# DENON

# AVR-3313
**INTEGRATED NETWORK AV RECEIVER**

# Owner's Manual

I

## ❏ NOTES ON USE

### WARNINGS

- Avoid high temperatures.
  Allow for sufficient heat dispersion when installed in a rack.
- Handle the power cord carefully.
  Hold the plug when unplugging the cord.
- Keep the unit free from moisture, water, and dust.
- Unplug the power cord when not using the unit for long periods of time.
- Do not obstruct the ventilation holes.
- Do not let foreign objects into the unit.
- Do not let insecticides, benzene, and thinner come in contact with the unit.
- Never disassemble or modify the unit in any way.
- Ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, tablecloths or curtains.
- Naked flame sources such as lighted candles should not be placed on the unit.
- Observe and follow local regulations regarding battery disposal.
- Do not expose the unit to dripping or splashing fluids.
- Do not place objects filled with liquids, such as vases, on the unit.
- Do not handle the mains cord with wet hands.
- When the switch is in the OFF (STANDBY) position, the equipment is not completely switched off from MAINS.
- The equipment shall be installed near the power supply so that the power supply is easily accessible.
- Do not keep the battery in a place exposed to direct sunlight or in places with extremely high temperatures, such as near a heater.

## ❏ CAUTIONS ON INSTALLATION
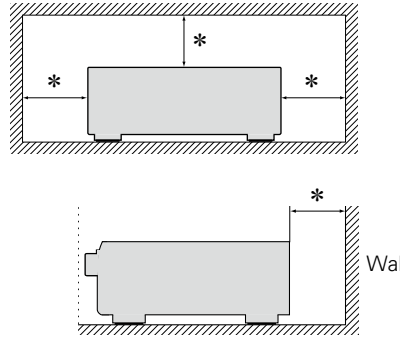


✳ **For proper heat dispersal, do not install this unit in a confined space, such as a bookcase or similar enclosure.**
  - More than 0.3 m is recommended.
  - Do not place any other equipment on this unit.

# Getting started

Thank you for purchasing this DENON product. To ensure proper operation, please read this owner's manual carefully before using the product.
After reading them, be sure to keep them for future reference.

## Contents

## Accessories

Check that the following parts are supplied with the product.

⑤        ⑥

⑧        ⑨
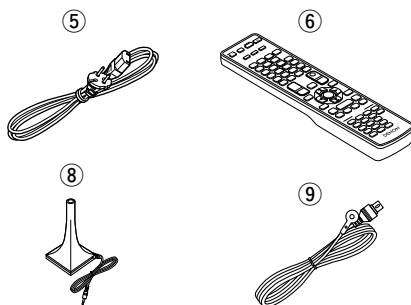
## Features

### Digital video processor up-scales analog video signals (SD resolution) to 4K

This unit is equipped with the 4K video upscaling function, which allows for outputting analogue or SD (standard video quality) video to HDMI at 4K (3840 × 2160 pixels). This enables the unit and a TV connected with a single HDMI cable and any video source to be reproduced precisely with HD level of quality.

### DENON's unique high quality playback technology "Denon Link HD" (☞page 37)

By connecting to a DENON Blu-ray Disc player compatible with Denon Link HD, the sound localization becomes more precise, reproducing a clear and three-dimensional sound image. Because this unit makes the integrated circuits operate while sharing the same clock with the Blu-ray Disc player, the transmitted digital audio has less jitter. This effect applies to any media audio source from the Blu-ray Disc player.

### Equipped with "Hybrid PLL Jitter Reducer" capable of reducing jitter and phase noise that negatively affect sound quality

"Hybrid PLL Jitter Reducer" provided with this unit improves the sound localization, reproducing a natural sound field.

### Equipped with a Multi-Zone Function 3 source, 3 zone output (incl.HDMI output for ZONE2)

This unit is equipped with a multi-zone function, so you can enjoy separate sound sources in three rooms including MAIN ZONE. Furthermore, this unit is equipped with an HDMI ZONE2 OUT connector, so you can play back in ZONE2 a video that is different from the one played back in MAIN ZONE.

### With a discrete-circuit configuration, the power amplifier provides identical quality for all 7 channels (165 W x 7ch)

The unit is equipped with a power amplifier that reproduces highfidelity sound in sound mode with equal quality and power for all channels, true to the original sound.
The power amplifier circuit adopts a discrete-circuit configuration that achieves high-quality surround sound reproduction.

### Supports internet radio, music, and photograph streaming
### Supports AirPlay® (☞page 73)

You can enjoy a wide variety of content, including listening to Internet radio, playing the audio files stored on your PC, and displaying on a TV the photographs stored on your PC.
This unit also supports AirPlay that lets you stream your music library from an iPhone, iPad, iPod touch or iTunes.

### Compatible with "Denon Remote App" for performing basic operations of the unit with an iPad, iPhone*1 or Android smartphone

"Denon Remote App" is application software that allows you to perform basic operations with an iPad, iPhone, Android smartphone or Android tablet such as turning the unit ON/OFF, controlling the volume, and switching the source.

*1 Download "Denon Remote App" from iTunes® App Store. The unit needs to be connected to a LAN and the iPhone/iPod touch needs to be connected to the same network by Wi-Fi (wireless LAN).

### "Setup Assistant", providing easy-to-follow setup instructions

First select the language when prompted. Then simply follow the instructions displayed on the TV screen to set up the speakers, network, etc.

### Easy to use, Graphical User Interface

This unit is equipped with an easy to see "Graphical User Interface" that uses menu displays and levels. The use of level displays increases operability of the this unit.

### HDMI connectors enable connection to various digital AV devices (input: 7, output: 3)

The unit is equipped with 7 HDMI input connectors for connecting devices with HDMI connectors, such as a Blu-ray Disc player, game machine, HD digital camcorder, etc.

### Supports HDMI (3D, ARC, Deep Color, "x.v.Color", Auto Lip Sync, 4K) and HDMI control function (☞page 8)

In addition to HDMI 3D and ARC (Audio Return Channel) functions, this unit supports the video pass-through function, which outputs video to TV without changing the video quality when video signals of 4K (3840×2160 pixels) are input, and the GUI overlay function, which overlays the menu screen (GUI) on the 4K video screen.

### Simultaneous playback on two HDMI channels (except for ZONE2 HDMI output)

This unit is equipped with two HDMI MONITOR outputs. You can connect one output to a projector and the other output to a TV for simultaneous signal outputs.

### Direct play for iPod® and iPhone® via USB (☞page 21)

Music data from an iPod can be played back if you connect the USB cable supplied with the iPod via the iPod/USB port of this unit, and also an iPod can be controlled with the remote control unit for this unit.

### Audyssey DSX®

This unit is equipped with Audyssey DSX® processor. By connecting front height speakers to this unit and playing back through Audyssey DSX®, you can experience a more powerful playback expression in the height audio range. By connecting front wide speakers, you can experience a more powerful playback expression in the wide audio range.

## Cautions on handling

- **Before turning the power on**
  Check once again that all connections are correct and that there are no problems with the connection cables.

- Power is supplied to some of the circuitry even when the unit is set to the standby mode. When going on vacation or leaving home for long periods of time, be sure to unplug the power cord from the power outlet.

- **About condensation**
  If there is a major difference in temperature between the inside of the unit and the surroundings, condensation (dew) may form on the operating parts inside the unit, causing the unit not to operate properly.
  If this happens, let the unit sit for an hour or two with the power turned off and wait until there is little difference in temperature before using the unit.

- **Cautions on using mobile phones**
  Using a mobile phone near this unit may result in noise. If that occurs, move the mobile phone away from this unit when it is in use.

- **Moving the unit**
  Turn off the power and unplug the power cord from the power outlet. Next, disconnect the connection cables to other system units before moving the unit.

- **About care**
  - Wipe the cabinet and control panel clean with a soft cloth.
  - Follow the instructions when using a chemical cleaner.
  - Benzene, paint thinner or other organic solvents as well as insecticide may cause material changes and discoloration if brought into contact with the unit, and should therefore not be used.

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# Basic version

Here, we explain the connections and basic operation methods for this unit.

● **Connections** ☞**page 5**

● **Setup** ☞**page 29**

● **Playback (Basic operation)** ☞**page 36**

● **Selecting a listening mode (Sound Mode)** ☞**page 75**

# Connections

## Important information

**Make connections before using this unit.**
**To create a home theater that can play back higher quality video and audio by fully utilizing the capabilities of this unit and your video devices, connect this unit to each of your video devices with HDMI cables.**

### ❏ HDMI-compatible device

**If your video device does not support HDMI connections, use the following connection.**

### ❏ HDMI-incompatible device

**This unit can change the source that is assigned to the DIGITAL AUDIO IN and COMPONENT VIDEO IN connectors.**
**You can change the source for connectors listed in** ⬭Input connector setting⬭ **within pages that describe connections for devices.**
**For details on assigning a source to connectors, see "Changing the source assigned to connectors"** (☞page 14). **For the setting method, see "Input Assign"** (☞page 125).

> **NOTE**
>
> - **The menu screen is only displayed on TV connected to this unit via HDMI. If your TV is connected to this unit via other video output connectors, perform menu operations while seeing the display on this unit.**
> - Do not plug in the power cord until all connections have been completed. However, when the "Setup Assistant" is running, follow the instructions in the "Setup Assistant" (📖 page 7) screen for making connections. (During "Setup Assistant" operation, the input/output connectors do not conduct current.)
> - When running the "Setup Assistant" (📖 page 7), turn off the power supply of connected devices.
> - When making connections, also refer to the operating instructions of the other devices being connected.
> - Be sure to connect the left and right channels properly (left with left, right with right).
> - Do not bundle power cords together with connection cables. Doing so can result in noise.

### ❏ HDMI-compatible device

| | | |
|---|---|---|
| **TV** ☞page 9 | **CBL/SAT** ☞page 11 | **DVD** ☞page 11 |
| **Blu-ray** ☞page 11 | **GAME** ☞page 11 | **MEDIA PLAYER** ☞page 11 |
| **AUX** ☞page 11 | | |

### ❏ HDMI-incompatible device

| | | |
|---|---|---|
| **TV** ☞page 15 | **CBL/SAT** ☞page 16 | **DVD** ☞page 17 |
| **Blu-ray** ☞page 18 | **AUX** ☞page 19 | **MEDIA PLAYER** ☞page 20 |
| **iPod/USB** ☞page 21 | **CD** ☞page 22 | **PHONO** ☞page 23 |
| **TUNER** ☞page 24 | **NETWORK** ☞page 27 | |

### ❏ Others

| | |
|---|---|
| **SPEAKER** ☞page 84 | **AC IN** ☞page 28 |

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# Converting input video signals for output (Video conversion function)

This unit is equipped with three types of video input connectors (HDMI, Component video and video) and three types of video output connectors (HDMI, Component video and video).

This function automatically converts various formats of video signals input to this unit into the formats used to output the video signals from this unit to a monitor.

**〖Flow of video signals for MAIN ZONE〗**

- The video conversion function supports the NTSC, PAL, SECAM, NTSC 4.43, PAL-N, PAL-M and PAL-60 formats.
- Resolutions of HDMI-compatible TVs can be checked at "Video" – "Monitor" (☞page 142).

**NOTE**

- **The menu screen is only displayed on TV connected to this unit via HDMI. If your TV is connected to this unit via other video output connectors, perform menu operations while seeing the display on this unit.**
- HDMI signals are digital. HDMI signals cannot be converted into analog signals.
- When a non-standard video signal from a game machine or some other source is input, the video conversion function might not operate.
- The HDMI ZONE function is only compatible with the HDMI 1-6 IN connectors. It is not compatible with the HDMI 7 IN connector.

For example, if you connect this unit to an HDMI-compatible TV with a single HDMI cable, this unit automatically converts input signals other than HDMI video signals to HDMI signals to output from the HDMI connector to the TV. This unit outputs only one type of video signals, so video signals output from this unit to the TV remain unchanged even if you switch to a device that outputs another type of video signals for playback. Therefore, you do not need to switch the video input on the TV. Furthermore, this unit converts the input analog video signals such as video and component video signals to high resolution digital HDMI video signals for output, improving the quality of the video.

If your TV does not support HDMI connections, connect this unit to TV with analog video connectors. This unit can not convert HDMI input signals to analog video signals, so when inputting from an HDMI device, use component video or video input connectors.

**【Flow of video signals for ZONE2】**

| Video device | This unit | | HDMI-compatible TV |
|---|---|---|---|
| **Output** | **Input (IN)** | **Output (ZONE2 MONITOR OUT)** | **Input** |
| HDMI signal → | | HDMI signal → | |
| HDMI connector | HDMI connector | HDMI connector | HDMI connector |

HDMI-incompatible TV

| Component video signal → | | Component video signal → | |
|---|---|---|---|
| Y  Pв/Cв  Pя/Cя | Y  Pв/Cв  Pя/Cя | Y  Pв/Cв  Pя/Cя | Y  Pв/Cв  Pя/Cя |
| Component video connectors | Component video connectors | Component video connectors | Component video connectors |
| Video signal → | | Video signal → | |
| Video connector | Video connector | Video connector | Video connector |

**NOTE**

- HDMI signals are digital. HDMI signals cannot be converted into analog signals.
- The HDMI ZONE function is only compatible with the HDMI 1-6 IN connectors. It is not compatible with the HDMI 7 IN connector.

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# Connecting an HDMI-compatible device

You can connect up to ten HDMI-compatible devices (7-inputs/3-outputs) to the unit.
When a TV is connected to the HDMI ZONE2 OUT connector, you can play back a video or audio from the device connected to the HDMI 1 - 6 IN connector in ZONE2 (☞page 103).
If the device connected to this unit is equipped with an HDMI connector, it is recommended to use HDMI connections. Connections with an HDMI cable offer the following benefits that can not be achieved with other connection methods.

• **High quality playback by transmitting audio and video via digital signals**
HDMI connections can transmit high definition video and high quality audio formats adopted by Blu-ray disc players (Dolby Digital Plus, Dolby TrueHD, dts-HD, dts-HD Master Audio).
HDMI connections also convey information required for playback between devices. The information is used for copyright protection and TV resolution recognition, the ARC function, the HDMI control function, etc.

• **Transmission of audio and video signals with a single HDMI cable**
Previous connections require multiple audio and video cables, but HDMI connections require only a single HDMI cable to transmit audio and video signals. This allows wires in a home theater system, which tend to be complicated, to be more organized.

• **Mutual control through the HDMI control function (☞page 95)**
This unit and the HDMI device connected via HDMI can be linked to perform operations such as power control, volume control, and input source switching.

• **Other video and audio functions, such as 3D video playback, Content Type, the ARC function, are supported (☞page 12).**

🖉

• There is more than one version of HDMI standard. The supported functions and the performance vary according to the version. This unit complies with the HDMI standard, supporting the ARC and 3D playback functions. To enjoy these functions, the HDMI device connected to this unit also needs to use the same version of the standard. For the version of the HDMI standard on the device connected to this unit, see the device's manual.
• Some TVs do not support audio input via HDMI connections. For details, see your TV's manual.

# Before connecting this unit to TV via HDMI connections

There are 2 methods to connect HDMI-compatible TV to this unit.
Use the connection method that suits your TV.

| Does the TV to be connected to this unit support the ARC function? |
| --- |

**Yes**

**No**

| Connecting this unit to a TV via HDMI connections (☞page 10) | Connecting this unit to a TV via HDMI connections (☞page 10) |
| --- | --- |

**+**

| Connecting a TV (☞page 15) |
| --- |
| For audio connections, use a method other than HDMI connections. |
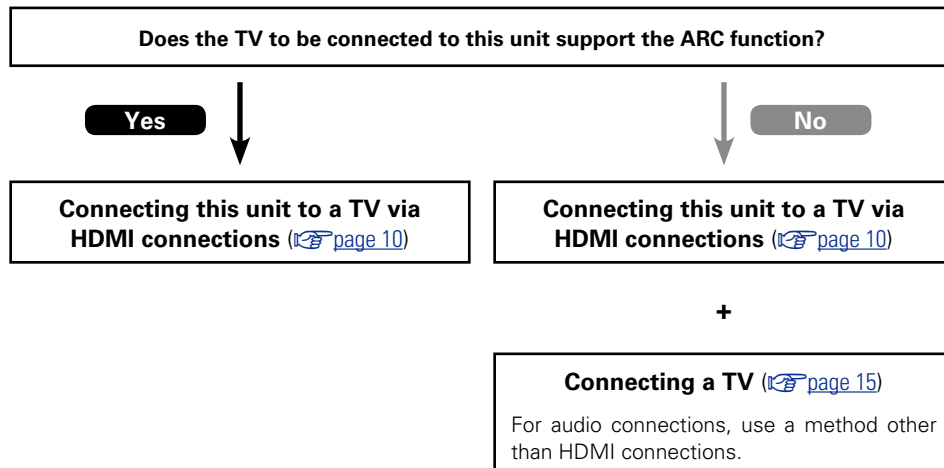
## ❏ About ARC (Audio Return Channel) function

This function plays TV audio on this unit by sending the TV audio signal to this unit via HDMI cable.
If a TV without the ARC function is connected via HDMI connections, video signals of the playback device connected to this unit are transmitted to the TV, but this unit can not play back the audio from the TV. If you want to enjoy surround audio for TV program, a separate audio cable connection is required.
In contrast, if a TV with the ARC function is connected via HDMI connections, no audio cable connection is required. Audio signals from the TV can be input to this unit through the HDMI cable between this unit and the TV. This function allows you to enjoy surround playback on this unit for the TV.

When the ARC function is used, connect a device with a "Standard HDMI cable with Ethernet" or "High Speed HDMI cable with Ethernet" for HDMI.
Refer to the owner's manual for your TV for details about TV connection and settings.

**NOTE**

The HDMI ZONE2 OUT connector is not compatible with the ARC function.

【Connection to a TV with the ARC function】

Audio from the TV

Audio signals from the TV

IN    OUT

TV    This unit    Speakers

【Connection to a TV without the ARC function】

Audio from the TV

Audio signals from the TV

IN    OUT

Audio signals from the TV

OUT    Optical cable    IN

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# Connecting this unit to a TV via HDMI connections

When a TV is connected to the HDMI ZONE2 OUT connector, you can play back a video or audio from the device connected to the HDMI 1 - 6 IN connector in ZONE2 (v page 103).

## Cables used for connections
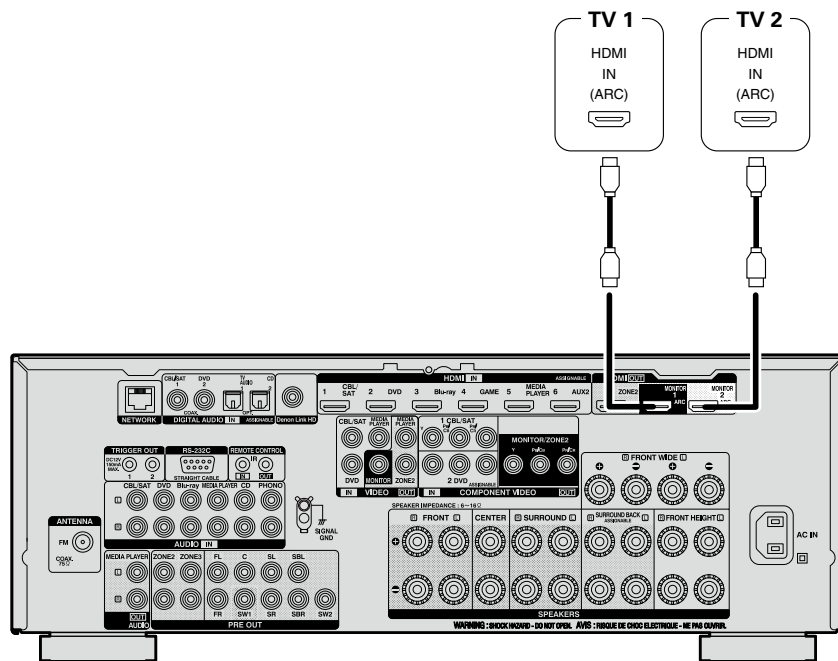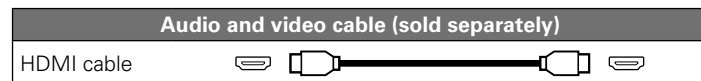
| Audio and video cable (sold separately) |
| --- |
| HDMI cable |



### NOTE

- The audio signal from the HDMI output connector (sampling frequency, number of channels, etc.) may be limited by the HDMI audio specifications of the connected device regarding permissible inputs.
- **When connecting a TV that does not support the ARC function, an audio cable connection is required in addition to the HDMI cable. In this case, refer to "Connecting a TV" (v page 15) for the connection method.**
  **For the ARC function, see "About ARC (Audio Return Channel) function" (v page 9).**

## Connecting to a device equipped with a DVI-D connector

The DVI-D (Digital Visual Interface) method is also used for video transmission via digital signals. This is developed mainly for computers, and some AV devices such as projectors are equipped with this interface.
To output HDMI video signals to a DVI-D video input compatible device, use an HDMI/DVI conversion cable, which converts HDMI video signals to DVI signals.
The DVI-D connector can transmit high quality digital signals, but the copy guard and other issues may hinder normal operations for some device combinations.

### NOTE

- No sound is output when connected to a device equipped with a DVI-D connector. Make audio connections as described in "Connecting a TV" (v page 15).
- Signals cannot be output to DVI-D devices that do not support HDCP.
- Depending on the combination of devices, the video signals may not be output.

## Settings required when using a TV that supports the ARC function

When using a TV that supports the ARC function, make the following settings.
- Set "HDMI Control" (v page 121) to "On".
- Set "Control Monitor" (v page 121) to match the number of the HDMI MONITOR connector connected to the TV that supports the ARC function.

### NOTE

If the TV that supports the ARC function is connected to both HDMI MONITOR 1 and HDMI MONITOR 2 connectors, you cannot use ARC function at the same time.

- Video signals are not output if the input video signals do not match the monitor's resolution. In this case, switch the Blu-ray Disc/DVD player's resolution to a resolution with which the monitor is compatible.
- When this unit and monitor are connected with an HDMI cable, if the monitor is not compatible with HDMI audio signal playback, only the video signals are output to the monitor. Make audio connections (v page 15 "Connecting a TV").

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# Connecting this unit to video devices via HDMI connections

## Cables used for connections

| Audio and video cable (sold separately) |
| --- |
| HDMI cable |
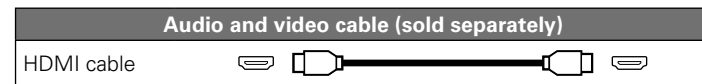
• This interface allows transfer of digital video signals and digital audio signals over a single HDMI cable.

**Set-top box**
HDMI OUT

**DVD player**
HDMI OUT

**Blu-ray Disc player**
HDMI OUT

**Game console**
HDMI OUT

**Media player**
HDMI OUT

**Digital camcorder (Secondary)**
HDMI OUT

【Rear panel】

**Digital camcorder (Primary)**
HDMI OUT

DENON

【Front panel】
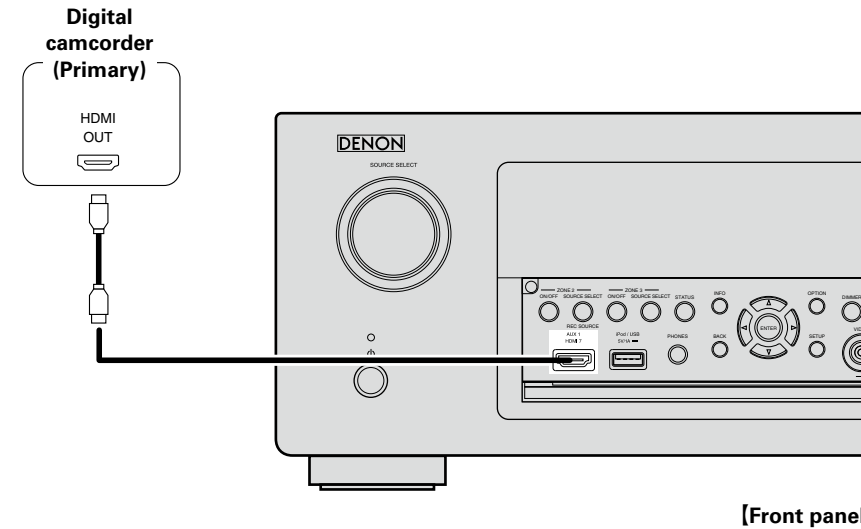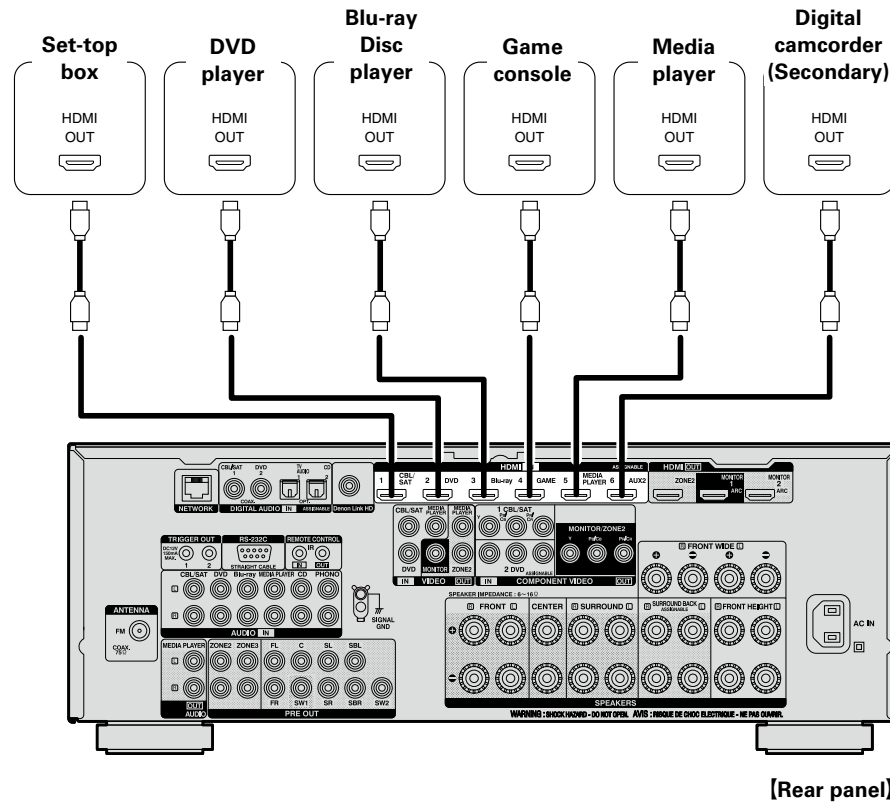
• When this unit is connected to other devices with HDMI cables, connect this unit and TV also with an HDMI cable.
• When connecting a device that supports Deep Color or 4K, please use a "High Speed HDMI cable" or "High Speed HDMI cable with Ethernet".
• Video signals are not output if the input video signals do not match the monitor's resolution. In this case, switch the Blu-ray Disc/DVD player's resolution to a resolution with which the monitor is compatible.

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## ❏ Connecting a player compatible with the Denon Link HD function

By making a Denon Link HD connection to a player compatible with the Denon Link HD function, you can enjoy higher quality playback compared with when only the HDMI connector connection is made. For the playback method, see "Playing a Blu-ray Disc player compatible with Denon Link HD" (vpage 37).
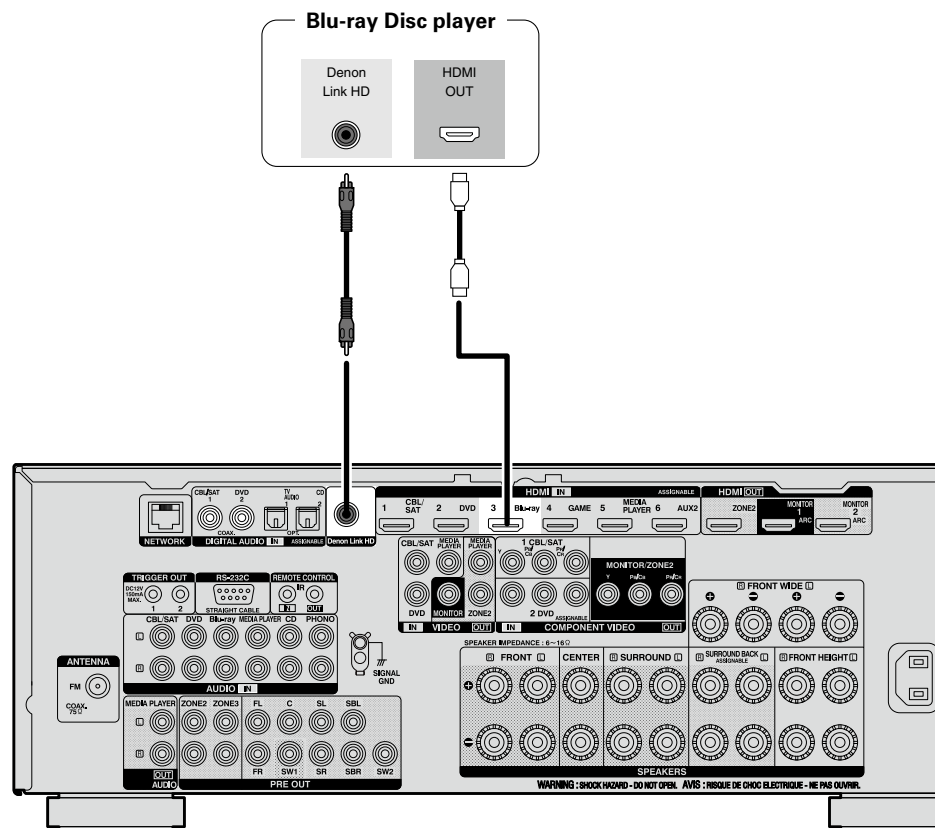
**Blu-ray Disc player**

# HDMI function

This unit supports the following HDMI functions:

## ❏ About 3D function

This unit supports input and output of 3D (3 dimensional) video signals of HDMI.
To play back 3D video, you need a TV and player that provide support for the HDMI 3D function and a pair of 3D glasses.

**NOTE**

- When playing back 3D video, refer to the instructions provided in the manual of your playback device together with this manual.
- When playing back 3D video content, the menu screen or status display screen can be superimposed over the image. However, the menu screen or status display screen cannot be superimposed over certain 3D video content.
- If 3D video with no 3D information is input, the menu screen and status display on this unit are displayed over the playback video.
- If 2D video is converted to 3D video on the television, the menu screen and status display on this unit are not displayed correctly. To view the menu screen and status display on this unit correctly, turn the television setting that converts 2D video to 3D video off.

## ❏ About 4K function

This unit supports input and output of 4K (3840 x 2160 pixels) video signals of HDMI.

When a device supporting 4K is connected, use a cable compatible with "High Speed HDMI cable" or "High Speed HDMI cable with Ethernet".

## ❏ HDMI control function (vpage 95)

This function allows you to operate external devices from the unit and operate the unit from external devices.

**NOTE**

- The HDMI control function may not work depending on the device it is connected to and its settings.
- You cannot operate a TV or Blu-ray Disc player/DVD player that is not compatible with the HDMI control function.
- The HDMI ZONE2 function is not compatible with the HDMI control function.

## ❏ About Content Type

This function was added with the HDMI standard. It automatically makes settings suitable for the video-output type (content information).

**NOTE**

To enable the Content Type, set "Video Mode" to "Auto" (vpage 121).

❏ **Deep Color (**☞**page 168)**

When a device supporting Deep Color is connected, use a cable compatible with "High Speed HDMI cable" or "High Speed HDMI cable with Ethernet".

❏ **Auto Lip Sync (**☞**page 120, 168)**

❏ **"x.v.Color", sYCC601 color, Adobe RGB color, Adobe YCC601 color (**☞**page 168, 170)**

❏ **High definition digital audio format**

❏ **ARC (Audio Return Channel) (**☞**page 9)**

| **Copyright protection system** |
|---|
| In order to play back digital video and audio such as BD-Video or DVD-Video via HDMI connection, both this unit and TV or the player need to support the copyright protection system known as HDCP (High-bandwidth Digital Content Protection System). HDCP is copyright protection technology comprised of data encryption and authentication of the connected AV devices. This unit supports HDCP. • If a device that does not support HDCP is connected, video and audio are not output correctly. Read the owner's manual of your television or player for more information. |

## Settings related to HDMI connections

Set as necessary. For details, see the respective reference pages.

❏ **HDMI Setup (**☞**page 120)**

Make settings for HDMI video/audio output.

- Auto Lip Sync
- HDMI Control
- Power Off Control
- HDMI Audio Out
- Standby Source
- Video Output
- Control Monitor

**NOTE**

The audio signal input from the HDMI input connector can be output as an output signal from the HDMI output connector by setting the HDMI audio output destination to TV.

Audio signals input via the Analog/Coaxial/Optical input connectors cannot be output from the HDMI MONITOR output connector.

# Connecting an HDMI-incompatible device
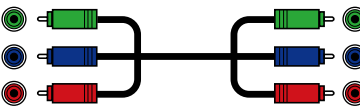
For high quality video and surround playback, it is recommended to use an HDMI cable to connect this unit to TV and other video devices ( "Connecting an HDMI-compatible device").
This section describes connections when your device does not support HDMI connections.

## Connection methods for various devices

## Cables used for connections



| Video cable (sold separately) | |
| --- | --- |
| Component video cable | |
| Video cable | |
| **Audio cable (sold separately)** | |
| Coaxial digital cable | |
| Optical cable | |
| Audio cable | |
| **Cable (sold separately)** | |
| Ethernet cable | |

## Changing the source assigned to connectors

This unit can change the source that is assigned to the HDMI IN, DIGITAL AUDIO IN and COMPONENT VIDEO IN connectors.
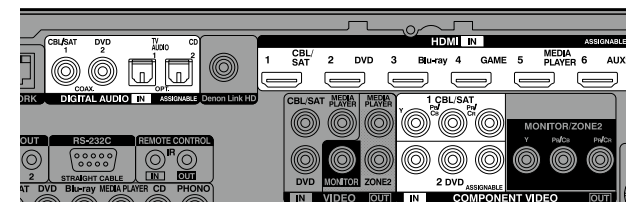


Let us take a digital audio connection for Blu-ray Disc players for an example. The rear panel digital audio input connectors do not have the input connector indication for Blu-ray disc players (Blu-ray). However, DIGITAL AUDIO IN connectors have the "ASSIGNABLE" indication, which means that you can change the source assigned to these connectors. You can assign Blu-ray disc players to these connectors to use them for Blu-ray disc players. Select "Blu-ray" when switching functions on this unit to play back the source connected to these connectors.

❏ **How to change the source assigned to connectors (****)**

# Connecting a TV

- This section describes how to connect when your TV does not support HDMI connections.
  For instructions on HDMI connections, see "Connecting an HDMI-compatible device" (vpage 8).
- If the TV connected to this unit is equipped with an HDMI connector that supports ARC, digital audio signals from TV can be transmitted to this unit (vpage 9 "About ARC (Audio Return Channel) function"). The ARC function allows you to enjoy on this unit the audio from TV programs and HDMI devices directly connected to TV, without having to make a separate audio connection. For the ARC function, also see your TV's manual.
- To listen to TV audio through this device, use the optical digital connection.

For video connections, see "Converting input video signals for output (Video conversion function)" (vpage 6).

## ❏ Audio connection

The following methods are available for connecting to this unit. **Use either of the methods to make a connection.**

### 1 DIGITAL AUDIO OPTICAL connector
### DIGITAL AUDIO COAXIAL connector *

When a multichannel audio (digital bit stream audio) is input, this unit decodes the audio to play back surround sound.

∗ When making this type of connection, you must change the settings on this unit.
(v **Input connector setting** )

## ❏ Video connection

The following methods are available for connecting to this unit. **Use either of the methods to make a connection.**
The numbers prefixed with connectors indicate the recommendation order. The smaller the number is, the higher playback quality is achieved.

### 1 COMPONENT VIDEO OUT (MONITOR) connector

This makes an analog video connection. This connection method separates video signals into 3 signals for transmission based on color components, achieving the best quality video playback among analog video connections, with less signal degradation.

### 2 VIDEO OUT (MONITOR) connector

This makes an analog video connection.

---

**Input connector setting**

When making the following connection, you must change the input connector settings.

### 1 DIGITAL AUDIO COAXIAL connector

When connecting to connectors marked as 1, change "CBL/SAT" to "TV AUDIO".

For how to change, see "Input Assign" (vpage 125).
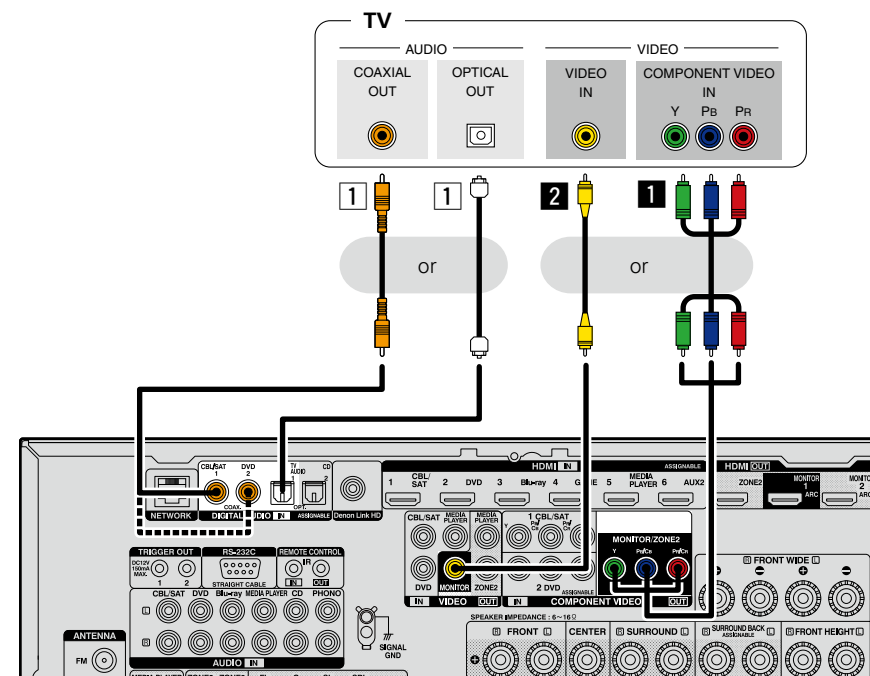


### NOTE

- **The menu screen is only displayed on TV connected to this unit via HDMI. If your TV is connected to this unit via other video output connectors, perform menu operations while seeing the display on this unit.**
- If you do not connect this unit to your TV via HDMI, do not make HDMI connections for video inputs from other video devices, either. For details see "Converting input video signals for output (Video conversion function)" (vpage 6).

# Connecting a set-top box (Satellite tuner/cable TV)

This section describes how to connect when your satellite tuner or cable TV does not support HDMI connections.

For instructions on HDMI connections, see "Connecting an HDMI-compatible device" (vpage 8).

## ❏ Audio connection

The following methods are available for connecting to this unit. **Use either of the methods to make a connection.**

The numbers prefixed with connectors indicate the recommendation order. The smaller the number is, the higher playback quality is achieved.

### 1 DIGITAL AUDIO COAXIAL connector
### DIGITAL AUDIO OPTICAL connector *

When a multichannel audio (digital bit stream audio) is input, this unit decodes the audio to play back surround sound.

* When making this type of connection, you must change the settings on this unit.
(v **Input connector setting** )

### 2 AUDIO IN (CBL/SAT) connector

This makes an analog audio connection. This type of connection converts digital audio to analog audio, so the output audio may be degraded compared to connections 1.

## ❏ Video connection

The following methods are available for connecting to this unit. **Use either of the methods to make a connection.**

The numbers prefixed with connectors indicate the recommendation order. The smaller the number is, the higher playback quality is achieved.

### ❶ COMPONENT VIDEO IN (CBL/SAT) connector

This makes an analog video connection. This connection method separates video signals into 3 signals for transmission based on color components, achieving the best quality video playback among analog video connections, with less signal degradation.

### ❷ VIDEO IN (CBL/SAT) connector

This makes an analog video connection.

---

**Input connector setting**

When making the following connection, you must change the input connector settings.

### 1 DIGITAL AUDIO OPTICAL connector

When connecting to connectors marked as 1, change "TV AUDIO" to "CBL/SAT".

For how to change, see "Input Assign" (vpage 125).



16
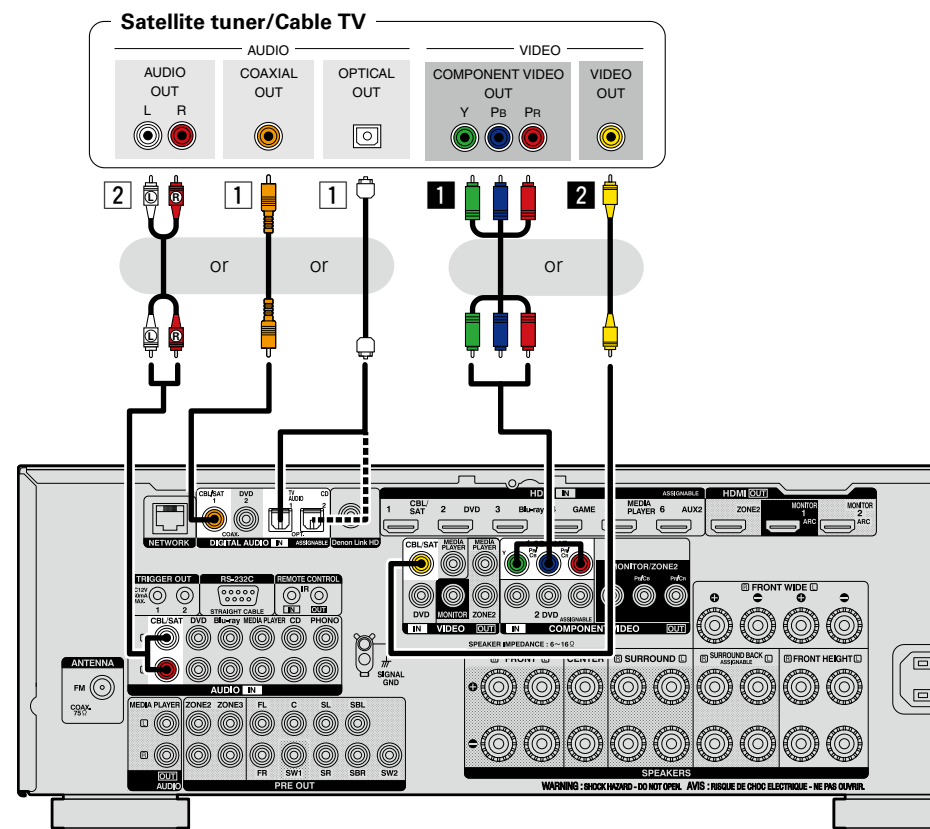
# Connecting a DVD player

This section describes how to connect when your DVD player does not support HDMI connections.
For instructions on HDMI connections, see "Connecting an HDMI-compatible device" (vpage 8).

## ❏ Audio connection

The following methods are available for connecting to this unit. **Use either of the methods to make a connection.**
The numbers prefixed with connectors indicate the recommendation order. The smaller the number is, the higher playback quality is achieved.

1 **DIGITAL AUDIO COAXIAL connector**
**DIGITAL AUDIO OPTICAL connector** *
When a multichannel audio (digital bit stream audio) is input, this unit decodes the audio to play back surround sound.
* When making this type of connection, you must change the settings on this unit.
(v **Input connector setting** )

2 **AUDIO IN (DVD) connector**
This makes an analog audio connection. This type of connection converts digital audio to analog audio, so the output audio may be degraded compared to connections 1.

## ❏ Video connection

The following methods are available for connecting to this unit. **Use either of the methods to make a connection.**
The numbers prefixed with connectors indicate the recommendation order. The smaller the number is, the higher playback quality is achieved.

1 **COMPONENT VIDEO IN (DVD) connector**
This makes an analog video connection. This connection method separates video signals into 3 signals for transmission based on color components, achieving the best quality video playback among analog video connections, with less signal degradation.

2 **VIDEO IN (DVD) connector**
This makes an analog video connection.

**Input connector setting**

When making the following connection, you must change the input connector settings.

1 **DIGITAL AUDIO OPTICAL connector**
When connecting to connectors marked as 1, change "TV AUDIO" to "DVD".

For how to change, see "Input Assign" (vpage 125).



17
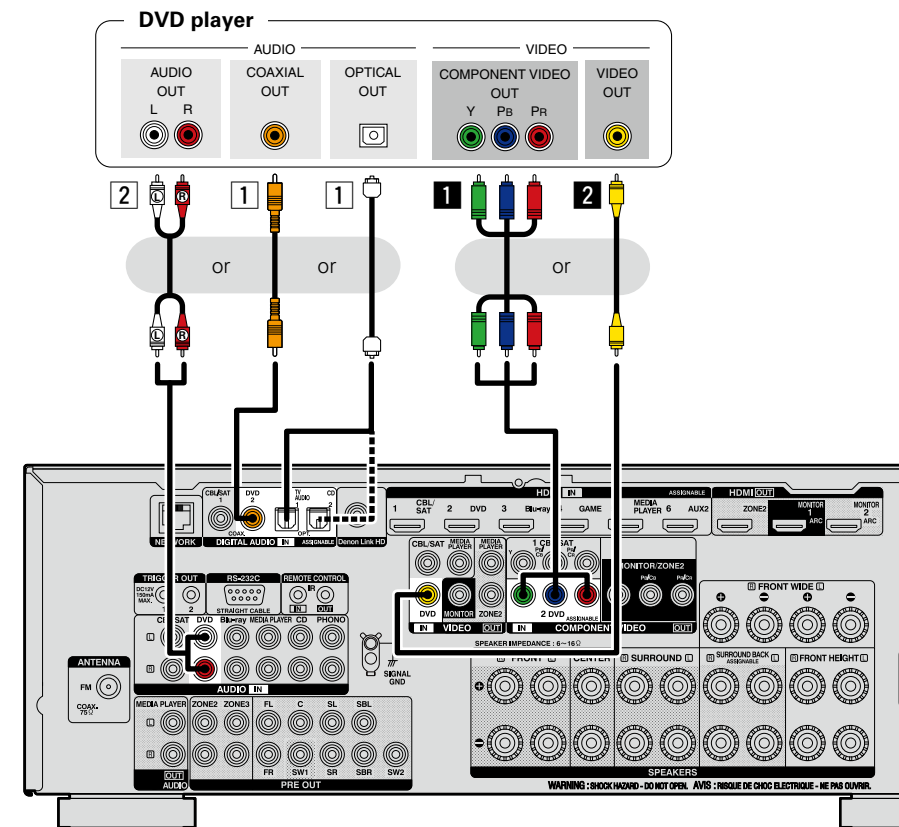
# Connecting a Blu-ray Disc player

This section describes how to connect when your Blu-ray disc player does not support HDMI connections.
For instructions on HDMI connections, see "Connecting an HDMI-compatible device" (vpage 8).

## ❏ Audio connection

The following methods are available for connecting to this unit. **Use either of the methods to make a connection.**

The numbers prefixed with connectors indicate the recommendation order. The smaller the number is, the higher playback quality is achieved.

### ① DIGITAL AUDIO COAXIAL connector
### DIGITAL AUDIO OPTICAL connector

When a multichannel audio (digital bit stream audio) is input, this unit decodes the audio to play back surround sound. However, digital bit stream audio signals for HD audios from Blu-ray disc players (such as Dolby Digital Plus and dts-HD) can not be transmitted.

When making this type of connection, you must change the settings on this unit.

(vpage **Input connector setting** )

### ② AUDIO IN (Blu-ray) connector

This makes an analog audio connection. This type of connection converts digital audio to analog audio, so the output audio may be degraded compared to connections ①.

## ❏ Video connection

The following methods are available for connecting to this unit.

### ❶ COMPONENT VIDEO IN connector

This makes an analog video connection. This connection method separates video signals into 3 signals for transmission based on color components, achieving the best quality video playback among analog video connections, with less signal degradation.

When making this type of connection, you must change the settings on this unit.

(vpage **Input connector setting** )

---

**Input connector setting**

When making the following connection, you must change the input connector settings.

### ① DIGITAL AUDIO COAXIAL connector

When connecting to connectors marked as 1, change "CBL/SAT" to "Blu-ray".

### DIGITAL AUDIO OPTICAL connector

When connecting to connectors marked as 1, change "TV AUDIO" to "Blu-ray".

### ❶ COMPONENT VIDEO IN connector

When connecting to connectors marked as 1, change "CBL/SAT" to "Blu-ray".

For how to change, see "Input Assign" (vpage 125).



