/terminals.
- Incorrect audio cable connection.
Check the audio connections (pages 10-12).
- Player's output is connected to the amplifier's phono (turntable) inputs.
Connect to any set of inputs *except* phono.
- The disc is paused.
Press ► or II to exit the pause mode.
- Incorrect amplifier settings.
Check that the volume is turned up, that the speakers are on, the input function set correctly, etc.
- The **Audio Out** setting is incorrect.
If there is no dialog from the front L/R speakers, set **Audio Out** to **2 Channel**. If there is no output from the rear, center and subwoofer speakers, set **Audio Out** to **5.1 Channel** (page 43).
- The player is set to 5.1 ch playback, but sound is only 2ch.
Check that 2ch playback is not selected in the disc's menu.

The analog audio is OK, but there appears to be no digital audio signal.

- Incorrect **Audio 1** menu settings.
Make sure that the **Digital Out** setting is set to **On** (page 42).
Check that the **Dolby Digital** and **DTS** settings are suitable for your amplifier—check the amp's instruction manual.

Noticeable difference in DVD and CD volume.

- DVDs and CDs use different recording methods.
This is not a malfunction.

Cannot play multi-channel audio

- Make sure that **5.1 Channel** is selected in the **Audio Out** menu (page 43).
- Check that the settings in the **Speaker Setting** screen are correct (page 44).
- Check the audio options available from the disc's menu.

No digital audio output

- Check that **Digital Out** setting is set to **On** (page 42).
- Some DVD-Audio discs prohibit digital audio output.
- No digital audio is output when playing SACDs.

Cannot output 192kHz or 176.4kHz digital audio.

The player does not output digital audio at these sampling rates.

Cannot output 96kHz or 88.2kHz digital audio.

- Check that the **Linear PCM** setting is not set to **Down Sample On** (page 41).
- Some discs are digital copy protected and do not output high sampling rate digital audio.

No DTS audio output.

- If this unit is connected to a non-DTS compatible amplifier or decoder using a digital audio cable, set **DTS Out** to **DTS ► PCM** in the Setup menu. If you do not do this, noise will be output if you try and play a DTS disc.
- If this unit is connected to a DTS-compatible amplifier or decoder using a digital audio cable, check the amplifier settings, and that the cable is properly connected.

Audio mix does not sound right or sounds incomplete (for example, inaudible dialog).

- Incorrect Setup menu settings.
Make sure that **2 Channel** output is selected for the **Audio Out** menu option if you've connected to the stereo inputs on your amplifier or TV (page 43).
- If the power is switched off before exiting the Setup menu, the settings are not stored.
Make sure that you exit the Setup menu after changing any settings before switching off.

The disc containing the MP3 tracks won't play.

- If the disc is a recordable CD, make sure that the disc is finalized. If the message '**UNPLAYABLE MP3 FORMAT**' is displayed when you try to play a disc/track:
Check that the track(s) are in the MPEG1 Audio Layer 3 format.
Check that the sampling rate of the track(s) are 44.1 or 48kHz.

Some MP3 tracks appear to be missing from a disc.

- If a track name does not end in ".mp3" or ".MP3", this player will not recognize it as an MP3 track.
- This player only recognizes the first 250 folders and tracks on a disc. If there are more folders/tracks than this, you will not be able to play them.
- This player is not compatible with multi-session discs. If the disc is multi-session, you will only be able to play tracks recorded onto the first session.

Can't perform frame search, or the frame number is not displayed

- Check that the **Frame Search** option is set to **On** (page 47).
- You can only use frame search with DVD-Video discs.
- Frame numbers are only displayed with DVD-Video discs, and only when the disc is paused or during frame advance/reverse.

Frame search doesn't find the frame number input, or some frames are skipped when using frame advance.

- You may experience this with discs recorded in 24 frames/second progressive scan format. With these discs, the player 'misses' one frame every six frames. For this reason, the frame numbers do not appear continuous when using frame advance, and it may not be possible to display the exact frame you searched for. The player does not actually drop any frames that are recorded on the disc, however.

Resetting the Player

Resetting the player returns all menu, picture and password settings to their factory defaults.

To reset the player, press and hold ■ (stop) on the front panel when pressing Power switch to turn the power on.

Note

Static electricity or other external influences may cause malfunctioning of this unit. In this case, unplug the power cord and then plug back in. This will usually reset the unit for proper operation. If this does not correct the problem, please consult your nearest MARANTZ service center.

Country Code List

Country	Input-Code	Country-code
ARGENTINA	0118	ar
AUSTRALIA	0121	au
AUSTRIA	0120	at
BELGIUM	0205	be
BRAZIL	0218	br
CANADA	0301	ca
CHILE	0312	cl
CHINA	0314	cn
DENMARK	0411	dk
FINLAND	0609	fi
FRANCE	0618	fr
GERMANY	0405	de
HONG KONG	0811	hk
INDIA	0914	in
INDONESIA	0904	id
ITALY	0920	it
JAPAN	1016	jp
KOREA, REPUBLIC OF	1118	kr
MALAYSIA	1325	my
MEXICO	1324	mx
NETHERLANDS	1412	nl
NEW ZEALAND	1426	nz
NORWAY	1415	no
PAKISTAN	1611	pk
PHILIPPINES	1608	ph
PORTUGAL	1620	pt
RUSSIAN FEDERATION	1821	ru
SINGAPORE	1907	sg
SPAIN	0519	es
SWITZERLAND	0308	ch
SWEDEN	1905	se
TAIWAN	2023	tw
THAILAND	2008	th
UNITED KINGDOM	0702	gb
UNITED STATES OF AMERICA	2119	us







Language code list







Language	Code
Japanese/japonais (ja)	1001
English/anglais (en)	0514
French (fr)	0618
German (de)	0405
Italian (it)	0920
Spanish (es)	0519
Dutch (nl)	1412
Russian (ru)	1821
Chinese (zh)	2608
Korean (ko)	1115
Greek (el)	0512
Afar (aa)	0101
Abkhazian (ab)	0102
Afrikaans (af)	0106
Amharic (am)	0113
Arabic (ar)	0118
Assamese (as)	0119
Aymara (ay)	0125
Azerbaijani (az)	0126
Bashkir (ba)	0201
Byelorussian (be)	0205
Bulgarian (bg)	0207
Bihari (bh)	0208
Bislama (bi)	0209
Bengali (bn)	0214
Tibetan (bo)	0215
Breton (br)	0218
Catalan (ca)	0301
Corsican (co)	0315
Czech (cs)	0319
Welsh (cy)	0325
Danish (da)	0401
Bhutani (dz)	0426
Esperanto (eo)	0515
Estonian (et)	0520
Basque (eu)	0521
Persian (fa)	0601
Finnish (fi)	0609
Fiji (fj)	0610
Faroese (fo)	0615
Frisian (fy)	0625
Irish (ga)	0701
Scots-Gaelic (gd)	0704
Galician (gl)	0712
Guarani (gn)	0714
Gujarati (gu)	0721