✎
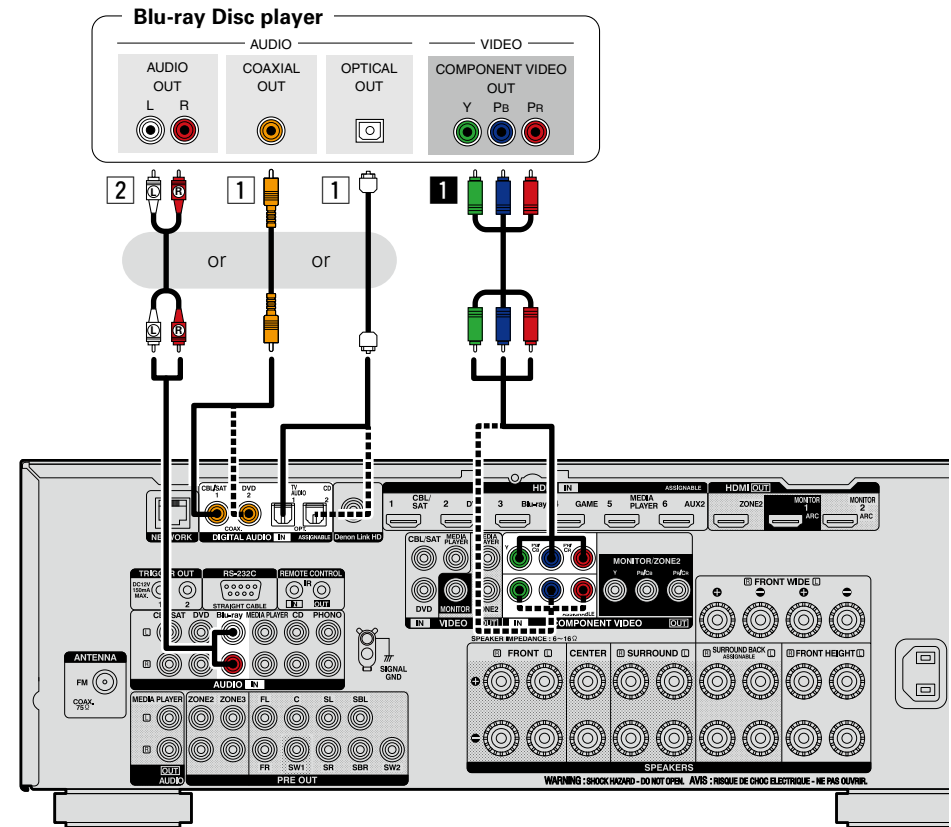
When you want to play back HD Audio (Dolby TrueHD, DTS-HD, Dolby Digital Plus, DTS Express) and Multi-channel PCM with this unit, use an HDMI connection (vpage 8 "Connecting an HDMI-compatible device").

# Connecting a digital camcorder

This section describes how to connect when your digital camcorder does not support HDMI connections. For instructions on HDMI connections, see "Connecting an HDMI-compatible device" (vpage 8).

## ❏ Audio connection

The following methods are available for connecting to this unit. **Use either of the methods to make a connection.**

The numbers prefixed with connectors indicate the recommendation order. The smaller the number is, the higher playback quality is achieved.

### ① DIGITAL AUDIO COAXIAL connector
### DIGITAL AUDIO OPTICAL connector

When a multichannel audio (digital bit stream audio) is input, this unit decodes the audio to play back surround sound.

When making this type of connection, you must change the settings on this unit.

(v **Input connector setting** )

### ② AUDIO IN (AUX1) connector

This makes an analog audio connection. This type of connection converts digital audio to analog audio, so the output audio may be degraded compared to connections ①.

## ❏ Video connection

The following methods are available for connecting to this unit. **Use either of the methods to make a connection.**

The numbers prefixed with connectors indicate the recommendation order. The smaller the number is, the higher playback quality is achieved.

### ❶ COMPONENT VIDEO IN connector

This makes an analog video connection. This connection method separates video signals into 3 signals for transmission based on color components, achieving the best quality video playback among analog video connections, with less signal degradation.

When making this type of connection, you must change the settings on this unit.

(v **Input connector setting** )

### ❷ VIDEO IN (AUX2) connector

This makes an analog video connection.

---

**Input connector setting**

When making the following connection, you must change the input connector settings.

### ① DIGITAL AUDIO COAXIAL connector

When connecting to connectors marked as 1, change "CBL/SAT" to "AUX2".

### DIGITAL AUDIO OPTICAL connector

When connecting to connectors marked as 1, change "TV AUDIO" to "AUX2".

### ❶ COMPONENT VIDEO IN connector

When connecting to connectors marked as 1, change "CBL/SAT" to "AUX2".

For how to change, see "Input Assign" (vpage 125).

---

**Digital camcorder**



【Front panel】

**Digital camcorder**



【Rear panel】

---
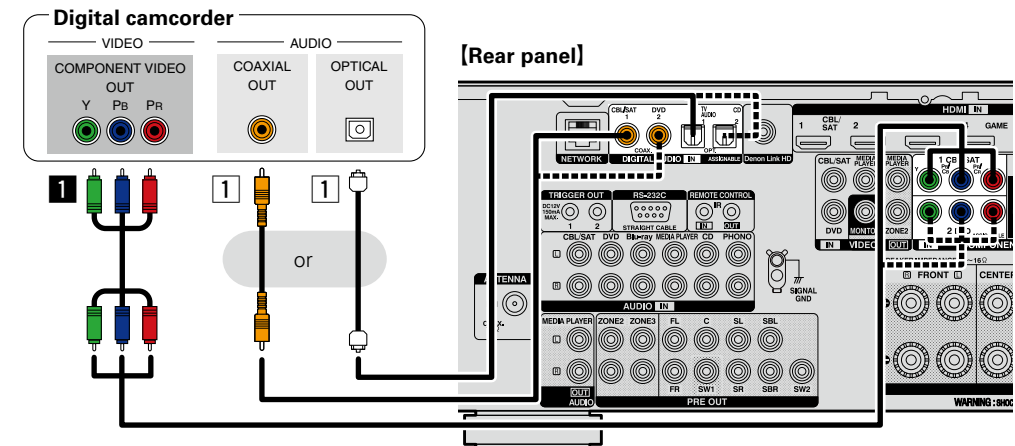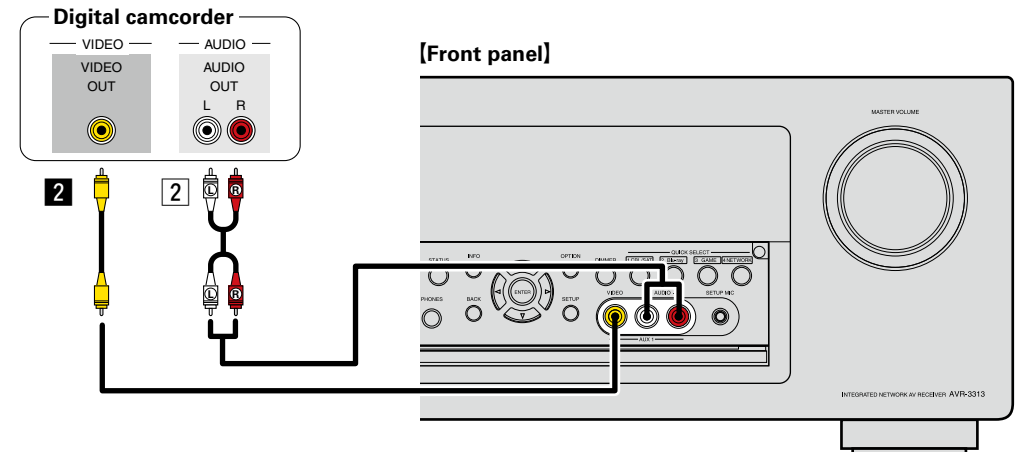
You can enjoy games by connecting a game machine via the AUX1 input connector. In this case, select the input source to "AUX1".

**NOTE**

When a non-standard video signal from a game machine or some other source is input, the video conversion function (vpage 6) might not operate. In this case, use the monitor output of the same connector as the input.

# Connecting a media player

- This section describes how to connect when your media player does not support HDMI connections. For instructions on HDMI connections, see "Connecting an HDMI-compatible device" ().
- When recording analog audio, use the analog connection.
- See "REC OUT mode" () for operating instructions.

## ❏ Audio connection

The following methods are available for connecting to this unit. **Use either of the methods to make a connection.**

The numbers prefixed with connectors indicate the recommendation order. The smaller the number is, the higher playback quality is achieved.

1 **DIGITAL AUDIO COAXIAL connector**
**DIGITAL AUDIO OPTICAL connector**

When a multichannel audio (digital bit stream audio) is input, this unit decodes the audio to play back surround sound.

When making this type of connection, you must change the settings on this unit.
(☞ Input connector setting )

2 **AUDIO IN/OUT (MEDIA PLAYER) connector**

This makes an analog audio connection. This type of connection converts digital audio to analog audio, so the output audio may be degraded compared to connections 1.

## ❏ Video connection

The following methods are available for connecting to this unit. **Use either of the methods to make a connection.**

The numbers prefixed with connectors indicate the recommendation order. The smaller the number is, the higher playback quality is achieved.

1 **COMPONENT VIDEO IN connector**

This makes an analog video connection. This connection method separates video signals into 3 signals for transmission based on color components, achieving the best quality video playback among analog video connections, with less signal degradation.

When making this type of connection, you must change the settings on this unit.
(☞ Input connector setting )

2 **VIDEO IN/OUT (MEDIA PLAYER) connector**

This makes an analog video connection.

---

**Input connector setting**

When making the following connection, you must change the input connector settings.

1 **DIGITAL AUDIO COAXIAL connector**

When connecting to connectors marked as 1, change "CBL/SAT" to "MEDIA PLAYER".

**DIGITAL AUDIO OPTICAL connector**

When connecting to connectors marked as 1, change "TV AUDIO" to "MEDIA PLAYER".

1 **COMPONENT VIDEO IN connector**

When connecting to connectors marked as 1, change "CBL/SAT" to "MEDIA PLAYER".

For how to change, see "Input Assign" ().
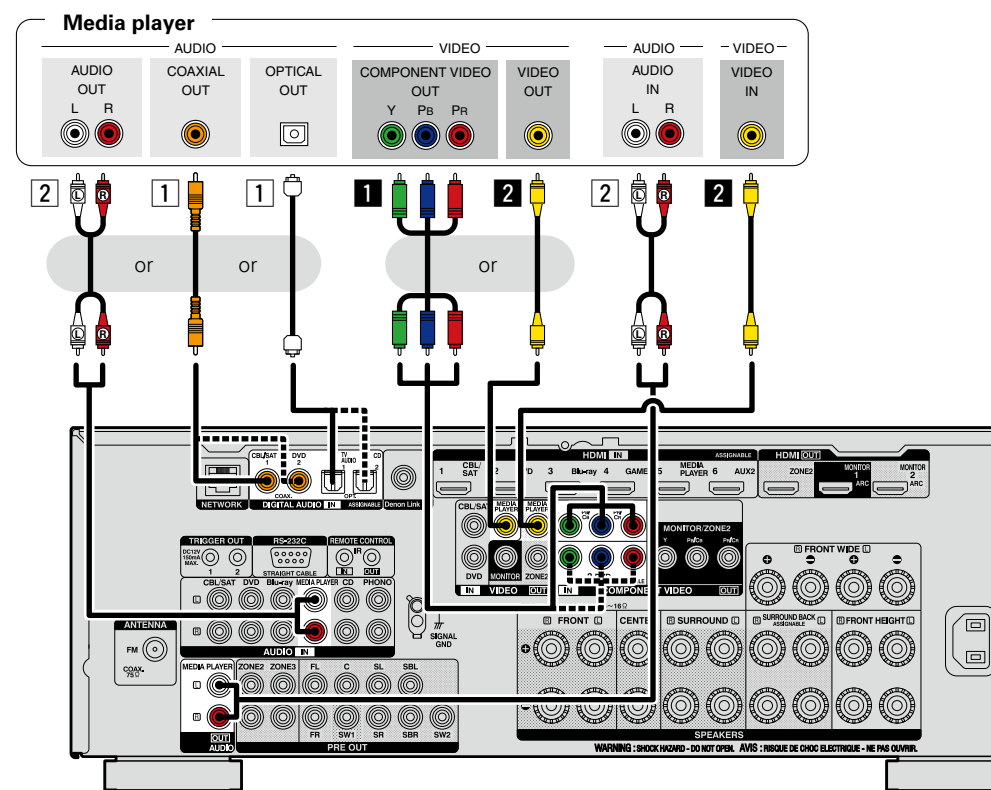


**NOTE**

To record video signals through this unit, use the video cable for connection between this unit and the player.

20

# Connecting an iPod or USB memory device to the iPod/USB port

- You can enjoy music stored on an iPod or USB memory device.
- For operating instructions see "Playing an iPod" () or "Playing a USB memory device" ().

## Cables used for connections

To connect an iPod to this unit, use the USB cable supplied with the iPod.
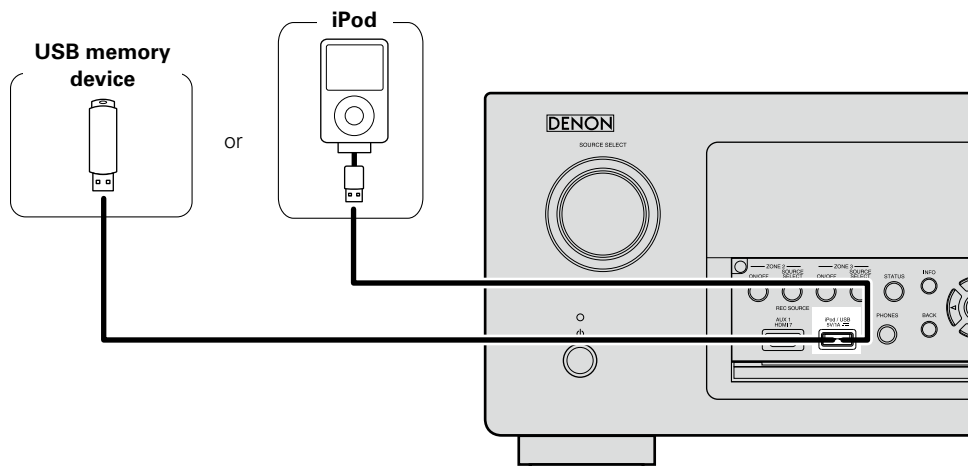


DENON does not guarantee that all USB memory devices will operate or receive power. When using a portable USB connection type HDD of the kind to which an AC adapter can be connected to supply power, use the AC adapter.

**NOTE**

- USB memory devices will not work via a USB hub.
- It is not possible to use this unit by connecting the unit's iPod/USB port to a PC via a USB cable.
- Do not use an extension cable when connecting a USB memory device. This may cause radio interference with other devices.
- When connecting an iPhone to this unit, keep the iPhone at least 20 cm away from this unit. If the iPhone is kept closer to this unit and a telephone call is received by the iPhone, noise may be output from this device.
- If the iPod is connected using an iPod cable (commercially available) that is longer than 2 m, sound may not be played correctly. In this case, use a genuine iPod cable, or a cable that is shorter than 1 m.

## Supported iPod models

- **iPod classic**



iPod classic 80GB

iPod classic 160GB (2007)

iPod classic 160GB (2009)

- **iPod nano**



iPod nano 3rd generation (video) 4GB 8GB

iPod nano 4th generation (video) 8GB 16GB

iPod nano 5th generation (video camera) 8GB 16GB

iPod nano 6th generation 8GB 16GB

- **iPod touch**



iPod touch 1st generation 8GB 16GB 32GB

iPod touch 2nd generation 8GB 16GB 32GB

iPod touch 3rd generation 32GB 64GB

iPod touch 4th generation 8GB 32GB 64GB

- **iPhone**



iPhone 4GB 8GB 16GB

iPhone 3G 8GB 16GB

iPhone 3GS 8GB 16GB 32GB

iPhone 4 8GB 16GB 32GB

iPhone 4S 16GB 32GB 64GB

(as of May 2012)

# Connecting a CD player

You can enjoy CD sound.

## ❏ Audio connection

The following methods are available for connecting to this unit. **Use either of the methods to make a connection.**

The numbers prefixed with connectors indicate the recommendation order. The smaller the number is, the higher playback quality is achieved.

### ☐ DIGITAL AUDIO COAXIAL connector ∗
### DIGITAL AUDIO OPTICAL connector

When a multichannel audio (digital bit stream audio) is input, this unit decodes the audio to play back surround sound.

∗ When making this type of connection, you must change the settings on this unit.
(☞ **Input connector setting** )

### ☐ AUDIO IN (CD) connector

This makes an analog audio connection. This type of connection converts digital audio to analog audio, so the output audio may be degraded compared to connections ☐.

---

**Input connector setting**

When making the following connection, you must change the input connector settings.

### ☐ DIGITAL AUDIO COAXIAL connector

When connecting to connectors marked as 1, change "CBL/SAT" to "CD".

For how to change, see "Input Assign" (☞ ).

---



CD player

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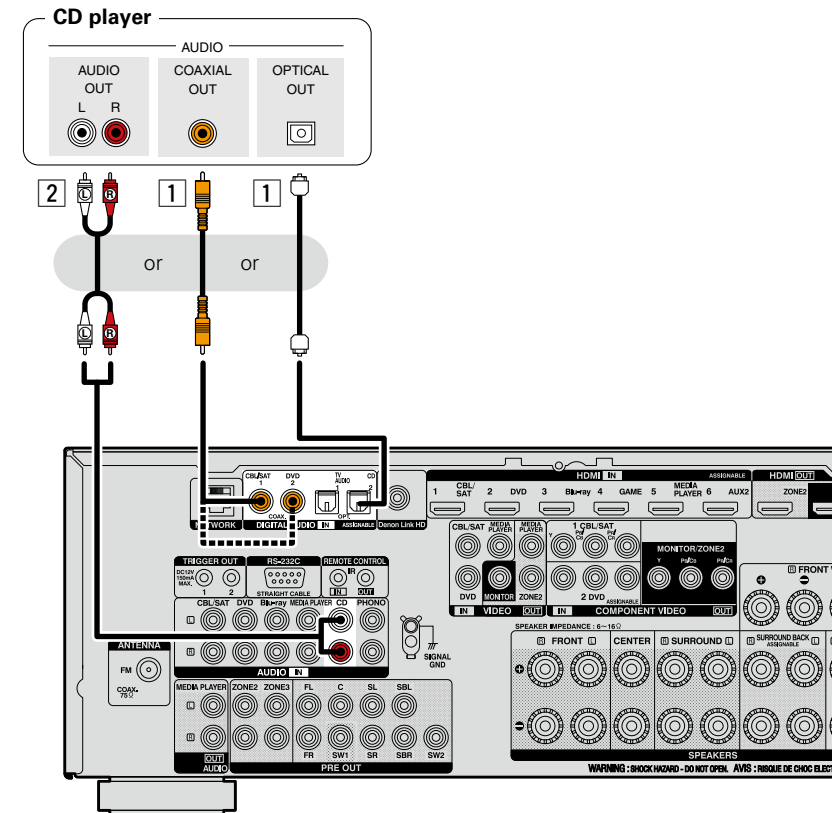
When you want to play back HD Audio (Dolby TrueHD, DTS-HD, Dolby Digital Plus, DTS Express), DSD and Multi-channel PCM with this unit, use an HDMI connection (☞ "Connecting an HDMI-compatible device").

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# Connecting a record player

You can enjoy playing records.

## ❏ Audio connection

The following methods are available for connecting to this unit.

### ⓵ AUDIO IN (PHONO) connector

This makes an analog audio connection.

🖉

• This unit is compatible with record players with an MM cartridge. When you connect to a record player with an MC cartridge, use a commercially available MC head amp or a step-up transformer.
• If you set this unit's input source to "PHONO" and increase the volume without connecting the record player, there may be a "booming" noise from the speakers.

**NOTE**

The SIGNAL GND terminal of this unit is not a safety ground connection. Connect it to reduce noise when noise is excessive. Note that depending on the record player, connecting the ground line may have the reverse effect of increasing noise. In this case, it is not necessary to connect the ground line.



**Turntable
(MM cartridge)**

AUDIO
OUT          GND
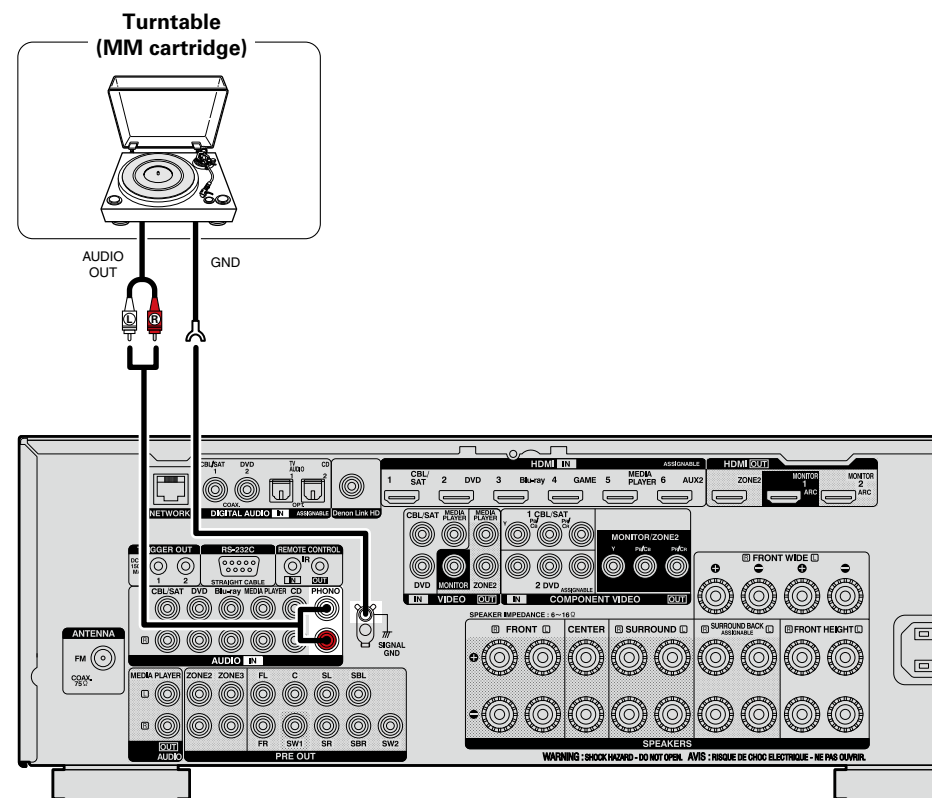
# Connecting an FM antenna

- Connect the FM antenna supplied with the unit to enjoy listening to radio broadcasts.
- After connecting the antenna and receiving a broadcast signal (☞page 45 "Listening to FM broadcasts"), fix the antenna with tape in a position where the noise level becomes minimal.

**NOTE**

- Do not connect two FM antennas simultaneously.
- If you are unable to receive a good broadcast signal, we recommend installing an outdoor antenna. For details, inquire at the retail store where you purchased the unit.

Direction of broadcasting station

FM outdoor antenna

75 Ω coaxial cable

FM indoor antenna (supplied)
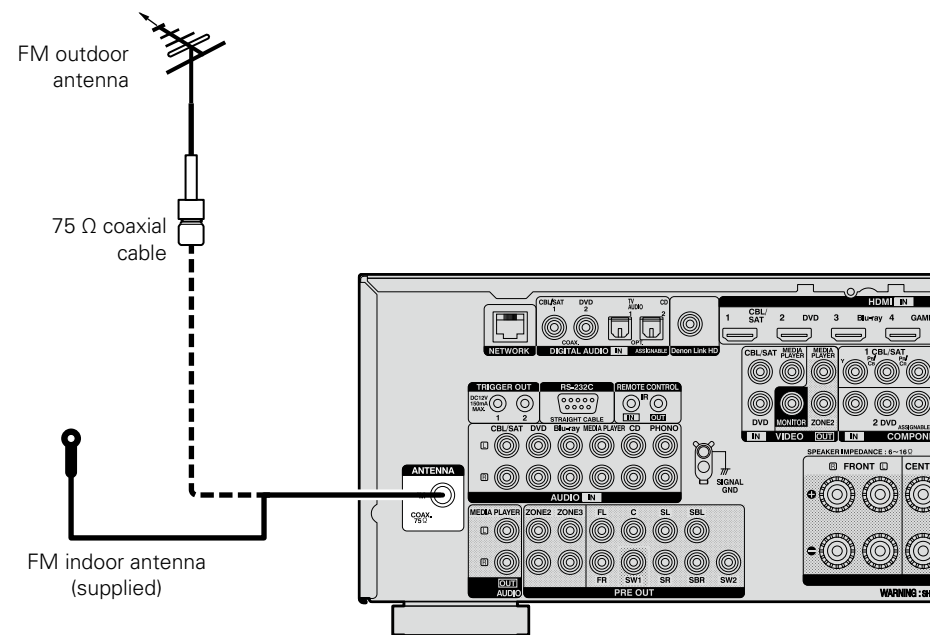
# Connecting a external power amplifier

- You can use this unit as a pre-amp by connecting a commercially available power amp to the PRE OUT connector. Adding a power amp to each of the channels provides an even greater sound presence.
- Select the terminal to use and connect the device.

✏️

- When using just one surround back speaker, connect it to the left channel (L) terminal.
- Use the volume control on the subwoofer to control subwoofer volume.
- If the subwoofer volume sounds low, use the volume control provided on the subwoofer to adjust the volume.
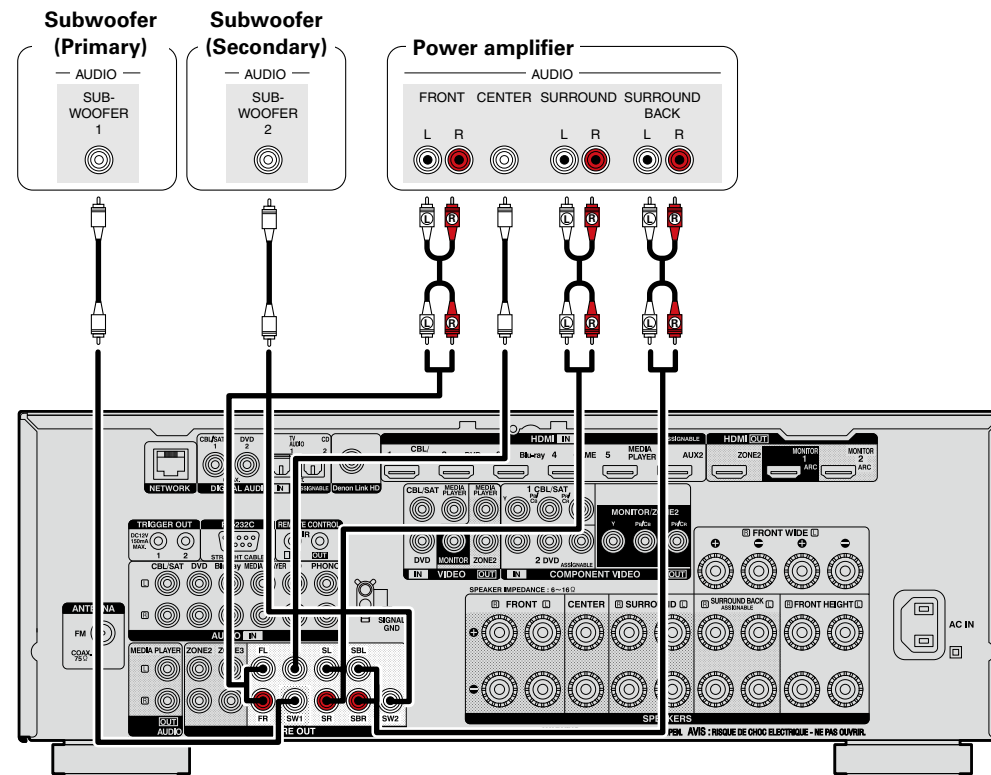
# Connecting an external control device

## REMOTE CONTROL jacks

If this unit is installed in a location that is out of range of the signal from the remote control unit, you can still operate the unit and the devices connected to it by using a commercially available IR receiver. You can also use it to remotely control ZONE2, ZONE3 (another room).
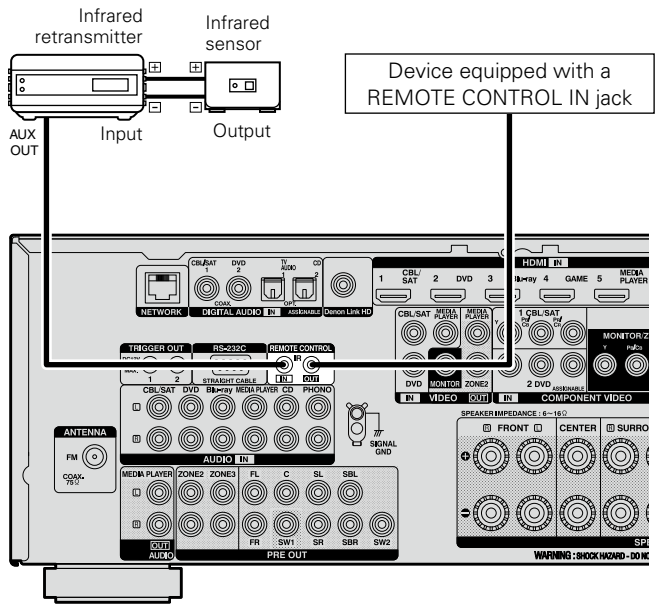


## RS-232C connector

When you connect an external control device, you can control this unit with the external control device (such as power supply operation, volume adjustment, and input source switching).



External serial controller
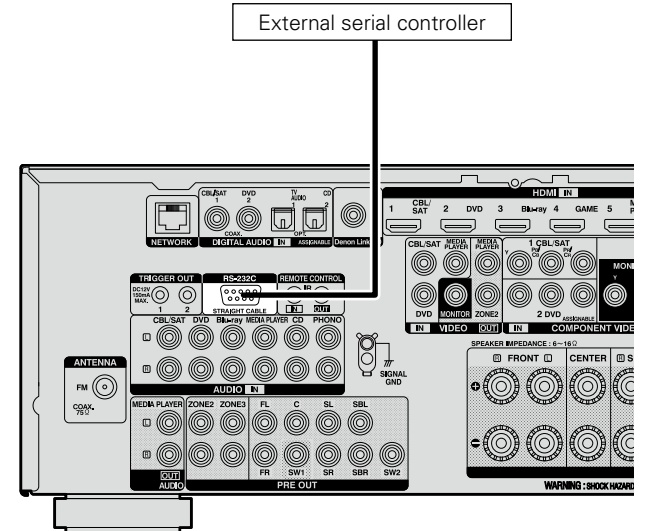
Perform the operation below beforehand.
① Turn on the power of this unit.
② Turn off the power of this unit from the external controller.
③ Check that the unit is in the standby mode.

## TRIGGER OUT jacks

When a device with TRIGGER IN jack is connected, the connected device's power on/standby can be controlled through linked operation to this unit.
The TRIGGER OUT jack outputs a maximum 12 V/150 mA electrical signal.



12 V/150 mA trigger-compatible device
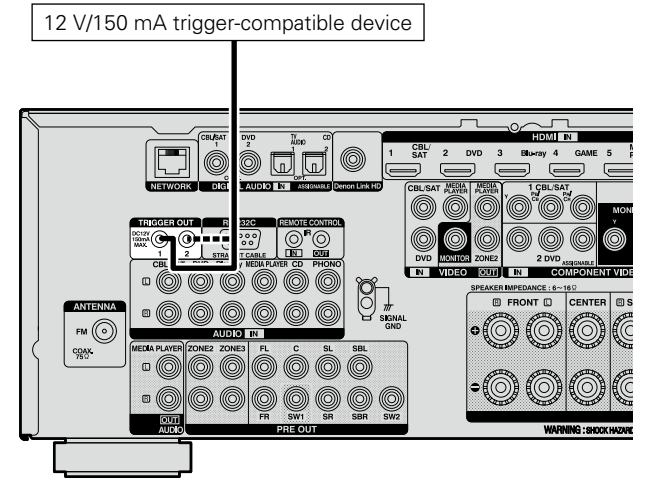
**NOTE**

- Use the monaural mini-plug cable for connecting TRIGGER OUT jacks. Do not use the stereo mini-plug cable.
- If the permissible trigger input level for the connected device is larger than 12 V/150 mA, or has shorted, the TRIGGER OUT jack cannot be used. In this case, turn off the power to the unit, and disconnect it.

# Connecting to a home network (LAN)

You can connect this unit to your home network (LAN) to perform various types of playbacks and operations as follows. Make network connections for this unit by carefully reading information on this page.

- Playback of network audio such as the Internet radio and music servers
- Playback of music from online services
- AirPlay
- Operations on this unit via the network

In addition, when an updated firmware becomes available for improving this unit, the update information is delivered from us to this unit over the network. You can then download the latest firmware.
For more information, on the menu, select "Update" (vpage 143).

Network settings are necessary. See "Network" on the menu (vpage 135) for more information on network setting.
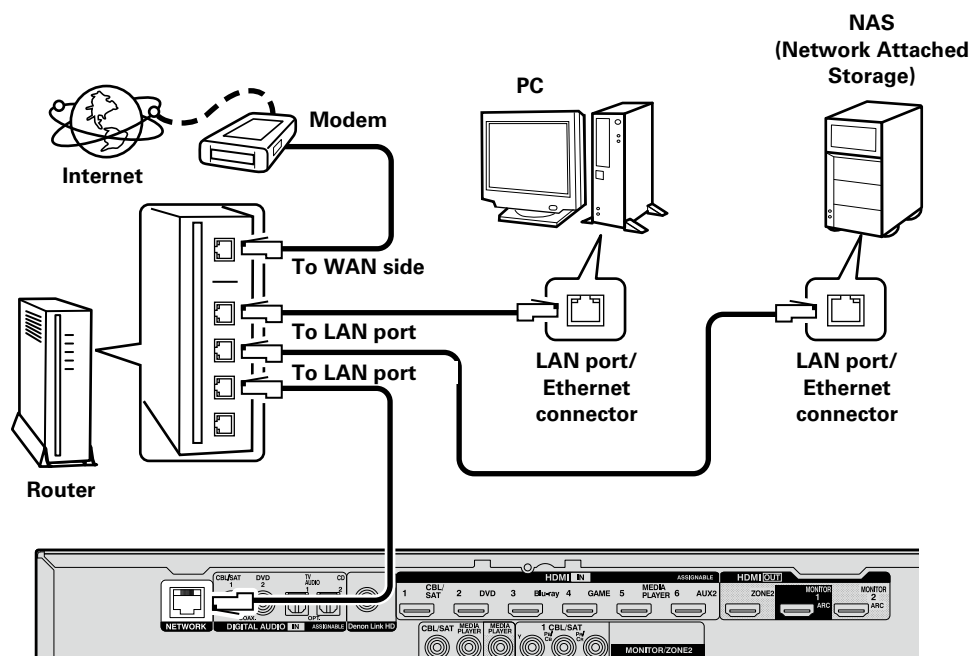


**For connections to the Internet, contact an ISP (Internet Service Provider) or a computer shop.**

## Required system

### ❏ Broadband internet connection

### ❏ Modem
Device that connects to the broadband circuit and conducts communications on the Internet.
A type that is integrated with a router is also available.

### ❏ Router
When using this unit, we recommend you use a router equipped with the following functions:
- Built-in DHCP server
  This function automatically assigns IP addresses on the LAN.
- Built-in 100BASE-TX switch
  When connecting multiple devices, we recommend a switching hub with a speed of 100 Mbps or greater.

### ❏ Ethernet cable
### (CAT-5 or greater recommended)
- Use only a shielded STP or ScTP LAN cable which is available at retailer.
- The normal shielded-type Ethernet cable is recommended. If a flat-type cable or unshielded-type cable is used, other devices could be affected by noise.

- If you have an Internet provider contract for a line on which network settings are made manually, make the settings at "Network" (vpage 135).
- With this unit, it is possible to use the DHCP and Auto IP functions to make the network settings automatically.
- When using this unit with the broadband router's DHCP function enabled, this unit automatically performs the IP address setting and other settings.
  When using this unit connected to a network with no DHCP function, make the settings for the IP address, etc., at "Network" (vpage 135).
- When setting manually, check the setting contents with the network administrator.

### NOTE
- A contract with an ISP is required to connect to the Internet.
  No additional contract is needed if you already have a broadband connection to the Internet.
- The types of routers that can be used depend on the ISP. Contact an ISP or a computer shop for details.
- DENON assumes no responsibility whatsoever for any communication errors or troubles resulting from customer's network environment or connected devices.
- This unit is not compatible with PPPoE. A PPPoE-compatible router is required if you have a contract for a type of line set by PPPoE.
- Do not connect an NETWORK connector directly to the LAN port/ Ethernet connector on your computer.
- To listen to audio streaming, use a router that supports audio streaming.

# Connecting the power cord

After completing all the connections, insert the power plug into the power outlet.
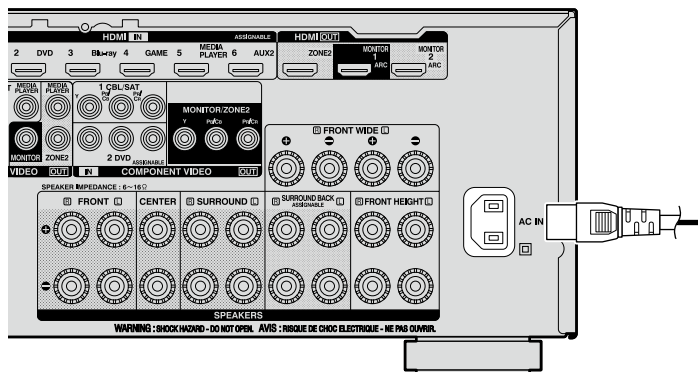


To household power outlet
(AC 230 V, 50/60 Hz)
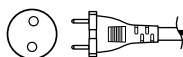
Power cord (supplied)

**NOTE**

• **Do not plug in the power cord until all connections have been completed.**

• Do not bundle power cords together with connection cables. Doing so can result in humming or noise.

# Setup

Here, we explain "Audyssey® Setup", which allows you to automatically make the optimal settings for your speakers, and "Network", which allows you to connect this unit to a home network (LAN).

This unit lets you play via your home network (LAN) music files stored on a computer and music content such as that from Internet radio.

## Set up speakers (Audyssey® Setup) [GUI]

**The acoustic characteristics of the connected speakers and listening room are measured and the optimum settings are made automatically. This is called "Audyssey® Setup".**

**To perform measurement, place the setup microphone in multiple locations all around the listening area. For best results, we recommend you measure in six or more positions, as shown in the illustration (up to eight positions).**

- When performing Audyssey® Setup, Audyssey MultEQ® XT/ Audyssey Dynamic EQ®/Audyssey Dynamic Volume® functions become active (☞page 116).
- To set up the speakers manually, use "Speakers" (☞page 129) on the menu.

**NOTE**

- Make the room as quiet as possible. Background noise can disrupt the room measurements. Close windows and turn off the power on electronic devices (TVs, radios, air conditioners, fluorescent lights, etc.). The measurements could be affected by the sounds emitted by such devices.
- During the measurement process, place cell phones outside the listening room. Cell phone signals could disrupt the measurements.
- Do not unplug the setup microphone from the main unit until Audyssey® Setup is completed.
- Do not stand between the speakers and setup microphone or allow obstacles in the path while the measurements are being made. This will cause inaccurate readings.
- During the measurement process, loud test sounds may be played, but this is part of normal operation. If there is background noise in room, these test signals will increase in volume.
- Operating **VOLUME ▲▼** on the remote control unit or **MASTER VOLUME** on the main unit during the measurements will cancel the measurements.
- Measurement cannot be performed when headphones are connected. Unplug the headphones before performing Audyssey® Setup.

### About setup microphone placement

- Measurements are performed by placing the setup microphone successively at multiple positions throughout the entire listening area, as shown in 【Example ①】. For best results, we recommend you measure in six or more positions, as shown in the illustration (up to eight positions).
- Even if the listening environment is small as shown in 【Example ②】, measuring at multiple points throughout the listening environment results in more effective correction.

【Example ①】 〔Example ②〕
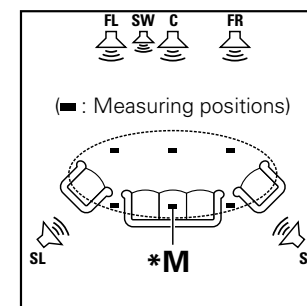
( ■ : Measuring positions) ( ■ : Measuring positions)
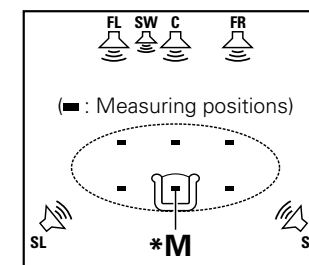
**FL** Front speaker (L)   **SW** Subwoofer
**FR** Front speaker (R)   **SL** Surround speaker (L)
**C** Center speaker   **SR** Surround speaker (R)

### About the main listening position (*M)

The main listening position is the position where listeners would normally sit or where one would normally sit alone within the listening environment. Before starting Audyssey® Setup, place the setup microphone in the main listening position. Audyssey MultEQ® XT uses the measurements from this position to calculate speaker distance, level, polarity, and the optimum crossover value for the subwoofer.

# *1* Prepare the included setup microphone

**Mount the setup microphone on a tripod or stand and place it in the main listening position.**
When placing the setup microphone, adjust the height of the sound receptor to the level of the listener's ear.

Sound receptor →
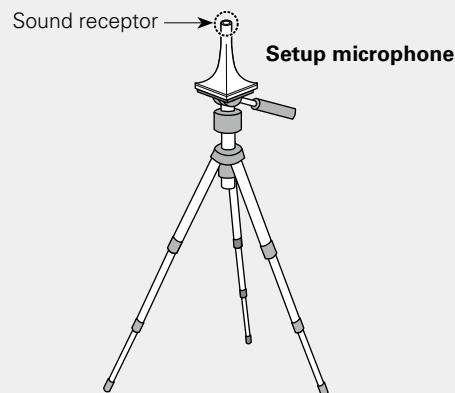
**Setup microphone**



If you do not have a tripod or stand, set up the microphone on, for example, a seat without a back.

**NOTE**

- Do not hold the setup microphone in your hand during measurements.
- Avoid placing the setup microphone close to a seat back or wall as sound reflections may give inaccurate results.

# *2* Set up the subwoofer

**If using a subwoofer capable of the following adjustments, set up the subwoofer as shown below.**

For details, see your subwoofer's manual.

❏ **When using a subwoofer with a direct mode**
Set the direct mode to "On" and disable the volume adjustment and crossover frequency setting.

❏ **When using a subwoofer without a direct mode**
Make the following settings:
- **Volume** : "12 o'clock position"
- **Crossover frequency** : "Maximum/Highest Frequency"
- **Low pass filter** : "Off"
- **Standby mode** : "Off"

**NOTE**

When using 2 subwoofers at the same time, before starting Audyssey® Setup. adjust the volume of the subwoofers by using "Subwoofer Level" (☞page 115) from the menu. You cannot set the volume for individual subwoofers.

# *3* Set up the remote control unit

❏ **Set up the zone mode**
**Press MAIN to switch the zone mode to the MAIN ZONE.**
**MAIN** lights.



**Press MAIN**
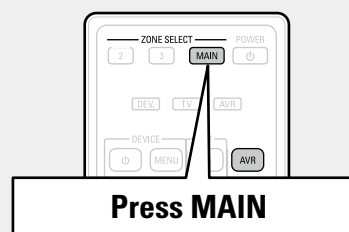
**NOTE**

When using a remote control with preset codes registered (☞page 148), press **AVR** to set the remote control to the AVR-operation mode before operation.

# Preparation

*4* **Connect the setup microphone to the SETUP MIC jack of this unit.**
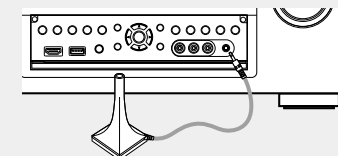


When the setup microphone is connected, the following screen is displayed.



- Here, we explain setup using the example of 7.1-channel speaker playback using surround back speakers.
  For setup of surround back speaker systems other than 7.1-channels, follows steps 3 to 6 in "Set up "Amp Assign"" "Set up "Amp Assign"" (☞page 92).
  If unused channels are set with "Channel Select", measuring time can be shortened. For setting, perform steps 7 to 14 of "Set up "Channel Select"" (☞page 93).

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## Preparation (Continued)

## Detection & Measurement (Main)

**5** Select "Start" and then press ENTER.





**6** Select "Next" and then press ENTER.
The subwoofer volume setting screen is displayed.



• This step automatically checks the speaker configuration and speaker size, and calculates the channel level, distance, and crossover frequency.
It also corrects distortion in the listening area.

**7** Select "Begin Test" and then press ENTER.
When measuring begins, a test tone is output from each speaker.

• Measurement requires several minutes.

**8** The detected speakers are displayed.

• The illustration below shows an example of when the front speakers, center speaker, subwoofer and surround speakers have been detected.
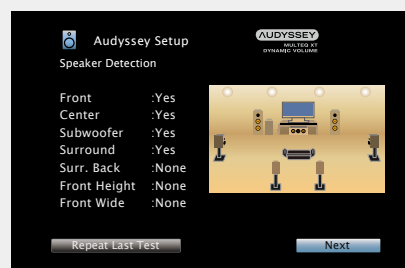


**NOTE**

If a connected speaker is not displayed, the speaker may not be connected correctly. Check the speaker connection.

**9** Select "Next" and then press ENTER.

**NOTE**

**If "Caution!" is displayed on TV screen:**
Go to "Error messages" (☞page 34). Check any related items, and perform the necessary procedures.
If the problem is resolved, return and restart "Audyssey® Setup".

**Going back to the previous screen**

Select "Back" and then press ENTER.

**When measuring has stopped**

① Press BACK to display the popup screen.
② Press ◁ to select "Yes", and then press ENTER.

**Setting up the speakers again**

Repeat the operation from step 4.

## Measurement (2nd – 8th)

## Calculation

- In this step, you will perform measurements at multiple positions (two to eight positions) other than the main listening position.
- Just one position can be measured but measuring multiple positions increases the accuracy of the correction of acoustic distortion within the listening area.

**10** **Move the setup microphone to position 2, select "Continue", and then press ENTER.**
The measurement of the second position starts. Measurements can be made in up to eight positions.
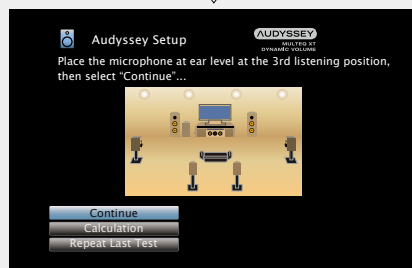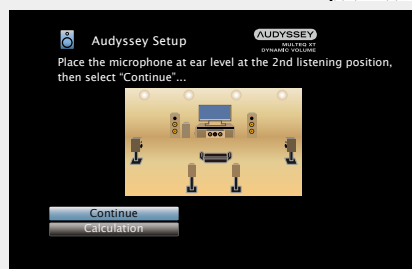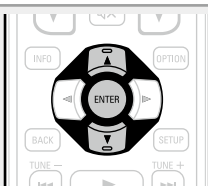






- To skip measuring the third and subsequent listening position, use △▽ to select "Calculation" and press **ENTER** to proceed to step 13.
- To measure the second position again, use △▽ to select "Repeat Last Test" and press **ENTER**.

**11** **Repeat step 10, measuring positions 3 to 8.**
When measurement of position 8 is completed, a "Measurements finished." message is displayed.
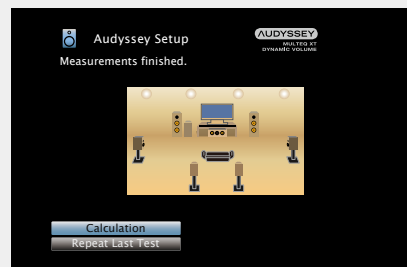


**12** **Select "Calculation" and then press ENTER.**
Measuring results are analyzed, and the frequency response of each speaker in the listening room is determined.
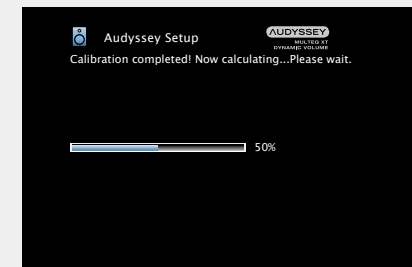


- Analysis takes several minutes to complete. The more speakers and measurement positions that there are, the more time it takes to perform the analysis.

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**Check** | **Store** | **Finish**

*13* Use △▽ to select the item you want to check, and then press **ENTER**.
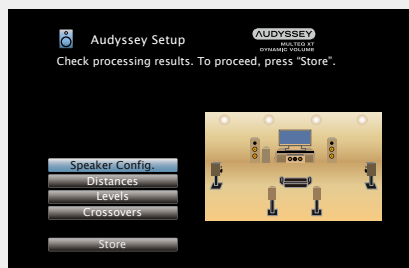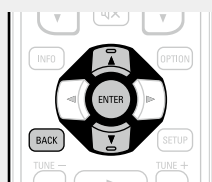


- Subwoofers may measure a greater reported distance than the actual distance due to added electrical delay common in subwoofers.
- If you want to check another item, press **BACK**.

**NOTE**

- If the result differs from the actual connection status, or if "Caution!" is displayed, see "Error messages" (☞page 34). Then carry out Audyssey® Setup again.
- If you change speaker positions or orientation, perform Audyssey® Setup again to find the optimal equalizer settings.