Additional Information



Language	Code
Hausa (ha)	0801
Hindi (hi)	0809
Croatian (hr)	0818
Hungarian (hu)	0821
Armenian (hy)	0825
Interlingua (ia)	0901
Interlingue (ie)	0905
Inupiak (ik)	0911
Indonesian (in)	0914
Icelandic (is)	0919
Hebrew (iw)	0923
Yiddish (ji)	1009
Javanese (jw)	1023
Georgian (ka)	1101
Kazakh (kk)	1111
Greenlandic (kl)	1112
Cambodian (km)	1113
Kannada (kn)	1114
Kashmiri (ks)	1119
Kurdish (ku)	1121
Kirghiz (ky)	1125
Latin (la)	1201
Lingala (ln)	1214
Laothian (lo)	1215
Lithuanian (lt)	1220
Latvian (lv)	1222
Malagasy (mg)	1307
Maori (mi)	1309
Macedonian (mk)	1311
Malayalam (ml)	1312
Mongolian (mn)	1314
Moldavian (mo)	1315
Marathi (mr)	1318
Malay (ms)	1319
Maltese (mt)	1320
Burmese (my)	1325
Nauru (na)	1401
Nepali (ne)	1405
Norwegian (no)	1415
Occitan (oc)	1503
Oromo (om)	1513
Oriya (or)	1518
Panjabi (pa)	1601
Polish (pl)	1612
Pashto, Pushto (ps)	1619
Portuguese (pt)	1620

Language	Code
Quechua (qu)	1721
Rhaeto-Romance (rm)	1813
Kirundi (rn)	1814
Romanian (ro)	1815
Kinyarwanda (rw)	1823
Sanskrit (sa)	1901
Sindhi (sd)	1904
Sangho (sg)	1907
Serbo-Croatian (sh)	1908
Singhalese (si)	1909
Slovak (sk)	1911
Slovenian (sl)	1912
Samoan (sm)	1913
Shona (sn)	1914
Somali (so)	1915
Albanian (sq)	1917
Serbian (sr)	1918
Siswati (ss)	1919
Sesotho (st)	1920
Sundanese (su)	1921
Swedish (sv)	1922
Swahili (sw)	1923
Tamil (ta)	2001
Telugu (te)	2005
Tajik (tg)	2007
Thai (th)	2008
Tigrinya (ti)	2009
Turkmen (tk)	2011
Tagalog (tl)	2012
Setswana (tn)	2014
Tonga (to)	2015
Turkish (tr)	2018
Tsonga (ts)	2019
Tatar (tt)	2020
Twi (tw)	2023
Ukrainian (uk)	2111
Urdu (ur)	2118
Uzbek (uz)	2126
Vietnamese (vi)	2209
Volapük (vo)	2215
Wolof (wo)	2315
Xhosa (xh)	2408
Yoruba (yo)	2515
Zulu (zu)	2621

When viewing on a standard TV or monitor			
Screen format of disc	Setting	Appearance	Appearance
	4:3 (Letter Box)		The picture is shown in widescreen with black bars at the top and bottom of the screen.
16:9 	4:3 (Pan & Scan)		The sides of the picture are cropped so that the picture fills the whole screen.
	16:9 (Wide)		The picture is squashed. Set to either Pan & Scan or Letter Box.
4:3 	16:9 (Wide) 4:3 (Letter Box) 4:3 (Pan & Scan)		The picture is presented correctly on any setting.

When viewing on a widescreen TV or monitor			
Screen format of disc	Player Setting	TV Setting	Appearance
16:9 	16:9 (Wide)	Normal	 The picture is squashed. Set your TV to 'Full'.
		Full	 The picture is presented in widescreen.
4:3 	16:9 (Wide)	Normal	 The picture is presented with black bars either side.
		Full	 The picture is stretched. Set your TV to 'Normal'.

Choose this setting if you have a progressive scan-compatible TV and the aspect ratio cannot be changed.

4:3 	16:9 (Compressed) (This setting only has any effect with progressive output.)	Full	 The picture is presented with black bars either side.
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Additional Information

Specifications

General

System

DVD-Video, DVD-Audio, DVD-R/RW, Video-CD, SACD, CD and MP3 files

Power requirements 120 V, 60 Hz

Power consumption 19 W

Power consumption in standby mode less than 1 W

Weight 6.1 kg (13 lb 44 oz)

Dimensions 440 (W) x 307 (D) x 89 (H) mm
(17 ⁸/₂₅ (W) x 12 ²/₂₅ (D) x 3 ¹/₂ (H) in.)

Operating temperature +5°C to +35°C (+41°F to +96°F)

Operating humidity 5% to 85% (no condensation)

S-Video output

Y (luminance) - Output level 1 Vp-p (75 Ω)

C (color) - Output level 286 mVp-p (75 Ω)

Jacks S-VIDEO jack

Video output (2 individual outputs)

Output level 1 Vp-p (75 Ω)

Jacks RCA jack

Component video output (Y, C_B/P_B, C_R/P_R)

Output level Y: 1.0 Vp-p (75 Ω)

C_B/P_B, C_R/P_R: 0.7 Vp-p (75 Ω)

Jacks RCA jacks

Audio output

Output level

During audio output 200 mVrms (1 kHz, -20 dB)

Number of channels 2

Jacks RCA jack

Audio output (multi-channel / L, R, C, SW, LS, RS)

Output level

During audio output 200 mVrms (1 kHz, -20 dB)

Number of channels 6

Jacks RCA jack

Digital audio characteristics

Frequency response 4 Hz to 44 kHz (DVD fs: 96 kHz)

4 Hz to 88 kHz (DVD-Audio fs: 192 kHz)

S/N ratio 118 dB

Dynamic range 108 dB

Total harmonic distortion 0.001 %

Wow and flutterLimit of measurement (±0.001% W. PEAK) or lower

Digital output

Optical digital output Optical digital jack

Coaxial digital output RCA jack

Other terminals

Control in RCA jack

Control out RCA jack

Accessories

Audio/Video cable 1

System control cable 1

Remote control unit 1

"AA" size (R6P) batteries 2

Power cord 1

Operating Instruction

Warranty card

Note: The specifications and design of this product are subject to change without notice, due to improvement.

Dear Customer:

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion-and, most importantly, without affecting your sensitive hearing.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing. Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

To establish a safe level:

- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:

- Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

We Want You Listening For A Lifetime

Used wisely, your new sound equipment will provide a lifetime of fun and enjoyment. Since hearing damage from loud noise is often undetectable until it is too late, this manufacturer and the Electronic Industries Association's Consumer Electronics Group recommend you avoid prolonged exposure to excessive noise. This list of sound levels is included for your protection.

Decibel

Level	Example
30	Quiet library, soft whispers
40	Living room, refrigerator, bedroom away from traffic
50	Light traffic, normal conversation, quiet office
60	Air conditioner at 20 feet, sewing machine
70	Vacuum cleaner, hair dryer, noisy restaurant
80	Average city traffic, garbage disposals, alarm clock at two feet.

THE FOLLOWING NOISES CAN BE DANGEROUS UNDER CONSTANT EXPOSURE

90	Subway, motorcycle, truck traffic, lawn mower
100	Garbage truck, chain saw, pneumatic drill
120	Rock band concert in front of speakers, thunderclap
140	Gunshot blast, jet plane
180	Rocket launching pad

Information courtesy of the Deafness Research Foundation.