*14* Select "Store" and then press **ENTER**.
Save the measurement results.
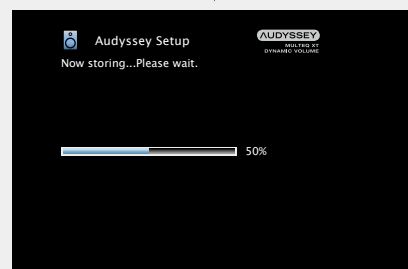


- Saving the results requires about 10 seconds.
- During saving of measurements results, "Now storing...Please wait." is displayed. When saving is completed, "Storing complete. Audyssey® Setup is now finished. Please unplug microphone." is displayed.

**NOTE**

During saving of measurement results, be sure not to turn off the power.

*15* Unplug the setup microphone from the unit's SETUP MIC jack.

*16* Set Audyssey Dynamic Volume.
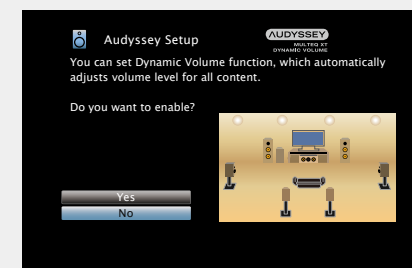


- This feature adjusts the output volume to the optimal level while constantly monitoring the level of the audio input to the unit.
Optimal volume control is performed automatically without any loss in the dynamism and clarity of the sound when, for example, the volume suddenly increases for commercials shown during television programs.

❏ **When turning Dynamic Volume on**
- Press △ to select "Yes", and then press **ENTER**.
The unit automatically enters "Medium" (☞page 117) mode.

❏ **When turning Dynamic Volume off**
- Press ▽ to select "No", and then press **ENTER**.
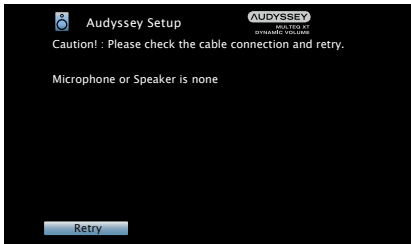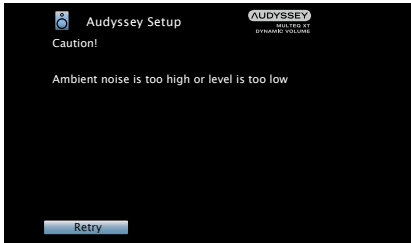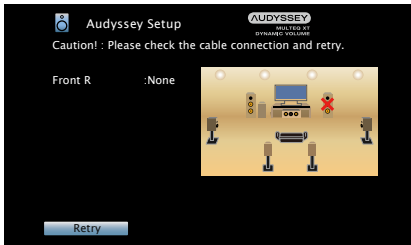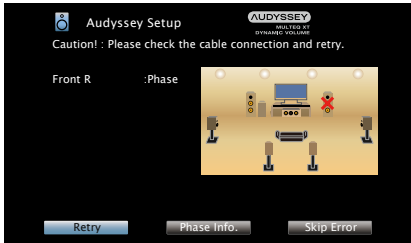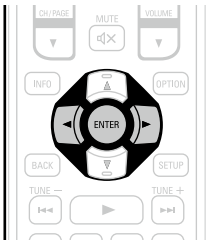
**NOTE**

After performing Audyssey® Setup, do not change the speaker connections or subwoofer volume. In event of a change, perform Audyssey® Setup again.

# Error messages

**NOTE**

- An error message is displayed if Audyssey® Setup could not be completed due to speaker placement, the measurement environment, etc. If an error message is displayed, check the relevant items and perform the necessary measures. Then perform Audyssey® Setup again.
- If the result still differs from the actual connection status after remeasurement or the error message still appears, it is possible that the speakers are not connected properly. Turn this unit off, check the speaker connections and repeat the measurement process from the beginning.
- Be sure to turn off the power before checking speaker connections.

| Examples | Error details | Measures |
| --- | --- | --- |
|  | • The connected setup microphone is broken, or a device other than the supplied setup microphone is connected.<br>• Not all speakers could be detected. | • Connect the included setup microphone to the SETUP MIC jack of this unit.<br><br>• Check the speaker connections. |
|  | • There is too much noise in the room for accurate measurements to be made.<br>• Speaker or subwoofer sound is too low for accurate measurements to be made. | • Either turn off any device generating noise or move it away.<br>• Perform again when the surroundings are quieter.<br>• Check the speaker installation and the direction in which the speakers are facing.<br>• Adjust the subwoofer's volume. |
|  | • The displayed speaker could not be detected.<br>(The screen on the left indicates that the front right speaker cannot be detected.) | • Check the connections of the displayed speaker. |
|  | • The displayed speaker is connected with the polarity reversed.<br>(The screen on the left indicates that the polarity phases of the front right speakers are reversed.) | • Check the polarity of the displayed speaker.<br>• For some speakers, this error message may be displayed even if the speaker is properly connected. If you are sure the connection is correct, use ◁ ▷ to select "Skip Error", then press **ENTER**.  |

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# Parameter Check

This function enables you to check the measurement results and equalizer characteristics after Audyssey® Setup.

## 1 Use △▽ to select "Parameter Check" and then press ENTER.
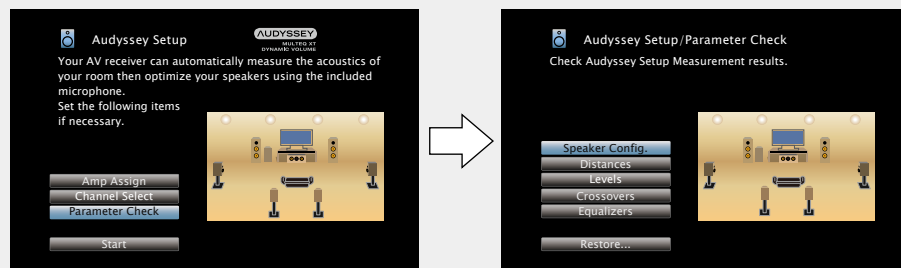


## 2 Use △▽ to select the item you want to check, then press ENTER.
Measurement results for each speaker are displayed.

| Speaker Config. | Check the speaker configuration. |
| Distances | Check the speaker distance. |
| Levels | Check the speaker channel level. |
| Crossovers | Check the speaker crossover frequency. |
| Equalizers | Check the equalizer. |
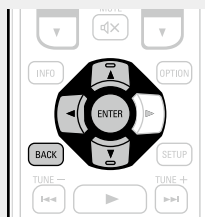
- If "Equalizers" is selected, press △▽ to select equalizing curve ("Audyssey" or "Audyssey Flat") to be checked.
  Use △▽ to switch the display between the different speakers.

## 3 Press ◁ or BACK.
The confirmation screen reappears. Repeat step 2.

## Retrieving Audyssey® Setup settings

If you set "Restore..." to "Yes", you can return to Audyssey® Setup measurement result (value calculated at the start by MultEQ® XT) even when you have changed each setting manually.

# Making the network settings (Network)

GUI

This unit can be connected to a home network (LAN) to listen to Internet radio or play back music files and still image (JPEG) files stored on a computer.

## 1 Connect the Ethernet cable (page 27 "Connecting to a home network (LAN)").

## 2 Turn on this unit (page 36).
This unit performs automatic network setup due to the DHCP function.
When connecting to a network that has no DHCP function, perform the setting in "Settings" (page 137).

# Playback (Basic operation)

## Important information

Before starting playback, make the connections between the different devices and the settings on the unit.

**NOTE**

Also refer to the operating instructions of the connected devices when playing them.

## Turning the power on

**Press POWER ⏻ to turn on power to the unit.**
The power indicator flashes green and the power turns on.
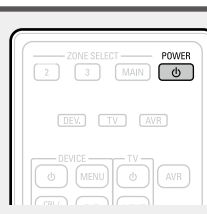
You can also switch the power to standby by pressing ⏻ on the main unit.

### ❏ When power is switched to standby
Press **POWER ⏻**.

**[Power indicator status in standby mode]**
• Normal standby : Off
• When "HDMI Control" (☞page 121) is set to "On" : Red
• When "IP Control" (☞page 136) is set to "Always On" : Red

## Selecting the input source

**Press the input source select button (CBL/SAT, DVD, Blu-ray, AUX1, TV AUDIO, TUNER, GAME, AUX2, PHONO, iPod/USB, MEDIA PLAYER, CD, NETWORK or INTERNET RADIO) to be played back.**
The desired input source can be selected directly.

**You can also use the following operation to select an input source.**

### ❏ Select the input source using the main unit
Turn **SOURCE SELECT**.
• Turning **SOURCE SELECT** switches the input source, as shown below.

CBL/SAT ←→ DVD ←→ Blu-ray ←→ GAME ←→ AUX1 ←→ AUX2

PHONO                                              MEDIA PLAYER

TV AUDIO ←→ NETWORK ←→ FM ←→ CD ←→ iPod/USB
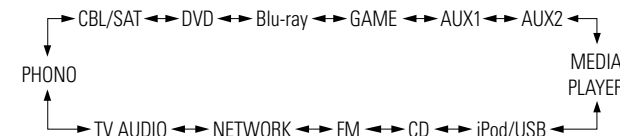
## Adjusting the master volume

**Use VOLUME ▲▼ to adjust the volume.**

- The volume display method varies depending on the "Scale" setting (☞page 116).

❑ **When the "Scale" setting (☞page 116) is "0 – 98"**

  〔Adjustable range〕 **0.0  0.5 – 98.0**

❑ **When the "Scale" setting (☞page 116) is "–79.5dB – 18.0dB"**

  〔Adjustable range〕 **–––.–  –79.5dB – 18.0dB**

- The variable range differs according to the input signal and channel level setting.

🖉
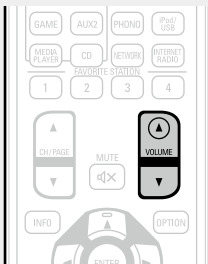
You can also adjust the master volume by turning **MASTER VOLUME** on the main unit.

## Turning off the sound temporarily

**Press MUTE ⊲✕.**

- "MUTE" indicator on the display flashes.
- ⊲✕ appears on a TV screen.

🖉
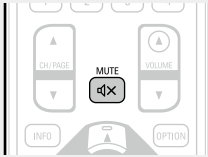
- The sound is reduced to the level set at "Mute Level" (☞page 116).
- To cancel, press **MUTE ⊲✕** again. Muting can also be canceled by adjusting the master volume.

# Playing a Blu-ray Disc player/DVD player

The following describes the procedure for playing Blu-ray Disc player/DVD player.

*1* **Prepare for playback.**
  ① Turn on the power of the TV, subwoofer and player.
  ② Change the TV input to the input of this unit.
  ③ Load the disc in the player.

*2* **Press POWER ⏻ to turn on power to the unit.**

*3* **Press Blu-ray or DVD to switch an input source for a player used for playback.**

*4* **Play the Blu-ray Disc player or DVD player.**

- Make the necessary settings on the player (language setting, subtitles setting, etc.) beforehand.
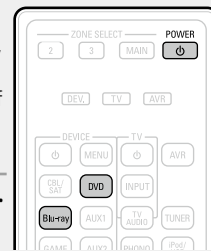
# Playing a Blu-ray Disc player compatible with Denon Link HD

- Denon Link HD uses the clock of the AV amplifier connected by Denon Link to achieve HDMI signal transfer with low jitter when playing BD.
- To play Denon Link HD signals, make HDMI and Denon Link connections with a compatible Blu-ray disc player ("Connecting a player compatible with the Denon Link HD function" (☞page 12).

*1* **Prepare for playback.**
  ① Turn on the power of the TV, subwoofer and player.
  ② Change the TV input to the input of this unit.
  ③ Load the disc in the player.

*2* **Press POWER ⏻ to turn on power to the unit.**

*3* **Perform the settings of the "Input Assign" menu (☞page 125).**
  ① Assign HDMI connectors for the input source. (example: Blu-ray)
  ② Set "DIGITAL" to "D.LINK".

*4* **Set "HDMI Control" (☞page 121) to "On".**

*5* **Press the input source select button (example: Blu-ray) to switch an input source assigned in step 3 - ①.**

*6* **Set the audio input mode to "Auto" using the "Input Mode" menu (☞page 127).**

- The default setting of "Input Mode" is "Auto".

*7* **Play the component connected to this unit.**

- Make the necessary settings on the player (language setting, subtitles setting, etc.) beforehand.

**NOTE**

- Set the Blu-ray disc player's "Denon Link" setting to "On". For instructions on operation, refer to the Blu-ray disc player's manual.
- When a Blu-ray disc is played with the input mode set to "Auto", playback is performed in the Denon Link HD mode.
- When the input mode is set to "HDMI", normal HDMI playback is performed.

# Playing Super Audio CD

The following describes the procedure for playing Super Audio CD.

*1* **Prepare for playback.**
　① Turn on the power of the subwoofer and player.
　② Load the disc in the player.

*2* **Press POWER ⏻ to turn on power to the unit.**

*3* **Perform the settings of the "Input Assign" menu (**v**page 125).**
Assign HDMI connectors for the input source(example: DVD).

*4* **Press the input source select button (example: DVD) to switch an input source assigned in step 3 - ①.**

*5* **Set the audio input mode to "Auto" using the "Input Mode" menu (**v**page 127).**

- The default setting of "Input Mode" is "Auto".

*6* **Play the component connected to this unit.**
The DSD indicator lights on the display.

When playing back Super Audio CD, DSD signals are converted into PCM signals which are then converted into analog signals.

# Playing a CD player

The following describes the procedure for playing CD player.

*1* **Prepare for playback.**
　① Turn on the power of the subwoofer and player.
　② Load the disc in the player.

*2* **Press POWER ⏻ to turn on power to the unit.**

*3* **Press CD to switch the input source to "CD".**

*4* **Play the CD player.**

# Playing an iPod

You can use the USB cable provided with the iPod to connect the iPod with the unit's iPod/USB port and enjoy music stored on the iPod.
For information on the iPod models that can be played back with this unit, see "Connecting an iPod or USB memory device to the iPod/USB port" (vpage 21).

## Listening to music on an iPod

The iPod display modes include "Remote Mode" and "Browse Mode".
By default, "Remote Mode", where you directly operate iPod itself while seeing the iPod screen, is set.
To change to "Browse Mode", where you perform operations while having the iPod information displayed on the TV screen, see "Setting Browse mode (Operation Mode)" (vpage 40).

**1** Using the USB cable provided with the iPod, connect the iPod to the iPod/USB port (v**page 21**).

**2** Press **POWER** ⏻ to turn on power to the unit.

**3** Press **iPod/USB** to switch the input source to "iPod/USB".
"Remote iPod" is displayed on the display of this unit.
• Nothing is displayed on the TV screen.
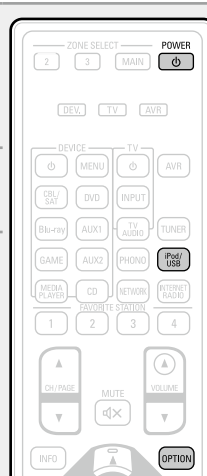
**4** Operate iPod itself directly while seeing the iPod screen to play back music.

❏ **Streaming music stored in iPhone, iPod touch, or iPad directly to the unit** (vpage 73)

❏ **Playing iTunes music with this unit**
(vpage 73)

## Operations available through the OPTION button

Press the **OPTION** button to display a menu of functions that can be used on the TV screen. Select the function you want to use from this menu. You can easily find and use the desired function.

❏ **Setting Browse mode (Operation Mode)**
(vpage 40)

❏ **Performing repeat playback (Repeat)**
(vpage 41)

❏ **Performing random playback (Random)**
(vpage 41)

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## ❑ Setting Browse mode (Operation Mode)

In this mode, various lists and screens during playback on iPod are displayed on the TV screen.

This section describes the steps up to playing back tracks on iPod in "Browse Mode".

**1** Press **iPod/USB** to switch the input source to "iPod/ USB".

**2** Press **OPTION**.
The option menu screen is displayed.

**3** Select "Operation Mode", then press **ENTER**.
The "Operation Mode" screen is displayed.
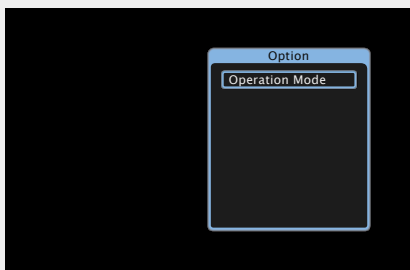
**4** Use ◁ ▷ to select "Browse Mode", then press **ENTER**.
The iPod screen is displayed.

---
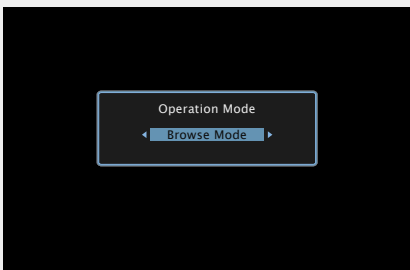
- English letters, numbers and certain symbols are displayed. Incompatible characters are displayed as "." (period).
- Operations available for "Browse Mode" and "Remote Mode" are listed below.

| Display mode | | Remote Mode | Browse Mode |
|---|---|---|---|
| **Playable files** | **Music file** | ✓ | ✓ |
| | **Video file** | * | |
| **Active buttons** | **Remote control unit (This unit)** | ✓ | ✓ |
| | **iPod** | ✓ | |

* Only the sound is played.

**5** Use △▽ to select the item, then press **ENTER** or ▷ to select the file to be played.

**6** Press **ENTER**, ▷ or ►.
Playback starts.

---

## ❑ Adjusting the sound quality (Restorer)

Make this setting at "Restorer" (☞page 115) in the menu.

You can use the "Restorer" function to restore to a state close to the audio before compression while correcting the bass feel to enjoy a richer playback experience. The default setting is "Mode 3 (Low)".

## ❑ Changing the screen display duration

Make this setting at "Audio Display" (☞page 123) in the menu. The default setting is "30s".

Press △▽◁ ▷ while the display is off to return to the original screen.

## ❑ Switching the screen display

In Browse mode, press **STATUS** on the main unit during playback. The display switches between track title, artist name, and album title etc. each time the button is pressed.

**NOTE**

- Depending on the type of iPod and the software version, some functions may not operate.
- Note that DENON will accept no responsibility whatsoever for any problems arising with the data on an iPod when using this unit in conjunction with the iPod.

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## ❏ Performing repeat playback (Repeat)

**1** Press OPTION while in Browse mode.
The option menu screen is displayed.

**2** Use △▽ to select "Repeat", then press ENTER.

**3** Use ◁ ▷ to select repeat playback mode.

• Each time ◁ ▷ is pressed, the setting is changed as shown below.

Off ← → One
→ All ←
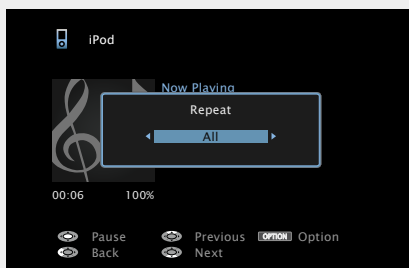
| Off | Repeat playback mode is canceled. |
|-----|------------------------------------|
| One | A file being played is played repeatedly. |
| All | All files in the folder currently being played are played repeatedly. |

**4** Press ENTER.
The display returns to the playback screen.

## ❏ Performing random playback (Random)

**1** Press OPTION while in Browse mode.
The option menu screen is displayed.

**2** Use △▽ to select "Random", then press ENTER.

**3** Use ◁ ▷ to select random playback mode.

• Each time ◁ ▷ is pressed, the setting is changed as shown below.

Off ← → On
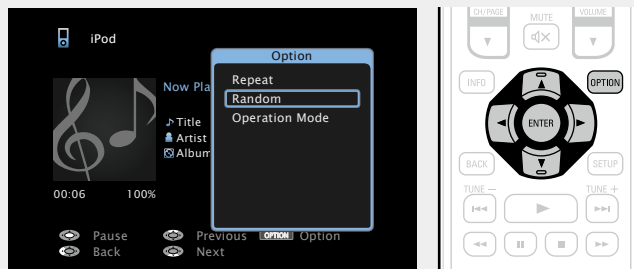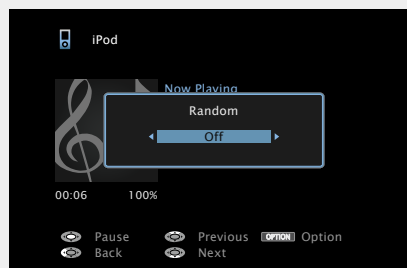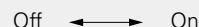
| Off | Disable random playback. |
|-----|--------------------------|
| On | Enable random playback. |

**4** Press ENTER.
The display returns to the playback screen.

✎
The random playback randomly selects a track to play back from all tracks every time a track ends. Therefore, the same track may be played back consecutively.

## ❏ iPod operation buttons

| Operation buttons | Function |
|-------------------|----------|
| CH/PAGE ▲▼ | Page search |
| INFO | Display of information such as the source name, volume, and sound mode name |
| OPTION | Browse / Remote mode switching / Repeat playback / Random playback |
| △▽◁ ▷ | Cursor operation / Auto search (cue, △▽) / Manual search (Press and hold, △▽) |
| ENTER (Press and release) | Enter |
| ENTER (Press and hold) | Stop |
| BACK | Return |
| SETUP | Setup menu |
| ◄◄ ►►| | Auto search (cue) |
| ► | Playback / Pause |
| ◄◄ ►► (Press and hold) | Manual search (fast-reverse/fast-forward) |
| ❙❙ | Pause |
| ■ | Stop |

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# Playing a USB memory device

Playing back music or still picture (JPEG) files recorded on a USB memory device.

## Important information

- Only USB memory devices conforming to mass storage class and MTP (Media Transfer Protocol) standards can be played on this unit.
- This unit is compatible with USB memory devices in "FAT16" or "FAT32" format.
- This unit is compatible with MP3 files conforming to "MPEG-1 Audio Layer-3" standards.
- File types that this unit can play back and specifications are shown below.

**【Supported file types】**

| Supported file types | USB memory devices *1 |
|---|---|
| **WMA** (Windows Media Audio) | ✓*2 |
| **MP3** (MPEG-1 Audio Layer-3) | ✓ |
| **WAV** | ✓ |
| **MPEG-4 AAC** | ✓*3 |
| **FLAC** (Free Lossless Audio Codec) | ✓ |
| **JPEG** | ✓ |

*1 USB memory device
  - This unit is compatible with MP3 ID3-Tag (Ver. 2) standard.
  - This unit can show the artwork that was embedded by using MP3 ID3-Tag Ver. 2.3 or 2.4.
  - This unit is compatible with WMA META tags.
  - If the image size (pixels) of an album artwork exceeds 500 × 500 (WMA/MP3/WAV/FLAC) or 349 × 349 (MPEG-4 AAC), then music may not be played back properly.
  - WAV format Quantization bit length: 16 bits.
  - FLAC format Quantization bit length: 16 or 24 bits.
*2 Copyright-protected files can be played on certain portable players compatible with MTP.
*3 Only files that are not protected by copyright can be played on this unit.
  Content downloaded from pay sites on the Internet are copyright protected. Also, files encoded in WMA format when ripped from a CD, etc. on a computer may be copyright protected, depending on the computer's settings.

**NOTE**

File types that this unit does not support are not displayed.

**【Compatible formats】**

| | Sampling frequency | Bit rate | Extension |
|---|---|---|---|
| **WMA** (Windows Media Audio) | 32/44.1/48 kHz | 48 – 192 kbps | .wma |
| **MP3** (MPEG-1 Audio Layer-3) | 32/44.1/48 kHz | 32 – 320 kbps | .mp3 |
| **WAV** | 32/44.1/48 kHz | – | .wav |
| **MPEG-4 AAC** | 32/44.1/48 kHz | 16 – 320 kbps | .aac/ .m4a/ .mp4 |
| **FLAC** (Free Lossless Audio Codec) | 32/44.1/48/88.2/96 kHz | – | .flac |

### ❏ Maximum Number of Playable Files and Folder

The limits on the number of folders and files that can be displayed by this unit are as follows.

| Item \ Media | USB memory devices |
|---|---|
| Memory capacity | FAT16 : 2 GB, FAT32 : 2 TB |
| Number of folder directory levels *1 | 8 levels |
| Number of folders | 500 |
| Number of files *2 | 5000 |

*1 The limited number includes the root folder.
*2 The allowable number of files may differ according to the USB memory device capacity and the file size.

## Playing files stored on USB memory devices

**1** Connect the USB memory device to the iPod/USB port (วpage 21).

**2** Press **iPod/USB** to switch the input source to "iPod/USB".

```
🖋 USB                    [1/9]
                                    □
  □ D&M1                        ▸
  □ D&M2
  □ D&M3
  🎵 Music1
  🎵 Music2
  🎵 Music3
  🎵 Music4

                    OPTION Option
```
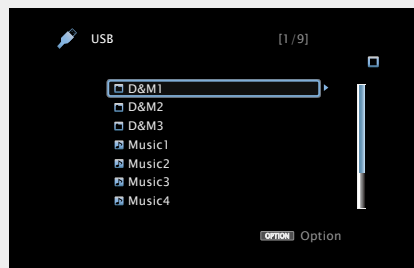
**3** Use △▽ to select the search item or folder, then press **ENTER** or ▷.

**4** Use △▽ to select the file, then press **ENTER**, ▷ or ▶.
Playback starts.
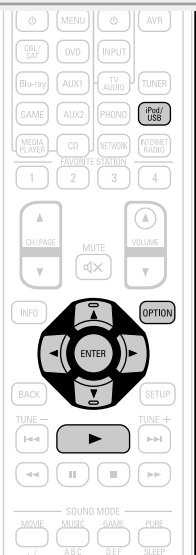
### ❏ Adjusting the sound quality (Restorer)
Make this setting at "Restorer" (วpage 115) in the menu.
You can use the "Restorer" function to restore to a state close to the audio before compression while correcting the bass feel to enjoy a richer playback experience. The default setting is "Mode 3 (Low)".

### ❏ Going back to the previous screen
Press ◁ or **BACK**.

### ❏ Changing the screen display duration
Make this setting at "Audio Display" (วpage 123) in the menu. The default setting is "30s".
Press △▽◁ ▷ while the display is off to return to the original screen.

✎
- When an MP3 music file includes album art data, the album art can be displayed while playing the file.
- If the USB memory device is divided into multiple partitions, only the first partition is played back.

**NOTE**
- Note that DENON will accept no responsibility whatsoever for any problems arising with the data on a USB memory device when using this unit in conjunction with the USB memory device.
- USB memory devices will not work via a USB hub.
- DENON does not guarantee that all USB memory devices will operate or be supplied power. When using a USB portable hard disk that can draw power from an AC adapter, we recommend using the AC adapter.
- It is not possible to connect and use a computer via the iPod/USB port of this unit using a USB cable.

## Operations available through the OPTION button
Press the **OPTION** button to display a menu of functions that can be used on the TV screen. Select the function you want to use from this menu. You can easily find and use the desired function.

❏ **Searching content with keywords (Text Search)** (วpage 69)

❏ **Performing repeat playback (Repeat)** (วpage 70)

❏ **Performing random playback (Random)** (วpage 70)

❏ **Playing back music and a favorite picture at the same time (Picture View)** (วpage 72)

❏ **Playing back still images in sequential order (Slideshow)** (วpage 72)

## ❏ USB memory device operation buttons
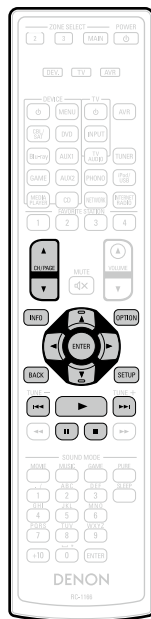
| Operation buttons | Function |
| --- | --- |
| **CH/PAGE △▽** | Page search |
| **INFO** | Display of information such as the source name, volume, and sound mode name |
| **OPTION** | Text Search / Repeat playback / Random playback / Picture View / Slideshow |
| **△▽◁ ▷** | Cursor operation / Auto search (cue, △▽) |
| **ENTER** (Press and release) | Enter |
| **ENTER** (Press and hold) | Stop |
| **BACK** | Return |
| **SETUP** | Setup menu |
| **◀◀ ▶▶I** | Auto search (cue) |
| **▶** | Playback / Pause |
| **II** | Pause |
| **■** | Stop |

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# Listening to FM broadcasts

For antenna connections, see "Connecting an FM antenna" "Connecting an FM antenna" (vpage 24).

## How to tune in

The modes for receiving FM broadcasts consists of "Auto" mode that automatically searches available broadcast stations and "Manual" mode that lets you tune in using buttons to change the frequency. The default setting is "Auto". You can also use "Direct Tune" to tune in by entering the frequency directly.

In "Auto" mode, you cannot tune in to radio stations if the reception is not good. If this is the case, then use the "Manual" mode or "Direct Tune" to tune in.

## Listening to FM broadcasts

*1* **Press TUNER to switch the input source to "FM".**

〖TV Screen〗

FM

STEREO AUTO

Now Playing

CH 1        FM 87.50MHz

TUNE+/− Tune    CH△/▽ Preset    OPTION Option

〖Display of this unit〗

01 FM  87.50MHz
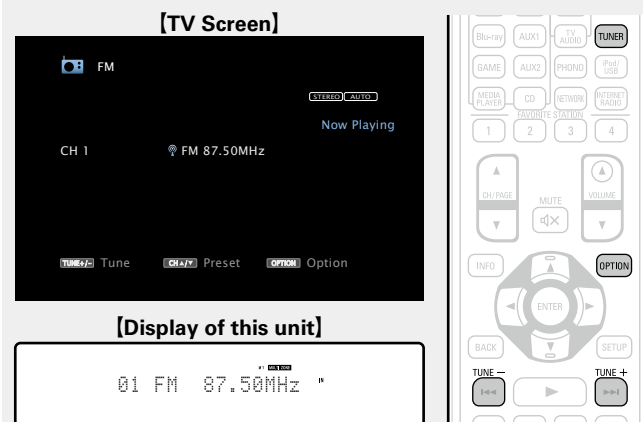
*2* **Press TUNE + or TUNE − to select the station you want to hear.**
Scanning is performed until it finds an available radio station. When it finds a radio station, it stops the scan automatically and tunes in.

❏ **Adding to the FAVORITE STATION button**
(vpage 71)

## Operations available through the OPTION button

Press the **OPTION** button to display a menu of functions that can be used on the TV screen. Select the function you want to use from this menu. You can easily find and use the desired function.

❏ **Tuning in by entering the radio frequency (Direct Tune)** (vpage 47)

❏ **RDS search** (vpage 52)

❏ **PTY search** (vpage 53)

❏ **TP search** (vpage 54)

❏ **Radio Text** (vpage 55)

❏ **Tuning in to radio stations and presetting them automatically (Auto Preset Memory)** (vpage 48)

❏ **Changing the tuning mode (Tune Mode)** (vpage 46)

❏ **Presetting the current broadcast station (Preset Memory)** (vpage 49)

❏ **Specify a name for the preset broadcast station (Preset Name)** (vpage 50)

❏ **Skipping preset broadcast stations (Preset Skip)** (vpage 51)

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## ❏ Changing the tuning mode (Tune Mode)

You can change the mode for tuning into FM broadcasts. If you cannot tune in automatically with "Auto" mode, then change the mode to "Manual" and tune in manually.

**1** Press **TUNER** to switch the input source to "FM".

**2** Press **OPTION**.
The option menu screen is displayed.

**3** Use △▽ to select "Tune Mode", then press **ENTER**.

〖TV Screen〗

〖Display of this unit〗

**4** Use ◁ ▷ to select tuning mode, then press **ENTER**.

〖TV Screen〗
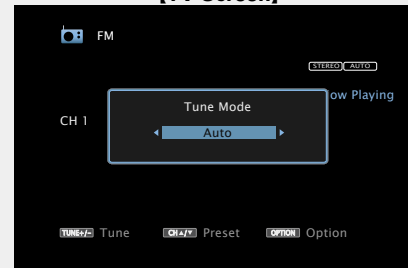
〖Display of this unit〗

| Auto | Automatically tune to the station. |
| Manual | Manually tune to the station. |

**5** Press **TUNE +** or **TUNE −** to select the station you want to hear.
The frequency changes in steps each time the button is pressed.

When tuning in stations manually, press and hold **TUNE +** or **TUNE −** to change frequencies continuously.

## ❏ Changing the screen display duration

Make this setting at "Audio Display" (℡page 123) in the menu. The default setting is "30s".
Press △▽◁ ▷ while the display is off to return to the original screen.

❑ **Tuning in by entering the radio frequency (Direct Tune)**

You can enter the receiving frequency directly to tune in.

**1** Press **TUNER** to switch the input source to "FM".

**2** Press **OPTION**.

The option menu screen is displayed.

**3** Use △▽ to select "Direct Tune", then press **ENTER**.

The direct tuner screen is displayed and "−" in the display flashes.

【TV Screen】

| | |
|---|---|
| FM | |
| | Option |
| | Direct Tune |
| | RDS Search |
| CH 1     FM 87 | PTY Search |
| | TP Search |
| | Radio Text |
| | Preset Memory |
| | Tune Mode |
| | Auto Preset Memory |

TUNE+/− Tune   CH+/V Preset   OPTION Option

【Display of this unit】

```
*OPTION
Direct Tune
```
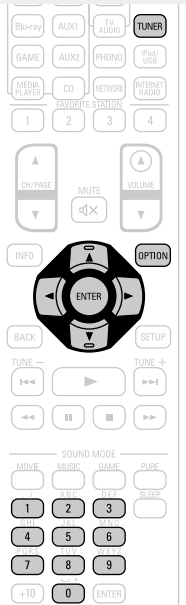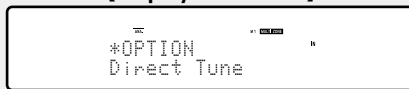
**4** Use △▽ or **0 – 9** to select a number and press ▷.

The screen that lets you enter the frequency is displayed.

【TV Screen】

| | |
|---|---|
| FM | |
| | STEREO AUTO |
| | Now Playing |
| FM ▪−−.−MHz | |
| DIRECT TUNE | |
| Input     Enter | |

【Display of this unit】

```
FM  ☀−−.− MHz
DIRECT TUNE
```
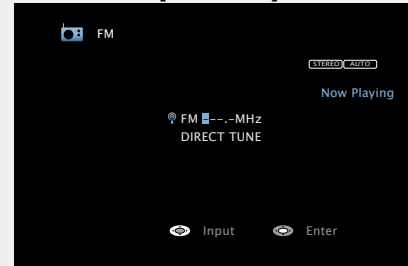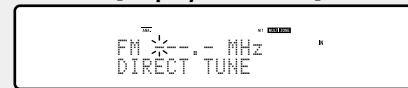
• If ◁ is pressed, the immediately preceding input is cancelled.

**5** Repeat step 4 and enter the frequency of the radio station you want to hear.

**6** When setting is completed, press **ENTER**.

The preset frequency is tuned in.

# Presetting broadcast stations

## ❑ Tuning in to radio stations and presetting them automatically (Auto Preset Memory)

Up to 56 stations can be preset.

If "Auto Preset Memory" is performed after performing "Preset Memory", the "Preset Memory" settings will be overwritten.

**1** Press **TUNER** to switch the input source to "FM".

**2** Press **OPTION**.
The option menu screen is displayed.

**3** Use △▽ to select "Auto Preset Memory", then press **ENTER**.
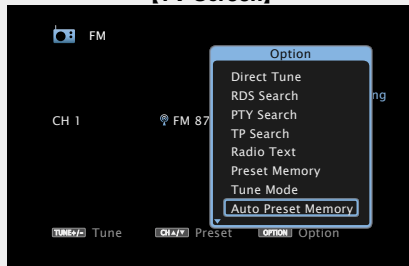
【TV Screen】

【Display of this unit】

**4** Press **ENTER**.
The unit starts to tune in to radio stations automatically and preset them.

【TV Screen】

【Display of this unit】

• When presetting is completed, "Completed" is displayed for about 5 seconds and the option menu screen turns off.

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❏ **Presetting the current broadcast station (Preset Memory)**

Your favorite broadcast stations can be preset so that you can tune them in easily. Up to 56 stations can be preset.

**1** Tune in the broadcast station you want to preset.

**2** Press **OPTION**.

The option menu screen is displayed.

**3** Use △▽ to select "Preset Memory", then press **ENTER**.

The list of already preset channels is displayed.

【TV Screen】
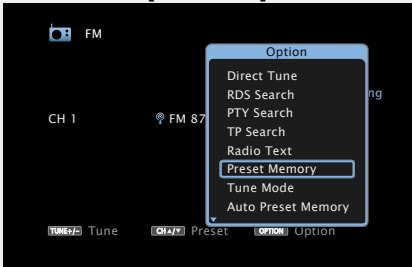
【Display of this unit】
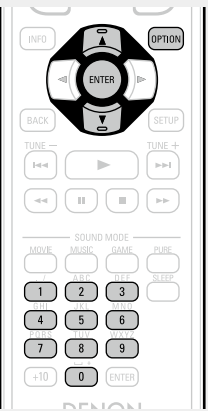
**4** Use △▽ or **0 – 9** to select the channel you want to preset, then press **ENTER**.

The current broadcast station that is preset.

• To preset other stations, repeat steps 1 to 4.

【TV Screen】
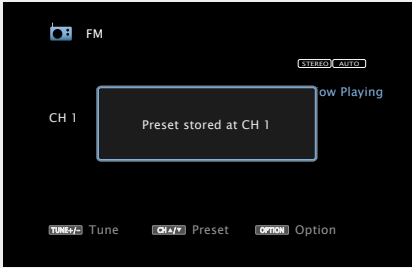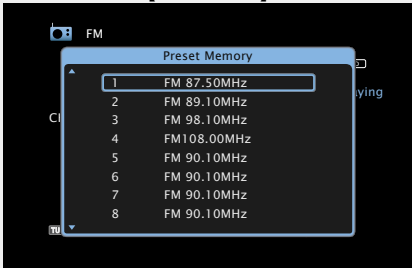
【Display of this unit】

✎
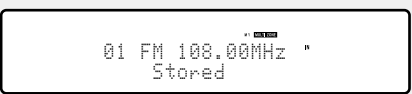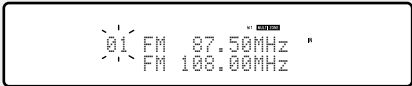
The channel numbers of broadcast stations set as "Preset Skip" (☞page 51) are grayed out, but these stations can be preset.
When grayed out channel numbers are preset, these are highlighted and the "Preset Skip" setting changes to "On".

| Channel | Default Settings |
|---------|------------------|
| 1 – 8 | 87.50 / 89.10 / 98.10 / 108.00 / 90.10 / 90.10 / 90.10 / 90.10 MHz |
| 9 – 16 | 90.10 / 90.10 / 90.10 / 90.10 / 90.10 / 90.10 / 90.10 / 90.10 MHz |
| 17 – 24 | 90.10 / 90.10 / 90.10 / 90.10 / 90.10 / 90.10 / 90.10 / 90.10 MHz |
| 25 – 32 | 90.10 / 90.10 / 90.10 / 90.10 / 90.10 / 90.10 / 90.10 / 90.10 MHz |
| 33 – 40 | 90.10 / 90.10 / 90.10 / 90.10 / 90.10 / 90.10 / 90.10 / 90.10 MHz |
| 41 – 48 | 90.10 / 90.10 / 90.10 / 90.10 / 90.10 / 90.10 / 90.10 / 90.10 MHz |
| 49 – 56 | 90.10 / 90.10 / 90.10 / 90.10 / 90.10 / 90.10 / 90.10 / 90.10 MHz |

## Listening to preset stations

Use **CH/PAGE ▲▼** or **0 – 9** to select the desired preset channel.

【Display of this unit】

    01 FM  87.50MHz "

49
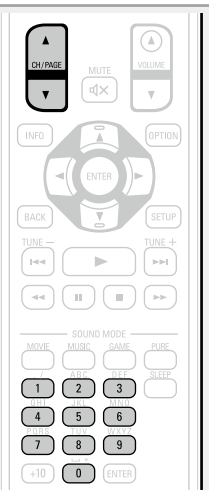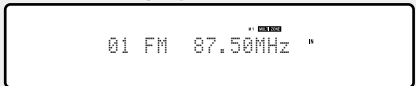
❏ **Specify a name for the preset broadcast station (Preset Name)**

You can set the name to the preset broadcast station or change it. Up to eight characters can be input.

**1** Press **TUNER** to switch the input source to "FM".

**2** Press **OPTION**.
The option menu screen is displayed.

**3** Use △▽ to select "Preset Name", then press **ENTER**.
The Preset Name screen is displayed.

【TV Screen】

【Display of this unit】

**4** Use ◁ ▷ to select the group of the broadcast station you want to name then press **ENTER**.
The screen that lets you edit the preset name is displayed.

• Each time ◁ ▷ is pressed, the setting is changed as shown below.

1 – 8 ⟷ 9 – 16 ⟷ 17 – 24 ⟷ 25 – 32
49 – 56 ⟷ 41 – 48 ⟷ 33 – 40
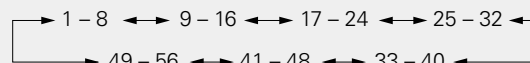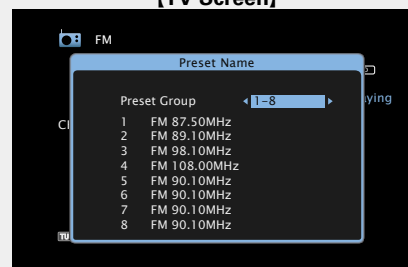
【TV Screen】

【Display of this unit】

```
NAME [ 1- 8]
Group   :◀ 1- 8▶
```

**5** Use △▽ to select the broadcast station you want to name, then press **ENTER**.
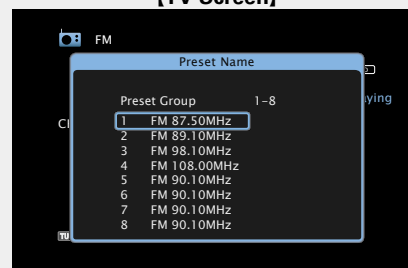
【TV Screen】

【Display of this unit】

```
NAME [ 1- 8]
     1 FM  87.50MHz
```

**6** Use △▽ to select a name label, then press **ENTER**.
The screen that lets you edit the preset name is displayed.

• If you select "Set Defaults", then the unit returns to displaying the frequency.

**7** Enter the characters, then press **O K**.

• For character input, see .

**8** Press **BACK** twice.
The display returns to the playback screen.

❏ **Skipping preset broadcast stations (Preset Skip)**

You can set in advance, the stations you do not want to be displayed when tuning in, by groups or by stations.
The preset skip setting is useful when tuning in, because only your favorite stations are displayed.

**1** Press **TUNER** to switch the input source to "FM".

**2** Press **OPTION**.
The option menu screen is displayed.

**3** Use △▽ to select "Preset Skip", then press **ENTER**.
The Preset Skip screen is displayed.

〔TV Screen〕

〔Display of this unit〕
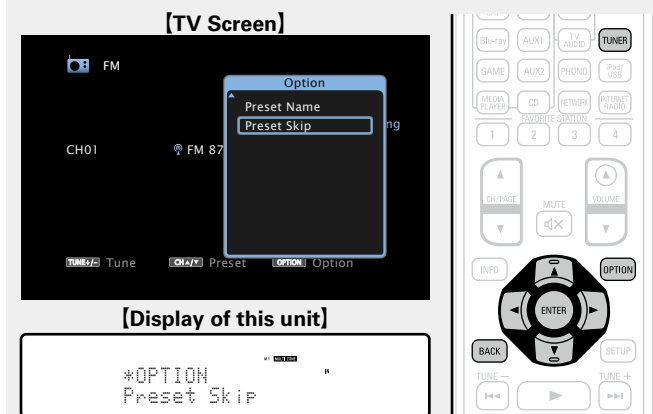
**4-1** 〔To set the stations you want to skip by groups〕
① Use ◁ ▷ to select the group of broadcast stations you want to skip.
• Each time ◁ ▷ is pressed, the setting is changed as shown below.

1 – 8 ←→ 9 – 16 ←→ 17 – 24 ←→ 25 – 32
49 – 56 ←→ 41 – 48 ←→ 33 – 40
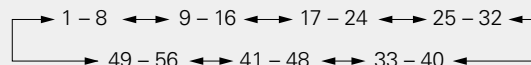
② Press △ to select "Set ✳ – ✳ to Skip", then press **ENTER**.
All broadcast stations in the group "✳ – ✳" you selected are not displayed.
(✳ are the selected group numbers)

③ Press **BACK**.

〔TV Screen〕

〔Display of this unit〕

**4-2** 〔To set the stations you want to skip by stations〕
① Use ◁ ▷ to select the group of broadcast stations you want to skip.
• Each time ◁ ▷ is pressed, the setting is changed as shown below.

1 – 8 ←→ 9 – 16 ←→ 17 – 24 ←→ 25 – 32
49 – 56 ←→ 41 – 48 ←→ 33 – 40
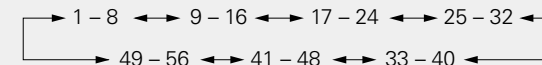
② Use △▽ to select the broadcast station you want to skip.
③ Use ◁ ▷ to select "Skip".
The station you selected is not displayed.
④ Press **BACK**.

〔TV Screen〕

〔Display of this unit〕

## Cancelling preset skip

**1** **While the Preset Skip screen is displayed, use ◁ ▷ to select a group containing a broadcast station to cancel the skip for.**

**2** **Use △▽ to select a broadcast station to cancel the skip for.**

【TV Screen】

FM

Preset Skip

Set 1–8 to Skip
Preset Group          1–8
1    FM 87.50MHz    ◁ On ▷
2    FM 89.10MHz       On
3    FM 98.10MHz       On
4    FM 108.00MHz      On
5    FM 90.10MHz       On
6    FM 90.10MHz       On
7    FM 90.10MHz       On
8    FM 90.10MHz       On

【Display of this unit】

SKIP [ 1- 8]
1  87.50M:◁On ▶
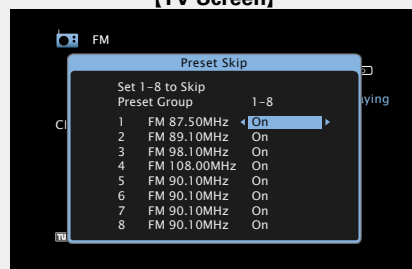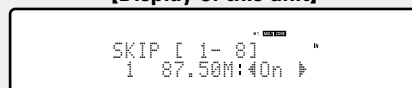
**3** **Use ◁ ▷ to select "On".**
The skip is cancelled.

**NOTE**

You cannot cancel the skip for each group.

## ❑ RDS search

RDS (works only on the FM band) is a broadcasting service which allows a station to send additional information along with the regular radio program signal.
Use this function to automatically tune to FM stations that provide the RDS service.

**NOTE**

Note that the RDS function only works when receiving RDS compatible stations.

**1** **Press TUNER to switch the input source to "FM".**

**2** **Press OPTION.**
The option menu screen is displayed.

**3** **Use △▽ to select "RDS Search", then press ENTER.**

【TV Screen】

FM

Option

Direct Tune
RDS Search
PTY Search
TP Search
Radio Text
Preset Memory
Tune Mode
Auto Preset Memory

CH 1          FM 87

TUNE+/− Tune    CH▲/▼ Preset    OPTION Option
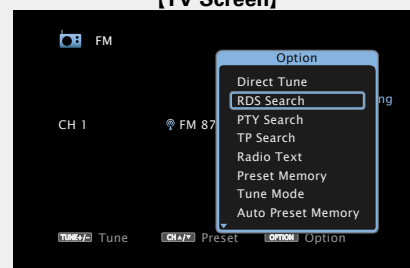
【Display of this unit】
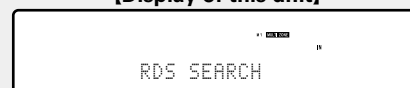
RDS SEARCH

**4** **Press ENTER.**
The search for RDS stations begins automatically.

【TV Screen】

FM

RDS Search

CH 1    FM 87.50MHz
– PS NAME –

Search

TUNE+/− Tune    CH▲/▼ Preset    OPTION Option

【Display of this unit】
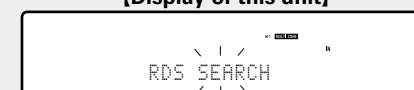
RDS SEARCH

- If no RDS stations are found with the above operation, all the reception bands are searched.
- When a broadcast station is found, that station's name appears on the display.
- If no RDS station is found when all the frequencies have been searched, "NO RDS" is displayed.

If you press ◁ ▷ within 5 seconds after the broadcast station name is shown on the display, you can search for a different station.

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## ❏ PTY search

Use this function to find RDS stations broadcasting a designated program type (PTY).

PTY identifies the type of RDS program.