COUNTRY	COMPANY	ADDRESS
ALGERIE	Azur 2000	8, Lotissement Ben Hatadi, Alger, Algerie
ARMENIA	NGYIG Ltd.	47 A/75 St. Lalaïants, 375000 Yerevan, Armenia
AUSTRALIA	Jamo Australia Pty. Ltd.,	24 Lionel Road, Mt. Waverley, VIC 3149, Australia
AUSTRIA	Huber & Prohaska GmbH	Taborstraße 95 / Ladestraße 1, Gebäude Hangartner, A-1200 Wien, Austria
BAHREIN	Ambassador Stores	P.O. Box 237,141, Government Avenue, Manama,Bahrein
BANGLADESH	Target	1078, Ramjoy Mohanja Lane Asadgonj, Chittagong 4000, Bangladesh
BELGIUM	Van der Heyden Audio N.V.	Brusselbaan 278, 9320 Erembodegem, Belgium
BULGARIA	Ariescommerce GmbH	Makedonia Blvd. 16, 1606 Sofia, Bulgaria
CANADA	Lenbrook Industries Limited	633 Granite Court, Pickering, Ontario
CHINA	Guang Chang Audio International Co., Ltd.	No.38 Yushan Road, ShiQiao, Pan Yu, Guang Dong, China
CYPRUS	Empire Hifi systems Ltd.	P.O. Box 5604, Nicosia, Cyprus
CZECH REPUBLIC	Audio International	Sokolska 41, 67902 Rajecko, OKR,Blansko, Czech Republic
DENMARK	Audio Nord	Dali Allé 1, 9610 Noerager, Denmark
DUBAI	V.V.& SONS	P.O. Box 105, Dubai, U.A.E.
EGYPT	Solimco	9, El Attibaa St. Doki, Cairo, Egypt
ESTONIA	HIFI Club Estonia	Ehte 4, 90503 Haapsalu, Estonia
F.Y.R.O.M.	T.P. KODI	ul.Cedomir Kantargiev 21a, Skopje, Former Yugoslavian Republic of Macedonia
FINLAND	Audio Nord	Uudenmaankatu 4-6, Helsinki SF-00120, Finland
FRANCE	Marantz France	A division of Marantz Europe B.V., P.O. Box 301, 92 156 Suresnes Cedex, France
GERMANY	Marantz Deutschland	Hakenbusch 3, 49078 Osnabrück, Germany
GREECE	Adamco S.A.	188, Hippocratous Street, 11471 Athens, Greece
HEADQUARTERS EUROPE:	Marantz Europe B.V.	P.O. Box 8744, 5605 LS Eindhoven, The Netherlands
HONG KONG	Marantz Asia Ltd.	Unit 1706, Metroplaza II, 223 Hing Fong Road, Kwai Fong, N.T., Kowloon, Hong Kong
HUNGARY	Infovox Ltd.	Terez Krt.31, 1067 Budapest, Hungary
ICELAND	ID Electronics Ltd.	Armula 38, 108 Reykjavik, Iceland
INDIA	NOVA Audio Private	8,Punam Co-op.Society 29/30 Road#5, Union Park MUMBAI 400052, India
IRAN	Home Co.	5th floor no 878 Philips Building Enghelab ave, P.O. 11365/7844 Tehran, Iran
IRELAND	Marantz Ireland	Clonskeagh, Dublin 14, Ireland
ISRAEL	Elmor Ltd.	52 Heh Beiyar Street, Kikar Hamedina, Tel Aviv, Israel
ITALY	Marantz Italy	Via Casati 23, 20052 Monza (Milano), Italy, Servizio Consumatori 1678-20026, Numero Verde
IVORY COAST	Hifivoir	B.P. 2428, Abidjan 01, Ivory Coast
JAPAN	Marantz Japan Inc.	35-1 Sagami Ohno 7-Chome, Sagamihara-shi, Kanagawa 228-8505, Japan
KOREA	Mk Enterprises Ltd.	121-210, 2F Shinhan Bldg., 247-17 Seokyo-dong, Mapo-ku, Seoul, Korea
KUWAIT	alAlamiah Electronics Intl.	P.O. Box 8196, Salmiah 22052, Kuwait
LATVIA	Ace Ltd.	61, LacPlesa Str., Riga LV 1011, Latvia
LEBANON	AZ Electronics S.A., 1,	P.O. Box 11 2833, Beirut, Lebanon
LITHUANIA	Accapella Ltd.	Ausros, Vartu G/5, Pasazo SKG., 2001 Vilnius, Lithuania