The program types and their displays are as follows:

| | | | |
|---|---|---|---|
| **NEWS** | News | **WEATHER** | Weather |
| **AFFAIRS** | Current Affairs | **FINANCE** | Finance |
| **INFO** | Information | **CHILDREN** | Children's program |
| **SPORT** | Sports | | |
| **EDUCATE** | Education | **SOCIAL** | Social Affairs |
| **DRAMA** | Drama | **RELIGION** | Religion |
| **CULTURE** | Culture | **PHONE IN** | Phone In |
| **SCIENCE** | Science | **TRAVEL** | Travel |
| **VARIED** | Varied | **LEISURE** | Leisure |
| **POP M** | Pop Music | **JAZZ** | Jazz Music |
| **ROCK M** | Rock Music | **COUNTRY** | Country Music |
| **EASY M** | Easy Listening Music | **NATION M** | National Music |
| | | **OLDIES** | Oldies Music |
| **LIGHT M** | Light Classical | **FOLK M** | Folk Music |
| **CLASSICS** | Serious Classical | **DOCUMENT** | Documentary |
| **OTHER M** | Other Music | | |

**1** Press **TUNER** to switch the input source to "FM".

**2** Press **OPTION**.
The option menu screen is displayed.

**3** Use $\triangle\triangledown$ to select "PTY Search" , then press **ENTER**.

【TV Screen】



【Display of this unit】
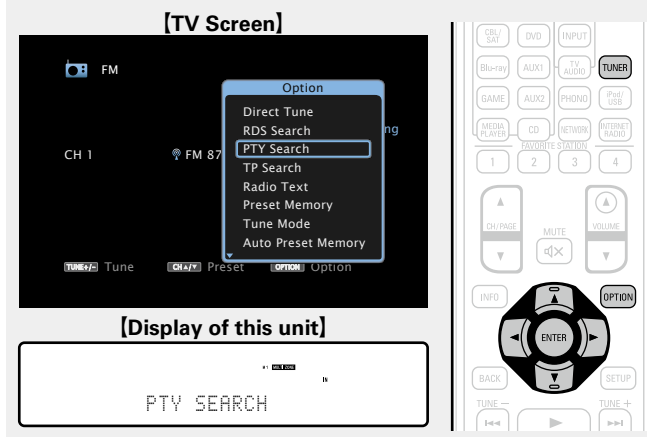


**4** Watching the display, press $\triangle\triangledown$ to call out the desired program type.

【TV Screen】
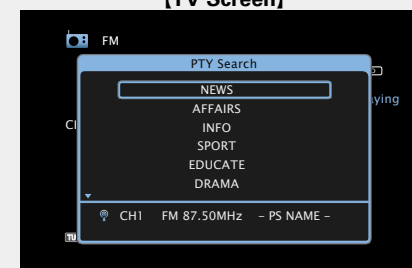


【Display of this unit】
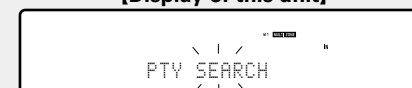


**5** Press **ENTER**.
PTY search begins automatically.

- If there is no station broadcasting the designated program type with the above operation, all the reception bands are searched.
- The station name is displayed on the display after searching stops.
- If no station broadcasting the designated program type is found when all the frequencies have been searched, "NO PROGRAMME" is displayed.

If you press $\triangleleft\triangleright$ within 5 seconds after the broadcast station name is shown on the display, you can search for a different station.

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## ❏ **TP search**

TP identifies programs that carry traffic announcements.
This allows you to easily find out the latest traffic conditions in your area before leaving home.
Use this function to find RDS stations broadcasting traffic programs (TP stations).

*1* **Press TUNER to switch the input source to "FM".**

*2* **Press OPTION.**
The option menu screen is displayed.

*3* **Use △▽ to select "TP Search" , then press ENTER.**

**〔TV Screen〕**

Option
Direct Tune
RDS Search
PTY Search
TP Search
Radio Text
Preset Memory
Tune Mode
Auto Preset Memory

**〔Display of this unit〕**
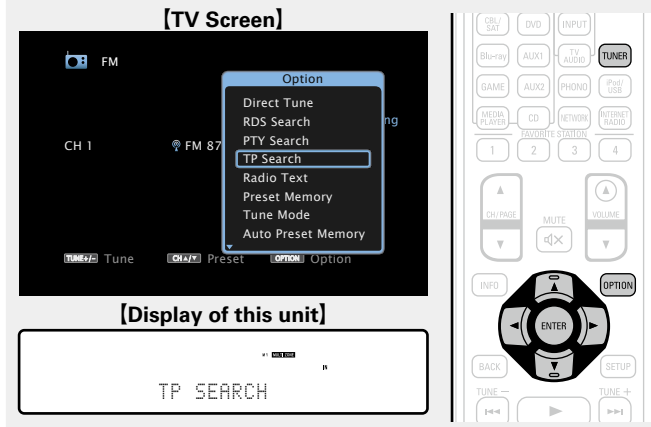
TP SEARCH

*4* **Press ENTER.**
TP search begins automatically.

**〔TV Screen〕**

TP Search
CH 1    FM 87.50MHz
– PS NAME –
Search
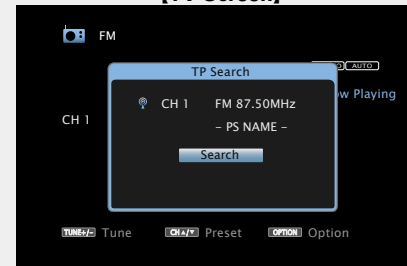
**〔Display of this unit〕**

TP SEARCH

- If no TP station is found with the above operation, all the reception bands are searched.
- The station name is displayed on the display after searching stops.
- If no other TP station is found when all the frequencies have been searched, "NO PROGRAMME" is displayed.

If you press ◁ ▷ within 5 seconds after the broadcast station name is shown on the display, you can search for a different station.

## ❏ Radio Text

RT allows RDS stations to send text messages that appear on the display.

"Radio Text" appears on the display when radio text data is received.

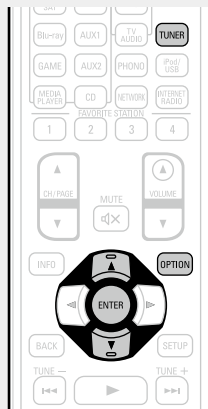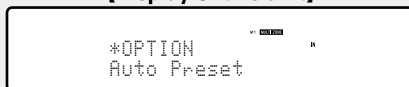**1** Press **TUNER** to switch the input source to "FM".

**2** Press **OPTION**.
The option menu screen is displayed.

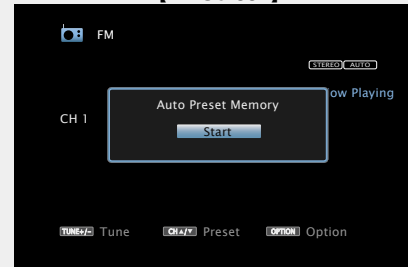**3** Use △▽ to select "Radio Text" , then press **ENTER**.
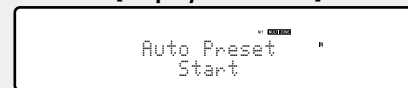
【TV Screen】

【Display of this unit】
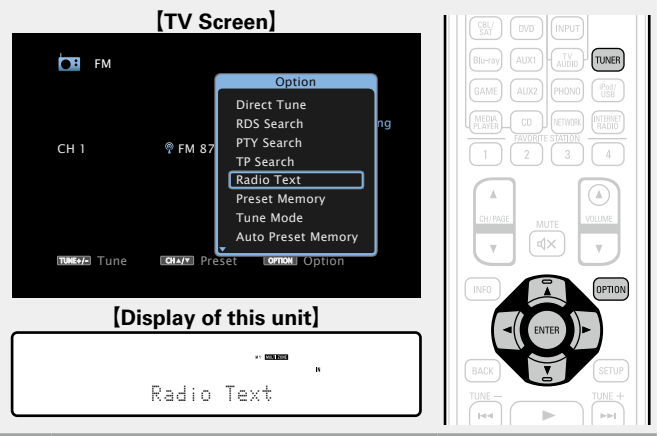
**4** Use ◁ ▷ to select "On" , then press **ENTER**.

【TV Screen】

【Display of this unit】

• While receiving an RDS broadcast station, the text data broadcast from the station is displayed.

• If no text data is being broadcast, "NO TEXT DATA" is displayed.

## ❏ FM operation buttons

| Operation buttons | Function |
|---|---|
| TV ⏻ | TV power on/standby |
| TV INPUT | Switch TV input |
| FAVORITE STATION 1 – 4 | Call up favorites |
| FAVORITE STATION 1 – 4 (Press and hold) | Add to the favorites list |
| CH/PAGE ▲▼ | Preset channel selection |
| INFO | Display of information such as the source name, volume, and sound mode name |
| OPTION | Switch tuning modes / Direct frequency tuning / RDS Search / PTY Search / TP Search / Radio Text / Preset Memory / Auto Preset Memory / Preset Name / Preset Skip |
| △▽◁ ▷ | Cursor operation |
| ENTER | Enter |
| BACK | Return |
| SETUP | Setup menu |
| TUNE +, – | Tuning (up/down) |
| 0 – 9 | Preset channel selection (1 – 8) / Direct frequency tuning (0 – 9) |

# Network contents

## Listening to internet radio

Internet radio refers to radio broadcasts distributed over the Internet. Internet radio stations from around the world can be received.

### Important information

The broad cast station types and specifications supported by this unit for playback are as follows.

【Playable broadcast station types】

| Supported file types | Internet radio |
|---|---|
| **WMA** (Windows Media Audio) | ✓ |
| **MP3** (MPEG-1 Audio Layer-3) | ✓ |

【Playable broadcast station specifications】

| | Sampling frequency | Bit rate | Extension |
|---|---|---|---|
| **WMA** (Windows Media Audio) | 32/44.1/48 kHz | 48 – 192 kbps | .wma |
| **MP3** (MPEG-1 Audio Layer-3) | 32/44.1/48 kHz | 32 – 320 kbps | .mp3 |

### Listening to internet radio

**1** **Prepare for playback.**
① Check the network environment, then turn on this unit's power (☞page 27 "Connecting to a home network (LAN)").
② If settings are required, make the "Settings" (☞page 137).

**2** **Press NETWORK.**

- You can also press **INTERNET RADIO** to select the input source "Internet Radio" directly.

**3** Use △▽◁ ▷ to select "Internet Radio", then press **ENTER**.

**4** Use △▽ to select the item you want to play, then press **ENTER** or ▷.
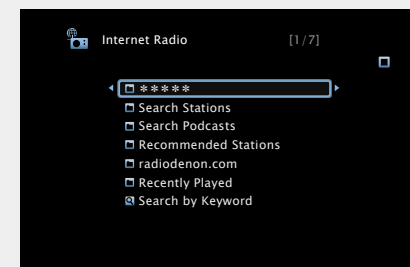
| * * * * * (Country name) | Displays typical Internet radio stations your country. |
|---|---|
| **Search Stations** | Displays all Internet radio stations that this unit can tune in to. |
| **Search Podcasts** | Displays Internet radio stations in the podcasts that this unit can tune in to. |
| **Recommended Stations** | Displays recommended Internet radio stations. |
| **radiodenon. com** | Displays Internet radio stations added to favorites in vTuner. For instructions on how to add to favorites in vTuner, see "Using vTuner to add Internet radio stations to favorites" (☞page 58). |
| **Recently Played** | Displays recently played Internet radio stations. Up to 20 stations stored in "Recently Played". |
| **Search by Keyword** | Displays Internet radio stations searched by keyword. For character input, see page 110. |

**5** **Repeat step 4 until the station list is displayed.**
The station list is displayed.

**6** Use △▽ to select the station, then press **ENTER** or ▷.
Playback starts once buffering reaches "100%".

❏ **Adjusting the sound quality (Restorer)**

Make this setting at "Restorer" (vpage 115) in the menu.
You can use the "Restorer" function to restore to a state close to the audio before compression while correcting the bass feel to enjoy a richer playback experience. The default setting is "Mode 3 (Low)".

❏ **Switching the screen display**

Press **STATUS** on the main unit.
The display switches between track title and radio station name etc. each time the button is pressed.

❏ **Going back to the previous screen**

Press ◁ or **BACK**.

❏ **Changing the screen display duration**

Make this setting at "Audio Display" (vpage 123) in the menu.
The default setting is "30s".
Press △▽◁ ▷ while the display is off to return to the original screen.

🖉

• There are many Internet radio stations on the Internet, and the quality of the programs they broadcast as well as the bit rate of the tracks varies widely.

Generally, the higher the bit rate, the higher the sound quality, but depending on the communication lines and server traffic, the music or audio signals being streamed may be interrupted. Inversely, lower bit rates mean a lower sound quality but less tendency for the sound to be interrupted.

• "Radio station server full" or "Connection down" is displayed if the station is busy or not broadcasting.

• On this unit, folder and file names can be displayed as titles. Any characters that cannot be displayed are replaced with "." (period).

**NOTE**

The radio station database service may be suspended without notice.

**Operations available through the OPTION button**

Press the **OPTION** button to display a menu of functions that can be used on the TV screen. Select the function you want to use from this menu. You can easily find and use the desired function.

❏ **Searching content with keywords (Text Search)** (vpage 69)

❏ **Add to favorites from the Option menu (Favorite Memory)** (vpage 71)

❏ **Playing back music and a favorite picture at the same time (Picture View)** (vpage 72)

❏ **Playing the last played Internet radio station**

This unit memorizes the last played Internet radio station. If you press **INTERNET RADIO** to switch to the Internet radio function from another input source, the last Internet radio station you listened to is played.

**Press INTERNET RADIO.**

The source switches to "Internet Radio" and the last played radio station plays.

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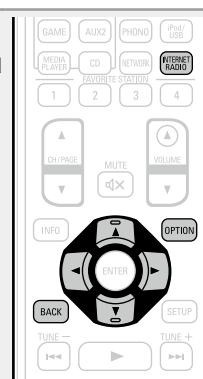
❏ **Using vTuner to add Internet radio stations to favorites**

There are many Internet radio stations in the world, and this unit can tune into these stations. But finding the radio station you want to hear may be difficult, because there are too many stations. If this is the case, then please use vTuner, an Internet radio station search website specifically designed for this unit. You can use your PC to search Internet radio stations and add them as your favorites. This unit can play radio stations added to vTuner.

**1** **Check the MAC address of this unit (**☞**page 136).**
The screen that lets you edit the preset name is displayed.
MAC address: _____

- The MAC address is necessary when you create an account for vTuner.

**2** **Use your PC to access the vTuner website (http://www.radiodenon.com).**
The vTuner login screen is displayed.

**3** **Enter the MAC address of this unit, then click "Go".**
The account creation screen is displayed.

**4** **Enter your E-mail address and a password of your choice.**
The account is registered and you can now log in.

**5** **Enter your account information (E-mail address and password) and log in.**
The top menu of vTuner is displayed.

**6** **Select the search criteria (genre, region, language, etc.) of your choice.**
The list of radio stations matching the criteria is displayed.

- You can also enter a keyword to search for a station you want to hear.

**7** **Select the radio station of your choice from the list, and then click the Add to Favorites icon.**
The screen that lets you create a favorite group is displayed.

**8** **Enter the name of the favorite group, then click "Go".**
A new favorite group that includes the selected radio station is created.

- Internet radio stations added to favorites in vTuner can be played from "radiodenon.com" (☞page 56) with this unit.

❏ **Internet radio operation buttons**

| Operation buttons | Function |
|---|---|
| TV ⏻ | TV power on/standby |
| TV INPUT | Switch TV input |
| INTERNET RADIO | Last played internet radio station |
| FAVORITE STATION 1 – 4 | Call up favorites |
| FAVORITE STATION 1 – 4 (Press and hold) | Add to the favorites list |
| CH/PAGE ▲▼ | Page search |
| INFO | Display of information such as the source name, volume, and sound mode name |
| OPTION | Text Search / Favorite Memory / Picture View |
| △▽◁ ▷ | Cursor operation |
| ENTER (Press and release) | Enter |
| ENTER (Press and hold) | Stop |
| BACK | Return |
| SETUP | Setup menu |
| ■ | Stop |

# Playing back files stored on a PC and NAS

This unit can play back music files and playlists (m3u, wpl) stored on a PC and on Network Attached Storage (NAS) that supports DLNA.

## Important information

- The network audio playback function of this unit connects to the server using technologies shown below.
  - Windows Media Player Network Sharing Service
  - Windows Media DRM10
- File types that this unit can play back and specifications are shown below.

【**Supported file types**】

| Supported file types | Media server *1 |
|---|---|
| **WMA** (Windows Media Audio) | ✓ |
| **MP3** (MPEG-1 Audio Layer-3) | ✓ |
| **WAV** | ✓ |
| **MPEG-4 AAC** | ✓*2 |
| **FLAC** (Free Lossless Audio Codec) | ✓ |
| **JPEG** | ✓ |

A server or server software compatible with distribution in the corresponding formats is required to play music files via a network.

*1 Media server
  - This unit is compatible with MP3 ID3-Tag (Ver. 2) standard.
  - This unit can show the artwork that was embedded by using MP3 ID3-Tag Ver. 2.3 or 2.4.
  - This unit is compatible with WMA META tags.
  - If the image size (pixels) of an album artwork exceeds 500 × 500 (WMA/MP3/WAV/FLAC) or 349 × 349 (MPEG-4 AAC), then music may not be played back properly.
  - WAV format Quantization bit length: 16 bits.
  - FLAC format Quantization bit length: 16 or 24 bits.
*2 Only files that are not protected by copyright can be played on this unit.
  Content downloaded from pay sites on the Internet are copyright protected. Also, files encoded in WMA format when ripped from a CD, etc. on a computer may be copyright protected, depending on the computer's settings.

**NOTE**

File types that this unit does not support are not displayed.

【**Specifications of supported files**】

| | Sampling frequency | Bit rate | Extension |
|---|---|---|---|
| **WMA** (Windows Media Audio) | 32/44.1/48 kHz | 48 – 192 kbps | .wma |
| **MP3** (MPEG-1 Audio Layer-3) | 32/44.1/48 kHz | 32 – 320 kbps | .mp3 |
| **WAV** | 32/44.1/48 kHz | – | .wav |
| **MPEG-4 AAC** | 32/44.1/48 kHz | 16 – 320 kbps | .aac/ .m4a/ .mp4 |
| **FLAC** (Free Lossless Audio Codec) | 32/44.1/48/88.2/96 kHz | – | .flac |

## Applying media sharing settings

Here, we apply the settings to share music files stored on a PC and NAS on the network.

### ❏ Sharing media stored in PC

If you are using a media server, be sure to apply this setting first.

## When using Windows Media Player 12 (Windows 7)

**NOTE**

Perform this procedure after changing the control panel display to "Category".

*1* In the PC's "Control Panel", select "Network and Internet" - "Choose homegroup and sharing options".

*2* Select the "Stream my pictures, music, and videos to all devices on my home network" check box and select "Choose media streaming options".

*3* Select "Allowed" in the drop-down list for "AVR-3313".

*4* Select "Allowed" in the drop-down list for "Media programs on this PC and remote connections...".

*5* Click "OK" to finish.

## When using Windows Media Player 11

*1* Start up Windows Media Player 11 on the PC.

*2* Select "Media Sharing" in the "Library".

*3* Click the "Share my media" check box, select "AVR-3313", and then click "Allow".

*4* As you did in step 3, select the icon of the device (other PCs and mobile devices) you want to use as a media controller, and then click "Allow".

*5* Click "OK" to finish.

### Sharing media stored in NAS

Change settings on the NAS to allow this unit and other devices (PCs and mobile devices) used as media controllers to access the NAS. For details, see the owner's manual that came with the NAS.

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# Playing back files stored on a PC and NAS

Use this procedure to play music files, image files or playlists.

**1** **Prepare for playback.**
a Check the network environment, then turn on this unit's power (v page 27 "Connecting to a home network (LAN)").
b If settings are required, make the "Settings" (v page 137).
c Prepare the computer (v Computer's operating instructions).

**2** Press **NETWORK**.

**3** Use △▽◁ ▷ to select "Media Server", then press **ENTER**.
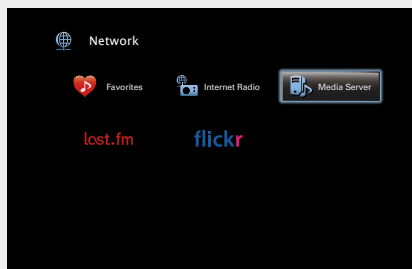


**4** Use △▽ to select the server including the file to be played, then press **ENTER** or ▷.

**5** Use △▽ to select the search item or folder, then press **ENTER** or ▷.

**6** Repeat step 4 until the file is displayed.

**7** Use △▽ to select the file, then press **ENTER** or ▷.
Playback starts once buffering reaches "100%".

## ❏ Adjusting the sound quality (Restorer)
Make this setting at "Restorer" (v page 115) in the menu.
You can use the "Restorer" function to restore to a state close to the audio before compression while correcting the bass feel to enjoy a richer playback experience. The default setting is "Mode 3 (Low)".

## ❏ Switching the screen display
Press **STATUS** on the main unit.
The display switches between track title, artist name, and album title each time the button is pressed.

## ❏ Going back to the previous screen
Press ◁ or **BACK**.

## ❏ Changing the screen display duration
Make this setting at "Audio Display" (v page 123) in the menu.
The default setting is "30s".
Press △▽◁ ▷ while the display is off to return to the original screen.

• When a WMA (Windows Media Audio), MP3 or MPEG-4 AAC file includes album art data, the album art can be displayed while the music files are playing.
• If you use Ver.11 or later of Windows Media Player, the album art for WMA files can be displayed.
• WMA Lossless files can be played when using a server supporting transcoding, such as Windows Media Player Ver. 11 or later.

**NOTE**

• Depending on the size of the still picture (JPEG) file, some time may be required for the file to be displayed.
• The order in which the tracks/files are displayed depends on the server specifications. If the tracks/ files are not displayed in alphabetical order due to the server specifications, searching by the first letter may not work properly.

## Operations available through the OPTION button

Press the **OPTION** button to display a menu of functions that can be used on the TV screen. Select the function you want to use from this menu. You can easily find and use the desired function.

❏ **Searching content with keywords (Text Search)** (page 69)

❏ **Performing repeat playback (Repeat)** (page 70)

❏ **Performing random playback (Random)** (page 70)

❏ **Add to favorites from the Option menu (Favorite Memory)** (page 71)

❏ **Playing back music and a favorite picture at the same time (Picture View)** (page 72)

❏ **Playing back still images in sequential order (Slideshow)** (page 72)

## ❏ Media server operation buttons

| Operation buttons | Function |
| --- | --- |
| **TV** ⏻ | TV power on/standby |
| **TV INPUT** | Switch TV input |
| **FAVORITE STATION 1 – 4** | Add/call up favorites |
| **FAVORITE STATION 1 – 4** (Press and hold) | Add to the favorites list |
| **CH/PAGE ▲▼** | Page search |
| **INFO** | Display of information such as the source name, volume, and sound mode name |
| **OPTION** | Text Search / Repeat playback / Random playback / Favorite Memory / Picture View / Slideshow |
| △▽◁▷ | Cursor operation / Auto search (cue, △▽) |
| **ENTER** (Press and release) | Enter |
| **ENTER** (Press and hold) | Stop |
| **BACK** | Return |
| **SETUP** | Setup menu |
| ◄◄ ►►| | Auto search (cue) |
| ► | Playback / Pause |
| ❚❚ | Pause |
| ■ | Stop |

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# Using online services

This unit supports playback of the online services shown below.

## ❏ About Last.fm (☞page 64)

Last.fm learns what you love... and it's a great way to discover new music.

Your new DENON AV receiver is very clever. You can create a free Last.fm profile when you start using your DENON AV receiver and magically keep track of all the songs you hear.

When you sign in at http://www.last.fm, you can see your top music charts, view thousands of reviews, biographies and artwork, and get recommendations for local performances you won't want to miss.

With an affordable subscription you can enjoy an endless choice of personalised ad-free radio stations. Check out http://www.last.fm/subscribe today for more details.

Your subscription also gives you access to Last.fm radio on a great range of music products, including your DENON AV Receiver. This feature is not available in all countries.

Visit http://www.last.fm/hardware to find out more.

## ❏ About Flickr (☞page 67)

Flickr is an online photograph sharing service that started in 2004. You can use the this unit to view photographs that have been made public by Flickr users. You do not need an account to use Flickr. To view photographs that you recorded yourself, you need an account in order to upload these photographs to the Flickr server. For details, see the Flickr homepage.

http://www.flickr.com/

# Listening to Last.fm

Last.fm radio is not available in all countries. Please check http://www.last.fm/hardware for more information. You'll also need a subscription. Get one today at http://www.last.fm/subscribe.

**1** **Prepare for playback.**
① Check the network environment, then turn on this unit's power (℗page 27 "Connecting to a home network (LAN)").
② If settings are required, make the "Settings" (℗page 137).
③ Complete step 3 and obtain a Last.fm account.
  • If you already have a Last.fm account, you do not need to obtain a new account. Use your existing Last.fm account.

**2** **Press NETWORK.**

**3** **Use △▽◁ ▷ to select "Last.fm", then press ENTER.**
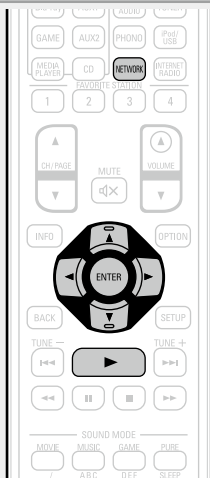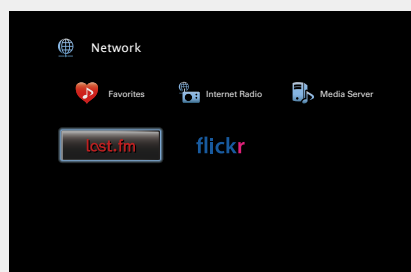
**4** **If you have a Last.fm account, press △▽ to select "I have a Last.fm account". Then press ENTER or ▷.**
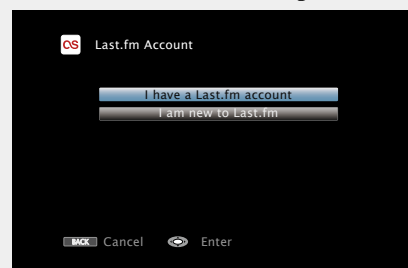
• If you do not have a Last.fm account, press ▽ to select "I am new to Last.fm". Then press **ENTER**.
Create an account in accordance with the instructions on the screen.

**5** **Use △▽ ▷ to enter your username and password.**
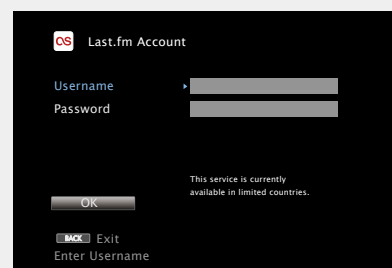
• For character input, see page 110.

**6** **After inputting the username and password, select "OK", then press ENTER.**
If the username and password match, the top menu for Last.fm is displayed.

**7** **Use △▽ to select menu and then press ENTER.**

| | |
|---|---|
| **Popular Stations** | Play popular artists and tags in your area. |
| **Your Recent Stations** | Play your recent stations. |
| **Your stations** | You can play tracks from the following personalised stations ("Your Recommended Radio", "Your Library", "Your Friends' Radio", "Your Top Artists".) |
| **Search Stations** | You can search station by Artist or Tag. |

**8** **Use △▽ to select a station, and press ENTER or ▶ to start playback.**
Playback starts and the following screen appears.
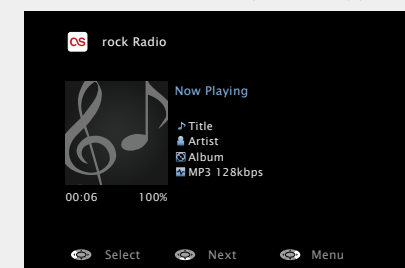
**9** **Menu items on playback screen.**
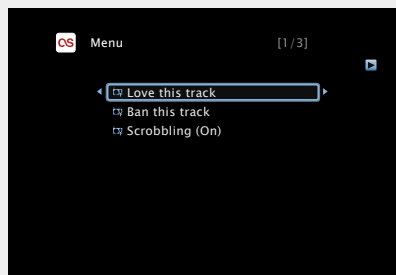


| Love this track | Loving tracks improves your Last.fm recommendations, and you can optionally share them on popular social networks. |
|---|---|
| Ban this track | If you ban a track, we won't play it again. You can undo this on the Last.fm website. |
| Scrobbling | Scrobbling sends the tracks you played to your Last.fm account. You can see charts of the music you've been listening to, get recommendations for new music and events in your area and share your listening tastes with your friends. You can turn this service on or off using this option. The more you scrobble, the better your recommendations will become. |

**NOTE**

- The password should be no longer than 99 characters.
- Press **BACK** to cancel the input. When "Cancel input?" is displayed, select "Yes", then press **ENTER**.

❏ **Adjusting the sound quality (Restorer)**

Make this setting at "Restorer" (☞page 115) in the menu.

You can use the "Restorer" function to restore to a state close to the audio before compression while correcting the bass feel to enjoy a richer playback experience. The default setting is "Mode3 (Low)".

❏ **Switching the screen display**

Press **STATUS** on the main unit.

The display switches between track title and radio station name each time the button is pressed.

❏ **Going back to the previous screen**

Press ◁ or **BACK**.

❏ **Changing the screen display duration**

Make this setting at "Audio Display" (☞page 123) in the menu.

The default setting is "30s".

Press △▽◁ ▷ while the display is off to return to the original screen.

❏ **Log out**

Disassociate this unit from your Last.fm account.

**1** While the Last.fm top menu is displayed, press **BACK**.
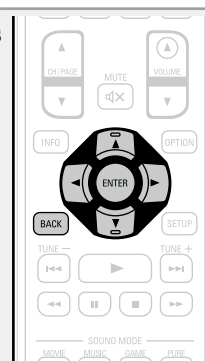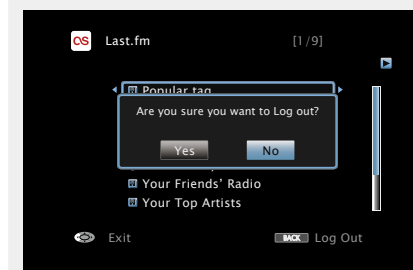


**2** When the popup menu appears, use ◁ ▷ to select "Yes", then press **ENTER**.

## ❏ **Last.fm operation buttons**

| Operation buttons | Function |
|---|---|
| **CH/PAGE ▲▼** | Page search |
| **INFO** | Display of information such as the source name, volume, and sound mode name |
| △▽◁▷ | Cursor operation / Auto search (cue, △▽) |
| **ENTER** (Press and release) | Enter |
| **ENTER** (Press and hold) | Stop |
| **BACK** | Return |
| **SETUP** | Setup menu |
| ▶▶❙ | Auto search (cue) |

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# Viewing photographs on the Flickr site

You can view photographs shared by particular users, or all of the photographs shared on Flickr.

## ❏ Viewing photographs shared by particular users

### 1 Prepare for playback.
① Check the network environment, then turn on this unit's power (ver page 27 "Connecting to a home network (LAN)").
② If settings are required, make the "Settings" (ver page 137).

### 2 Press NETWORK.

### 3 Use △▽◁ ▷ to select "Flickr", then press ENTER.
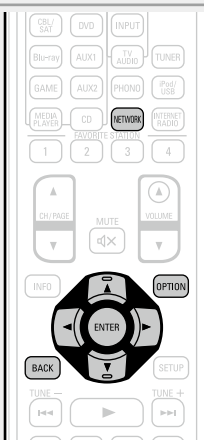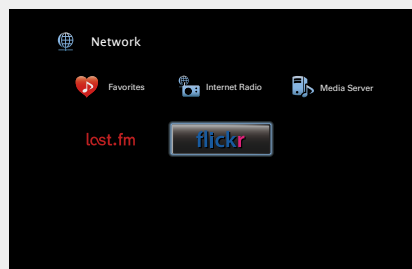
### 4 Use △▽ to select "Add Flickr Contact", then press ENTER or ▷.
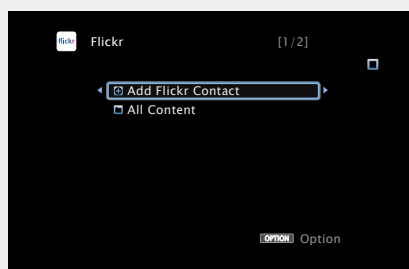
### 5 In "Contact", add the screen name (user name you want to view) you want to add.

• For character input, see page 110.

### 6 After inputting the "Contact", press O K .
The screen name is added to "Contact", and the screen name you entered in Step 5 is displayed on the top screen of Flickr.

• If you enter a screen name that does not exist, "The Flickr Contact you entered could not be found" is displayed. Check and enter the correct screen name.

### 7 Use △▽ to select the folder, and then press ENTER or ▷.

| | |
|---|---|
| **Favorites** | Displays the favorite photographs of the specified user. |
| **Photostream** | Displays a list of shared photographs. |
| **PhotoSets** | Displays the folder (photograph album) list. |
| **Contacts** | Displays the screen name used by the specified user in Contacts. |
| **Remove this Contact** | Deletes a user from Flickr Contact. |
| **Add this Contact** | Adds a user from Flickr Contact. |

### 8 Use △▽ to select the file, and then press ENTER or ▷.
The selected file is displayed.

## ❏ Going back to the previous screen
Press ◁ or **BACK**.

## Operations available through the OPTION button

Press the **OPTION** button to display a menu of functions that can be used on the TV screen. Select the function you want to use from this menu. You can easily find and use the desired function.

❏ **Playing back still images in sequential order (Slideshow)** (ver page 72)

## ❏ Viewing all photographs on Flickr

***1*** Use △▽ to select "All Content", then press **ENTER** or ▷.
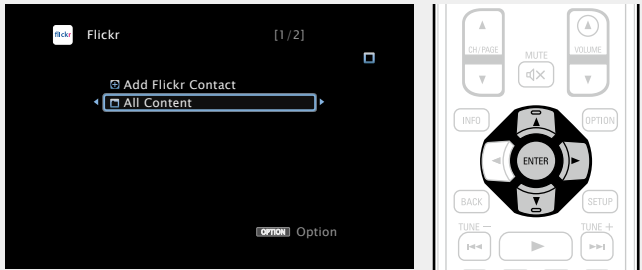


***2*** Use △▽ to select the folder, and then press **ENTER** or ▷.

| | |
|---|---|
| **Interestingness** | Displays photographs that are popular from the number of user comments or number of times they are added as favorites. |
| **Recent** | Displays the most recently added photographs. |
| **Search by text** | Search for photographs by keyword. |

***3*** Use △▽ to select the file, and then press **ENTER** or ▷.

The selected file is displayed.

**NOTE**

Depending on the file format, some photographs cannot be viewed.

## ❏ Flickr operation buttons



| Operation buttons | Function |
|---|---|
| **TV ⏻** | TV power on/standby |
| **TV INPUT** | Switch TV input |
| **CH/PAGE ▲▼** | Page search |
| **INFO** | Display of information such as the source name, volume, and sound mode name |
| **OPTION** | Slideshow |
| △▽◁ ▷ | Cursor operation / Auto search (cue, △▽) |
| **ENTER** (Press and release) | Enter |
| **ENTER** (Press and hold) | Stop |
| **BACK** | Return |
| **SETUP** | Setup menu |
| ■ | Stop |

# Convenient functions

Here, we explain how to use convenient functions for NETWORK sources and USB sources. The source names under the titles of each function's description are sources that allow use of these functions.

❏ **Searching content with keywords (Text Search)** (vpage 69)

❏ **Performing repeat playback (Repeat)** (vpage 70)

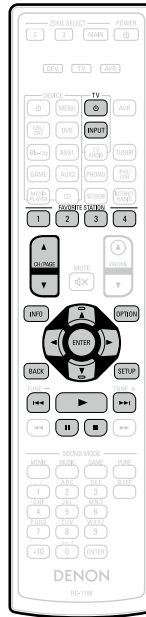❏ **Performing random playback (Random)** (vpage 70)

❏ **Favorites function** (vpage 71)

❏ **Playing back music and a favorite picture at the same time (Picture View)** (vpage 72)

❏ **Playing back still images in sequential order (Slideshow)** (vpage 72)

## Searching content with keywords (Text Search)

| USB | Internet Radio | Media Server |

**1** While content is playing, press **OPTION**.
The option menu screen is displayed.

**2** Use $\triangle\triangledown$ to select "Text Search", then press **ENTER**.
The keyboard input screen is displayed.
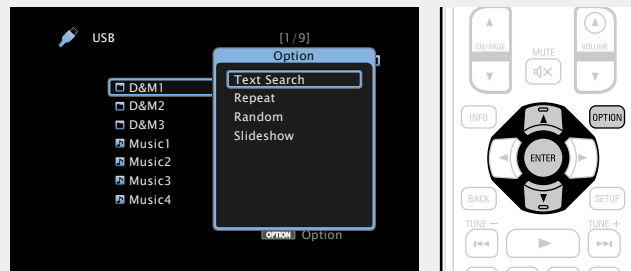
**3** Enter the first character of the Internet radio station or file you want to search for, and then press **OK**.

• For character input, see page 110.

🖉

"Text Search" searches for Internet radio stations or files that start with the entered first character from the displayed list.

**NOTE**

"Text Search" may not work for some lists.

## ❏ Playing back a search result content

Use $\triangle\triangledown$ to select the content you want to play, and then press **ENTER** or $\triangleright$.
Playback starts.
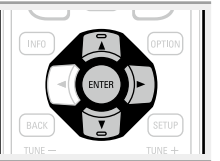
# Performing repeat playback (Repeat)

USB | Media Server

*1* **While content is playing, press OPTION.**
The option menu screen is displayed.

*2* **Use △▽ to select "Repeat", then press ENTER.**



*3* **Use ◁ ▷ to select repeat playback mode.**



• Each time ◁ ▷ is pressed, the setting is changed as shown below.

Off ⟷ One ⟷ All
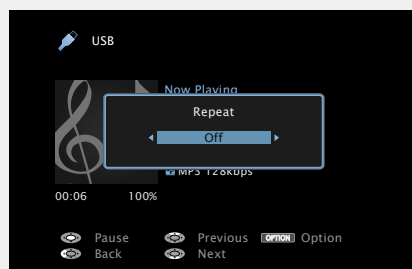
| **Off** | Repeat playback mode is canceled. |
| **One** | A file being played is played repeatedly. |
| **All** | All files in the folder currently being played are played repeatedly. |

*4* **Press ENTER.**
The display returns to the playback screen.

# Performing random playback (Random)

USB | Media Server

*1* **While content is playing, press OPTION.**
The option menu screen is displayed.

*2* **Use △▽ to select "Random", then press ENTER.**



*3* **Use ◁ ▷ to select random playback mode.**



• Each time ◁ ▷ is pressed, the setting is changed as shown below.

Off ⟷ On

| **Off** | Disable random playback. |
| **On** | Enable random playback. |

*4* **Press ENTER.**
The display returns to the playback screen.

The random playback randomly selects a track to play back from all tracks every time a track ends. Therefore, the same track may be played back consecutively.

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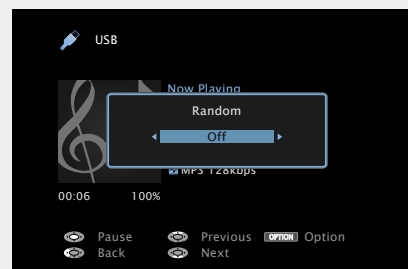
# Favorites function

There are two ways to add content to favorites:
① Add to favorites from the Option menu
② Add to the **FAVORITE STATION** button

## ❏ Add to favorites from the Option menu (Favorite Memory)

| Internet Radio | Media Server |

You can add up to 100 items as favorites for all sources (Internet Radio and Media Server).

*1* **While content is playing, press OPTION.**
The option menu screen is displayed.

*2* **Use △▽ to select "Favorite Memory", then press ENTER.**
"Favorite added" is displayed, and the current content is added to favorites.
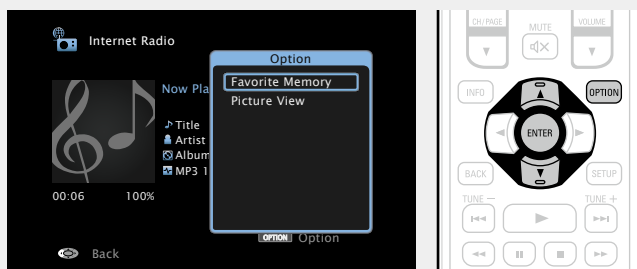


- The display returns to the playback screen when the procedure is completed.

## Playing back content added in "Favorite Memory"

*1* **Press NETWORK.**

*2* **Use △▽◁▷ to select "Favorites", then press ENTER.**
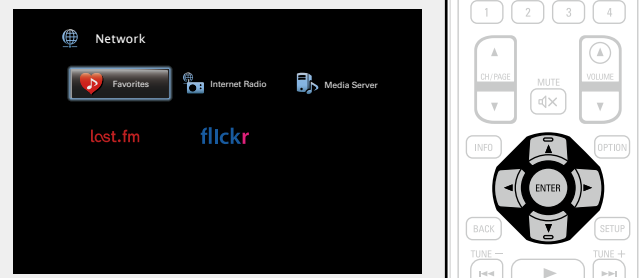


*3* **Use △▽ to select the content you want to play, and then press ENTER or ▷.**
Playback starts.

## ❏ Adding to the FAVORITE STATION button

You can add up to four types of content.

**NOTE**

- Please note that if you add new content to a number that already contains content, the older content is deleted.
- The following operations update the database on the media server, which may make the added music files unplayable.
  - When you quit the media server and then restart it.
  - When music files are deleted or added on the media server.

**While content is playing, press and hold one of the FAVORITE STATION 1 – 4 buttons for more than 3 seconds.**
The content is added to the button you pressed.

*✎*
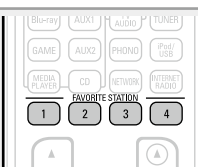
Contents that can be added to the **FAVORITE STATION** button differ depending on the input source.

| Input source | Contents that can be added |
| --- | --- |
| FM | Input source / Radio station |
| Internet Radio | Input source / Internet Radio station |
| Media Server | Input source / Track |
| Last.fm | Input source |
| Flickr | Input source |
| Favorites | Input source |

## Playing back content added to the FAVORITE STATION button

You can easily call up content by pressing the **FAVORITE STATION** button.

**Press one of the FAVORITE STATION 1 – 4 buttons that you added content to.**
Playback starts.



*✎*
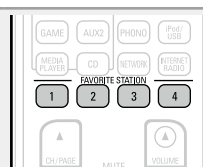
When the **FAVORITE STATION 1 - 4** buttons is pressed, the AVR-operation mode starts automatically.

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## ❏ Deleting content added to favorites (Remove Favorites)

### 1 Press NETWORK.

### 2 Use △▽◁▷ to select "Favorites", then press ENTER.
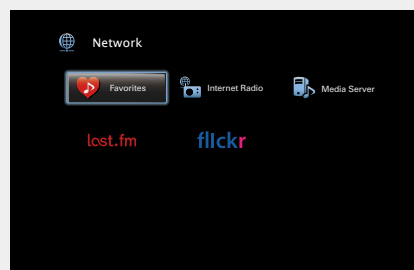
### 3 Use △▽ to select the content you want to delete from favorites, then press OPTION.
The option menu screen is displayed.

### 4 Use △▽ to select "Remove Favorites", then press ENTER.
"Favorite removed" is displayed, and the selected content is deleted from favorites.
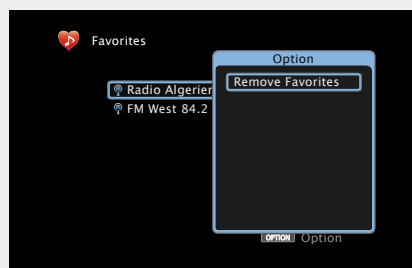
• The display returns to the original screen when the procedure is completed.

## Playing back music and a favorite picture at the same time (Picture View)

USB | Internet Radio | Media Server

### 1 Play back a still picture (☞page 67).

### 2 Play back a music file or Internet radio station (☞page 56, 61).

### 3 Press OPTION.
The option menu screen is displayed.

### 4 Use △▽ to select "Picture View", then press ENTER.
The option menu disappears, and the picture you were viewing is shown on the screen.
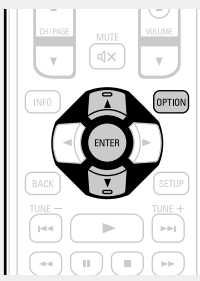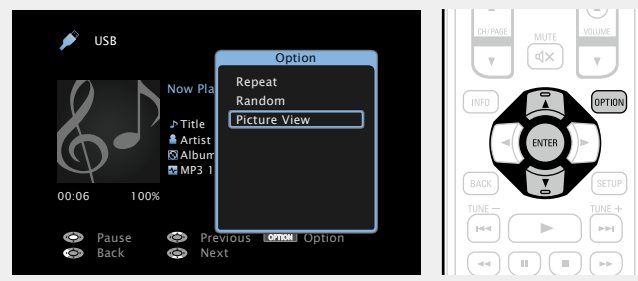
## Playing back still images in sequential order (Slideshow)

You can play back still image (JPEG) files stored on a USB memory device or media server and pictures on Flickr website as a slide show. The display time can also be set.

USB | Media Server | Flickr

### 1 Play back an image and press OPTION.
The option menu screen is displayed.

### 2 Use △▽ to select "Slideshow", then press ENTER.
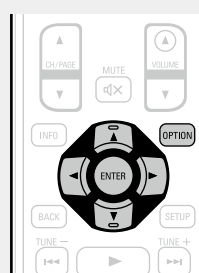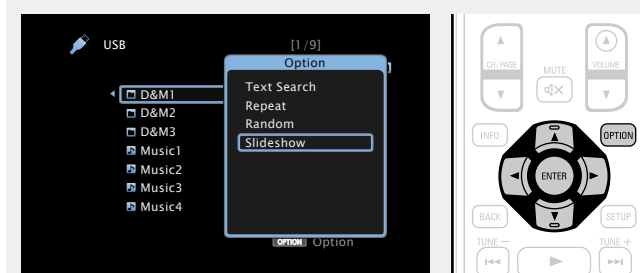
### 3 Use ◁▷ to set the display time.

• Each time ◁▷ is pressed, the setting is changed as shown below.

Off ←→ 5s ←→ 10s ←→ 15s ←→
60s ←→ 30s ←→ 20s ←→
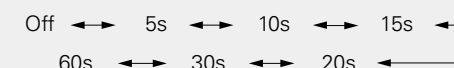
| Off | The slide show is not played back. |
|---|---|
| 5s – 60s | Set the time for displaying a single image when playing back images in the slide show. |

### 4 Press ENTER.
The slide show is displayed on the screen.

This unit plays back image (JPEG) files in the orientation in which they are stored in the folder.

# AirPlay function

Enjoy music from your iTunes library with high quality sound anywhere in your home.
Use the Apple Remote app∗ for iPhone, iPod touch and iPad to control iTunes from any room in your home.

∗ Available as a free download from the App Store.

## ❏ Streaming music stored in iPhone, iPod touch, or iPad directly to the unit

If you update your "iPhone/iPod touch/iPad" to iOS 4.2.1 or later, you can stream music stored in your "iPhone/iPod touch/iPad" directly to this unit.

**1** Make the Wi-Fi settings for iPhone, iPod touch, or iPad.

• For details, see your device's manual.

**2** Startup iPhone, iPod touch, or iPad music or iPod app.
⬆ is displayed on the iPhone, iPod touch or iPad screen.

**3** Tap the AirPlay icon ⬆.

**4** Select the speaker you want to use.
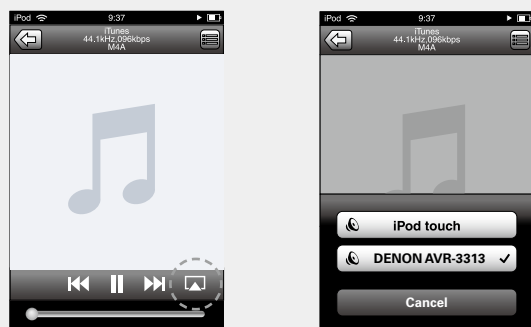


**NOTE**

In playback using the AirPlay function, the sound is output at the iPhone, iPod touch, iPad or iTunes volume setting level.
You should turn down the iPhone, iPod touch, iPad or iTunes volume prior to playback and then adjust it to a suitable level.

## ❏ Playing iTunes music with this unit

**1** Install iTunes 10, or later, on a Mac or Windows PC that is connected to the same network as this unit.

**2** Turn this unit ON.
Set "IP Control" (☞page 136) to "Always On" for this unit.

**NOTE**

When "IP Control" is set to "Always On", the unit consumes more standby power.

**3** Launch iTunes and click the AirPlay icon ⬆ displayed in the lower right of the window and select this unit from the list.



**4** Choose a song and click play in iTunes.
The music will stream to this unit.

## Selecting multiple speakers (devices)

It is possible to play iTunes songs on your home's AirPlay compatible speakers (devices) other than those of this unit.

**1** Click the AirPlay icon ⬆ and select "Multiple Speakers" from the list.

**2** Check the speakers you want to use.
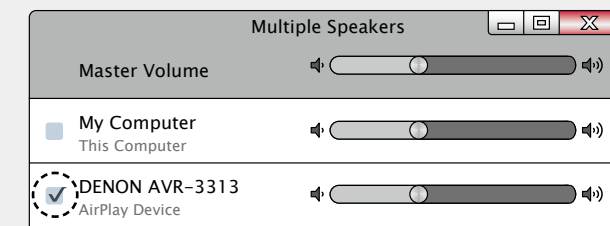
## ❏ **Perform iTunes playback operations with the remote control unit of this unit**

With this unit's remote control unit, you can perform iTunes song play, pause, and auto search (cue) operations.

**1** Select "Edit" – "Preferences..." on the menu.

**2** Select "Devices" in the iTunes setting window.

**3** Check "Allow iTunes control from remote speakers", and then click "OK".
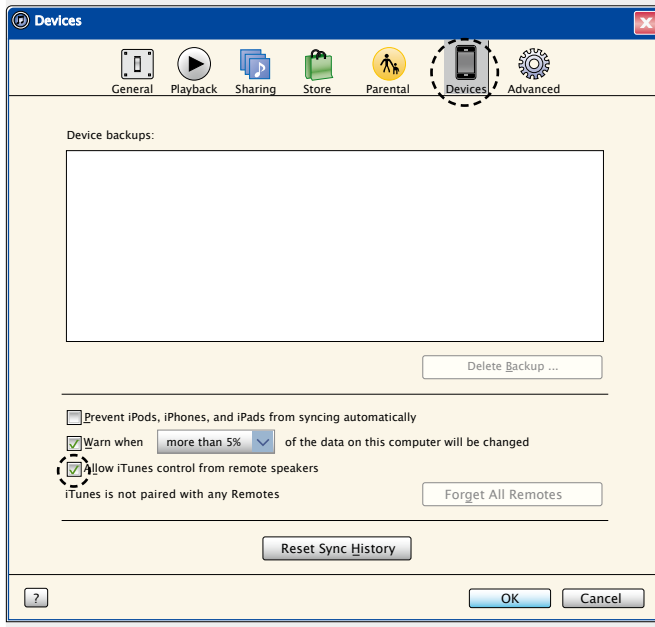


*  is displayed on the menu screen while AirPlay is being operated.
* Source input will be switched to "NETWORK" when AirPlay playback is started.



* You can stop AirPlay playback by pressing the ◁ or choosing other input source.
* To see song and artist names together, press **STATUS** on the main unit.
* For information about how to use iTunes, also see the Help for iTunes.
* The screen may differ depending on the OS and software versions.
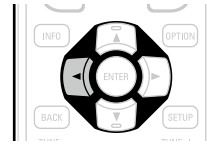
# Selecting a listening mode (Sound Mode)

This unit allows you to enjoy various kinds of surround and stereo playbacks.

Multi-channel audio formats are adopted by many of the contents including Blu-ray disc and DVD as well as digital broadcasting and Internet-delivered movies and music.
This unit supports playback of almost all of these multi-channel audio formats. It also supports surround playback of audio formats other than multi-channel audio such as 2-channel stereo audio.

This unit automatically generates a list of all the playable sound modes based on the input audio format and the current speaker setup configuration and displays the list on the screen. Therefore, you can select a correct surround playback mode even if you are not familiar with sound mode selection. Try out various surround playback modes and enjoy surround playback in your favorite mode.

**【Example】** When **MOVIE** is pressed and held

**MOVIE SOUND**
STEREO
DOLBY PLIIx Cinema
DTS NEO:6 Cinema
MULTI CH STEREO
MONO MOVIE
VIRTUAL

This unit provides not only sound modes that conform to the formats recorded in discs such as Dolby and DTS but also extended types of modes that match your speaker configuration including front height speakers and surround back speakers and "original listening modes" that create atmosphere of ROCK ARENA and JAZZ CLUB, etc.
The displayed sound modes include the 2-channel stereo playback mode.

For audio formats recorded in a disc, see the disc jacket.

## Selecting a listening mode

**1 Play the selected device (****).**

**2 Press and hold MOVIE, MUSIC or GAME to select a listening mode.**
This unit automatically generates and displays a list of selectable sound modes.

• Each time **MOVIE**, **MUSIC** or **GAME** is pressed, the listening mode is switched.

MOVIE  Switches to the listening mode suitable for enjoying movies and TV programs.

MUSIC  Switches to the listening mode suitable for enjoying music.

GAME  Switches to the listening mode suitable for enjoying games.

• Pressing **MOVIE**, **MUSIC** or **GAME** displays a list of the listening modes that can be selected. Each time you press **MOVIE**, **MUSIC** or **GAME**, the listening mode changes.
• While the list is displayed, you can also use $\triangle\triangledown$ to select a listening mode.
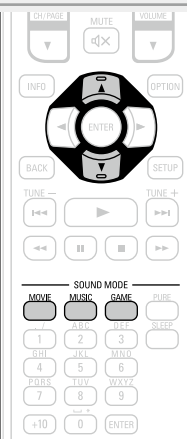
• The **MOVIE**, **MUSIC**, or **GAME** button memorizes the last sound mode selected for its button. Pressing **MOVIE**, **MUSIC**, or **GAME** recalls the same sound mode as the one selected at the previous playback.
• If the content played back does not support the previously selected sound mode, the most standard sound mode for the content is automatically selected.

## Direct playback

Sound recorded in source is played as is.

**1 Play the selected device (****).**

**2 Press PURE to select "DIRECT".**
Direct playback begins.

## Pure direct playback

This mode is for playback in higher sound quality than in "DIRECT" mode. Turn the display of the amplifier off to stop the analogue video circuit. This suppresses the source of noise that affects sound quality.

**1 Play the selected device (****).**

**2 Press PURE to select "PURE DIRECT On".**
The display goes dark, and pure direct playback begins.

In DIRECT and PURE DIRECT listening mode, the following items cannot be adjusted.
• Tone ()
• Dynamic EQ ()
• Restorer ()
• MultEQ® XT ()
• Dynamic Volume ()

**NOTE**
• Video signals are only output when HDMI signals are played in the PURE DIRECT mode.
• When in the PURE DIRECT mode, the menu screen is not displayed.
• When in the PURE DIRECT mode, the display turns off and appears as if there is no electricity.

## ❑ Listening mode

- The following listening modes can be selected using the **MOVIE**, **MUSIC**, **GAME**, and **PURE** buttons.
- Adjust the sound field effect with the menu "Surround Parameter" (vpage 113) to enjoy your favorite sound mode.

| Operation button | Input signal | Listening mode |
|---|---|---|
| MOVIE | 2-channel *1 | STEREO |
| | | DOLBY PLIIx Cinema *2 |
| | | DOLBY PLII Cinema *2 / DOLBY PLII Cinema A-DSX *4 |
| | | DOLBY Pro Logic *2 / DOLBY Pro Logic A-DSX *4 |
| | | DTS NEO:6 Cinema *2 / DTS NEO:6 Cinema A-DSX *4 |
| | | DOLBY PLIIz Height *2 |
| | | MULTI CH STEREO |
| | | MONO MOVIE |
| | | VIRTUAL |
| | Multi-channel *3 | STEREO |
| | Dolby Digital | DOLBY DIGITAL / DOLBY DIGITAL A-DSX *4 |
| | | DOLBY DIGITAL EX |
| | | DOLBY DIGITAL + PLIIx Cinema |
| | | DOLBY DIGITAL + PLIIz |
| | Dolby TrueHD | DOLBY TrueHD / DOLBY TrueHD A-DSX *4 |
| | | DOLBY TrueHD + EX |
| | | DOLBY TrueHD + PLIIx Cinema |
| | | DOLBY TrueHD + PLIIz |
| | Dolby Digital Plus | DOLBY DIGITAL Plus / DOLBY DIGITAL Plus A-DSX *4 |
| | | DOLBY DIGITAL Plus + EX |
| | | DOLBY DIGITAL Plus + PLIIx Cinema |
| | | DOLBY DIGITAL Plus + PLIIz |
| | DTS | DTS SURROUND / DTS SURROUND A-DSX *4 |
| | | DTS ES DSCRT 6.1 |
| | | DTS ES MTRX 6.1 |
| | | DTS 96/24 |
| | | DTS + NEO:6 |
| | | DTS + PLIIx Cinema |
| | | DTS + PLIIz |

| Operation button | Input signal | Listening mode |
|---|---|---|
| MOVIE | DTS-HD / DTS Express | DTS-HD HI RES / DTS-HD HI RES A-DSX *4 |
| | | DTS-HD MSTR / DTS-HD MSTR A-DSX *4 |
| | | DTS Express / DTS Express A-DSX *4 |
| | | DTS-HD + NEO:6 |
| | | DTS-HD + PLIIx Cinema |
| | | DTS-HD + PLIIz |
| | PCM multi-channel | MULTI CH IN / MULTI CH IN A-DSX *4 |
| | | MULTI CH IN 7.1 |
| | | MULTI IN + Dolby EX |
| | | MULTI IN + PLIIx Cinema |
| | | MULTI IN + PLIIz |
| | Multi-channel *3 | MULTI CH STEREO |
| | | MONO MOVIE |
| | | VIRTUAL |

*1 2-channel also includes analog input.

*2 This mode plays back 2-channel source in 5.1 or 7.1-channel playback. It cannot be selected when headphones are used, or when only front speakers are used.

*3 Some listening modes cannot be selected, depending on the audio format or number of channels of the input signal. For details, see "Types of input signals, and corresponding sound modes" (vpage 163).

*4 These modes add a new channel to the 5.1 channel surround using Audyssey DSX® processing (vpage 117).
When "Heights" is selected in Audyssey DSX® (vpage 117), a front height channel is added in playback. When "Wides" is selected, a front wide channel is added in playback.

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| Operation button | Input signal | Listening mode |
|---|---|---|
| MUSIC | 2-channel *1 | STEREO |
| | | DOLBY PLIIx Music *2 |
| | | DOLBY PLII Music *2 / DOLBY PLII Music A-DSX *4 |
| | | DTS NEO:6 Music *2 / DTS NEO:6 Music A-DSX *4 |
| | | DOLBY PLIIz Height *2 |
| | | MULTI CH STEREO |
| | | ROCK ARENA |
| | | JAZZ CLUB |
| | | MATRIX |
| | | VIRTUAL |
| | Multi-channel *3 | STEREO |
| | Dolby Digital | DOLBY DIGITAL / DOLBY DIGITAL A-DSX *4 |
| | | DOLBY DIGITAL EX |
| | | DOLBY DIGITAL + PLIIx Music |
| | | DOLBY DIGITAL + PLIIz |
| | Dolby TrueHD | DOLBY TrueHD / DOLBY TrueHD A-DSX *4 |
| | | DOLBY TrueHD + EX |
| | | DOLBY TrueHD + PLIIx Music |
| | | DOLBY TrueHD + PLIIz |
| | Dolby Digital Plus | DOLBY DIGITAL Plus / DOLBY DIGITAL Plus A-DSX *4 |
| | | DOLBY DIGITAL Plus + EX |
| | | DOLBY DIGITAL Plus + PLIIx Music |
| | | DOLBY DIGITAL Plus + PLIIz |
| | DTS | DTS SURROUND / DTS SURROUND A-DSX *4 |
| | | DTS ES DSCRT 6.1 |
| | | DTS ES MTRX 6.1 |
| | | DTS 96/24 |
| | | DTS + NEO:6 |
| | | DTS + PLIIx Music |
| | | DTS + PLIIz |

| Operation button | Input signal | Listening mode |
|---|---|---|
| MUSIC | DTS-HD / DTS Express | DTS-HD HI RES / DTS-HD HI RES A-DSX *4 |
| | | DTS-HD MSTR / DTS-HD MSTR A-DSX *4 |
| | | DTS Express / DTS Express A-DSX *4 |
| | | DTS-HD + NEO:6 |
| | | DTS-HD + PLIIx Music |
| | | DTS-HD + PLIIz |
| | PCM multi-channel | MULTI CH IN / MULTI CH IN A-DSX *4 |
| | | MULTI CH IN 7.1 |
| | | MULTI IN + Dolby EX |
| | | MULTI IN + PLIIx Music |
| | | MULTI IN + PLIIz |
| | Multi-channel *3 | MULTI CH STEREO |
| | | ROCK ARENA |
| | | JAZZ CLUB |
| | | MATRIX |
| | | VIRTUAL |

*1 2-channel also includes analog input.

*2 This mode plays back 2-channel source in 5.1 or 7.1-channel playback. It cannot be selected when headphones are used, or when only front speakers are used.

*3 Some listening modes cannot be selected, depending on the audio format or number of channels of the input signal. For details, see "Types of input signals, and corresponding sound modes" (page 163).

*4 These modes add a new channel to the 5.1 channel surround using Audyssey DSX® processing (page 117).
When "Heights" is selected in Audyssey DSX® (page 117), a front height channel is added in playback. When "Wides" is selected, a front wide channel is added in playback.

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| Operation button | Input signal | Listening mode |
|---|---|---|
| GAME | 2-channel *1 | STEREO |
| | | DOLBY PLIIx Game *2 |
| | | DOLBY PLII Game *2 / DOLBY PLII Game A-DSX *4 |
| | | DOLBY PLIIz Height *2 |
| | | MULTI CH STEREO |
| | | VIDEO GAME |
| | | VIRTUAL |
| | Multi-channel *3 | STEREO |
| | Dolby Digital | DOLBY DIGITAL / DOLBY DIGITAL A-DSX *4 |
| | | DOLBY DIGITAL EX |
| | | DOLBY DIGITAL + PLIIz |
| | Dolby TrueHD | DOLBY TrueHD / DOLBY TrueHD A-DSX *4 |
| | | DOLBY TrueHD + EX |
| | | DOLBY TrueHD + PLIIz |
| | Dolby Digital Plus | DOLBY DIGITAL Plus / DOLBY DIGITAL Plus A-DSX *4 |
| | | DOLBY DIGITAL Plus + EX |
| | | DOLBY DIGITAL Plus + PLIIz |
| | DTS | DTS SURROUND / DTS SURROUND A-DSX *4 |
| | | DTS ES DSCRT 6.1 |
| | | DTS ES MTRX 6.1 |
| | | DTS 96/24 |
| | | DTS + NEO:6 |
| | | DTS + PLIIz |
| | DTS-HD / DTS Express | DTS-HD HI RES / DTS-HD HI RES A-DSX *4 |
| | | DTS-HD MSTR / DTS-HD MSTR A-DSX *4 |
| | | DTS Express / DTS Express A-DSX *4 |
| | | DTS-HD + NEO:6 |
| | | DTS-HD + PLIIz |
| | PCM multi-channel | MULTI CH IN / MULTI CH IN A-DSX *4 |
| | | MULTI CH IN 7.1 |
| | | MULTI IN + Dolby EX |
| | | MULTI IN + PLIIz |
| | | MULTI CH STEREO |
| | | VIDEO GAME |
| | | VIRTUAL |

| Operation button | Input signal | Listening mode |
|---|---|---|
| PURE | All | DIRECT |
| | | PURE DIRECT |

*1 2-channel also includes analog input.

*2 This mode plays back 2-channel source in 5.1 or 7.1-channel playback. It cannot be selected when headphones are used, or when only front speakers are used.

*3 Some listening modes cannot be selected, depending on the audio format or number of channels of the input signal. For details, see "Types of input signals, and corresponding sound modes" (<span>page 163</span>).

*4 These modes add a new channel to the 5.1 channel surround using Audyssey DSX® processing (<span>page 117</span>).
When "Heights" is selected in Audyssey DSX® (<span>page 117</span>), a front height channel is added in playback. When "Wides" is selected, a front wide channel is added in playback.

## Views on the TV screen or display
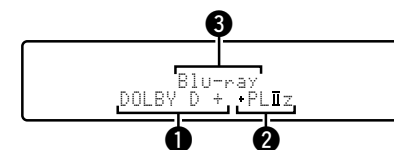


❶ Shows a decoder to be used.
- A DOLBY DIGITAL Plus decoder is displayed as "□□+".

❷ Shows a decoder that creates sound output from the surround back speakers.
- "+ PLIIz" indicates the front height sound from front height speakers.

❸ Shows the name of the input source being played back.

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## ❏ Description of listening mode types

### Dolby listening mode

| Listening mode type | Description |
|---|---|
| DOLBY PLⅡx*1 | This mode can be selected when a Dolby Pro Logic Ⅱx decoder is used to play back 2-channel source in 6.1/7.1-channel surround sound including the surround back channel.<br>By adding the surround back channel, a stronger surround feeling is obtained compared to Dolby Pro Logic Ⅱ.<br>There are three playback modes: "Cinema" mode that is optimized for movie playback, "Music" mode that is optimized for music playback, and "Game" mode that is optimized for game play. |
| DOLBY PLⅡ | This mode can be selected when a Dolby Pro Logic Ⅱ decoder is used to play back 2-channel source in 5.1-channel surround sound with a natural, realistic feel. |
| DOLBY Pro Logic | This mode can be selected when a Dolby Pro Logic decoder is used to play 2-channel source in 4.1-channel surround sound (Left/Center/Right/Surround Mono). |
| DOLBY PLⅡz*2 | This mode can be selected when a Dolby Pro Logic Ⅱz decoder is used to play back 2-channel source in 7.1-channel surround sound with added front height channel.<br>By adding a front height channel, the vertical expression is emphasized, improving the three-dimensionality of the sound. |
| DOLBY DIGITAL | This mode can be selected when playing sources recorded with Dolby Digital. |
| DOLBY DIGITAL EX*1 | Using a Dolby Digital EX decoder, this mode plays Dolby Digital source in 6.1/7.1 channel surround sound with added surround back channel.<br>By adding a surround back channel, spacial expressiveness and sound localization are enhanced. |
| DOLBY TrueHD | This mode can be selected when playing sources recorded in Dolby TrueHD. |
| DOLBY DIGITAL Plus | This mode can be selected when playing sources recorded with Dolby Digital Plus. |

*1  This can be selected when "Speaker Config." – "Surr. Back" is not set to "None".

*2  This can be selected when "Speaker Config." – "Front Height" is not set to "None".

### DTS listening mode

| Listening mode type | Description |
|---|---|
| DTS NEO:6 | This mode can be selected when a DTS NEO:6 decoder is used to play back 2-channel source in 6.1/7.1-channel surround sound including the surround back channel.<br>There is a "Cinema" mode optimized for movie playback, and a "Music" mode optimized for music playback. |
| DTS SURROUND | This mode can be selected when playing sources recorded in DTS. |
| DTS ES DSCRT6.1* | This mode is suitable for playing discs recorded in DTS-ES. The surround back channel added using the discrete method is played as an independent channel. Since all channels are independent, the 360-degree spacial expressiveness and sound localization are enhanced. |
| DTS ES MTRX6.1* | This mode is suitable for playing discs recorded in DTS-ES.<br>The surround back channel added to the surround-left and surround-right channels by a matrix encoder at software recording time is decoded by this unit's matrix decoder and played from each channel (surround left, surround right, surround back). |
| DTS 96/24 | This mode can be selected when playing sources recorded in DTS 96/24. |
| DTS-HD | This mode can be selected when playing sources recorded in DTS-HD. |
| DTS Express | This mode can be selected when playing sources recorded in DTS Express. |

*  This can be selected when "Speaker Config." – "Surr. Back" is not set to "None".

### PCM multi-channel listening mode

| Listening mode type | Description |
|---|---|
| MULTI CH IN | This mode can be selected when playing multi-channel PCM sources . |

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## Audyssey DSX listening mode

| Listening mode type | Description |
|---|---|
| Audyssey DSX (A-DSX)∗ | This mode creates playback for the new channels (front wide or front height) in 5.1-channel systems. By adding front wide or front high channels, the surround sound effects sound more three dimensional and realistic. |

∗ This can be selected when a setting other than "None" is selected for "Front Height" or "Front Wide", and a setting other than "None" is selected for "Center" in "Speaker Config." (vpage 130).

## Original listening mode

| Listening mode type | Description |
|---|---|
| MULTI CH STEREO | This mode is for enjoying stereo sound from all speakers. The same sound as that from the front speakers (L/R) is played back at the same level from the surround speakers (L/R) and surround back speakers (L/R). |
| ROCK ARENA | This mode is for enjoying the atmosphere of a live concert in an arena. |
| JAZZ CLUB | This mode is for enjoying the atmosphere of a live concert in a jazz club. |
| MONO MOVIE | This mode is for playing monaural movie sources with surround sound. When playing sources recorded in monaural in the "MONO MOVIE" mode, the sound will be off balance with a single channel (left or right), so input to both channels. |
| VIDEO GAME | This mode is suited for achieving surround sound with video games. |
| MATRIX | This mode lets you add a spacious feel to stereo music sources. |
| VIRTUAL | This mode is for enjoying surround effects using only the front speakers or headphones. |

## STEREO listening mode

| Listening mode type | Description |
|---|---|
| STEREO | This is the mode for playing in stereo. The tone can be adjusted. • Sound is output from the front left and right speakers and subwoofer. • If multichannel signals are input, they are mixed down to 2-channel audio and are played. |

## Direct listening mode

| Listening mode type | Description |
|---|---|
| DIRECT | Sound recorded in source is played as is. |
| PURE DIRECT | This mode is for playback in higher sound quality than in DIRECT mode. Turn the display of the amplifier off to stop the analogue video circuit. This suppresses the source of noise that affects sound quality. |

# Advanced version

Here, we explain functions and operations that let you make better use of this unit.

# Installation/connection/setup of speakers (Advanced)

## Procedure for speaker settings

**Speaker installation**

↓

**Speaker connection** (<span>☞page 84</span>)

↓

**Set up speakers** (<span>☞page 92</span>)

## Speaker installation

- Determine the speaker system depending on the number of speakers you are using and install each speaker and subwoofer in the room. Here, we explain how to install the speakers using a typical example.
- The speaker impedance should be from 6 to 16 Ω.

> This unit is compatible with Audyssey DSX® (<span>☞page 168</span>) and Dolby Pro Logic IIz (<span>☞page 168</span>), which offers an even wider and deeper surround sensation.
> When using Audyssey DSX®, install front wide speakers or front height speakers.
> When using Dolby Pro Logic IIz, install front height speakers.

✎

Use the illustration below as a guide for how high each speaker should be installed. The height does not need to be exactly the same.

**【Viewed from the side】**
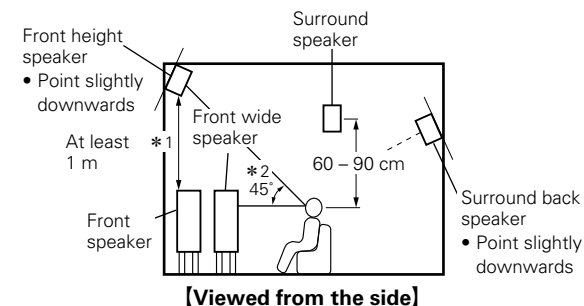
＊1 Recommended for Dolby Pro Logic IIz
＊2 Recommended for Audussey DSX®

**NOTE**

You cannot have audio output from the surround back speakers, front height speakers and front wide speakers simultaneously.

## When 7.1-channel speakers are installed using surround back, front height, and front wide speakers

When using Audyssey DSX®, install front wide speakers or front height speakers.
When using Dolby Pro Logic IIz, install front height speakers.



Listening position
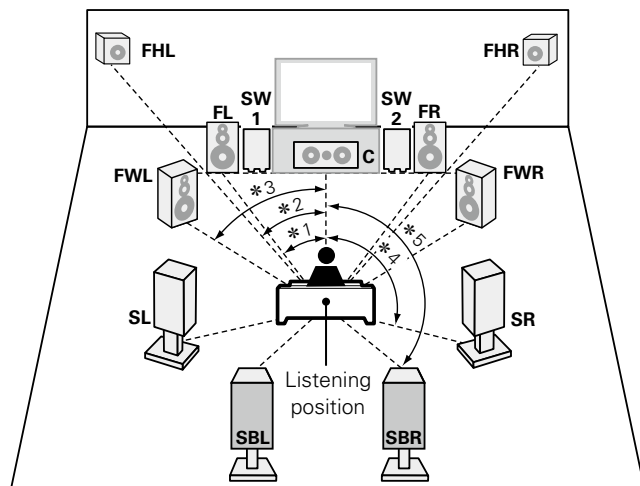
∗1  22˚ – 30˚      ∗2  22˚ – 45˚      ∗3  55˚ – 60˚
∗4  90˚ – 110˚     ∗5  135˚ – 150˚

### 〔Speaker abbreviations〕

| | | | |
|---|---|---|---|
| **FL** | Front speaker (L) | **SBL** | Surround back speaker (L) |
| **FR** | Front speaker (R) | **SBR** | Surround back speaker (R) |
| **C** | Center speaker | **FHL** | Front height speaker (L) |
| **SW** | Subwoofer | **FHR** | Front height speaker (R) |
| **SL** | Surround speaker (L) | **FWL** | Front wide speaker (L) |
| **SR** | Surround speaker (R) | **FWR** | Front wide speaker (R) |
| **SB** | Surround back speaker | | |

## When 6.1ch speakers are installed



Listening position
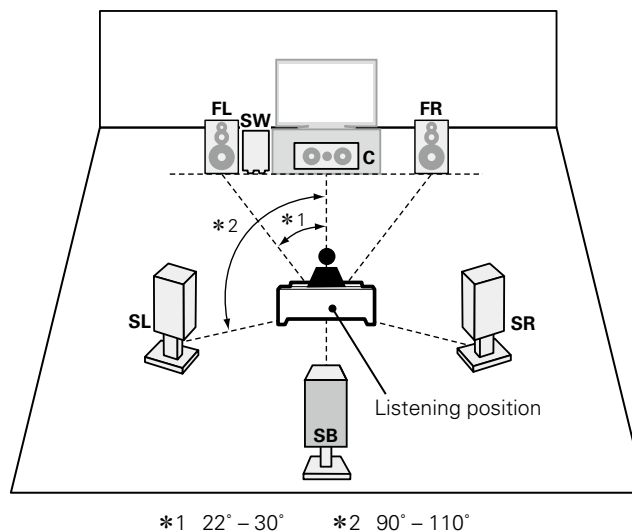
∗1  22˚ – 30˚      ∗2  90˚ – 110˚

## When 5.1ch speakers are installed



Listening position
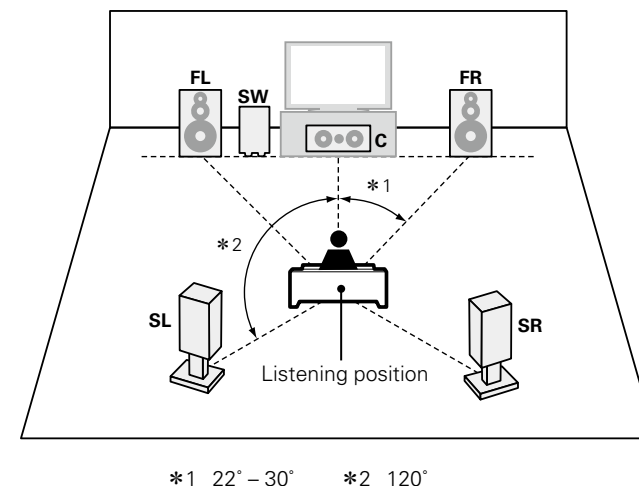
∗1  22˚ – 30˚      ∗2  120˚

## When Front A/B speakers are installed



Listening position

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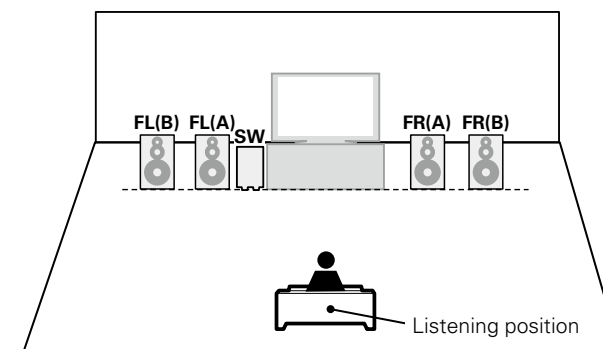
# Speaker connection

Here, we connect the speakers in the room to this unit.
This section explains how to connect them using a typical example.

❏ **Connecting 7.1-channel speakers using surround back, front height, and front wide speakers** ()
❏ **Connecting 6.1-channel speakers using one surround back speaker** ()
❏ **Connecting 5.1-channel speakers** ()
❏ **Connecting front A/B speakers** ()
❏ **Connecting 2.1-channel speakers** ()
❏ **Connecting front speakers with a bi-amp connection** ()
❏ **Connecting 5.1-channel + 2-channel speakers** ()

**NOTE**

- Disconnect this unit's power plug from the power outlet before connecting the speakers. Also, turn off the subwoofer.
- Connect so that the speaker cable core wires do not protrude from the speaker terminal. The protection circuit may be activated if the core wires touch the rear panel or if the + and – sides touch each other ( "Protection Circuit").
- Never touch the speaker terminals while the power supply is connected. Doing so could result in electric shock. When the "Setup Assistant" is running, follow the instructions in the "Setup Assistant" screen for making connections. (Power is not supplied to the speaker terminals while the "Setup Assistant" is running.)
- Use speakers with the speaker impedances shown below.

| Speaker terminals | Speaker impedance |
|---|---|
| FRONT | |
| CENTER | |
| SURROUND | 6 – 16 Ω |
| SURROUND BACK | |
| FRONT HEIGHT | |
| FRONT WIDE | |

## Connecting the speaker cables

Carefully check the left (L) and right (R) channels and + (red) and – (black) polarities on the speakers being connected to this unit, and be sure to interconnect the channels and polarities correctly.

*1* Peel off about 10 mm of sheathing from the tip of the speaker cable, then either twist the core wire tightly or terminate it.

*2* Turn the speaker terminal counterclockwise to loosen it.
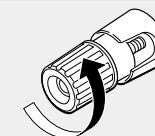
*3* Insert the speaker cable's core wire to the hilt into the speaker terminal.
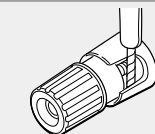
*4* Turn the speaker terminal clockwise to tighten it.
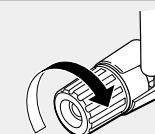
## Connecting the subwoofer

Use a subwoofer cable to connect the subwoofer.
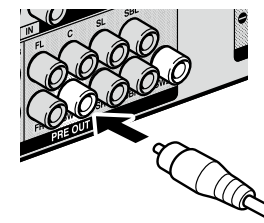
## Connecting 7.1-channel speakers using surround back, front height, and front wide speakers

The illustration on the right shows a connection example for performing 7.1-channel playback using the surround back, front height or front wide speakers.

If you connect the surround back, front height and front wide speakers before you start playback, the audio is played back by automatically switching the speakers in accordance with the surround mode or input signals.

To perform 7.1-channel playback using the surround back, front height or front wide speakers, set "Assign Mode" to "Main Only" in steps 3 to 5 for "Set up "Amp Assign"" ().

### Cables used for connections

| Audio cable (sold separately) | |
|---|---|
| Speaker cable | |
| Subwoofer cable | |

**NOTE**

- For speaker cable connections, see .
- For speaker impedance , see .

# Connecting 6.1-channel speakers using one surround back speaker

If using only one surround back speaker, connect to the "L" side of the SURROUND BACK terminal.

For speaker settings in this case, see "When 6.1ch speakers are installed" ().

To perform 6.1-channel playback using the surround back speaker, set "Assign Mode" to "Main Only" in steps 3 to 5 for "Set up "Amp Assign"" ().

Also use the "Speaker Config." setting () to set "Surr. Back" to "1spkr".

## Cables used for connections

| Audio cable (sold separately) | |
|---|---|
| Speaker cable | |
| Subwoofer cable | |

**NOTE**

• **For speaker cable connections, see .**
• **For speaker impedance , see .**
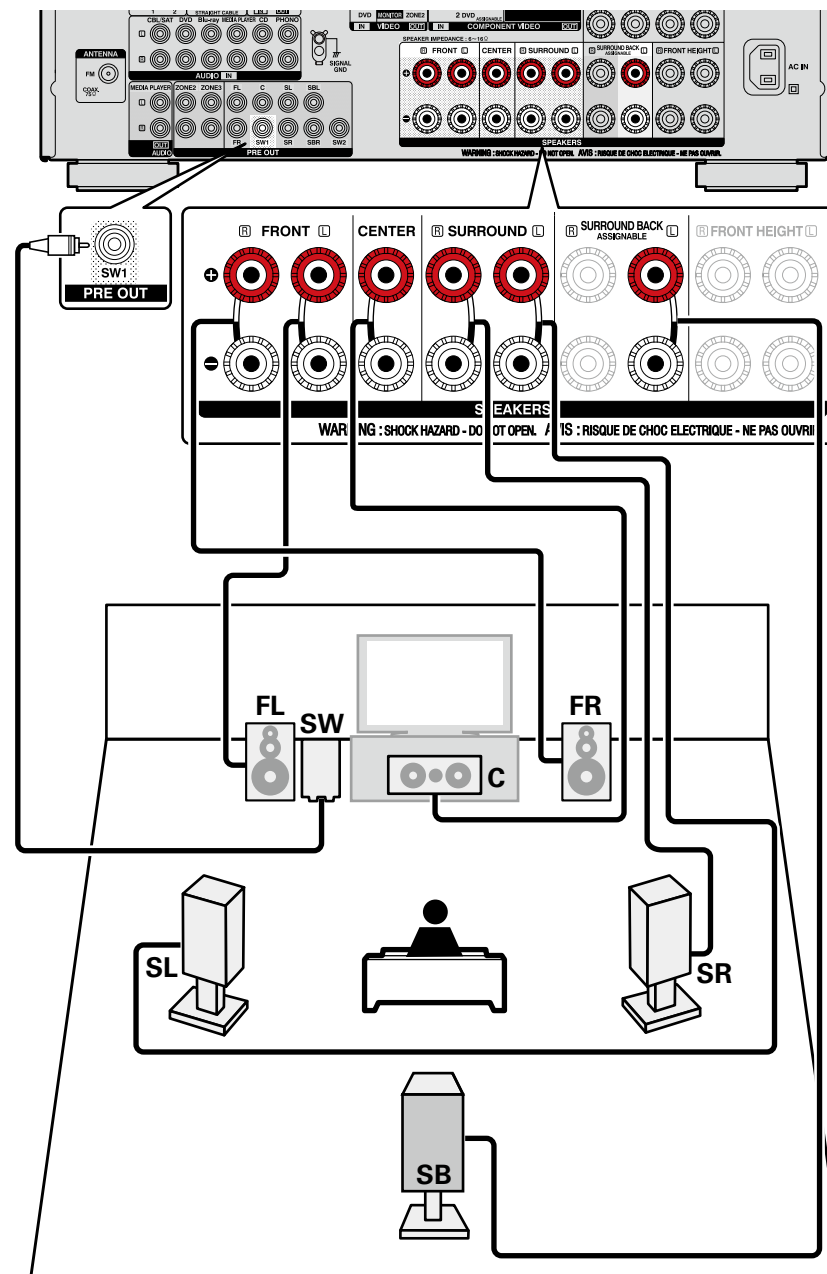
# Connecting 5.1-channel speakers

To perform 5.1-channel playback, set "Assign Mode" to "Main Only" in steps 3 to 5 for "Set up "Amp Assign"" (v page 92).

## Cables used for connections

| Audio cable (sold separately) | |
| --- | --- |
| Speaker cable | |
| Subwoofer cable | |

<div class="note">
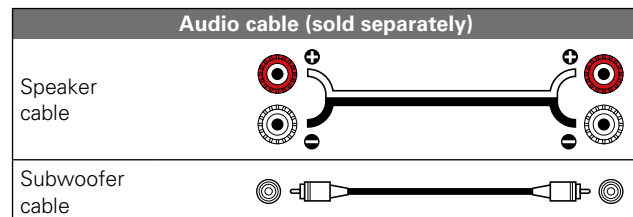
**NOTE**
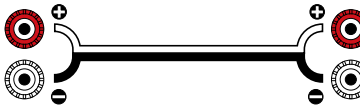
- **For speaker cable connections, see <u>page 84</u>.**
- **For speaker impedance , see <u>page 84</u>.**

</div>
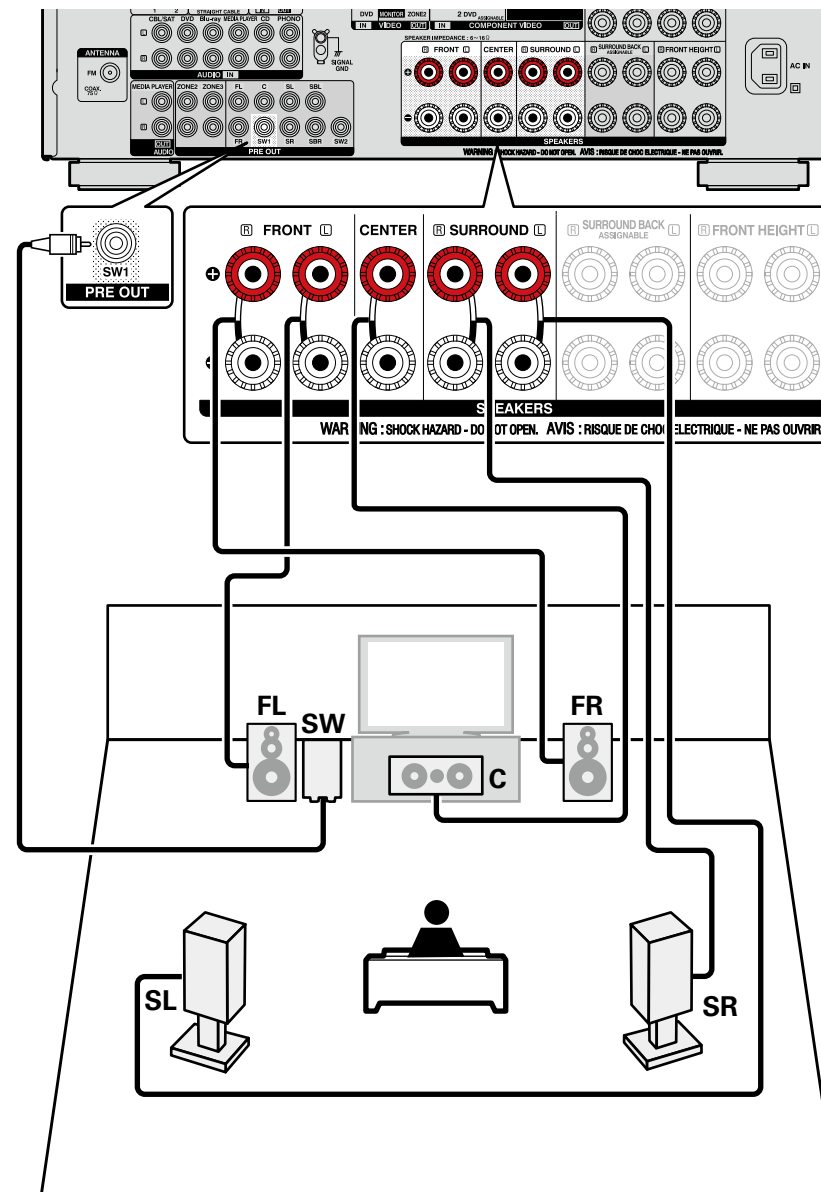
# Connecting front A/B speakers

You can connect a second set of speakers to this unit and use them for playback.
In this case, set "Assign Mode" to "Front B" in steps 3 to 5 for "Set up "Amp Assign"" ().

## Cables used for connections

| Audio cable (sold separately) | |
|---|---|
| Speaker cable | |
| Subwoofer cable | |

For multichannel playback, connect center, surround, surround back, and front speakers and a subwoofer. Front speakers can be used separately, depending on the speaker's specifications or playback source such as front speakers (A) for multichannel playback and front speakers (B) for 2-channel playback ( "Front Speaker Setup").

**NOTE**

- **For speaker cable connections, see .**
- **For speaker impedance , see .**
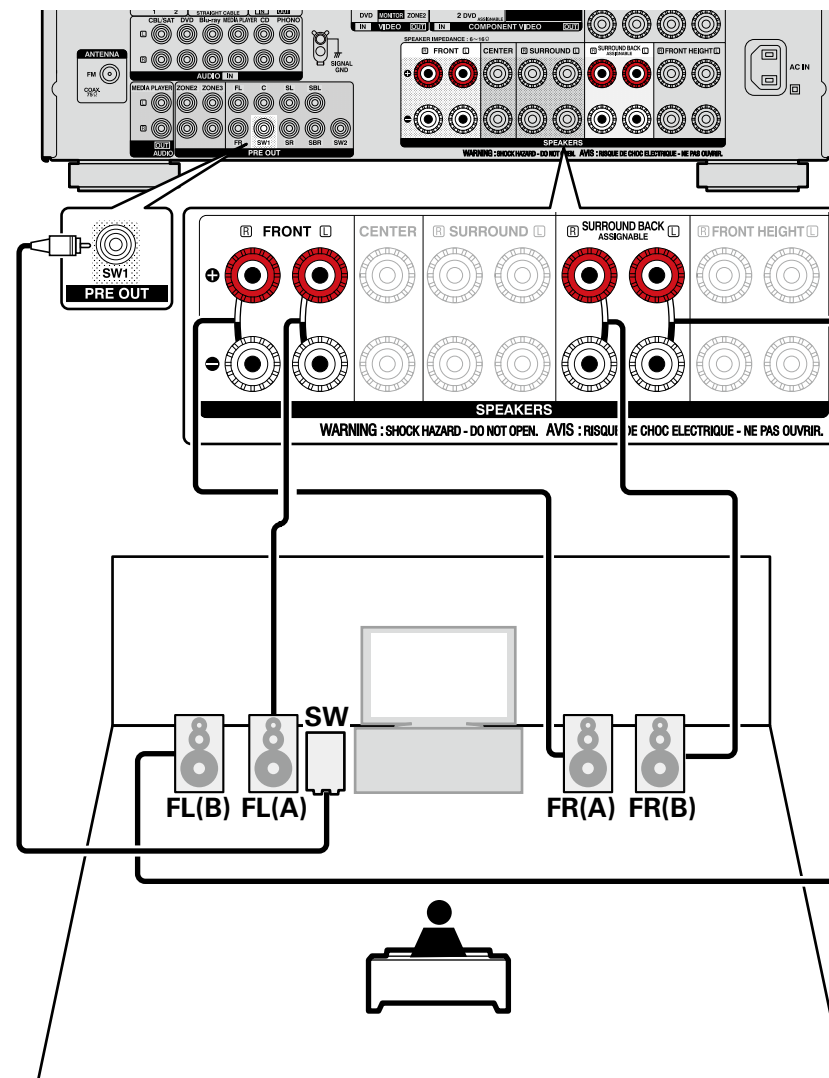
# Connecting 2.1-channel speakers

## Cables used for connections
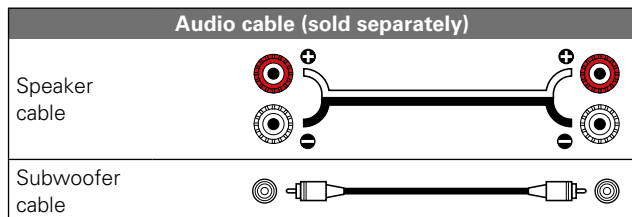
| Audio cable (sold separately) | |
| --- | --- |
| Speaker cable | |
| Subwoofer cable | |

### ❏ For connecting two subwoofers

Two subwoofers can be connected to this unit.
The same signal is output from each subwoofer terminal.
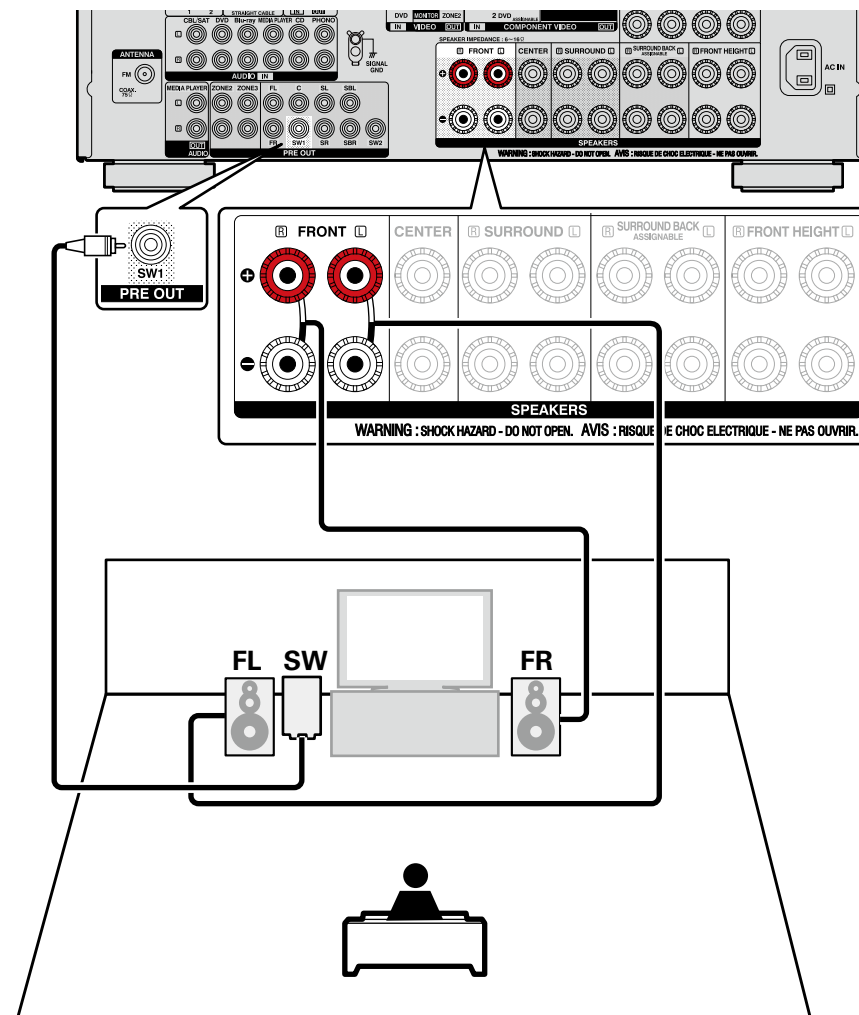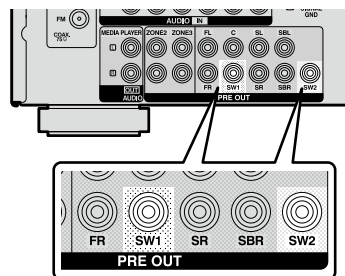
# Connecting front speakers with a bi-amp connection

- You cannot use surround back speakers in a bi-amp connection. Use front speakers that support a bi-amp connection and connect the speakers to the FRONT speaker terminals and the SURROUND BACK speaker terminals.
  In this case, set "Assign Mode" to "Bi-AMP" in steps 3 to 5 for "Set up "Amp Assign"" ().
- A bi-amp connection is to connect separate amplifiers to the tweeter terminals and woofer terminals of speakers compatible with the bi-amp function. This prevents the back electromotive force (returned force without output) of the woofer sent to the tweeter, which affects the sound quality of the tweeter, and you can enjoy playback with higher-quality sound.

## Cables used for connections

| Audio cable (sold separately) | |
| --- | --- |
| Speaker cable | |
| Subwoofer cable | |

🖉

For multichannel playback, connect front, center, surround, and surround back speakers and a subwoofer.

**NOTE**

- **For speaker cable connections, see page 84.**
- **For speaker impedance , see page 84.**
- When making bi-amp connections, be sure to remove the short-circuiting plate or wire between the speaker's woofer and tweeter terminals.
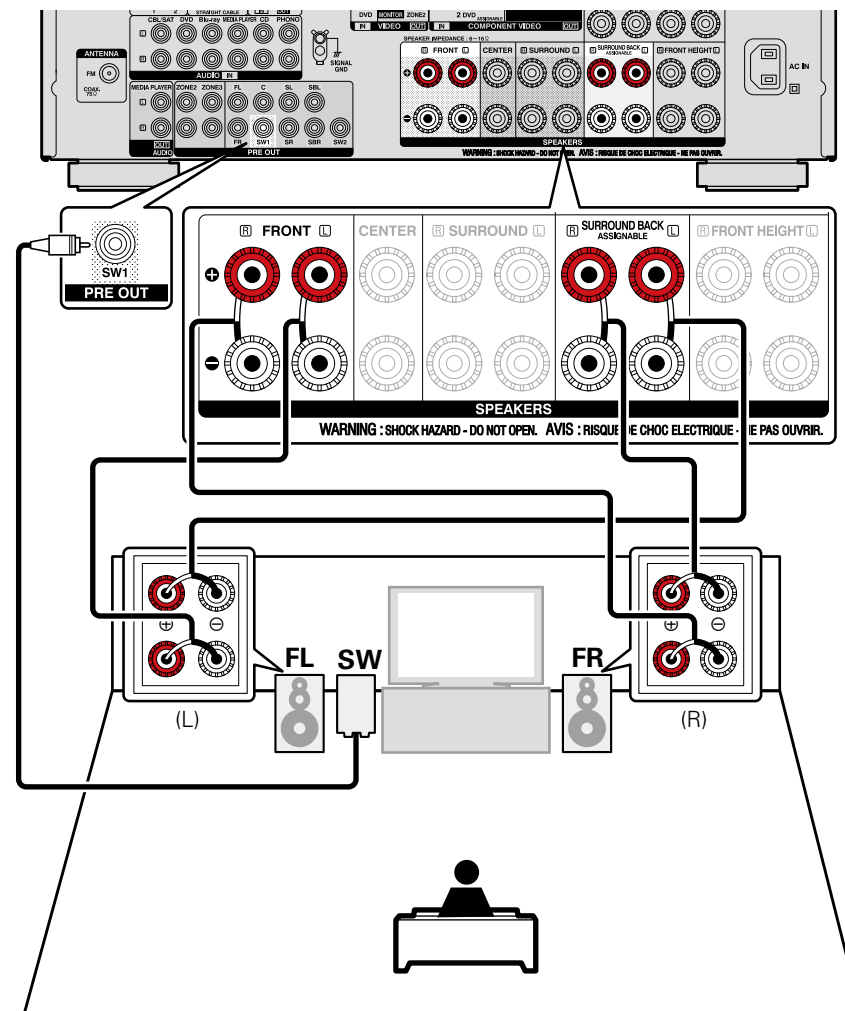
# Connecting 5.1-channel + 2-channel speakers

You can connect the other front speakers for 2-channel playback using the DIRECT mode or STEREO mode.