MALAYSIA	Wo Kee Hong Electronics Sdn. Bhd.	Suite 8.1, Level 8, Menara Genesis, No. 33, Jalan Sultan Ismail, 50250 Kuala Lumpur, Malaysia
MALTA	Doneo Co Ltd.	78 The Strand, Sliema SLM07, Malta
MAURITIUS	SKR Electronics Ltd.	P.O. Box 685, Bell Village, Port Louis, Mauritius
MILITARY MARKET EUROPE	PASCO GmbH	PO BOX 1280, Sandhausen 69200, Germany
NETHERLANDS	Marantz Domestic Sales	P.O. Box 8744, 5605 LS Eindhoven, The Netherlands
NEW ZEALAND	Wildash Audio Systems	14 Malvern Road, Mt. Albert, Auckland, New Zealand
NORWAY	Audio Nord	Sandkerveien 64, Oslo 0483, Norway
OMAN	Mustafa & Jawad Trading CO.	P.O. Box 1918, Ruwi, Oman
POLAND	Philips Polska Sp. z.o.o.	Al.Jerozolimskie 195b, 02 222 Warszawa, Poland
PORTUGAL	Corel2	Comércio de Electrónica Lda., Av. Luís Bivar, No 85 A, 1050 Lisboa, Portugal
PROFESSIONAL EUROPE	Marantz Professional Products	Kingsbridge House, Padbury Oaks, 575-583 Bath Road, Longford, Middlesex UB7 0EH, U.K.
PROFESSIONAL U.S.A.	Marantz Professional Products	Distributed by: Superscope Technologies Inc., 1000 Corporate Blvd. Ste.D, Aurora, Illinois
QATAR	Almana & Partners W.W.L.	P.O. Box 49, Doha, Qatar
REUNION	Vision +	180 Rue du Marechal Leclerc, 97400 Saint Denis, Ile de la Reunion
ROMANIA	Nova Music Entertainment	5, Zagazului Str. Bl.1G,apt.18, sector 1,Bucharest, Romania
RUSSIA	Absolute Audio	7/2, Montazhnaya Street, 107497 Moscow, Russia
SAUDI ARABIA	Adawlia Univ. Electr. Apl	P.O. Box 2154, Alkhobar 31952, Saudi Arabia
SINGAPORE	Wo Kee Hong Distribution PTE Ltd.	130 Joo Seng Road, #03-02 Olivine Building, Singapore 368357
SLOVAKIA	Bis Audio s.r.o.	Nam. SNP 10, 96001 Zvolem, Slovakia
SLOVENIA	Bofex	Smartinska 152, HALA V/3, 61000 Ljubljana, Slovenia
SOUTH AFRICA	Coherent Imports (PTY) Ltd.	P.O. Box 1614, Alberton, 1450, South Africa
SPAIN	Marantz Spain	Martinez Villergas 2, Apartado 2065, Madrid 28027, Spain
SRI LANKA	The listening Room	Mezzanine Floor, The Landmark 385, Galle Road, Colombo - 3, Sri Lanka
SWEDEN	Audio Nord	Almedalsvagen 4, Gotenborg 402-23, Sweden
SWITZERLAND	Sound Company AG	Postfach, 8010 Zürich, Switzerland
SYRIA	Hamzeh & Partners	Hafez Ibrahim Str. No 117, Damascus Shalan, Syria
TAHITI	Covecolor	Av. Prince Hinoi, Cours de l'union sacré, P.O. Box 2334, Papeete, Tahiti
TAIWAN	Pai-Yuing Co. Ltd.	6th No 148 Sung Kiang Road, Taipei 10429, Taiwan R.O.C.
THAILAND	MRZ Standard Co. Ltd.	746-750 Mahachai Road, Wangburapa, Bangkok 10200, Thailand
TUNESIA	Societe EDEVIG	40, Avenue du Golfe Arabe, El Menzah, 1004, Tunesia
TURKEY	Türk Philips Ticaret A.S.	Yukari Dudullu Organize sanayi Bolgesi, 2.Cadde no.28, 81260 Umraniye-Istanbul, Turkey
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YUGOSLAVIA	ITM Company	Omladinskih Brigada 86, 11070 Belgrade, Yugoslavia

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