The speakers used exclusively for 5.1-channel playback and the speakers used exclusively for 2-channel playback are automatically switched for playback in accordance with the surround mode.

To set the speakers for automatic switching during playback, select "Assign Mode" and set to "2CH" using steps 3 to 5 for "Set up "Amp Assign"" ().

## Cables used for connections

| Audio cable (sold separately) | |
| --- | --- |
| Speaker cable | |
| Subwoofer cable | |

**NOTE**

- **For speaker cable connections, see page 84.**
- **For speaker impedance , see page 84.**



Multi channel playback
(Sound mode)

Switching

2-channel playback
(DIRECT or STEREO mode)
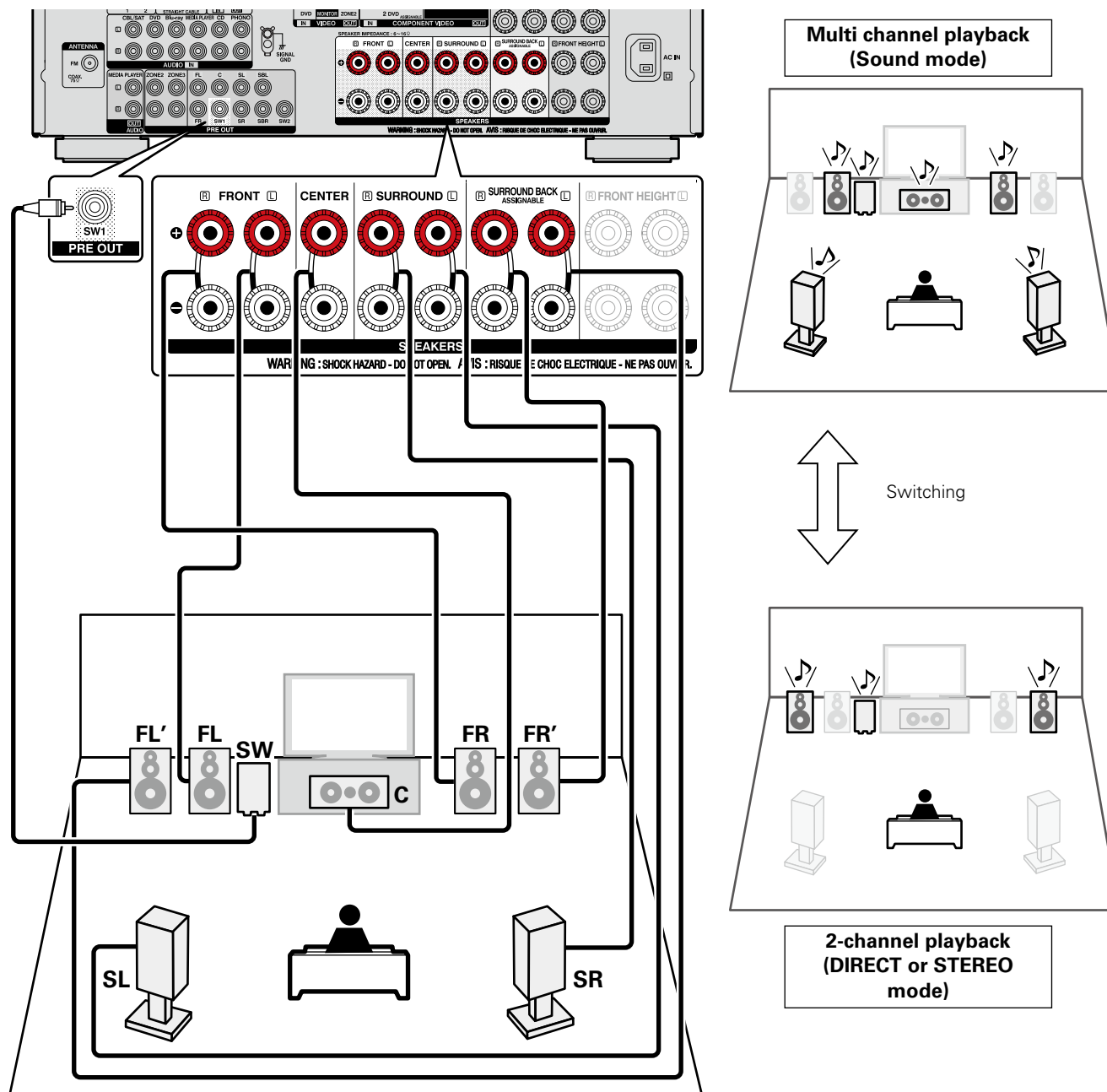
# Set up speakers

This section describes detailed settings for Audyssey® Setup.

First install and connect the speakers to this unit.

Before Audyssey® Setup measurement, the settings shown below can be made.
• Changing the amplifier assignment (Amp Assign)
  The signal output from the SURROUND BACK speaker terminal of this unit can be switched to match your speaker environment (☞page 92 "Set up "Amp Assign"").
• Setting the channels to be used (Channel Select)
  If channels that are not to be used are set in advance, measurement for the set channels is skipped, and measuring time can be reduced. You can also change the number of surround back speakers (☞page 93 "Set up "Channel Select"").
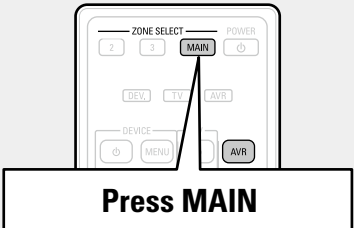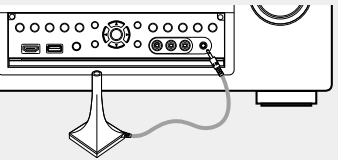
## *1* Set up the remote control unit

❏ **Set up the zone mode**
**Press MAIN to switch the zone mode to the MAIN ZONE.**
**MAIN** lights.



**Press MAIN**
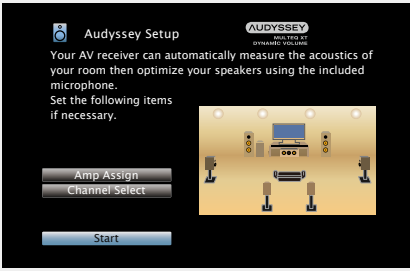
**NOTE**

When using a remote control with preset codes registered (☞page 148), press **AVR** to set the remote control to the AVR-operation mode before operation.

## *2* Connect the setup microphone.
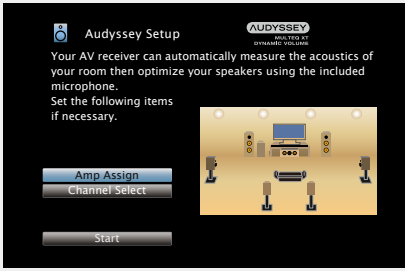


When the setup microphone is connected, the following screen is displayed.
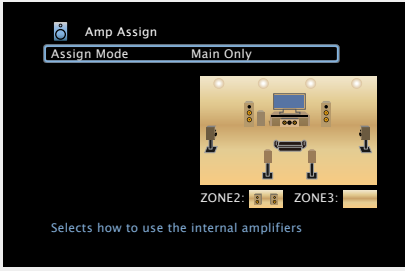


## *3* Set up "Amp Assign"

Use △▽ to select "Amp Assign", and then press **ENTER**.





Selects how to use the internal amplifiers

## *4* Select "Assign Mode", and then press **ENTER**.

**5** Use ◁ ▷ to select the configuration of the connected speakers, and then press **ENTER.**

| Main Only | Setting for 7.1-channel playback using surround back, front height, or front wide speakers. |
|---|---|
| ZONE2 | Setting to assign the unit's built-in power amplifier for ZONE2 and output the audio in stereo. |
| ZONE3 | Setting to assign the unit's built-in power amplifier for ZONE3 and output the audio in stereo. |
| Z2/Z3(M) | Setting to assign the unit's built-in power amplifier for ZONE2 and ZONE3 and output the audio in monaural. |
| Bi-AMP | Setting to use the front speakers via the bi-amp connection. |
| Front B | Setting to use the second set of front speakers for playback. |
| 2CH | Setting to use the other front speakers for playback when you do 2-channel playback in DIRECT or STEREO mode. |

**6** Press ◁ or **BACK** to exit the "Amp Assign" setting.

---

**7** **Set up "Channel Select"**

Use △▽ to select "Channel Select", and then press **ENTER.**

---
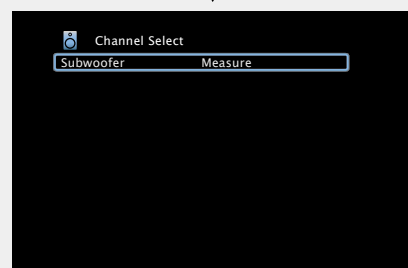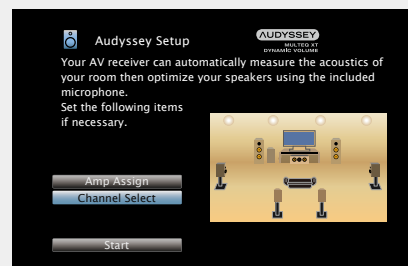
**8** Use △▽ to select a channel, and then press **ENTER.**

| Front | Select for setting the front speakers to be used. In this case, go to step 9.<br>• "Front" can be set when "Assign Mode" is set to "Front B". |
|---|---|
| Subwoofer | Select for no subwoofers to be used. In this case, go to step 10. |
| Surround Back | Select the number of surround back speakers to be used. In this case, go to step 11.<br>• "Surround Back" can be set when "Assign Mode" is set to "Main Only". |
| Front Height | Select for no front height speakers to be used. In this case, go to step 12.<br>• "Front Height" can be set when "Assign Mode" is set to "Main Only". |
| Front Wide | Select for no front wide speakers to be used. In this case, go to step 13.<br>• "Front Wide" can be set when "Assign Mode" is set to "Main Only". |

**9** Use ◁ ▷ to select a front speaker, and then press **ENTER.**

| A | Select this to use front speaker A. |
|---|---|
| B | Select this to use front speaker B. |
| A+B | Select this to use front speakers A and B simultaneously. |

93

**10** Use ◁ ▷ to set whether or not a subwoofer channel is measured, and then press **ENTER**.
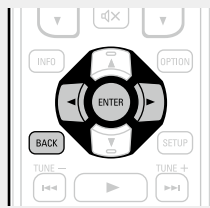
| Measure | Set for measuring a subwoofer. |
| Skip | Set for no measuring of a subwoofer. |

**11** Use ◁ ▷ to set whether or not a surround back channel is measured, and then press **ENTER**.

| Measure (2spkrs) | Set for measuring two surround back speakers. |
| Measure (1spkr) | Set for measuring a surround back speaker. |
| Skip | Set for no measuring of a surround back speaker. |

**12** Use ◁ ▷ to set whether or not a front height channel is measured, and then press **ENTER**.

| Measure | Set to measure the front height speakers. |
| Skip | Set when you do not want to measure the front height speakers. |

**13** Use ◁ ▷ to set whether or not a front wide channel is measured, and then press **ENTER**.

| Measure | Set to measure the front wide speakers. |
| Skip | Set when you do not want to measure the front wide speakers. |

**14** Press ◁ or **BACK**.
Proceed to page 31 **Preparation** step 5.

**NOTE**

After performing Audyssey® Setup, do not change the speaker connections or subwoofer volume. In event of a change, perform Audyssey® Setup again.

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# Playback (Advanced operation)

## HDMI control function

If you connect the unit and an HDMI control function compatible TV or player with an HDMI cable and then enable the HDMI control function setting on each device, the devices will be able to control each other.

### ❏ Operations possible by HDMI control

- **This unit power off can be linked to the TV power off step.**
- **You can switch audio output devices with a TV operation.**
  When you set "Output audio from amp" in the TV audio output setup operation, you can switch the amp power on.
- **You can adjust this unit volume in the TV volume adjustment operation.**
- **You can switch this unit input sources through linkage to TV input switching.**
- **When playing the player, this unit input source switches to the source for that player.**
- **If you switch the input source of the unit to "TV AUDIO", you can play TV audio with this unit (☞page 9 "About ARC (Audio Return Channel) function").**
- **When "HDMI Control" (☞page 121) in the menu is set to "On", signals input to the HDMI input connector are output to the television or other device connected to the HDMI output connector, even if the power of this unit is in standby (pass-through function).**

✎

- To use this unit to play the audio of a TV that does not support the ARC function, connect the TV with an optical-digital or analog connection (☞page 9).
- To use the pass-through function, connect an HDMI connection device that is compatible with HDMI control.

### ❏ Setting procedure

**1** Set the HDMI output connector corresponding with the HDMI control function.
Set "HDMI Control" (☞page 121) to "On".

**2** Turn the power on for all the devices connected by HDMI cable.

**3** Set the HDMI control function for all devices connected by HDMI cable.

- Please consult the operating instructions for the connected devices to check the settings.
- Carry out steps 2 and 3 should any of the devices be unplugged.

**4** Switch the television input to the HDMI input connected to this unit.

**5** Switch this unit input to the HDMI input source and check if the picture from the player is ok.

**6** When you turn the TV's power to standby, check that the power of this unit also goes to standby.

If the HDMI control function does not operate properly, check the following points.
- Is the TV or player compatible with the HDMI control function?
- Is "HDMI Control" (vpage 121) set to "On"?
- Is "Power Off Control" (vpage 121) set to "All" or "Video"?
- Is "Control Monitor" (vpage 121) set for the monitor output connected to television?
- Is "Control Monitor" (vpage 121) set to the TV that uses the HDMI control function when this unit is connected to two TVs that support HDMI connectors?
- Are the HDMI control function settings of all devices correct?

**NOTE**

- **When "HDMI Control" is set to "On", it consumes more standby power.**
- The HDMI control function controls operations of a TV that is compatible with the HDMI control function. Make sure that the TV and HDMI are connected when you perform HDMI control.
- Some functions may not operate depending on the connected TV or player. Check the owner's manual of each device for details beforehand.
- When "Power Off Control" on the menu is set to "Off" (vpage 121), this unit is not set to standby even if the connected device is in the standby mode.
- When connection changes are implemented, such as adding connections to HDMI devices, linked operations may be initialized. In this case, you will need to reconfigure the settings.
- When "HDMI Control" is set to "On", it is not possible to assign an HDMI connector to "TV AUDIO" at "Input Assign" (vpage 125).
- Should any of the operations below be performed, the interlocking function may be reset, in which case, repeat steps 2 and 3.
  - "Input Assign" – "HDMI" (vpage 125) setting has changed.
  - "Video Output" (vpage 120) setting is changed.
  - There is a change to the connection between the devices and the HDMI, or an increase in devices.
- The HDMI ZONE2 function is not compatible with the HDMI control function.
- When the HDMI ZONE2 function is used with "HDMI Control" in the menu set to "On", the HDMI ZONE2 function may not fully work.
- If "HDMI Control" in the menu is set to "On" and the power of ZONE2 is on, this units may behave as follows. It is recommended to disable the HDMI control function on your TV and player when using the HDMI ZONE2 function. (Some example behaviors are listed below.)
  - When the power of the TV used for MAIN ZONE is off and the player selected for ZONE2 starts playback, the TV used for MAIN ZONE is turned on. In this case, the input source selected for MAIN ZONE changes to the input source selected for ZONE2.
  - When playing back a TV used for MAIN ZONE and ZONE2 with an HDMI connection, turning off the TV used for MAIN ZONE also turns off this unit and the player.
  - When a same input source is selected for MAIN ZONE and ZONE2, stopping playback of the player on the TV stops the playback on the player and the video being played back in ZONE2 as well.

# Sleep timer function

- You can have the power automatically switched to standby once a set time has elapsed. This is convenient for viewing and listening while going to sleep.
- The sleep timer function can be set for each zone (☞page 105 "Sleep timer function"). (The MAIN ZONE setting method is explained here.)

**1** Press **MAIN** to switch the zone mode to the MAIN ZONE.
**MAIN** lights.
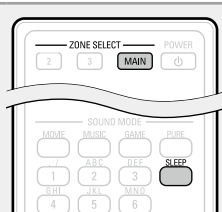
**2** Press **SLEEP** and display the time you want to set.
The 🅢 indicator on the display lights.

- The time switches as shown below each time **SLEEP** is pressed.

```
      Off ──► 10 min ──► 20 ──► 30 ──► 40 ──► 50
      120 ◄── 110 ◄── 100 ◄── 90 ◄── 80 ◄── 70 ◄── 60
```
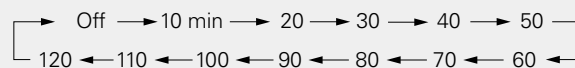
## To confirm the countdown time before putting the unit to sleep

Press **SLEEP**.
"Sleep : ✱min" appears on the display.
✱ Countdown time

## To cancel the sleep timer

Press **SLEEP** to set "Off".
The 🅢 indicator on the display turns off.

- The sleep timer setting is canceled if this unit's power is set to standby.
- The sleep timer function can be set separately for the different zones (☞page 105 "Sleep timer function").

**NOTE**

The sleep timer function cannot turn off the power of devices connected to this unit. To turn off the power of those connected devices, set up sleep timers on the connected devices themselves.

# Quick select function

You can save settings such as the input source selection, volume level, and sound mode at the **QUICK SELECT 1 – 4** buttons.
You can simply press one of the set **QUICK SELECT** buttons for subsequent playback to switch to various saved settings all at once.

- By saving frequently used settings at the **QUICK SELECT 1 – 4** buttons, you will always be able to easily call up the same playback environment.

## Press **QUICK SELECT**.

The Quick Select settings for the button you pressed are called up.
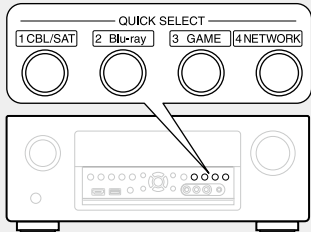


- The default settings of each QUICK SELECT are as shown below.

| Button | Input source | Volume | Sound Mode |
|---|---|---|---|
| **QUICK SELECT 1** | CBL/SAT | 40 | STEREO |
| **QUICK SELECT 2** | Blu-ray | 40 | STEREO |
| **QUICK SELECT 3** | GAME | 40 | STEREO |
| **QUICK SELECT 4** | NETWORK | 40 | STEREO |

## Changing the Quick Select Name

On this unit, you can change the Quick Select name displayed on the menu to the name that you prefer.
For the name change method, see "Quick Select Names" (vpage 141).

## ❏ Changing the settings

**1** **Set the items below to the settings you want to save.**
① Input source∗ (vpage 36)
② Volume (vpage 37)
③ Sound Mode (vpage 75)
④ Audyssey
(Audyssey MultEQ® XT, Audyssey Dynamic EQ®, Audyssey Dynamic Volume®) (vpage 116)

**2** **Press and hold the desired QUICK SELECT until "Quick∗ Memory" appears on the display.**
The current settings will be memorized.

∗ The number for the **QUICK SELECT** button you pressed is displayed.
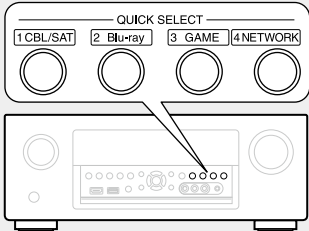
# REC OUT mode

- When using the audio/video recording connectors (MEDIA PLAYER outputs), you can record the audio or video from a different program source while listening to the currently played track.
- For the connection method, see "Connecting a media player" (<span>page 20</span>).

## 1 Press **ZONE2 / REC SOURCE** until "RECOUT SOURCE" is displayed.

ZONE 2
SOURCE SELECT
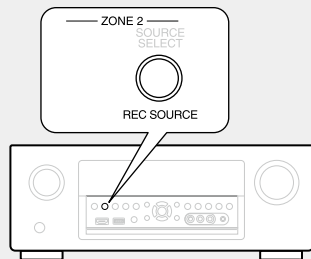
REC SOURCE

## 2 Press **ZONE2 / REC SOURCE** to choose the input source to be recorded.

ZONE2 SOURCE ⟶ ZONE2 CBL/SAT ⟶ ZONE2 DVD

RECOUT DVD ⟵ RECOUT CBL/SAT ⟵ RECOUT SOURCE
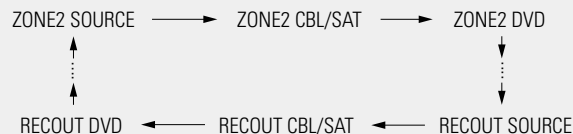
## 3 Start recording.

- For operating instructions, refer to the respective device's operating instructions.

✐

- To cancel, press **ZONE2 / REC SOURCE** until "ZONE2 SOURCE" is displayed.
- Make a test recording before starting the actual recording.
- Sources selected with the REC OUT mode are output from ZONE2 as well.
- The operable buttons on the remote control unit in REC OUT mode while it is in the operating mode for ZONE2 are as follows:
  - **ZONE SELECT** buttons
  - **MUTE** button (◁×)
  - **VOLUME** button (▲▼)
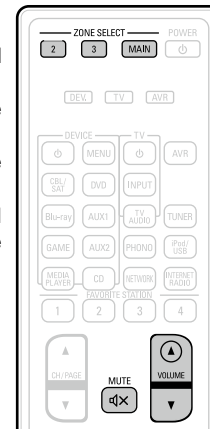
### NOTE

- Recordings you make are for your personal enjoyment and should not be used for other purposes without permission of the copyright holder.
- Input sources for which "Hide" is selected at "Hide Sources" (<span>page 127</span>) cannot be selected.
- To record video signals through this unit, use the video cable for connection between this unit and the player.

# Web control function

You can control this unit from a web control screen on a web browser.

✎
- This unit and the PC need to be connected to the network properly (☞page 27 "Connecting to a home network (LAN)") in order to use the web control function.
- Depending on the settings of your security-related software, you may not be able to access this unit from your PC. If this is the case, then change the settings of the security-related software.

**1** Switch the "IP Control" setting to "Always On" (☞page 136).

**2** Check the IP address of this unit with "Information" (☞page 136).

🌐 Network/Network Information
Friendly name          DENON AVR-3313
DHCP                   On
IP Address             192.168.100.19
MAC Address            0005cd000000

**Checking the IP address.**

Displays the current network name of the AVR
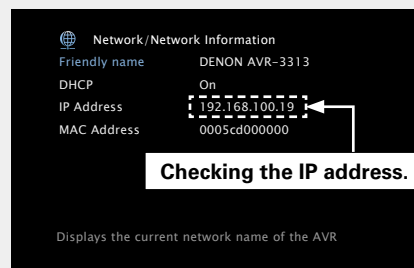
**3** Start up the web browser.

**4** Enter the IP address of this unit in browser's address box.

For example, if the IP address of this unit is "192.168.100.19", enter "http://192.168.100.19/".

http://192.168.100.19/index.asp ← ①
File  Edit  View  Favorites  Tools  Help
☆ ✦  📄 INDEX

DENON AVR-3313
Web Controller

⏻ MAIN ZONE
CBL/SAT      40.0

⏻ ZONE2
Blu-ray      20

⏻ ZONE3
CBL/SAT
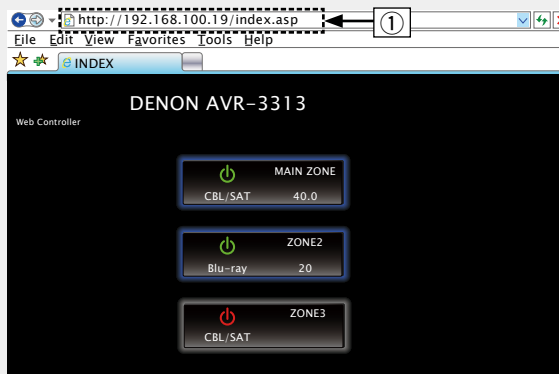
① Entering the IP address.
- By adding this unit's IP address to the browser's bookmark, you can display the web control screen using the bookmark function the next time you use the browser. If you are using a DHCP server and "IP Control" (☞page 136) is set to "Off In Standby", turning the power on/off changes the IP address.

**5** When the top menu is displayed, click on the menu item you want to operate.

DENON AVR-3313
Web Controller

② ⏻ MAIN ZONE
    CBL/SAT      40.0

    ⏻ ZONE2
    Blu-ray      20

    ⏻ ZONE3
    CBL/SAT

③ Setup Menu

④ Web Controller Config.
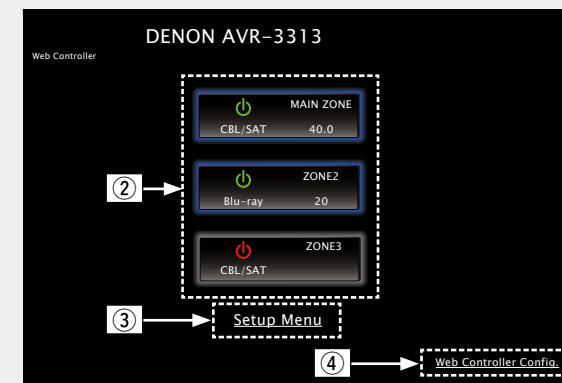
② Click when you select the zone to operate. (☞【Example 1】)
③ Click when you operate the setup menu.
④ Click to change the Web control screen setting. (☞【Example 3】)

## 6 Operate.

**【Example 1】** MAIN ZONE control screen

DENON AVR-3313
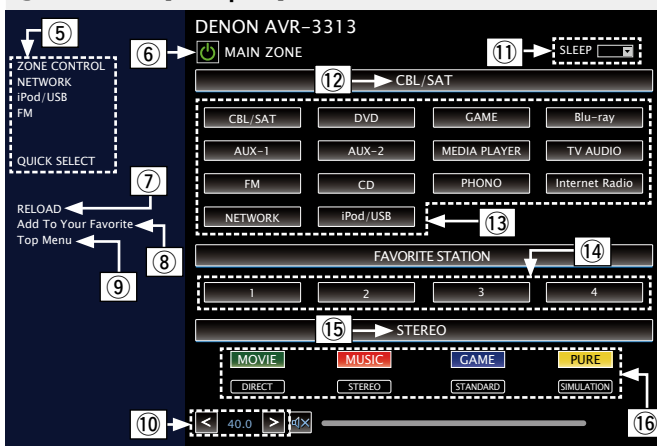
⑤ Click the menu item from which you want to make settings.
The display on the right becomes the individual setting screens.
(☞**【Example 4】**)
⑥ Click when you perform a power operation of the unit.
⑦ Click when you update to the latest information.
Normally, there is a change to the latest information each time you operate. When operating from the main unit, click this or else the screen will not be updated.
⑧ Click to add a setting to "Favorites" in your browser.
We recommend registering the setting screens for the different zones in the browser's favorites so as not to accidentally perform menu operations for zones you do not intend to operate.
⑨ Click to return to the top menu.
Displayed when setting "Top Menu Link Setup" to "ON" in **【Example 3】**
⑩ To adjust the main volume, click "<", ">", or the volume display.
⑪ Click "v" to set the sleep timer function.
⑫ Displays the name of the selected input source.
⑬ Click a button to change the input source.
⑭ Register your favorite content.
⑮ Displays the sound mode.
⑯ The sound mode switches each time you click the button.

**【Example 2】** Setup menu screen

VIDEO
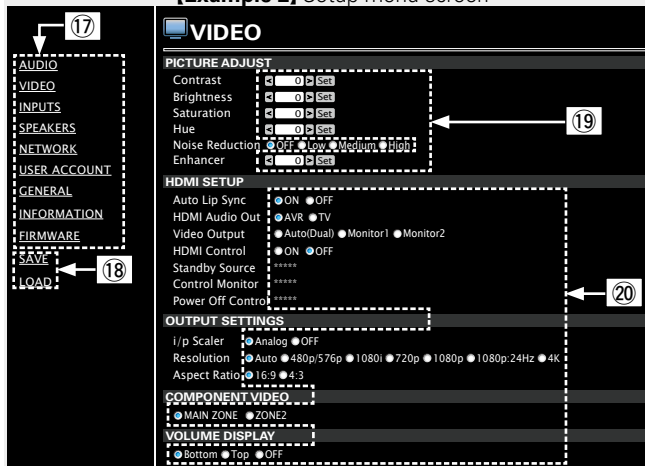
⑰ Click the menu item from which you want to make settings.
The display on the right becomes the individual setting screens.
⑱ Click "SAVE" when you want to save settings, and click "LOAD" when you want to call settings.
⑲ Enter figures or click "<" or ">" to make the setting, and then click "Set".
⑳ Click an item to make a setting.

**【Example 3】** Web configuration screen

Web Controller Config.

㉑ Click "ON" when performing Top Menu Link Setup.
When set up, return to the top menu from each operation screen. (Default setting : "OFF")
㉒ Click this item to return to the top menu.

**【Example 4】** Network audio operating screen

NETWORK (MAIN ZONE)
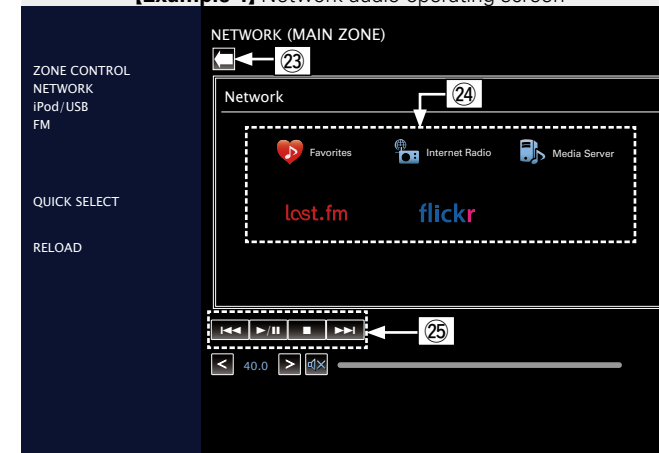
㉓ Click to return to the previous screen.
㉔ Click the content you want to operate.
㉕ Use to operate content.

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# Various memory functions

## Personal memory plus function

This function sets the settings (input mode, sound mode, HDMI output mode, MultEQ® XT, Dynamic EQ, audio delay etc.) last selected for the individual input sources.

[pencil icon]

The surround parameters, tone settings and the volumes of the different speakers are stored for the individual sound modes.

## Last function memory

This function stores the settings which were made before going into the standby mode.
When the power is turned back on, the settings are restored.

# Playback in ZONE2/ZONE3 (Separate room)

- You can operate this unit so as to enjoy audio in a room (ZONE2, ZONE3) other than the MAIN ZONE (room where the unit is located).
- You can simultaneously play back the same source in both the MAIN ZONE, ZONE2 and ZONE3. You can also play back separate sources in the MAIN ZONE, ZONE2 and ZONE3.
- When a TV is connected to the HDMI ZONE2 OUT connector, you can play back a video or audio from the device connected to the HDMI 1 - 6 IN connector in ZONE2 (**HDMI ZONE2 function**).

✎

The source selected for ZONE2 is also output from the recording output connectors (MEDIA PLAYER).

**NOTE**

The following restrictions apply to the HDMI ZONE2 function.
- If you select a same input source for MAIN ZONE and ZONE2, audio playback may be restricted or video may be interrupted.
- Video may not be output depending on the resolution of the TV used for MAIN ZONE and ZONE2. In this case, use your player to set the resolution of the TV.
- The HDMI audio signals for the input source selected in ZONE2 are output from the ZONE2 speakers.
- When HDMI ZONE2 function is used, you cannot set the following.

  - Picture Adjust
  - Auto Lip Sync
  - Video Mode
  - Video Conversion
  - i/p Scaler
  - Progressive Mode
  - Aspect Ratio
  - Setup menu display

## Audio output

It is possible to play 2-channel audio in rooms other than the MAIN ZONE where multi-channel playback is done. Choose one of the methods.
① Zone playback by speaker output
② Zone playback by audio output (PRE OUT)
    Use an external amplifier.

### ① Zone playback by speaker output

- Set the "Assign Mode" (☞page 130) setting to "ZONE2" or "ZONE3", and outputs ZONE2 or ZONE3 audio from SURROUND BACK speaker terminals (The default setting is "Main Only").
- If you set the "Assign Mode" (☞page 130) setting to "ZONE2" or "ZONE3", the main zone home theater system can play back up to 5.1 channels. Even if you play back audio recorded in 6.1 or 7.1 channels, this unit automatically downmixes the audio to 5.1 channels.

### ❏ Connecting and setting the speakers

| | "Assign Mode" setting (☞page 130) and audio signals output | | Connecting the speakers |
|---|---|---|---|
| ZONE2 | ZONE2 | Output signal : Stereo (L / R) |  |
| ZONE3 | ZONE3 | Output signal : Stereo (L / R) |  |
| ZONE2 and ZONE3 | Z2/Z3 (M) | Output signal : Monaural |  |

## ② **Zone playback by audio output (PRE OUT)**

### ❑ **Audio connections (ZONE2, ZONE3)**

The audio signals of this unit's ZONE2 and ZONE3 audio output terminals are output to the ZONE2 and ZONE3 amplifiers and played on these amplifiers.
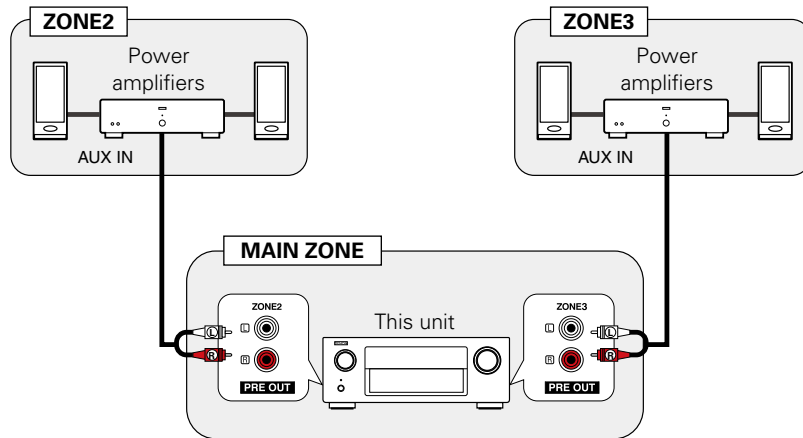


We recommend using high quality pin-plug cables for audio connections in order to prevent noise.

**NOTE**

In ZONE2 or ZONE3, the digital audio signals input from the HDMI, COAXIAL, OPTICAL connector or Denon Link HD cannot be played back. When playing back in ZONE2 or ZONE3, make an analog connection.

## **Video output**

### **Video Connection**

The video signals of this unit's ZONE2 video output connector are played by the ZONE2 TV.
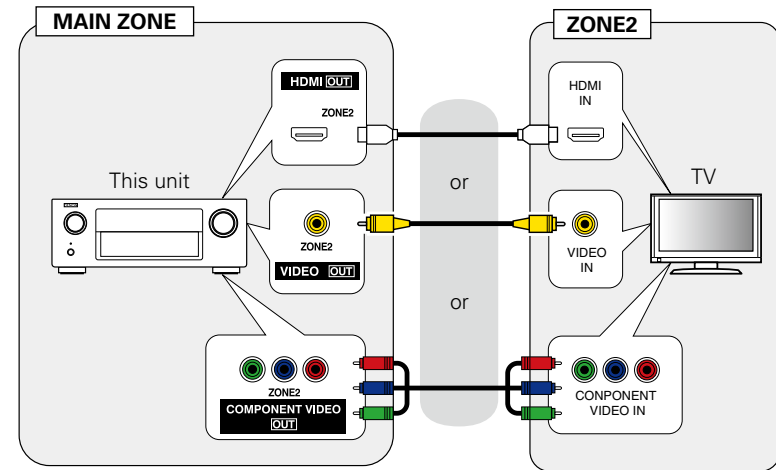


When "Component Video Out" (<span>page 122</span>) in the menu is set to "ZONE2", the component video output connector outputs the ZONE2 video.

**NOTE**

The menu screen is not output.

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# Playback

*1* **Press ZONE2 or ZONE3 to switch the zone mode.**
**ZONE2** or **ZONE3** lights.

*2* **Press POWER ☉ to turn on the ZONE2 or ZONE3 power.**

- Also press input source select button when in standby mode, the power turns on.
- When **POWER ☉** is pressed, ZONE2 or ZONE3 turns off.
- Power in ZONE2 or ZONE3 can be turned on or off by pressing **ZONE2 ON/OFF** or **ZONE3 ON/OFF** on the main unit.

*3* **Press the input source select button to select the input source to be played.**
The audio signal of the selected source is output to ZONE2 or ZONE3.

- To perform an operation with the main unit, press **ZONE2 SOURCE SELECT** or **ZONE3 SOURCE SELECT** many times.
Each time you press **ZONE2 SOURCE SELECT** or **ZONE3 SOURCE SELECT**, the input source changes.

**Input source select buttons**

✎

When power for both MAIN ZONE and ZONE2 (or ZONE3) is set to ON, power of the MAIN ZONE only can be turned off. In Step 1, press **MAIN** and **POWER ☉** in this order.
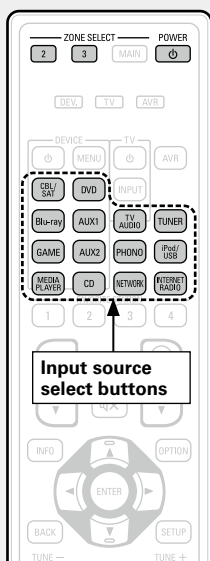
## Adjusting the volume

Use **VOLUME ▲▼** to adjust the volume.
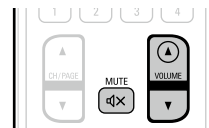
【Adjustable range】　0 – 40 – 98
(When the "Scale" (🖝page 116) setting is "0 – 98")

【Adjustable range】　– – –　–79dB – –40dB – 18dB
(When the "Scale" (🖝page 116) setting is "–79.5dB – 18.0dB")

- At time of purchase, "Volume Limit" (🖝page 140) is set to "70 (–10dB)".

✎

Turn **MASTER VOLUME** after pressing **ZONE2 SOURCE SELECT** or **ZONE3 SOURCE SELECT** on the main unit to adjust the sound volume.

## Turning off the sound temporarily

Press **MUTE ◁×**.
The sound is reduced to the level set at "Mute Level" (🖝page 140) in the menu.

- To cancel, either adjust the volume or press **MUTE ◁×** again.
- The setting can also be cancelled by adjusting the volume or turning off the ZONE2 or ZONE3 power.

✎

You can adjust the tone and volume for ZONE2 or ZONE3 in "ZONE2 Setup" or "ZONE3 Setup" (🖝page 140) in the menu.

# Sleep timer function

- This is convenient for viewing and listening while going to sleep in ZONE2 or ZONE3.
- The sleep timer function can be set by zone.

*1* **Press ZONE2 or ZONE3 to switch the zone mode.**
**ZONE2** or **ZONE3** lights.

*2* **Press SLEEP and display the time you want to set.**
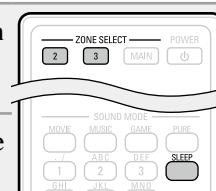
- The time switches as shown below each time **SLEEP** is pressed.

Off ➝ 10 min ➝ 20 ➝ 30 ➝ 40 ➝ 50 ➝
120 ◂ 110 ◂ 100 ◂ 90 ◂ 80 ◂ 70 ◂ 60 ◂
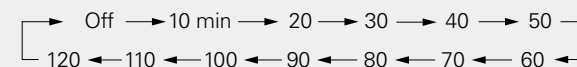
## To confirm the countdown time before putting the unit to sleep

Press **SLEEP**.
"Z2 Sleep : ✴min" or "Z3 Sleep : ✴min" appears on the display.
✴ Countdown time

## To cancel the sleep timer

Press **SLEEP** to set "Off".

✎

The sleep timer is also cancelled when this unit is set to the standby mode or the ZONE2 or ZONE3 power is turned off.

**NOTE**

The sleep timer function cannot turn off the power of devices connected to this unit. To turn of the power of those connected devices, set up sleep timers on the connected devices themselves.

# How to make detailed settings

## Menu map

For menu operation, connect a TV to this unit and display the menu on the TV screen. For menu operations, see the following page.
By default, this unit has recommended settings defined. You can customize this unit based on your existing system and your preferences.

| Setting items | Detailed items | Description | Page |
|---|---|---|---|
| **Audio** | **Surround Parameter** | Adjusts surround sound parameters. | 113 |
| | **Tone** | Adjusts the tonal quality of the sound. | 115 |
| | **Dialogue Level** | Sets the output level to clarify the dialogue output from the center channel. | 115 |
| | **Subwoofer Level** | Sets the subwoofer on/off and its output level. | 115 |
| | **Restorer** | Expands the low and high frequency components of compressed audio to enable richer audio playback. | 115 |
| | **Audio Delay** | Compensates for incorrect timing between video and audio. | 116 |
| | **Volume** | Set the MAIN ZONE (room where the unit is located) volume setting. | 116 |
| | **Audyssey** | Makes Audyssey MultEQ® XT, Audyssey Dynamic EQ® and Audyssey Dynamic Volume® settings. | 116 |
| | **Graphic EQ** | Uses the graphic equalizer to adjust the tone of each speaker. | 118 |
| **Video** | **Picture Adjust** | Adjusts the video quality. | 120 |
| | **HDMI Setup** | Makes settings for HDMI video/audio output. | 120 |
| | **Output Settings** | Makes screen-related settings. | 121 |
| | **Component Video Out** | Sets whether to use the component video output connector for MAIN ZONE or ZONE2. | 122 |
| | **Volume Display** | Sets where to display the master volume level. | 123 |
| | **Info Display** | Displays status of operation temporarily when the sound mode is changed, or input source is switched. You can set whether or not to show each of these status displays. | 123 |
| | **Audio Display** | Sets how long each menu is displayed when the input source is "NETWORK", "iPod/USB", or "FM". | 123 |
| | **TV Format** | Set the video signal format to be output for the TV you are using. | 123 |

| Setting items | Detailed items | Description | Page |
|---|---|---|---|
| **Inputs** | **Input Assign** | Changes input connector assignment. | 125 |
| | **Source Rename** | Changes the display name for this source. | 126 |
| | **Hide Sources** | Remove from the display input sources that are not used. | 127 |
| | **Source Level** | Adjusts the playback level of the audio input. | 127 |
| | **Input Select** | Sets the audio input mode and decode mode. | 127 |
| | **Video Source** | Video of another input source is played back combined with the playing audio. | 128 |
| **Speakers** | **Audyssey® Setup** | The acoustic characteristics of the connected speakers and listening room are measured and the optimum settings are made automatically. | 29, 92 |
| | **Manual Setup** | Perform when setting the speakers manually or when changing settings made in Audyssey® Setup. | 130 |
| **Network** | **Information** | Display network information. | 136 |
| | **IP Control** | Set the network function on/off during standby. | 136 |
| | **Friendly Name** | The Friendly Name is the name of this unit displayed on the network. You can change the Friendly Name according to your preferences. | 136 |
| | **Settings** | Make settings for wired LAN. | 137 |
| | **Last.fm Display** | Set whether or not to display Last.fm item on the menu. | 138 |
| | **Maintenance Mode** | Use when receiving maintenance from a DENON service engineer or custom installer. | 138 |

| Setting items | Detailed items | Description | Page |
|---|---|---|---|
| **General** (icon) | **Language** | Sets the language for display the menu on the TV screen. | 140 |
| | **ZONE2 Setup** | Makes settings for audio playback in a ZONE2 system. | 140 |
| | **ZONE3 Setup** | Makes settings for audio playback in a ZONE3 system. | 140 |
| | **Zone Rename** | Change the display title of each zone to one you prefer. | 141 |
| | **Quick Select Names** | Change the "Quick Select" display title to one you prefer. | 141 |
| | **Trigger Out 1** | Selects when to activate trigger out 1. | 141 |
| | **Trigger Out 2** | Selects when to activate trigger out 2. | 141 |
| | **Auto Standby** | When you do not perform any operation on this unit with no audio or video input for a specified time, this unit automatically enters the standby mode. Before it enters the standby mode, "Auto Standby" is displayed on the display of this unit and the menu screen. | 141 |
| | **Front Display** | Makes settings related to the display on this unit. | 141 |
| | **Information** | Show information about receiver settings, input signals, etc. | 142 |
| | **Firmware** | Set whether or not to check for firmware update, update the firmware, and display update and upgrade notifications. | 143 |
| | **Setup Lock** | Protect settings from inadvertent change. | 144 |
| **Setup Assistant** (icon) | | Perform the installation, connection, and setup procedures to prepare the unit for operation following guidance. | 📖 7 |

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# Examples of menu screen displays

Typical examples are described below.

## 【Example 1】
## Menu selection screen (Top menu)

Setup Menu

① → Audio ← ③
② → Video
Inputs ← ④
Speakers
Network
General
Setup Assistant
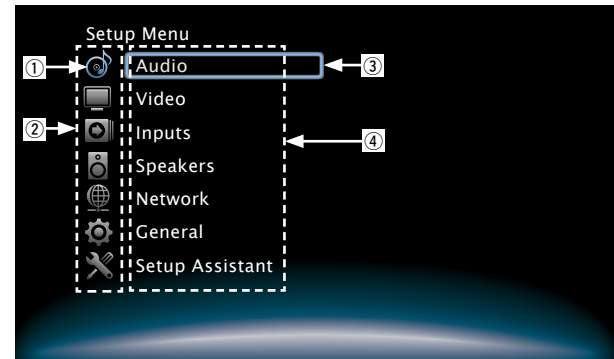
① Currently selected setup icon
② List of GUI menu setup icons
③ Currently selected setup item
④ List of GUI menu setup items

Use △▽ to select "Audio" and then press ▷. (Or press ENTER.)

Audio [1/2] ← ⑤
Surround Parameter ← ⑥
Tone
Dialogue Level
Subwoofer Level
Restorer
Audio Delay
Volume
Audyssey
▼ Adjust surround sound parameters ← ⑦
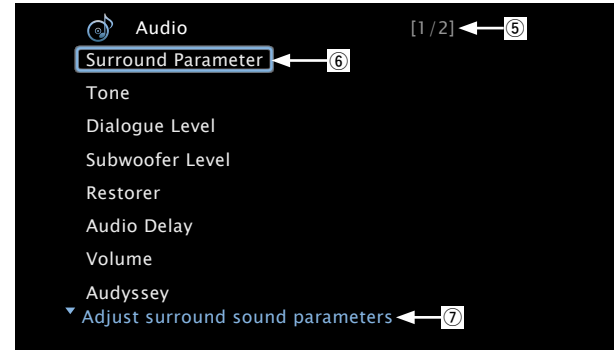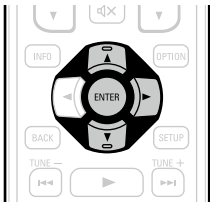
⑤ Indication of there being following pages
⑥ Selected setup item
⑦ Guide text for the currently selected setup item

## 【Example 2】
## Audyssey® Setup screen (with illustration)

⑧ → Audyssey Setup    AUDYSSEY
MULTEQ XT
DYNAMIC VOLUME

Your AV receiver can automatically measure the acoustics of your room then optimize your speakers using the included
⑨ → microphone.
Set the following items if necessary.

Amp Assign
Channel Select

⑪ → Start    ⑩
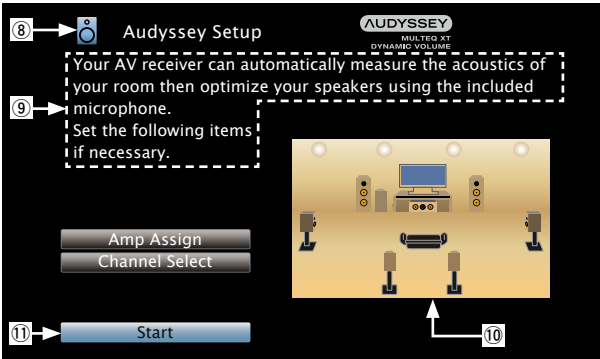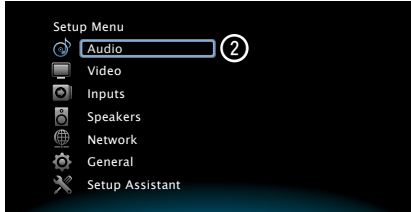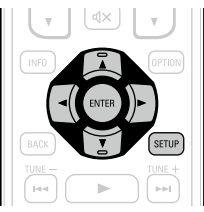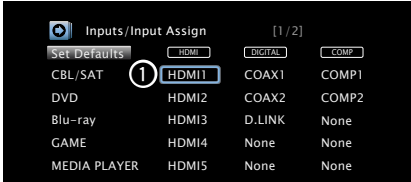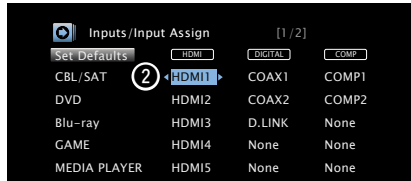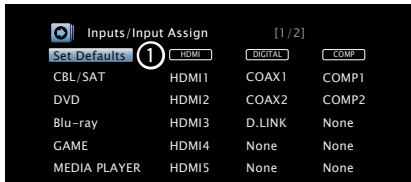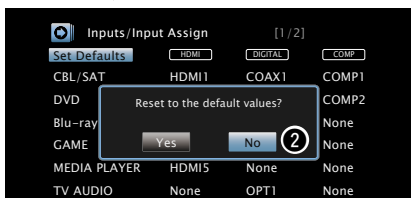
⑧ Currently selected setup icon
⑨ Operation guidance text
⑩ Illustration
⑪ Selected setup item

### NOTE

When the menu is operated on a computer's resolution (e.g. VGA) or during playback of certain 3D video content, the playback image switches to the menu screen image.

# Examples of menu and front display

Below we describe typical examples of displays on the TV screen and on the set's display window.

| | Menu display | Front display | Description |
|---|---|---|---|
| **Top menu display** | Setup Menu<br>◌ Audio ②<br>▭ Video<br>▣ Inputs<br>▤ Speakers<br>⊕ Network<br>◉ General<br>✕ Setup Assistant | \*SETUP MENU<br>② Audio | ❶ Press **SETUP** to display the menu screen.<br>❷ TV screen: Displays the selected line.<br>Display: Displays the selected item.<br>• Use △▽ to move to the item you want to set. |
| **Display when changing settings** | Inputs/Input Assign [1/2]<br>Set Defaults [HDMI] [DIGITAL] [COMP]<br>CBL/SAT ① HDMI1 COAX1 COMP1<br>DVD HDMI2 COAX2 COMP2<br>Blu-ray HDMI3 D.LINK None<br>GAME HDMI4 None None<br>MEDIA PLAYER HDMI5 None None<br><br>Press **ENTER**.<br><br>Inputs/Input Assign [1/2]<br>Set Defaults [HDMI] [DIGITAL] [COMP]<br>CBL/SAT ② ◀HDMI1▶ COAX1 COMP1<br>DVD HDMI2 COAX2 COMP2<br>Blu-ray HDMI3 D.LINK None<br>GAME HDMI4 None None<br>MEDIA PLAYER HDMI5 None None | \*INPUT ASSIGN<br>CBL/SAT [HDMI1 ] ❶<br><br>Press **ENTER**.<br><br>\*INPUT ASSIGN<br>CBL/SAT ◀HDMI1 ▶ ❸ | ❶ TV screen: Displays the selected line.<br>Display: Displays the selected item.<br>• Use △▽ to move to the item you want to set.<br>❷ Press **ENTER** to set to the mode in which the setting can be made.<br><br><br><br><br>❸ ◀ ▶ is displayed at the sides of items whose setting can be changed. Use ◁▷ to change to the desired setting. |
| **Display when returning to the settings in effect at time of purchase** | Inputs/Input Assign [1/2]<br>Set Defaults ① [HDMI] [DIGITAL] [COMP]<br>CBL/SAT HDMI1 COAX1 COMP1<br>DVD HDMI2 COAX2 COMP2<br>Blu-ray HDMI3 D.LINK None<br>GAME HDMI4 None None<br>MEDIA PLAYER HDMI5 None None<br><br>Press **ENTER**.<br><br>Inputs/Input Assign [1/2]<br>Set Defaults [HDMI] [DIGITAL] [COMP]<br>CBL/SAT HDMI1 COAX1 COMP1<br>DVD COMP2<br>Reset to the default values?<br>Blu-ray None<br>GAME Yes No ② None<br>MEDIA PLAYER HDMI5 None None<br>TV AUDIO None OPT1 None | \*INPUT ASSIGN<br>❶ Default<br><br>Press **ENTER**.<br><br>\*INPUT ASSIGN<br>Default? ◀No ❷ | ❶ Press △ to select "Set Defaults", then press **ENTER**.<br>❷ Press ◁ to select "Yes", then press **ENTER**. |

# Inputting characters

On this unit, you can change the name displayed on the following screens to the names that you prefer.

- Text Search (☞page 69)
- Preset Name (☞page 50)
- Source Rename (☞page 126)
- Friendly Name (☞page 136)
- Zone Rename (☞page 141)
- Quick Select Names (☞page 141)
- Character input for the network functions
  (☞page 56, 64, 67, 138)

## Method for inputting characters

| Method | Operations |
|---|---|
| Using the keyboard screen | • Select a character on the TV screen to input characters. |
| Using the number buttons (10 Key input screen) | • Multiple characters are assigned to a button, and each time the button is pressed, a character is switched. |
| Using the cursor buttons (10 Key input screen) | • Use △▽◁ ▷ and **ENTER** to input characters. |

## Keyboard screen

Select a character on the TV screen to input characters.

### ❏ Display of a keyboard input screen
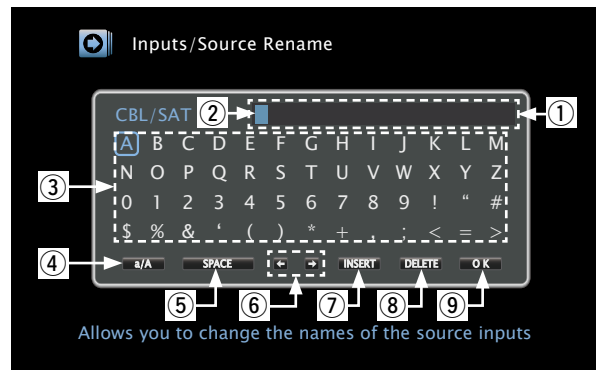


① Character input section
② Cursor
③ Keyboard section
④ Uppercase and lowercase switch key
⑤ Space key
⑥ Cursor keys
⑦ Insert key
⑧ Delete key
⑨ OK key

## ❏ Input method

**1** Display the screen for inputting characters (☞page 106 "Menu map").
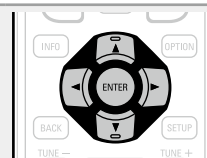
**2** Select a character to be changed.
① Use △▽◁ ▷ to select ← or →.

② Press **ENTER** to place the cursor at the character to be changed.
Each time **ENTER** is pressed, the cursor moves by one character.

**3** Select a character to be input with △▽◁ ▷ then press **ENTER**.

- The types of characters that can be input are as shown below.

【Upper case characters/Numbers/Symbols】
ABCDEFGHIJKLMNOPQRSTUVWXYZ
0123456789
! " # $ % & ' ( ) * + , ; < = >
【Lower case characters/Numbers/Symbols】
abcdefghijklmnopqrstuvwxyz
0123456789
. @ - _ / : ˜ ? [ \ ] ^ ' { | }

- When you use △▽ while you type in, you can change uppercase characters to lowercase and vice versa.

**4** Repeat steps 2 and 3 to change the name.

**5** Use △▽◁ ▷ to select **O K**, then press **ENTER**.

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## 10 Key input screen

### ❏ Display of a 10 Key input screen
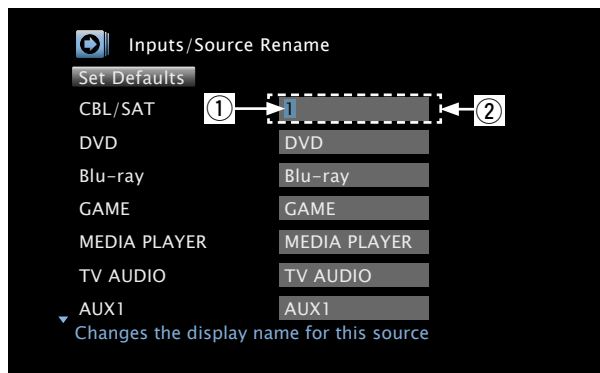


① Cursor
② Character input section

### ❏ Input method

#### Using the number buttons

**1** When the keyboard screen is displayed, press **0 – 9**.
The 10 key input screen is displayed.
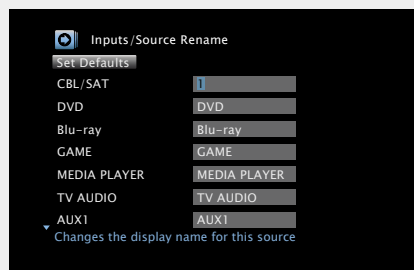


**2** Place the cursor at the character to be changed with ◁ ▷ and press the number button (**0 – 9**) until the desired character is displayed.

• The types of characters that can be input are as shown below.

| ./ 1 | 1 . @ - _ / : ˜ | MNO 6 | M N O m n o 6 |
| ABC 2 | A B C a b c 2 | PQRS 7 | P Q R S p q r s 7 |
| DEF 3 | D E F d e f 3 | TUV 8 | T U V t u v 8 |
| GHI 4 | G H I g h i 4 | WXYZ 9 | W X Y Z w x y z 9 |
| JKL 5 | J K L j k l 5 | ⎵ * 0 | 0 (Space) ! " # $ % & ' ( ) ∗ +, ; < = > ? [ \ ] ^ ` { | } |

• When you use △▽ while you type in, you can change uppercase characters to lowercase and vice versa.
• For entering the characters assigned to one number button continuously, press ▷ to move the cursor to the right after entering a character then enter the next character.
• For entering characters assigned to separate buttons, press the number button continuously. The cursor automatically moves to the next position, and the entered character is registered.

**3** Repeat step 2 to change the name then press **ENTER** to register it.

**Example:** For changing the input source from "DVD" to "D&M"

① Place the cursor at "V".　　　　　　　D**V**D

② Press ⎵* 0 eight times.　　　　　　　D**&**D
　"V" changes to "&".

③ Press MNO 6 .
　"&" is automatically registered, and "D" changes　D&**M**
　to "M".

④ Press **ENTER** to register the input source name.

### Using the cursor buttons

**1** When the keyboard screen is displayed, press **0 – 9**.
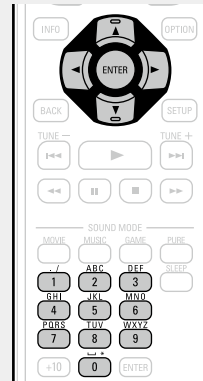


**2** Use ◁ ▷ to set the cursor to the character.

**3** Use △▽ to change the character.

• The types of characters that can be input are as shown below.

〖Upper case characters〗
ABCDEFGHIJKLMNOPQRSTUVWXYZ
〖Lower case characters〗
abcdefghijklmnopqrstuvwxyz
〖Symbols〗 ! " # $ % & ' ( ) ∗ + , - . / : ; < = > ? @ [ \ ] ^ _ ` { | } ˜
〖Numbers〗 0123456789 (Space)

• When you use △▽ while you type in, you can change uppercase characters to lowercase and vice versa.

**4** Repeat steps 2 and 3 to change the name then press **ENTER** to register it.

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# Audio

**Make audio-related settings.**

## Menu operation

**1** Press **MAIN** to switch the zone mode to the MAIN ZONE.
**MAIN** lights.

**2** Press **SETUP**.
The menu is displayed on the TV screen.

**3** Use △▽ to select the menu to be set or operated.

**4** Press **ENTER** or ▷ to enter the setting.

• To return to the previous item, press ◁ or **BACK**.
• Exiting the Menu, press **SETUP** while the menu is displayed.
  The menu display disappears.

## Items that can be set with the "Audio" procedure

**Surround Parameter** (☞page 113)

**Tone** (☞page 115)

**Dialogue Level** (☞page 115)

**Subwoofer Level** (☞page 115)

**Restorer** (☞page 115)

**Audio Delay** (☞page 116)

**Volume** (☞page 116)

**Audyssey** (☞page 116)

**Graphic EQ** (☞page 118)

# Surround Parameter

**Default settings are underlined.**

You can adjust the surround audio sound field effects to match your preferences.
The items (parameters) that can be adjusted depend on the signal being input and the currently set sound mode. For details on the adjustable parameters, see "Sound modes and surround parameters" (☞page 160).

**NOTE**

• Some setting items cannot be set while playback is stopped. Make the settings during playback.
• When the sound mode is "PURE DIRECT", you cannot set the surround parameters.

| Setting items | Setting details |
|---|---|
| **Cinema EQ**<br>Softens the treble range of movie soundtracks for better understanding. | **On** : "Cinema EQ" is used.<br>**Off** : "Cinema EQ" is not used. |
| **Loudness Management**<br>This can be set in the Dolby TrueHD mode. This sets whether to output as specified in "Dynamic Compression" or output directly without compressing the dynamic range of audio recorded in the disc. | **On** : Outputs using the settings made in "Dynamic Compression".<br>**Off** : "Dynamic Compression" settings and "Dialogue normalization" (☞page 142) are disabled, and the signals on the disk are output as is. |
| **Dynamic Compression**<br>Compress dynamic range (difference between loud and soft sounds). | **Auto** : Automatic dynamic range compression on/off control according to source.<br>**Low** / **Medium** / **High** : These set the compression level.<br>**Off** : Dynamic range compression always off.<br><br>✎ You can set "Auto" only for the Dolby TrueHD source. |
| **Low Frequency Effects**<br>Adjust the low-frequency effects level (LFE). | **–10dB – 0dB**<br><br>✎ For proper playback of the different sources, we recommend setting to the values below.<br>• Dolby Digital sources : "0dB"<br>• DTS movie sources : "0dB"<br>• DTS music sources : "–10dB" |

| Setting items | Setting details |
|---|---|
| **Center Image**<br>Distributes the dialogue output from the center channel to the front left and right channels and widens the sound image in the front. You can set this when the sound mode is set to DTS NEO:6 in the "Music" mode. | **0.0 – 1.0 (0.3)**<br><br>✎ The smaller the value, the more dialogue is concentrated on the center channel. The larger the value, the more dialogue is distributed to front left and right channels, and the more the sound image widens in the front. |
| **Panorama**<br>Assign front L/R signal also to surround channels for wider sound. You can set this when the sound mode is Dolby PLⅡ in the "Music" mode. | **On** : Set.<br>**Off** : Do not set. |
| **Dimension**<br>Shift sound image center to front or rear to adjust playback balance. You can set this when the sound mode is Dolby PLⅡ in the "Music" mode. | **0 – 6 (3)**<br><br>✎ As you set a smaller number, the surround sound field shifts backward; as you set a larger number, the surround sound field shifts forward. |
| **Center Width**<br>Distributes the dialogue output from the center channel to left and right channels and widens the sound image in the front. You can set this when the sound mode is Dolby PLⅡx in the "Music" mode. | **0 – 7 (3)**<br><br>✎ The smaller the value, the more dialogue is concentrated on the center channel. The larger the value, the more dialogue is distributed to front left and right channels, and the more the sound image widens in the front. |

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| Setting items | Setting details |
|---|---|
| **Delay Time**<br>Adjust the audio delay time against video to extend the sound field image. You can set this when the sound mode is "MATRIX". | **0ms – 300ms (30ms)** |
| **Effect Level**<br>Adjust the sound effect level. You can set this when the sound mode is original listening mode. | **1 – 15 (10)**<br><br>🖉 Set to a lower level if the positioning and sense of phase of the surround signals seems unnatural. |
| **Room Size**<br>Determine size of acoustic environment. You can set this when the sound mode is original listening mode. | **Small** : Simulate acoustics of a small room.<br>**Medium small** : Simulate acoustics of a medium-small room.<br>**Medium** : Simulate acoustics of a medium room.<br>**Medium large** : Simulate acoustics of a medium-large room.<br>**Large** : Simulate acoustics of a large room.<br><br>**NOTE**<br><br>"Room Size" does not indicate the size of the room in which sources are played. |
| **Height Gain**<br>Control the front height channel volume. | **Low** : Reduce the front height channel volume.<br>**Normal** : Front height channel sound is output with standard sound volume.<br>**High** : Increase the front height channel volume.<br><br>**NOTE**<br><br>"Height Gain" is displayed for the following settings.<br>• When "Assign Mode" (☞page 130) is set to "Main Only".<br>• When the "Speaker Config." – "Front Height" setting (☞page 131) is set other than to "None".<br>• When sound mode is "PLⅡz" or the PLⅡz decoder is used. |

| Setting items | Setting details |
|---|---|
| **Speaker Select**<br>Make settings for the speakers outputting sound when playing back in original surround mode. | **Surround Back** : Sound is output from the surround back speakers.<br>**Height** : Sound is output from the front height speakers.<br>**Wide** : Sound is output from the front wide speakers.<br><br>**NOTE**<br><br>Only speakers that are set to something other than "None" in "Speaker Config." (☞page 130) can be selected. |
| **Set Defaults**<br>The "Surround Parameter" settings are returned to the default settings. | **Yes** : Reset to the defaults.<br>**No** : Do not reset to the defaults.<br><br>🖉 When you select "Set Defaults" and press **ENTER**, the "Reset to the default values?" prompt is displayed. Select either "Yes" or "No", and press **ENTER**. |

# Tone

**Default settings are underlined.**

Adjust the tonal quality of the sound.

| Setting items | Setting details |
|---|---|
| **Tone Control**<br>Set the tone control function to "On" and "Off". | **On** : Allow tone adjustment (bass, treble).<br>**Off** : Playback without tone adjustment.<br><br>✎ "Tone Control" can be set when "Dynamic EQ" (☞page 117) is set to "Off".<br><br>**NOTE**<br>• "Tone Control" settings are not reflected to ZONE2 and ZONE3.<br>• The tone cannot be adjusted in the "DIRECT" and "PURE DIRECT" mode. |
| **Bass**<br>Adjust bass. | **–6dB – +6dB (0dB)**<br><br>✎ "Bass" can be set when the menu "Tone Control" setting is "On". |
| **Treble**<br>Adjust treble. | **–6dB – +6dB (0dB)**<br><br>✎ "Treble" can be set when the menu "Tone Control" setting is "On". |

# Dialogue Level

**Default settings are underlined.**

Sets the output level to clarify the dialogue output from the center channel.

| Setting items | Setting details |
|---|---|
| **Dialogue** | **–12.0dB – +12.0dB (0dB)** |

# Subwoofer Level

**Default settings are underlined.**

Sets the subwoofer on/off and its output level.

| Setting items | Setting details |
|---|---|
| **Subwoofer**<br>Turn subwoofer output on and off. | **On** : The subwoofer is used.<br>**Off** : The subwoofer is not used.<br><br>**NOTE**<br>This can be set when the sound mode is "DIRECT" and "PURE DIRECT" (☞page 75) and the "Subwoofer Mode" (☞page 131) is "LFE+Main". |
| **Subwoofer Level**<br>Set the subwoofer output level. | **–12.0dB – +12.0dB (0dB)** |

# Restorer

Compressed audio formats such as MP3, WMA (Windows Media Audio) and MPEG-4 AAC reduce the amount of data by eliminating signal components that are hard for the human ear to hear. The "Restorer" function generates the signals eliminated upon compression, restoring the sound to conditions near those of the original sound before compression. It also corrects the sense of volume of the bass to obtain richer sound with compressed audio signals.

| Setting items | Setting details |
|---|---|
| **Mode**<br>Set the mode for "Restorer". | **Off** : Do not use "Restorer".<br>**Mode 1 (High)** : Optimized mode for compressed sources with very weak highs (64 kbps and under).<br>**Mode 2 (Middle)** : Apply suitable bass and treble boost for all compressed sources (96 kbps and under).<br>**Mode 3 (Low)** : Optimized mode for compressed sources with normal highs (96 kbps and over).<br><br>✎<br>• This item can be set with analog signals or PCM signal (Sample Rate = 44.1/48 kHz) is input.<br>• "Restorer" settings are stored for each input source.<br>• This item default setting for "NETWORK" and "iPod/USB" is "Mode 3 (Low)". All others are set to "Off".<br>• This cannot be set when the sound mode is set to "DIRECT" or "PURE DIRECT". |

# Audio Delay

**Default settings are underlined.**

While viewing video, manually adjust the time to delay audio output.

**Setting details**

**0ms – 200ms**

✏

- This item can be set within the range of 0 to 100 ms when "Auto Lip Sync" (☞page 120) is set to "On" and when a TV compatible with Auto Lip Sync is connected.
- Store "Audio Delay" for each input source.
- Audio Delay for game mode can be set when "Video Mode" (☞page 121) is set to "Auto" or "Game".

# Volume

**Default settings are underlined.**

Set the MAIN ZONE (room where the unit is located) volume setting.

| Setting items | Setting details |
|---|---|
| **Scale**<br>Set how volume is displayed. | **0 – 98** : Display in the range 0 (Min) to 98.<br>**–79.5dB – 18.0dB** : Display -–dB (Min), in the range –79.5 dB to 18.0 dB.<br><br>✏<br>• The "Scale" setting is applied also to the "Limit" and "Power On Level" display method.<br>• The "Scale" setting applies to all zones. |
| **Limit**<br>Make a setting for maximum volume. | **Off** : Do not set a maximum volume.<br>**60 (–20dB) / 70 (–10dB) / 80 (0dB)** |
| **Power On Level**<br>Define the volume setting that is active when the power is turned on. | **Last** : Use the memorized setting from the last session.<br>**Mute** : Always use the muting on condition when power is turned on.<br>**1 – 98 (–79dB – 18dB)** : The volume is adjusted to the set level. |
| **Mute Level**<br>Set the amount of attenuation when muting is on. | **Full** : The sound is muted entirely.<br>**–40dB** : The sound is attenuated by 40 dB down.<br>**–20dB** : The sound is attenuated by 20 dB down. |

# Audyssey

**Default settings are underlined.**

Set Audyssey MultEQ® XT, Audyssey Dynamic EQ® and Audyssey Dynamic Volume®. These can be selected after Audyssey® Setup has been performed. For additional information on Audyssey technology, please see page 168.

**NOTE**

- If you have not performed Auto Setup, or if you change the speaker settings after performing Auto Setup, you may not be able to select Dynamic EQ/Dynamic Volume.
  In this case, either perform Audyssey® Setup over again or perform "Restore..." (☞page 35) to return to the settings after Audyssey® Setup was run.
- When HD Audio for which the sampling frequency exceeds 96 kHz is played back, the "Audyssey" cannot be set.

| Setting items | Setting details |
|---|---|
| **MultEQ®XT**<br>MultEQ® XT compensates for both time and frequency characteristics of the listening area based on Audyssey® Setup measurement results. Selection is done from three types of compensation curves. We recommend the "Audyssey" setting. MultEQ® XT is the prerequisite function for Dynamic EQ and Dynamic Volume. | **Audyssey** : Optimize the frequency response of all speakers.<br>**Audyssey Byp. L/R** : Optimize frequency response of speakers except front L and R speakers.<br>**Audyssey Flat** : Optimize frequency response of all speakers to flat response.<br>**Graphic EQ** : Apply frequency response set with "Graphic EQ" (☞page 118).<br>**Off** : Turn "MultEQ® XT" equalizer off.<br><br>✏<br>• "Audyssey", "Audyssey Byp. L/R" and "Audyssey Flat" can be selected after Audyssey® Setup has been performed. "Audyssey" is automatically selected after performing Audyssey® Setup. When "Audyssey", "Audyssey Byp. L/R" or "Audyssey Flat" is selected, ʌυdyssey illuminates.<br>• After running Audyssey® Setup, if the Speaker Configuration, Distance, Channel Level, and Crossover Frequency have changed without increasing the number of speakers measured, only ʌυdyssey illuminates.<br><br>**NOTE**<br>When using headphones, "MultEQ® XT" is automatically set to "Off". |

✏

"MultEQ® XT", "Dynamic EQ" and "Dynamic Volume" settings are stored for each input source.

| Setting items | Setting details |
|---|---|
| **Dynamic EQ**<br>Solve the problem of deteriorating sound quality as volume is decreased by taking into account human perception and room acoustics. Works with MultEQ® XT. | **On** : Use Dynamic EQ.<br>**Off** : Do not use Dynamic EQ.<br><br>🖝<br>ʌUDYSSEY is displayed when set to "On".<br><br>**NOTE**<br>When the menu "Dynamic EQ" setting is "On", it is not possible to do "Tone Control" (☞page 115) adjustment. |
| **Reference Level Offset**<br>Audyssey Dynamic EQ® is referenced to the standard film mix level. It makes adjustments to maintain the reference response and surround envelopment when the volume is turned down from 0 dB. However, film reference level is not always used in music or other non-film content. Dynamic EQ Reference Level Offset provides three offsets from the film level reference (5 dB, 10 dB, and 15 dB) that can be selected when the mix level of the content is not within the standard. Recommended setting levels are shown at right. | **0dB** (Film Ref) : This is the default setting and should be used when listening to movies.<br>**5dB** : Select this setting for content that has a very wide dynamic range, such as classical music.<br>**10dB** : Select this setting for jazz or other music that has a wider dynamic range. This setting should also be selected for TV content as that is usually mixed at 10 dB below film reference.<br>**15dB** : Select this setting for pop/rock music or other program material that is mixed at very high listening levels and has a compressed dynamic range.<br><br>🖝 Setting is enabled when "Dynamic EQ" is "On" (☞page 117). |
| **Dynamic Volume**<br>Solve the problem of large variations in volume level between TV, movies and other content (between quiet passages and loud passages, etc.) by automatically adjusting to the user's preferred volume setting. | **Heavy** : Most adjustment to softest and loudest sounds.<br>**Medium** : Medium adjustment to loudest and softest sound.<br>**Light** : Least adjustment to loudest and softest sounds.<br>**Off** : Do not use "Dynamic Volume".<br><br>🖝<br>• ʌUDYSSEY is displayed when set to "Heavy", "Medium" or "Light".<br>• If "Dynamic Volume" is set to "Yes" in "Audyssey® Setup" (☞page 33), the setting is automatically changed to "Medium". |

| Setting items | Setting details |
|---|---|
| **Audyssey DSX®**<br>Provides more immersive surround sound by adding the new channels. | **Heights** : Turn on A-DSX processing for height expansion.<br>**Wides** : Turn on A-DSX processing for wide expansion.<br>**Off** : Do not set Audyssey DSX®.<br><br>**NOTE**<br>"Audyssey DSX®" cannot be configured if the HD Audio source being played includes Front height and Front wide channels. In this case, the respective channels are played back using the input signals. |
| **Stage Height**<br>Adjust sound stage height when using front height speakers. | **–10 – +10 (0)**<br><br>🖝<br>• "Audyssey DSX®" can be set when you are using front height speakers or front wide speakers.<br>• "Audyssey DSX®" is only valid when using a center speaker.<br>• "Audyssey DSX®" is valid when surround mode is DOLBY listening mode or DTS listening mode other than PLIIz Height.<br><br>**About Audyssey Dynamic Surround Expansion (A-DSX)**<br>Audyssey DSX® is a scalable system that adds new speakers to improve surround impression.<br>Starting with a 5.1 system Audyssey DSX® first adds Wide channels for the biggest impact on envelopment. Research in human hearing has proven that information from the Wide channels is much more critical in the presentation of a realistic soundstage than the Back Surround channels found in traditional 7.1 systems. Audyssey DSX® then creates a pair of Height channels to reproduce the next most important acoustical and perceptual cues. In addition to these new Wide and Height channels, Audyssey DSX® applies Surround Envelopment Processing to enhance the blend between the front and surround channels. |
| **Stage Width**<br>Adjust sound stage width when using front wide speakers. | **–10 – +10 (0)** |

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# Graphic EQ
<u>**Default settings are underlined.**</u>

Use the graphic equalizer to adjust the tone of each speaker.
"Graphic EQ" can be set when "MultEQ® XT" setting (☞page 116) is "Graphic EQ".

| Setting items | Setting details |
|---|---|
| **Speaker Selection**<br>Select whether to adjust tones for individual speakers or for all speakers. | **All** : Adjust the tone of all speakers together.<br>**Left/Right** : Adjust the tone of left and right speakers together.<br>**Each** : Adjust the tone of each speaker. |
| **Adjust EQ**<br>Adjust tones for each frequency band. Adjust the speaker selected in "Speaker Selection". | ① Select the speaker.<br>② Select the adjustment frequency band.<br>**63Hz / 125Hz / 250Hz / 500Hz / 1kHz / 2kHz / 4kHz / 8kHz / 16kHz**<br> • Select the speakers you want to adjust when "Left/Right" or "Each" is selected.<br>③ Adjust the level.<br>**–20.0dB – +6.0dB** (**0.0dB**) |
| **Curve Copy**<br>Copy "Audyssey Flat" (☞page 116) curve from MultEQ® XT. | **Yes** : Copy.<br>**No** : Do not copy.<br><br>✎<br> • "Curve Copy" is displayed after Audyssey® Setup has been performed.<br> • When you select "Curve Copy" and press **ENTER**, the "Copy "Audyssey Flat"?" prompt is displayed. Select either "Yes" or "No", and press **ENTER**. |
| **Set Defaults**<br>The "Graphic EQ" settings are returned to the default settings. | **Yes** : Reset to the defaults.<br>**No** : Do not reset to the defaults.<br><br>✎ When you select "Set Defaults" and press **ENTER**, the "Reset to the default values?" prompt is displayed. Select either "Yes" or "No", and press **ENTER**. |

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# Video

**Make video-related settings.**

## Menu operation

**1** Press **MAIN** to switch the zone mode to the MAIN ZONE.
**MAIN** lights.

**2** Press **SETUP**.
The menu is displayed on the TV screen.

**3** Use △▽ to select the menu to be set or operated.

**4** Press **ENTER** or ▷ to enter the setting.

• To return to the previous item, press ◁ or **BACK**.
• Exiting the Menu, press **SETUP** while the menu is displayed.
 The menu display disappears.

### Items that can be set with the "Video" procedure

**Picture Adjust** (☞page 120)

**HDMI Setup** (☞page 120)

**Output Settings** (☞page 121)

**Component Video Out** (☞page 122)

**Volume Display** (☞page 123)

**Info Display** (☞page 123)

**Audio Display** (☞page 123)

**TV Format** (☞page 123)

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# Picture Adjust

**Default settings are underlined.**

Picture quality can be adjusted.
We recommend leaving the settings unchanged from the default settings. First adjust the display image quality on your TV, and use this menu only when you want to make fine adjustments.

- This item can be set when the input source is **CBL/SAT** **DVD** **Blu-ray** **GAME** **AUX1** **AUX2** **MEDIA PLAYER** **CD** **NETWORK** **TV AUDIO** .
- With input sources other than the ones above, this item can be set when "Video Select" is selected. In this case, the original input source settings are called out.
- Can be set when the "Video Conversion" setting (℃page 121) is "On".
- "Blu-ray", "GAME", "AUX2", "TV AUDIO" or "CD" can be set when "HDMI" or "COMP" (℃page 126) has been assigned.

| Setting items | Setting details |
|---|---|
| **Contrast**<br>Adjust picture contrast. | **–6 – +6 (0)** |
| **Brightness**<br>Adjust picture brightness. | **0 – +12** |
| **Saturation**<br>Adjust picture chroma level (saturation). | **–6 – +6 (0)** |
| **Hue**<br>Adjust green and red balance. | **–6 – +6 (0)** |
| **Noise Reduction**<br>Reduce overall video noise. | **Off** / **Low** / **Medium** / **High** |
| **Enhancer**<br>Emphasize picture contours. | **0 – +12** |

✎

- "Picture Adjust" can not be set when component video and video signals are output.
- "Picture Adjust" can not be set when 4K signals are input.

# HDMI Setup

**Default settings are underlined.**

Make settings for HDMI video/audio output.

| Setting items | Setting details |
|---|---|
| **Auto Lip Sync**<br>Make automatic compensation for timing shift in audio and video output. | **On** : Compensated.<br>**Off** : Not compensated. |
| **HDMI Audio Out**<br>Select HDMI audio output device. | **AVR** : Play back through speakers connected to the unit.<br>**TV** : Play back through TV connected to the unit.<br><br>✎<br>• The audio signal input from the HDMI input connector can be output as an output signal from the HDMI output connector by setting the HDMI audio output destination to TV.<br>Audio signals input via the Analog/Coaxial/Optical input connectors cannot be output from the HDMI output connector.<br>• When the HDMI control function is activated, priority is given to the TV audio setting (℃page 95 "HDMI control function"). |
| **Video Output**<br>Make settings for HDMI monitor output. | **Auto (Dual)** : The presence of a TV connected to the HDMI MONITOR 1 or HDMI MONITOR 2 connector is detected automatically, and that TV connection is used.<br>**Monitor 1** : A TV connected to the HDMI MONITOR 1 connector is always used. Video is not output from the TV connected to the HDMI MONITOR 2 connector.<br>**Monitor 2** : A TV connected to the HDMI MONITOR 2 connector is always used. Video is not output from the TV connected to the HDMI MONITOR 1 connector.<br><br>✎<br>• If both the HDMI MONITOR 1 and HDMI MONITOR 2 connectors are connected and "Resolution" (℃page 122) is set to "Auto", the signals are output with a resolution compatible with both TV.<br>• With "Resolution" (℃page 122) not set to "Auto", check whether the TV you are using is compatible with the resolution under "Video" – "Monitor 1" or "Monitor 2" (℃page 142).<br><br>**NOTE**<br>Depending on the monitor you have connected, the display may not be correct when you set to "Auto (Dual)". In such a case, set to either "Monitor 1" or "Monitor 2". |

| Setting items | Setting details |
|---|---|
| **HDMI Control**<br>You can link operations with devices connected to HDMI and compatible with HDMI Control. | **On** : Use HDMI control function.<br>**Off** : Do not use HDMI control function.<br><br>✐<br>• When a device that is not compatible with the HDMI control function is connected, set "HDMI Control" to "Off".<br>• Please consult the operating instructions for each connected device to check the settings.<br>• Refer to "HDMI control function" (☞page 95) for more information about the HDMI control function.<br><br>**NOTE**<br>• **When "HDMI Control" is set to "On", it consumes more standby power.** If you are not using this unit for an extended period, it is recommended that you unplug the power cord from the power outlet.<br>• The HDMI control function controls operations of a TV that is compatible with the HDMI control function. Make sure that the TV and HDMI are connected when you perform HDMI control.<br>• If the "HDMI Control" settings have been changed, always reset the power to connected devices after the change. |
| **Standby Source**<br>Sets the HDMI input source to put into standby when the power is on. | **Last** : Enters standby with the previously used input source.<br>**CBL/SAT** / **DVD** / **Blu-ray** / **GAME** / **MEDIA PLAYER** / **AUX1** / **AUX2** / **CD** : Enters standby with each of the input sources assigned to each input terminal.<br><br>✐ "Standby Source" can be set when "HDMI Control" is set to "On". |
| **Control Monitor**<br>Set the HDMI MONITOR terminal to output the HDMI control signal. | **Monitor 1** : Output from the HDMI MONITOR 1 connector.<br>**Monitor 2** : Output from the HDMI MONITOR 2 connector.<br><br>✐<br>• "Control Monitor" can be set when "HDMI Control" is set to "On".<br>• ARC function works only with the terminal selected by "Control Monitor". |
| **Power Off Control**<br>Links the power standby of this unit to external devices. | **All** : If power to a connected TV is turned off independently of the input source, power to this unit is automatically set to standby.<br>**Video** : If power to a connected TV is turned off when the input source is Blu-ray / DVD / TV AUDIO / CBL/SAT / GAME / MEDIA PLAYER / AUX1 / AUX2, power to this unit is automatically set to standby.<br>**Off** : This unit does not link with power to a TV.<br><br>✐ "Power Off Control" can be set when "HDMI Control" is set to "On". |

# Output Settings

**Default settings are underlined.**

Makes screen-related settings.

∗ "Blu-ray", "GAME", "AUX2", "TV AUDIO" or "CD" can be set when "HDMI" or "COMP" (☞page 126) has been assigned.

✐

"Output Settings" can not be set when 4K signals are input.

| Setting items | Setting details |
|---|---|
| **Video Mode**<br>Make settings for video processing.<br><br>CBL/SAT  DVD<br>Blu-ray ∗ GAME ∗ AUX1<br>AUX2 ∗ MEDIA PLAYER<br>CD ∗ TV AUDIO ∗ | **Auto** : Process video automatically based on the HDMI content information.<br>**Game** : Always process video for game content.<br>**Movie** : Always process video for movie content.<br><br>✐<br>• If "Video Mode" is set to "Auto", the mode is switched according to the input contents.<br>• If a source is played in both MAIN ZONE (audio and video) and ZONE2 (audio only) modes in the same room, audio in MAIN ZONE and ZONE2 modes may sound out of synchronization, but this is not malfunction. In this case, setting to "Game" mode may improve audio synchronization. |
| **Video Conversion**<br>The input video signal is converted automatically in conjunction with the connected TV (☞page 6 "Converting input video signals for output (Video conversion function)").<br><br>CBL/SAT  DVD<br>Blu-ray ∗ GAME ∗ AUX1<br>AUX2 ∗ MEDIA PLAYER<br>CD ∗ TV AUDIO ∗ | **On** : The input video signal is converted.<br>**Off** : The input video signal is not converted.<br><br>✐<br>• When a non-standard video signal from a game machine or some other source is input, the video conversion function might not operate. In this case set "Video Conversion" to "Off".<br>• When "Video Conversion" is set to "Off", the video conversion function does not work. In this case, connect this unit and TV with the same type of cable. |

| Setting items | Setting details |
|---|---|
| **i/p Scaler**<br>Convert the input source resolution to the resolution set.<br><br>CBL/SAT DVD<br>Blu-ray * GAME * AUX1<br>AUX2 * MEDIA PLAYER<br>CD * NETWORK<br>TV AUDIO * | **Analog** : Use i/p scaler function for analog video signal.<br>**Analog & HDMI** : Use i/p scaler function for analog and HDMI video signal.<br>**HDMI** : Use i/p scaler function for HDMI video signal.<br>**Off** : Do not use i/p scaler function.<br><br>✎<br>• "Analog & HDMI" can be set for input sources for which an HDMI input connector is assigned.<br>• Which items can be set depend on the input source assigned to each input connector.<br>• This function is not effective when the input signal is "x.v.Color", 3D, sYCC 601 color, Adobe RGB color, Adobe YCC 601 color or computer resolution. |
| **Resolution**<br>Set the output resolution. You can set "Resolution" separately for HDMI output of the analog video input and HDMI input.<br><br>CBL/SAT DVD<br>Blu-ray * GAME * AUX1<br>AUX2 * MEDIA PLAYER<br>CD * NETWORK<br>TV AUDIO * | **Auto** : The number of pixels the TV connected to the HDMI MONITOR OUT connector supports is detected automatically and the appropriate output resolution is set.<br>**480p/576p** / **1080i** / **720p** / **1080p** / **1080p:24Hz** / **4K** : Set the output resolution.<br><br>✎<br>• This item can be set when "i/p Scaler" is set to anything other than "Off".<br>• When "i/p Scaler" is set to "Analog & HDMI", the resolution of both the analog video input signal and HDMI input signal can be set.<br>• To watch 1080p/24Hz pictures, use a TV that supports 1080p/24Hz video signals.<br>• When set to "1080p:24Hz", you can enjoy film-like pictures for film sources (in 24 Hz). For video sources and mixed sources, we recommend setting the resolution to "1080p".<br>• It is not possible to convert a 50 Hz signal into 1080p/24Hz. It is output at a resolution of 1080p/50Hz. |

| Setting items | Setting details |
|---|---|
| **Progressive Mode**<br>Set an appropriate progressive conversion mode for the source video signal.<br><br>CBL/SAT DVD<br>Blu-ray * GAME * AUX1<br>AUX2 * MEDIA PLAYER<br>CD * TV AUDIO * | **Auto** : The video signal is automatically detected and the appropriate mode is set.<br>**Video** : Select mode suitable for video playback.<br>**Video and Film** : Select mode suitable for video and 30-frame film material playback.<br><br>✎ This item can be set when "i/p Scaler" is set to anything other than "Off". |
| **Aspect Ratio**<br>Set the aspect ratio for the video signals output to the HDMI.<br><br>CBL/SAT DVD<br>Blu-ray * GAME * AUX1<br>AUX2 * MEDIA PLAYER<br>CD * NETWORK<br>TV AUDIO * | **16:9** : Output at 16:9 aspect ratio.<br>**4:3** : Output at 4:3 aspect ratio.<br><br>✎ "Aspect Ratio" can be set when "i/p Scaler" is set to anything other than "Off". |

∗ "Blu-ray", "GAME", "AUX2", "TV AUDIO" or "CD" can be set when "HDMI" or "COMP" (☞page 126) has been assigned.

# Component Video Out
**Default settings are underlined.**

Sets the zone to which the component video output connector is assigned.

| Setting items | Setting details |
|---|---|
| **Component** | **MAIN ZONE** : Assigns the component video output connector to MAIN ZONE.<br>**ZONE2** : Assigns the component video output connector to ZONE2. |

## Volume Display

**Default settings are underlined.**

Sets where to display the master volume level.

| Setting items | Setting details |
|---|---|
| Volume | **Bottom** : Display at the bottom.<br>**Top** : Display at the top.<br>**Off** : Turn display off.<br><br>✎ When the master volume display is hard to see when superimposed on movie subtitles, set to "Top". |

## Info Display

**Default settings are underlined.**

Displays status of operation temporarily when the sound mode is changed, or input source is switched. You can set whether or not to show each of these status displays.

| Setting items | Setting details |
|---|---|
| On-screen Info | **On** : Turn display on.<br>**Off** : Turn display off. |

## Audio Display

**Default settings are underlined.**

Sets how long each menu is displayed when the input source is "NETWORK", "iPod/USB", or "FM".

| Setting items | Setting details |
|---|---|
| Audio | **Always** : Show display continuously.<br>**30s** : Show display for 30 seconds after operation.<br>**10s** : Show display for 10 seconds after operation.<br>**Off** : Turn display off. |

## TV Format

**Default settings are underlined.**

Set the video signal format to be output for the TV you are using.

| Setting items | Setting details |
|---|---|
| Format | **NTSC** : Select NTSC output.<br>**PAL** : Select PAL output.<br><br>✎<br>"Format" can also be set by the following procedure. However, the menu screen is not displayed.<br>**1.** Press and hold the main unit's ◁ ▷ for at least 3 seconds.<br>"V.Format : <PAL>" appears on the display.<br>**2.** Use the main unit's ◁ ▷ and set the video signal format.<br>**3.** Press the main unit's **ENTER** to complete the setting.<br><br>**NOTE**<br>When a format other than the video format of the connected TV is set, the picture will not be displayed properly. |

# Inputs

Perform settings related to input source playback.
• You do not have to change the settings to use the unit. Make settings when needed.

## Menu operation

**1** Press **MAIN** to switch the zone mode to the MAIN ZONE.
**MAIN** lights.

**2** Press **SETUP**.
The menu is displayed on the TV screen.

**3** Use △▽ to select the menu to be set or operated.

**4** Press **ENTER** or ▷ to enter the setting.

• To return to the previous item, press ◁ or **BACK**.
• Exiting the Menu, press **SETUP** while the menu is displayed.
  The menu display disappears.

## Important information

### ❑ About the display of input sources
In this section, the configurable input sources for each item are shown as follows.

| CBL/SAT | DVD | Blu-ray | GAME | AUX1 | AUX2 | MEDIA PLAYER | iPod/USB | CD | FM |
| NETWORK | TV AUDIO | PHONO |

**NOTE**

Input sources that have been set to "Hide" at "Hide Sources" (☞page 127) cannot be selected.

## Items that can be set with the "Inputs" procedure

**Input Assign** (☞page 125)

**Source Rename** (☞page 126)

**Hide Sources** (☞page 127)

**Source Level** (☞page 127)

**Input Select** (☞page 127)

**Video Source** (☞page 128)

# Input Assign

This unit has certain input sources such as "CBL/SAT" assigned to audio and video connectors by default.
By making the default connections, you can simply press an input source select button to play back audio or video from the connected device with ease.
When making connections other than the default settings, you must change settings in this section.

## Examples of "Input Assign" menu screen displays

This screen appears when the "Inputs" – "each input source" – "Input Assign" menu is selected. Use the "Input Assign" menu to change the ② HDMI input connectors, ③ Digital input connectors, and ④ component input connectors that are assigned to the ① input sources in default settings.

```
 ○  Inputs/Input Assign          [1/2]

 Set Defaults        HDMI      DIGITAL      COMP
 CBL/SAT            HDMI1     COAX1       COMP1
 DVD               HDMI2     COAX2       COMP2
 Blu-ray           HDMI3     D.LINK      None
 GAME              HDMI4     None        None
 MEDIA PLAYER      HDMI5     None        None
 TV AUDIO          None      OPT1        None
 AUX2              HDMI7     None        None
 ▼ Changes HDMI input assignments
```
① ② ③ ④
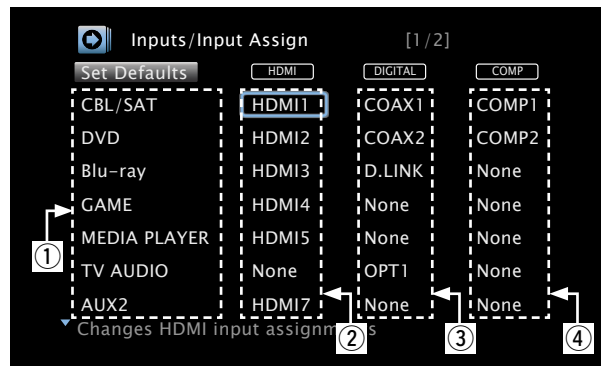
## Input assignments menu operations

**1** Use △▽◁▷ to move the cursor to the item you want to set, and then press **ENTER.**

**2** Use ◁▷ to select the input connector to be assigned.

**3** Press **ENTER** to register the setting.

| Setting items | Setting details |
|---|---|
| **HDMI**<br>Set this to change the HDMI input connectors assigned to the input sources.<br><br>CBL/SAT  DVD<br>Blu-ray  GAME<br>AUX1  AUX2<br>MEDIA PLAYER  CD<br>TV AUDIO | **HDMI 1** / **HDMI 2** / **HDMI 3** / **HDMI 4** / **HDMI 5** / **HDMI 6** / **HDMI 7** : Assign an HDMI input connector to the selected input source.<br>**None** : Do not assign an HDMI input connector to the selected input source.<br><br>• At time of purchase, the settings of the different input sources are as shown below. |

| Input source | CBL/SAT | DVD | Blu-ray | GAME | AUX1 |
|---|---|---|---|---|---|
| Default setting | HDMI 1 | HDMI 2 | HDMI 3 | HDMI 4 | HDMI 7 |

| Input source | AUX2 | MEDIA PLAYER | CD | TV AUDIO |
|---|---|---|---|---|
| Default setting | HDMI 6 | HDMI 5 | None | None |

• An input source to which an HDMI input connector cannot be assigned is displayed as "– – –".
• To play the video signal assigned at "HDMI" combined with the audio signal assigned at "Input Assign" – "DIGITAL", select "Digital" at "Input Mode" (☞page 127).
• The audio signals input from the analog and digital connectors are not output to the monitor.
• When "HDMI Control" (☞page 121) is set to "On", HDMI input connector cannot be assigned to "TV AUDIO".

| Setting items | Setting details |
|---|---|
| **DIGITAL**<br>Set this to change the digital input connectors assigned to the input sources.<br><br>CBL/SAT   DVD<br>Blu-ray   GAME<br>AUX1   AUX2<br>MEDIA PLAYER   CD<br>TV AUDIO | **COAX 1** / **COAX 2** / **OPT 1** / **OPT 2** : Assign a digital input connector to the selected input source.<br>**D.LINK** : Assign the digital input connector when the Denon Link connection is established to a player compatible with the Denon Link HD function (☞page 12).<br>**None** : Do not assign a digital input connector to the selected input source.<br><br>• At time of purchase, the settings of the different input sources are as shown below. |

| Input source | CBL/SAT | DVD | Blu-ray | GAME | AUX1 |
|---|---|---|---|---|---|
| Default setting | COAX 1 | COAX 2 | D.LINK | None | None |

| Input source | AUX2 | MEDIA PLAYER | CD | TV AUDIO |
|---|---|---|---|---|
| Default setting | None | None | OPT 2 | OPT 1 |

| Setting items | Setting details |
|---|---|
| **COMP**<br>(Component video)<br>Set this to change the component video input connectors assigned to the input sources.<br><br>CBL/SAT   DVD<br>Blu-ray   GAME<br>AUX1   AUX2<br>MEDIA PLAYER   CD<br>TV AUDIO | **COMP 1** / **COMP 2** : Assign the component video input connector to the selected input source.<br>**None** : Do not assign a component video input connector to the selected input source.<br><br>• At time of purchase, the settings of the different input sources are as shown below. |

| Input source | CBL/SAT | DVD | Blu-ray | GAME | AUX1 |
|---|---|---|---|---|---|
| Default setting | COMP 1 | COMP 2 | None | None | None |

| Input source | AUX2 | MEDIA PLAYER | CD | TV AUDIO |
|---|---|---|---|---|
| Default setting | None | None | None | None |
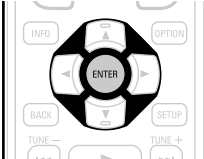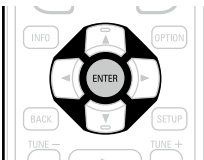
An input source to which an component video input connector cannot be assigned is displayed as "– – –".

| Setting items | Setting details |
|---|---|
| **Set Defaults**<br>The input source name is returned to the default setting. | **Yes** : Reset to the defaults.<br>**No** : Do not reset to the defaults.<br><br>If you select "Set Defaults" and press **ENTER**, the message "Reset to the default values?" is displayed. Select "Yes" or "No", and then press **ENTER**. |

## Source Rename

Change the display name of the selected input source.
This is convenient when the input source name of your device and the input source name of this unit are different. You can change the name to suit your needs. When the renaming is completed, the name is displayed on this unit's display and on the menu screen.

| Setting details |
|---|
| **CBL/SAT** / **DVD** / **Blu-ray** / **GAME** / **AUX1** / **AUX2** / **MEDIA PLAYER** / **CD** / **TV AUDIO** / **PHONO** :<br>Change the display name of the selected input source.<br>• Up to 12 characters can be input.<br>• For character input, see page 110.<br>**Set Defaults** : The input source name is returned to the default setting.<br>• **Yes** : Reset to the defaults.<br>• **No** : Do not reset to the defaults.<br><br>If you select "Set Defaults" and press **ENTER**, the message "Reset to the default values?" is displayed. Select "Yes" or "No", and then press **ENTER**. |

# Hide Sources

**Default settings are underlined.**

Remove from the display input sources that are not used.

**Setting details**

**CBL/SAT** / **DVD** / **Blu-ray** / **GAME** / **AUX1** / **AUX2** / **MEDIA PLAYER** / **iPod/USB** / **CD** / **FM** / **NETWORK** / **TV AUDIO** / **PHONO** : Select input source that is not used.

• **Show** : Use this source.
• **Hide** : Do not use this source.

**NOTE**

• Input sources being used in the MAIN ZONE, ZONE2 or ZONE3 cannot be selected.
• Input sources being used in the various zones cannot be deleted.
• Input sources set to "Hide" cannot be selected using the input source select button.

# Source Level

**Default settings are underlined.**

• This function corrects the playback level of the selected input source's audio input.
• Make this setting if there are differences in the input volume levels between the different sources.

**Setting details**

**–12dB – +12dB (0dB)**

✏ The analog input level and digital input level can be adjusted independently for input sources for which "DIGITAL" is assigned at "Input Assign" (☞page 125).

# Input Select

**Default settings are underlined.**

Set the audio input mode and decode mode of each input source.
The input modes available for selection may vary depending on the input source.

| Setting items | Setting details |
|---|---|
| **Input Mode** <br> Set the audio input modes for the different input sources. <br> It is normally recommended to set the audio input mode to "Auto". | **Auto** : Automatically detect input signal and perform playback. <br> **HDMI** : Play only signals from HDMI input. <br> **Digital** : Play only signals from digital input. <br> **Analog** : Play only signals from analog input. <br><br> ✏ <br> • "Digital" can be set for input sources for which "DIGITAL" is assigned at "Input Assign" (☞page 126). <br> • If the input source is set to "CBL/SAT", "DVD", "Blu-ray", "AUX1", "AUX2" or "CD", it can be set to "Analog". <br> • When digital signals are properly input, the DIG. indicator lights on the display. If the DIG. indicator does not light, check "Input Assign" (☞page 126) and the connections. <br> • If "HDMI Control" is set to "On" and a TV compatible with the ARC is connected via the HDMI MONITOR connectors, the input mode whose input source is "TV AUDIO" is fixed to ARC. |
| **Decode Mode** <br> Set the audio decode mode for input source. <br><br> CBL/SAT   DVD <br> Blu-ray   GAME <br> AUX1   AUX2 <br> MEDIA PLAYER   CD <br> TV AUDIO | **Auto** : Detect type of digital input signal and decode and play automatically. <br> **PCM** : Decode and play only PCM input signals. <br> **DTS** : Decode and play only DTS input signals. <br><br> ✏ <br> • This item can be set for input sources for which "DIGITAL" is assigned at "Input Assign" (☞page 125). <br> • Normally set this mode to "Auto". Set "PCM" and "DTS" when inputting the corresponding input signal. |

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# Video Source

**Default settings are underlined.**

Video of another input source is played back combined with the playing audio.

**Setting details**

**Default** : Play the picture and sound of the input source.
**Blu-ray** / **DVD** / **TV AUDIO** / **CBL/SAT** / **GAME** / **MEDIA PLAYER** / **AUX1** / **AUX2** / **CD** : Select video input source to view. The video of the selected input source is played along with the audio currently being played. This can be set for individual input sources.

 🖉 "Blu-ray", "GAME", "AUX2", "TV AUDIO" or "CD" can be selected only when "COMP" is assigned to the input source.

**NOTE**

• It is not possible to select HDMI input signals.
• Input sources for which "Hide" is selected at "Hide Sources" (<span>page 127</span>) cannot be selected.

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# Speakers

**Set when changing Audyssey® Setup settings.**
- **If you change the speaker settings after performing Audyssey® Setup, it will not be possible to set Audyssey MultEQ® XT, Audyssey Dynamic EQ® and Audyssey Dynamic Volume®** (☞**page 116**).
- **Can be used without changing the settings. Please set if necessary.**

## Menu operation

**1** Press **MAIN** to switch the zone mode to the MAIN ZONE.
**MAIN** lights.

**2** Press **SETUP**.
The menu is displayed on the TV screen.

**3** Use △▽ to select the menu to be set or operated.

**4** Press **ENTER** or ▷ to enter the setting.

- To return to the previous item, press ◁ or **BACK**.
- Exiting the Menu, press **SETUP** while the menu is displayed.
  The menu display disappears.

## Items that can be set with the "Speakers" procedure

**Audyssey® Setup** (☞page 29, 92)

**Manual Setup** (☞page 130)

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# Manual Setup

**Default settings are underlined.**

Perform when setting the speakers manually or when changing settings made in Audyssey® Setup.
• If you change the speaker settings after performing Audyssey® Setup, it will not be possible to select Audyssey MultEQ® XT, Audyssey Dynamic EQ® and Audyssey Dynamic Volume® (vpage 116).
• "Manual Setup" can be used without changing the settings. Please set if necessary.
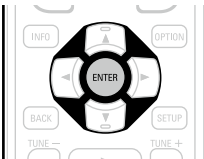
| Setting items | Setting details |
|---|---|
| **Amp Assign**<br>Select power amplifier usage method to match your speaker system. | **Assign Mode** : Set the assignment mode.<br>• **Main Only** : Setting for 7.1-channel playback using surround back, front height, or front wide speakers.<br>• **ZONE2** : Setting to assign the unit's built-in power amplifier for ZONE2 and output the audio in stereo.<br>• **ZONE3** : Setting to assign the unit's built-in power amplifier for ZONE3 and output the audio in stereo.<br>• **Z2/Z3(M)** : Setting to assign the unit's built-in power amplifier for ZONE2 and ZONE3 and output the audio in monaural.<br>• **Bi-AMP** : Setting to use the front speakers via the bi-amp connection.<br>• **Front B** : Setting to use the second set of front speakers for playback. You can switch the front speakers A and B to be used for playback in accordance with the 2-channel playback or multi-channel playback mode. When you select this Front B setting, also perform the "Front Speaker Setup" (vpage 133) procedure.<br>• **2CH** : Setting to use the other front speakers for playback when you do 2-channel playback in DIRECT or STEREO mode.<br><br>**NOTE**<br>The HDMI audio signals for the input source selected in ZONE2 are not output from the ZONE2 speakers. |

| Setting items | Setting details |
|---|---|
| **Speaker Config.**<br>Indicate speaker presence and select speaker size categories based on bass reproduction capability.<br><br>**NOTE**<br>Do not use the outward shape of the speaker to determine selection of a "Large" or "Small" speaker. Instead, use the frequencies set in "Crossovers" (vpage 133) as the standard for determining bass reproduction capability. | **Front** : Set the front speaker size.<br>• **Large** : Use a large speaker that can adequately play back low frequencies.<br>• **Small** : Use a small speaker that has inadequate playback capacity for low frequencies.<br><br>🖉<br>• When "Subwoofer" is set to "No", "Front" is automatically set to "Large".<br>• When "Front" is set to "Small", "Center", "Surround", "Surr. Back", "Front Height" and "Front Wide" can not be set to "Large".<br><br>**Center** : Set the presence and size of the center speaker.<br>• **Large** : Use a large speaker that can adequately play back low frequencies.<br>• **Small** : Use a small speaker that has inadequate playback capacity for low frequencies.<br>• **None** : Select when a center speaker is not connected.<br><br>🖉 "Large" is not displayed when "Front" is set to "Small".<br><br>**Subwoofer** : Set the presence of a subwoofer.<br>• **Yes** : Use a subwoofer.<br>• **No** : Select when a subwoofer is not connected.<br><br>🖉 When "Front" is set to "Small", "Subwoofer" is automatically set to "Yes".<br><br>**Surround** : Set the presence and size of the surround speakers.<br>• **Large** : Use a large speaker that can adequately play back low frequencies.<br>• **Small** : Use a small speaker that has inadequate playback capacity for low frequencies.<br>• **None** : Select when the surround speakers are not connected.<br><br>🖉<br>• When "Surround" is set to "Large", "Surr. Back", "Front Height" and "Front Wide" can be set to "Large".<br>• When "Surround" is set to "None", "Surr. Back", "Front Height" and "Front Wide" are automatically set to "None". |

| Setting items | Setting details |
|---|---|
| **Speaker Config.** (Continued) | **Surr. Back** : Set the presence, size and number of surround back speakers.<br>• **Large** : Use a large speaker that can adequately play back low frequencies.<br>• **Small** : Use a small speaker that has inadequate playback capacity for low frequencies.<br>• **None** : Select when the surround back speakers are not connected.<br><br>• **2spkrs** : Use two surround back speakers.<br>• **1spkr** : Use only one surround back speaker. When you select this setting, connect the surround back speaker to the left (L) channel.<br><br>**NOTE**<br>When "Assign Mode" setting (☞page 130) is "Main Only", you can make the "Surr. Back" setting.<br><br>**Front Height** : Set the presence and size of the front height speakers.<br>• **Large** : Use a large speaker that can adequately play back low frequencies.<br>• **Small** : Use a small speaker that has inadequate playback capacity for low frequencies.<br>• **None** : Select when the front height speakers are not connected.<br><br>**NOTE**<br>When "Assign Mode" setting (☞page 130) is "Main Only", you can make the "Front Height" setting.<br><br>**Front Wide** : Set the presence and size of the front wide speakers.<br>• **Large** : Use a large speaker that can adequately play back low frequencies.<br>• **Small** : Use a small speaker that has inadequate playback capacity for low frequencies.<br>• **None** : Select when the front height speakers are not connected.<br><br>**NOTE**<br>When "Assign Mode" setting (☞page 130) is "Main Only", you can make the "Front Wide" setting. |

| Setting items | Setting details |
|---|---|
| **Bass** Set subwoofer and LFE signal range playback. | **Subwoofer Mode** : Select low range signals to be reproduced by subwoofer.<br>• **LFE** : The low range signal of the channel set to "Small" speaker size is added to the LFE signal output from the subwoofer.<br>• **LFE+Main** : The low range signal of all channels is added to the LFE signal output from the subwoofer.<br><br>🔧<br>• "Subwoofer Mode" can be set when "Speaker Config." – "Subwoofer" (☞page 130) is set to "Yes".<br>• Play music or a movie source and select the mode offering the strongest bass.<br>• Select "LFE+Main" if you want the bass signals to always be produced from the subwoofer.<br><br>**NOTE**<br>If "Front" and "Center" for "Speaker Config." are set to "Large", and "Subwoofer Mode" is set to "LFE", no sound may be output from the subwoofers, depending on the input signal or selected sound mode.<br><br>**LPF for LFE** : Set LFE signal playback range. Set this when you want to change the playback frequency of the subwoofer.<br>• **80Hz / 90Hz / 100Hz / 110Hz / 120Hz / 150Hz / 200Hz / 250Hz** |

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| Setting items | Setting details |
|---|---|
| **Distances**<br>Set distance from listening position to speakers. Measure beforehand the distance from the listening position to each speaker. | **Unit** : Set the unit of distance.<br>• **Meters** / **Feet**<br>**Step** : Set the minimum variable width of the distance.<br>• **0.1m** / **0.01m**<br>• **1ft** / **0.1ft**<br>**Set Defaults** : The "Distances" settings are returned to the default settings.<br>• **Yes** : Reset to the defaults.<br>• **No** : Do not reset to the defaults.<br><br>✎ When you select "Set Defaults" and press **ENTER**, the "Reset to the default values?" prompt is displayed. Select either "Yes" or "No", and press **ENTER**.<br><br>**Front L** / **Front R** / **F. Height L** / **F. Height R** / **Center** / **Subwoofer** / **Surround L** / **Surround R** / **Surr. Back L**∗ / **Surr. Back R**∗ / **F. Wide L** / **F. Wide R** : Select speaker for distance setting.<br>∗ When the "Speaker Config." – "Surr. Back" setting (☞page 131) is set to "1spkr", "Surr. Back" is displayed.<br><br>• **0.00m** – **18.00m** / **0.0ft** – **60.0ft** : Set the distance.<br><br>✎<br>• The speakers that can be selected differ depending on the "Amp Assign" (☞page 130) and "Speaker Config." (☞page 130) settings.<br>• Default settings :<br>  Front L / Front R / F. Height L / F. Height R / Center / Subwoofer / Front Wide L / Front Wide R : 3.60 m (12.0 ft)<br>  Surround L / Surround R / Surr. Back L / Surr. Back R : 3.00 m (10.0 ft)<br>• Set the difference in the distance between the speakers to less than 6.00 m (20.0 ft).<br><br>**NOTE**<br>Speakers set to "None" in "Speaker Config." (☞page 130) are not displayed. |

| Setting items | Setting details |
|---|---|
| **Levels**<br>Set the volume of the test tone to be the same when it is output from each speaker. | **Test Tone Start** : Output test tone.<br>• **Front L** / **F. Height L** / **Center** / **F. Height R** / **Front R** / **F. Wide R** / **Surround R** / **Surr. Back R**∗ / **Surr. Back L**∗ / **Surround L** / **F. Wide L** / **Subwoofer** : Select speaker to output test tone.<br>∗ When the "Speaker Config." – "Surr. Back" setting (☞page 131) is set to "1spkr", "Surr. Back" is displayed.<br><br>• **–12.0dB – +12.0dB (0.0dB)** : Adjust the volume.<br><br>✎<br>When "Levels" is adjusted, the adjusted values are set for all the sound modes.<br><br>**NOTE**<br>• Speakers set to "None" in the "Speaker Config." (☞page 130) settings are not displayed.<br>• When a headphones jack is inserted in the PHONES jack of this unit, the "Levels" is not displayed.<br><br>**Set Defaults** : The "Levels" settings are returned to the default settings.<br>• **Yes** : Reset to the defaults.<br>• **No** : Do not reset to the defaults.<br><br>✎ When you select "Set Defaults" and press **ENTER**, the "Reset to the default values?" prompt is displayed. Select either "Yes" or "No", and press **ENTER**. |

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| Setting items | Setting details |
|---|---|
| **Crossovers**<br>Set the maximum frequency of the bass signal output from each channel to the subwoofer. Set the Crossover Frequency to suit the bass reproduction capability of the speaker being used. | **Crossover** : Set the crossover frequency.<br>•**40Hz / 60Hz / 80Hz / 90Hz / 100Hz / 110Hz / 120Hz / 150Hz / 200Hz / 250Hz / Individual** : Set the crossover frequency for all speakers. See the speaker manual for information concerning speaker crossover frequency.<br><br>The following settings can be set when the "Crossover" setting is set to "Individual".<br>•**Front / Center / Surround / Surr. Back / Front Height / Front Wide** : Select speaker for setting of crossover frequency.<br>•**40Hz / 60Hz / 80Hz / 90Hz / 100Hz / 110Hz / 120Hz / 150Hz / 200Hz / 250Hz** : Set the crossover frequency.<br><br>*<br>•"Crossovers" can be set when the "Bass" – "Subwoofer Mode" (page 131) setting is "LFE+Main", or when you have a speaker that is set to "Small".<br>•Always set the crossover frequency to "80Hz". When using small speakers, however, we recommend setting the crossover frequency to a higher frequency.<br>•For speakers set to "Small", sound below the crossover frequency is cut from the sound output. The cut bass sound is output from the subwoofer or front speakers.<br>•The speakers that can be set when "Individual" is selected differ depending on to the "Subwoofer Mode" setting (page 131).<br> •When "LFE" is selected, speakers set to "Small" at "Speaker Config." can be set. If the speakers are set to "Large", "Full Band" is displayed and the setting cannot be made.<br> •If set to "LFE+Main", this setting can be made regardless of the speaker size. |

| Setting items | Setting details |
|---|---|
| **Front Speaker Setup**<br>Set the front speakers to use for every sound mode.<br><br>**NOTE**<br>This can be set when "Assign Mode" is set to "Front B" (page 130). | **2ch Playback** : The front speakers used in direct play (2 channel), stereo play and pure direct play (2 channel) are set in advance.<br>•**A** : Front speaker A is used.<br>•**B** : Front speaker B is used.<br>•**A+B** : Both front speakers A and B are used.<br><br>**Multi ch Playback** : The front speakers used in play modes other than direct play (2 channel), stereo play and pure direct play (2 channel) are set in advance.<br>•**A** : Front speaker A is used.<br>•**B** : Front speaker B is used.<br>•**A+B** : Both front speakers A and B are used. |
| **2ch Playback**<br>Select the method for setting the speakers used in the 2-channel direct and stereo playback modes. | **Setting** : Select the method for setting the speakers used in the 2-channel direct and stereo playback modes.<br>•**Auto** : The settings at "Speakers" (page 129) are applied.<br>•**Manual** : Make separate settings for 2-channel. Make the following settings:<br>**Front** : Set the front speaker size.<br>•**Large** : Use a large speaker that can adequately play back low frequencies.<br>•**Small** : Use a small speaker that has inadequate playback capacity for low frequencies.<br>* If "Speaker Config." – "Subwoofer" (page 130) is set to "No", the setting is automatically set to "Large".<br>**Subwoofer** : Set the presence of a subwoofer.<br>•**Yes** : Use a subwoofer.<br>•**No** : Select when a subwoofer is not connected.<br>* If "Speaker Config." – "Subwoofer" (page 130) is set to "No", the setting is automatically set to "No". If the "Front" setting is "Small", the setting is automatically "Yes". |

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| Setting items | Setting details |
|---|---|
| **2ch Playback** (Continued) | **SW Mode** : Select low range signals to be reproduced by subwoofer. <br>• **LFE** : When the "2ch Playback" – "Front" setting is set to "Large", the LFE signal alone is output from the subwoofer. Also, when the "2ch Playback" – "Front" setting is set to "Small", the front channel low range signal is added to the LFE signal output from the subwoofer. <br>• **LFE+Main** : The front channel low range signal is added to the LFE signal output from the subwoofer. <br><br>✎ This setting can be set made "2ch Playback" – "Subwoofer" is set to "Yes". |
| | **Crossover** : Set the maximum frequency of the bass signal output from each channel to the subwoofer. <br>• **40Hz / 60Hz / 80Hz / 90Hz / 100Hz / 110Hz / 120Hz / 150Hz / 200Hz / 250Hz** <br><br>✎ <br>• This setting can be set made "2ch Playback" – "Subwoofer" is set to "Yes". <br>• If the "2ch Playback" – "Front" setting is "Large" and the "SW Mode" setting is "LFE", "Full Band" is displayed and the setting cannot be made. |
| | **Distance FL** / **Distance FR** : Select speaker for distance setting. <br>• **0.00m – 18.00m (3.60m) / 0.0ft – 60.0ft (12.0ft)** : Set distance from main listening point to speaker. <br><br>✎ Set the difference in the distance between the speakers to less than 6.00 m (20.0 ft). |
| | **Level FL** / **Level FR** : Select speaker for level adjustment. <br>• **–12.0dB – +12.0dB (0dB)** : Adjust the level of each channel. |

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# Network

**To use this unit by connecting it to a home network (LAN), you must configure network settings.**
**If you set up your home network (LAN) via DHCP, set "DHCP" to "On" (use the default setting). This allows this unit to use your home network (LAN).**
**If you assign an IP address for each device, you must use the "IP Address" setting to assign an IP address to this unit and enter the information about your home network (LAN) such as the gateway address and subnet mask.**

## Menu operation

**1** Press **MAIN** to switch the zone mode to the MAIN ZONE.
**MAIN** lights.

**2** Press **SETUP**.
The menu is displayed on the TV screen.

**3** Use △▽ to select the menu to be set or operated.

**4** Press **ENTER** or ▷ to enter the setting.

- To return to the previous item, press ◁ or **BACK**.
- Exiting the Menu, press **SETUP** while the menu is displayed.
  The menu display disappears.
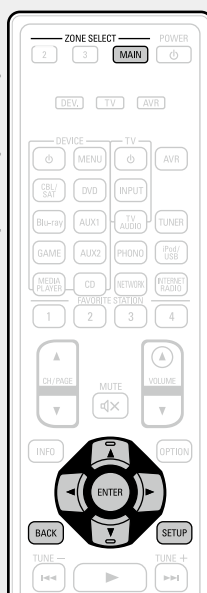
## Items that can be set with the "Network" procedure

**Information** (vpage 136)

**IP Control** (vpage 136)

**Friendly Name** (vpage 136)

**Settings** (vpage 137)

**Last.fm Display** (vpage 138)

**Maintenance Mode** (vpage 138)

# Information

Display network information.

**Setting details**

**Friendly Name / DHCP=On or Off / IP Address / MAC Address**

✎ MAC Address is required to make a vTuner account.

# IP Control

**Default settings are underlined.**

Set the network function on/off during standby.

**Setting details**

**Off In Standby** : Suspend network function during standby.
**Always On** : Network is on during standby. Main unit operable with a network compatible controller.

✎ Set to "Always On" when using the web control function.

**NOTE**

**When "IP Control" is set to "Always On", it consumes more standby power.**

# Friendly Name

The Friendly Name is the name of this unit displayed on the network. You can change the Friendly Name according to your preferences.

| Setting items | Setting details |
|---|---|
| **Edit Name** <br> Edits Friendly Name. | • The default Friendly Name on first use is "DENON AVR-3313". <br> • Up to 63 characters can be input. <br> • For character input, see page 110. |
| **Set Defaults** <br> Restores Friendly Name, which you had changed, to the default setting. | **Yes** : Reset to the defaults. <br> **No** : Do not reset to the defaults. <br><br> ✎ When you select "Set Defaults" and press **ENTER**, the "Reset to the default values?" prompt is displayed. Select either "Yes" or "No", and press **ENTER**. |
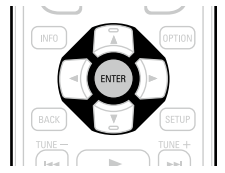
# Settings

**Default settings are underlined.**

Make settings for wired LAN.
Only set "Settings" when connecting to a network without a DHCP function.

## Setting details



Selects how configure the network settings

Configure the network settings manually
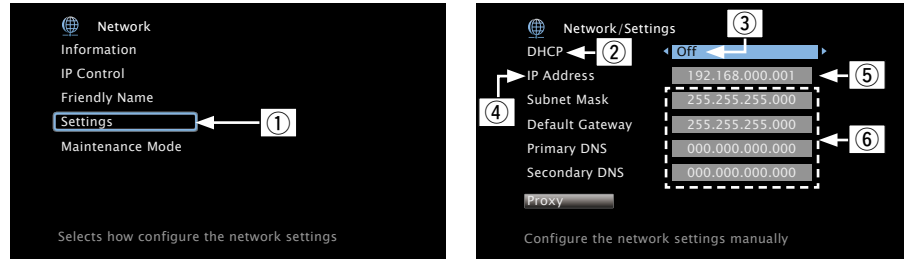
A On the menu, select "Network" – "Settings" and press **ENTER**.
B Use △▽ to select "DHCP", then press **ENTER**.
C Use ◁ ▷ to select "Off", then press **ENTER**.
D Use △▽ to select "IP Address", then press **ENTER**.
- **IP Address** : Set the IP address within the ranges shown below.
  The Network Audio function cannot be used if other IP addresses are set.
  CLASS A: 10.0.0.1 – 10.255.255.254
  CLASS B: 172.16.0.1 – 172.31.255.254
  CLASS C: 192.168.0.1 – 192.168.255.254
E Use △▽◁ ▷ to input the address and press **ENTER**.
F Use △▽ to select setting item, then press **ENTER**.
- **Subnet Mask** : When connecting an xDSL modem or terminal adapter directly to this unit, input the subnet mask indicated in the documentation supplied by your provider. Normally input 255.255.255.0.
- **Default Gateway** : When connected to a gateway (router), input its IP address.
- **Primary DNS, Secondary DNS** : If there is only one DNS address indicated in the documentation supplied by your provider, input it at "Primary DNS". If two or more DNS are provided by your provider, enter both Pimary DNS and Secondary DNS.
G Press ◁ or **BACK**.
The display returns to the original screen.
- When connecting to the network via a Proxy server, select "Proxy" and press **ENTER** ( "Proxy settings").
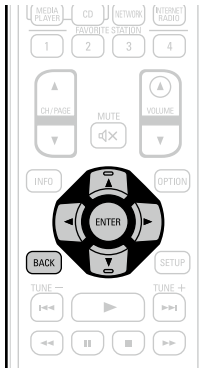


## Setting details

🖉

- If you are using a broadband router (DHCP function), there is no need to make the settings at "IP Address" and "Proxy", since the DHCP function is set to "On" in this unit's default settings.
- If this unit is being used connected to a network without the DHCP function, the network settings must be made. In this case, some knowledge of networks is required. For details, consult a network administrator.
- If you cannot connect to the Internet, recheck the connections and settings ().
- If you do not understand about Internet connection, contact your ISP (Internet Service Provider) or the store from which you purchased your computer.
- When you want to cancel the setting during IP address input, press ◁ or **BACK**.

**Setting details**

❏ **Proxy settings**

Make this setting when connecting to the Internet via a proxy server.

Make the proxy settings only when you connect to the Internet via a proxy server that is on your internal network or provided by your provider, etc.

| ⊕ Network | |
| --- | --- |
| Information | |
| IP Control | |
| Friendly Name | |
| Settings | ← ① |
| Maintenance Mode | |
| Selects how configure the network settings | |

| ⊕ Network / Settings | |
| --- | --- |
| DHCP | Off |
| IP Address | 192.168.000.001 |
| Subnet Mask | 255.255.255.000 |
| Default Gateway | 255.255.255.000 |
| Primary DNS | 000.000.000.000 |
| Secondary DNS | 000.000.000.000 |
| Proxy | ← ② |
| Enter a proxy server address | |

| ⊕ Network / Settings | ④ |
| --- | --- |
| Proxy | ◀ On ▶ |
| ⑥ → Proxy | Address |
| ⑤ → Address | 000.000.000.000 ← ⑦ |
| Port | 00000 ← ⑧ |
| Proxy server is used | |

① On the menu, select "Network" – "Settings" and press **ENTER**.

② Use △▽ to select "Proxy" and press **ENTER**.

③ Press **ENTER** again.

④ Use ◁ ▷ to select "On" and press **ENTER**.

⑤ Press ▽ to select "Proxy", then press **ENTER**.

⑥ Use ◁ ▷ to select "Address" or "Name", and then press **ENTER**.
**Address** : Select when inputting by address.
**Name** : Select when inputting by domain name.

⑦ Press ▽ to select "Address" or "Name", then press **ENTER**.
When "Address" is selected in step ⑥ : Use △▽◁ ▷ to enter the proxy server address, and press **ENTER**.
When "Name" is selected in step ⑥ : Use the software keyboard (☞page 110) to enter the domain name, and select **OK**.
• For character input, see page 110.

⑧ Press ▽ to select "Port", then press **ENTER**. Use △▽◁ ▷ to input the proxy server port number and press **ENTER**.
Setup is complete.

⑨ Press ◁ or **BACK**.
The display returns to the original screen.
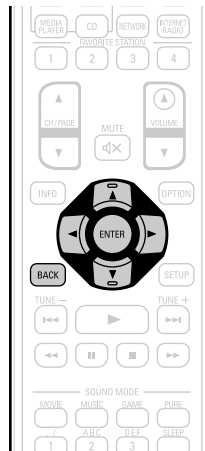
# Last.fm Display

**Default settings are underlined.**

Set whether or not to display Last.fm item on the menu.

**Setting details**

**Show** : Display Last.fm item on the menu.
**Hide** : Do not display Last.fm item on the menu.

# Maintenance Mode

Use when receiving maintenance from a DENON service engineer or custom installer.

**Setting details**

**NOTE**

Only use this function if so instructed by a DENON serviceperson or installer.

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# General

**Make various other settings.**

## Menu operation

**1** Press **MAIN** to switch the zone mode to the MAIN ZONE.
**MAIN** lights.

**2** Press **SETUP**.
The menu is displayed on the TV screen.

**3** Use $\triangle\triangledown$ to select the menu to be set or operated.

**4** Press **ENTER** or $\triangleright$ to enter the setting.

• To return to the previous item, press $\triangleleft$ or **BACK**.
• Exiting the Menu, press **SETUP** while the menu is displayed.
The menu display disappears.

## Items that can be set with the "General" procedure

**Language** (page 140)

**ZONE2 Setup / ZONE3 Setup** (page 140)

**Zone Rename** (page 141)

**Quick Select Names** (page 141)

**Trigger Out 1 / Trigger Out 2** (page 141)

**Auto Standby** (page 141)

**Front Display** (page 141)

**Information** (page 142)

**Firmware** (page 143)

**Setup Lock** (page 144)

## Language

**Default settings are underlined.**

Set the language for display on the menu screen.

| Setting details |
| --- |
| **English** / **Deutsch** / **Français** / **Italiano** / **Español** / **Nederlands** / **Svenska** |

✎

"Language" can also be set by the following procedure. However, the menu screen is not displayed. Following the display content to make the setting.
**1.** Press and hold the main unit's ◁ ▷ for at least 3 seconds.
   "V. Format : <PAL>" appears on the display.
**2.** Press the main unit's ▽ and set "Lange. : <ENGLISH>".
**3.** Use the main unit's ◁ ▷ and set the language.
**4.** Press the main unit's **ENTER** to complete the setting.

## ZONE2 Setup / ZONE3 Setup

**Default settings are underlined.**

Set the audio to play back with multi-zone (ZONE2, ZONE3).
• "ZONE2 Setup" is displayed when "ZONE2" is selected with "Assign Mode" (℺page 130).
• "ZONE3 Setup" is displayed when "ZONE3" is selected with "Assign Mode" (℺page 130).

**NOTE**

When HDMI ZONE2 function is used, these settings are not available.

| Setting items | Setting details |
| --- | --- |
| **Bass**<br>Adjust bass tones. | **–10dB – +10dB (0dB)** |
| **Treble**<br>Adjust treble tones. | **–10dB – +10dB (0dB)** |
| **High Pass Filter**<br>Make settings for cutting the low range to reduce distortion in the bass. | **On** : The low range is attenuated.<br>**Off** : The low range is not attenuated. |
| **Lch Level**<br>Adjust the left channel output level. | **–12dB – +12dB (0dB)** |

| Setting items | Setting details |
| --- | --- |
| **Rch Level**<br>Adjust the right channel output level. | **–12dB – +12dB (0dB)** |
| **Channel**<br>Set the signal output from multi-zone. | **Stereo** : Select stereo output.<br>**Mono** : Select monaural output.<br><br>✎ When "Assign Mode" (℺page 130) is set to "Z2/Z3(M)", the "Channel" setting is automatically set to "Mono". |
| **Volume Level**<br>Set the volume output level. | **Variable** : Volume adjustment is enabled by main unit and remote control unit.<br>**–40dB (40)** : Fix volume at –40 dB. Set when adjusting volume by external amplifier.<br>**0dB (80)** : Fix volume at 0 dB. Set when adjusting volume by external amplifier.<br><br>✎ When "Assign Mode" (℺page 130) is set to "ZONE2", "ZONE3" or "Z2/Z3(M)", the "Volume Level" setting is automatically set to "Variable". |
| **Volume Limit**<br>Make a setting for maximum volume. | **Off** : Do not set a maximum volume.<br>**60 (–20dB)** / **70 (–10dB)** / **80 (0dB)**<br><br>✎ This is displayed from –79 dB to 18 dB when "Scale" (℺page 116) is set to "–79.5dB – 18.0dB". |
| **Power On Volume**<br>Define the volume setting that is active when the power is turned on. | **Last** : Use the memorized setting from the last session.<br>**Mute** : Always mute when power is turned on.<br>**1 – 98 (–79dB – 18dB)** : The volume is adjusted to the set level.<br><br>✎ This is displayed from –79 dB to 18 dB when "Scale" (℺page 116) is set to "–79.5dB – 18.0dB". |
| **Mute Level**<br>Set the amount of attenuation when muting is on. | **Full** : The sound is muted entirely.<br>**–40dB** : The sound is attenuated by 40 dB down.<br>**–20dB** : The sound is attenuated by 20 dB down. |

## Zone Rename

Change the display title of each zone to one you prefer.

**Setting details**

**MAIN ZONE** / **ZONE2** / **ZONE3**
- Up to 10 characters can be input.
- For character input, see page 110.

## Quick Select Names

Change the "Quick Select" display title to one you prefer.

**Setting details**

**Quick Select 1** / **Quick Select 2** / **Quick Select 3** / **Quick Select 4**
- Up to 16 characters can be input.
- For character input, see page 110.

## Trigger Out 1 / Trigger Out 2

Selects when to activate trigger out.
For details about how to connect the TRIGGER OUT jacks, see "TRIGGER OUT jacks" (☞page 26).

**Setting details**

❏ **When setting for zone (MAIN ZONE / ZONE2 / ZONE3)**
Trigger out is activated through linkage to the power of the zone set to "On".

❏ **When setting for input source**
Activate trigger out when the input source set to "On" is selected.

✐ Active for the zone set to "On" with "When setting for zone".

❏ **When setting for HDMI monitor**
Activate trigger out when the HDMI monitor set to "On" is selected.

✐ Activate trigger out when the HDMI monitor set to "On" is selected. Active when the "MAIN ZONE" set to "On" with "When setting for zone" is selected, and when the input source set to "On" with "When setting for input source" is selected.

- **On** : Activate trigger on this mode.
- **– – –** : Do not activate trigger on this mode.

## Auto Standby                    **Default settings are underlined.**

When you do not perform any operation on this unit with no audio or video input for a specified time, this unit automatically enters the standby mode. Before it enters the standby mode, "Auto Standby" is displayed on the display of this unit and the menu screen.

**Setting details**

**30min** : The unit goes into standby after 30 minutes.
**60min** : The unit goes into standby after 60 minutes.
**Off** : The unit does not go into standby automatically.
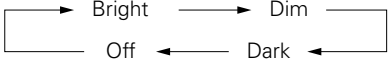
## Front Display                    **Default settings are underlined.**

Makes settings related to the display on this unit.

| Setting items | Setting details |
|---|---|
| **Dimmer** Adjust the display brightness of this unit. | **Bright** : Normal display brightness. **Dim** : Reduced display brightness. **Dark** : Very low display brightness. **Off** : Turns the display off. ✐ Buttons on the main unit can be used for operations. Each time **DIMMER** is pressed, the setting is changed as shown below. Bright → Dim → Dark → Off → (Bright) **NOTE** When "Dimmer" is set to "Off", the display turns off and appears as if there is no electricity. |
| **Channel Indicators** Sets whether to use the input signal display or output signal display for the channel indication on the display. | **Output** : Uses the output signal display for the channel indication on the display. **Input** : Uses the input signal display for the channel indication on the display. |

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# Information

Show information about receiver settings, input signals, etc.

**NOTE**

This item is not compatible with the HDMI ZONE2 function.

| Items | Setting details |
|---|---|
| **Audio**<br>Show information about audio input signals. | **Sound Mode** : The currently set surround mode.<br>**Input Signal** : The input signal type.<br>**Format** : The number of input signal channels (presence of front, surround, LFE).<br>**Sample Rate** : The input signal's sampling frequency.<br>**Offset** : The dialogue normalization correction value.<br>**Flag** : This is displayed when inputting signals including a surround back channel. "MATRIX" is displayed with Dolby Digital EX and DTS-ES Matrix signals, "DISCRETE" with DTS-ES Discrete signals.<br><br>**Dialogue normalization function**<br><br>This function is automatically activated when playing Dolby Digital sources.<br>It automatically corrects the standard signal level for individual program sources.<br>The correction value can be checked using the **STATUS** on the main unit.<br><br>Dial.Norm<br>Offset − 4dB<br><br>The figure is the corrected value. This cannot be changed. |
| **Video**<br>Show information about HDMI input/output signals and monitor. | **Signal**<br>• **Resolution** / **Color Space** / **Pixel Depth** |
| | **Monitor 1** / **Monitor 2**<br>• **Interface** / **Resolutions** |
| **ZONE**<br>Show information about current settings. | **MAIN ZONE** : This item shows information about settings for MAIN ZONE. The information displayed differs according to the input source.<br>• **ZONE Name** / **Select Source** / **Name** / **Sound Mode** / **Input Mode** / **Decode Mode** / **HDMI** / **Digital** / **Component** / **Rec Select** / **Video Select** / **Video Mode** / **Content Type** / **Video Conversion** / **i/p Scaler** / **Resolution** / **Progressive Mode** / **Aspect Ratio** etc. |
| | **ZONE2/3** : This item shows information about settings for ZONE2 or ZONE3.<br>• **ZONE Name** / **Power** / **Select Source** / **Volume Level** |
| **Firmware** | **Version** : Displays information for the current firmware. |

Press **INFO** to display current source name, volume, sound mode name, and other information at the bottom of the screen.

## Examples of screen display

• Status display screen

When the input source is switched.　　　When the volume is adjusted.



AUTO　DTS　　VIDEO CBL/SAT
SOURCE DVD
SOUND DTS SURROUND

50.0
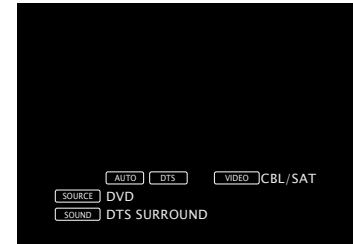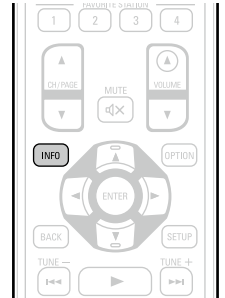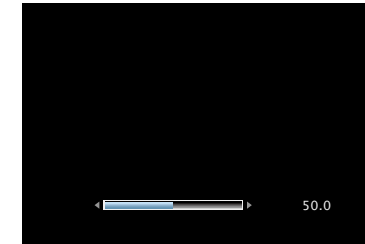
Status display: The operating status appears briefly on the screen when the input source is switched or the volume is changed.

**NOTE**
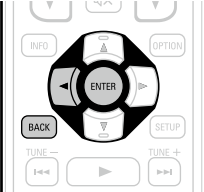
The status display screen cannot be displayed at a computer's resolution (e.g. VGA) or while certain 3D video contents is being played.

# Firmware

**Default settings are underlined.**

Set whether or not to check for firmware update, update the firmware, and display update and upgrade notifications.

| Setting items | Setting details |
|---|---|
| **Update**<br>Update the firmware of the receiver.<br><br>**NOTE**<br>In cases where it is not possible to connect to the network after doing a firmware update, connect to the network again using "Network" (☞page 135). | **Check for Update** : Check for firmware updates. You can also check approximately how long it will take to complete an update.<br>**Update Start** : Execute the update process.<br>When updating starts, the power indicator becomes red and the menu screen is shut down. The amount of update time which has elapsed is displayed.<br>When updating is complete, the power indicator becomes green and normal status is resumed.<br><br>• If updating fails, the set automatically retries, but if updating is still not possible, one of the messages shown below is displayed. If the display reads as shown below, check the settings and network environment, then update again.<br><br>| Display | Description |<br>\|---\|---\|<br>\| **Updating fail** \| Updating failed. \|<br>\| **Login failed** \| Failure to log into server. \|<br>\| **Server is busy** \| Server is busy. Wait a while then try again. \|<br>\| **Connection fail** \| Failure in connecting to server. \|<br>\| **Download fail** \| Downloading of the firmware has failed. \| |

| Setting items | Setting details |
|---|---|
| **Notifications**<br>Displays a notification message on this unit's menu screen when the latest firmware is released with "Update".<br>Display a notification message on this unit's menu screen when downloadable firmware is released with "Add New Feature". | **Update** : The notification message is displayed for about 20 seconds when the power is turned on. Connect to broadband Internet (☞page 27) when using this function.<br>• **On** : Display update message.<br>• **Off** : Do not display update message.<br><br>✐<br>• When you press **ENTER** during display of the notification message, the "Check for Update" screen is displayed (Refer to page 143 for more information on "Update").<br>• Press ◁ or **BACK** to erase the notification message. |
| | **Upgrade** : The notification message is displayed for about 20 seconds when the power is turned on. Connect to broadband Internet (☞page 27) when using this function.<br>• **On** : Display upgrade message.<br>• **Off** : Do not display upgrade message.<br><br>✐<br>• When you press **ENTER** during display of the notification message, the "Add New Feature" screen is displayed (Refer to page 144 for more information on "Add New Feature").<br>• Press ◁ or **BACK** to erase the notification message. |

| Setting items | Setting details |
|---|---|
| **Add New Feature**<br>Display new features that can be downloaded to this unit and perform an upgrade.<br><br>**NOTE**<br>In cases where it is not possible to connect to the network after adding a new function, connect to the network again using "Network" (☞page 135). | **Upgrade Package** : Display the items to be upgraded.<br>**Upgrade Status** : Display a list of the additional functions provided by the upgrade.<br>**Upgrade** : Execute the upgrade process.<br>When the upgrade starts, the power indicator becomes red and the menu screen is shut down. During the upgrade, the amount of upgrade time which has elapsed is displayed.<br>When upgrading is complete, the power indicator becomes green and normal status is resumed.<br>• If the upgrade is not successful, an error message identical to those in "Firmware Update" will appear on the display. Check the settings and network environment and then perform the upgrade again.<br><br>✎ See the DENON website for details about upgrades.<br>When the procedure is complete, "Registered" is displayed in this menu and upgrades can be carried out. If the procedure has not been carried out, "Not Registered" is displayed.<br>The ID number shown on this screen is needed when carrying out the procedure.<br>The ID number can also be displayed by pressing and holding the main unit's △ and **INFO** for at least 3 seconds. |

---

**Notes concerning use of "Update" and "Add New Feature"**

• In order to use these functions, you must have the correct system requirements and settings for a broadband Internet connection (☞page 27).
• Do not turn off the power until updating or upgrading is completed.
• Even with a broadband connection to the Internet, approximately 1 hour is required for the updating/upgrading procedure to be completed.
• Once updating/upgrade starts, normal operations on this unit cannot be performed until updating/upgrading is completed. Furthermore, there may be cases where backup data is reset for the parameters, etc., set on this unit.
• If the update or upgrade fails, press and hold the ⏻ on the main unit for more than 5 seconds, or remove and re-insert the power cord. "Update retry" appears on the display and update restarts from the point at which update failed. If the error continues despite this, check the network environment.

✎

• Information regarding the "Update" function and "Add New Feature" will be announced on the DENON web site each time related plans are defined.
• When usable new firmware is released with "Update" or "Add New Feature", a notification message is displayed on the menu screen. When you do not want to be notified, set "Notifications" – "Update" (☞page 143) and "Notifications" – "Upgrade" (☞page 143) to "Off".

## Setup Lock

**Default settings are underlined.**

Protect settings from inadvertent change.

| Setting items | Setting details |
|---|---|
| **Lock** | **On** : Turn protection on.<br>**Off** : Turn protection off.<br><br>✎ When canceling the setting, set "Lock" to "Off".<br><br>**NOTE**<br>When "Lock" is set to "On", the settings listed below can no longer be changed. Also, "Setup Locked!" is displayed if you attempt to operate related settings.<br>• Setup menu operations |

# Operating external devices with the remote control

By registering preset codes for external devices to the provided remote control, you can operate your TV and playback devices (such as Blu-ray Disc player and DVD player) with the remote control.

## Registering preset codes

When preset codes are registered in the included remote control unit, it can then be used to operate any devices you have, such as DVD players or TVs made by different manufacturers.

### ❏ Buttons used for operating the devices

① **DEVICE** ⏻
   For switching power of each device on or off.

② △▽◁ ▷, **ENTER**, **BACK**
   For menu operation of each device.

③ **MENU**, **INFO**, **OPTION, SETUP**
   For displaying the menu of each device.

④ I◀◀, ▶▶I, ▶, ◀◀, ▶▶, II, ■

⑤ Number button (**0 – 9**, **+10**)

⑥ **CH/PAGE ▲▼**

⑦ **TV** ⏻, **TV INPUT**
   For operating a TV
   This button is enabled in any mode.

For details on operation with the remote control unit, see pages 41, 44, 55, 58, 62, 66, 68, 149, 150

**NOTE**

The preset code cannot be registered to **TUNER**, **PHONO**, **iPod/USB**, **NETWORK** and **INTERNET RADIO**.

## Registering preset codes

**1** Press and hold down the input source select buttons for the appliance to control, and press **SETUP** until the operation mode indicator blinks.

**NOTE**

Note that the group numbers that can be registered are predefined for each input source select button.

**2** Press the 5-digit code for the appliance using **0 – 9** (code table at the end of this manual).
When the procedure is successful, the operation mode indicator blinks twice.

**NOTE**

If the operation mode indicator did not blink twice, then repeat steps 1 and 2 and try entering the same code again.

Some manufacturers use more than one type of remote control code. Preset codes to change the number and verify correct operation.

**NOTE**

Depending on the model and year of manufacture of your device, some buttons may not operate.

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## ❏ Remote control operation modes

By default, the input source select buttons on the remote control perform only the input source select operation. To operate an external device with this remote control, set the preset code in "List of preset codes" (vpage 180) for the device you want to register to each input source select button.
For how to set preset codes to buttons, see "Registering preset codes" (vpage 145).

If you register preset codes on this remote control, the input source select buttons on the remote control can perform the following two functions.

① The function to switch input sources on this unit (AVR operation mode)
② The function to make this remote control switch to the mode in which you can operate the device registered to the button (External device operation mode)

## ❏ How to switch operation modes



Press the input source select button.

① AVR operation mode*1 → ② External device operation mode*2

Press **AVR**.

**Input source select buttons**
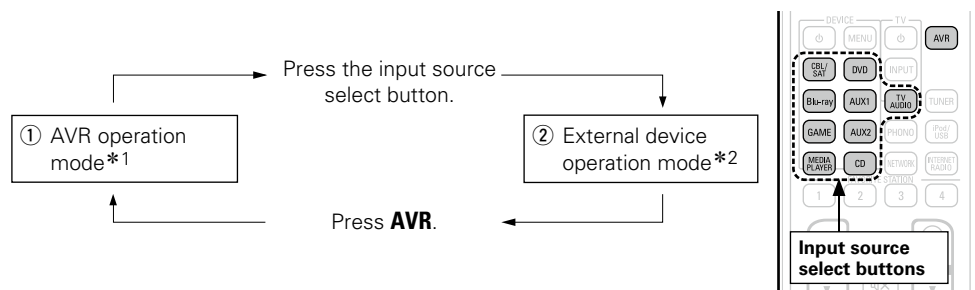
*1 The mode in which you can operate this unit.
*2 If you press one of these buttons , the input source on this unit changes and the remote control switches to the mode in which you can operate the external device registered to that button.

## ❏ Devices that can be registered to input source select buttons on the remote control

The types of devices that can be registered to each input source select button on this remote control are assigned as shown in the following table. Register the preset code under the desired device name in "List of preset codes" (vpage 180).

### Preset codes that can be registered to CBL/SAT, Blu-ray, GAME, MEDIA PLAYER, DVD, AUX1, AUX2, and CD buttons

| Button | Default preset mode | Available change to preset | |
|---|---|---|---|
| CBL/SAT | AVR | CBL/SAT group | |
| Blu-ray | | VCR/PVR group<br>BD/DVD group | |
| GAME | | CBL/SAT group<br>VCR/PVR group<br>BD/DVD group<br>Audio group | |
| MEDIA PLAYER | | CBL/SAT group | |
| DVD | | VCR/PVR group<br>BD/DVD group | |
| AUX1 | | CBL/SAT group<br>VCR/PVR group<br>BD/DVD group<br>Audio group | |
| AUX2 | | CBL/SAT group<br>VCR/PVR group<br>BD/DVD group<br>Audio group | |
| CD | | Audio group | |
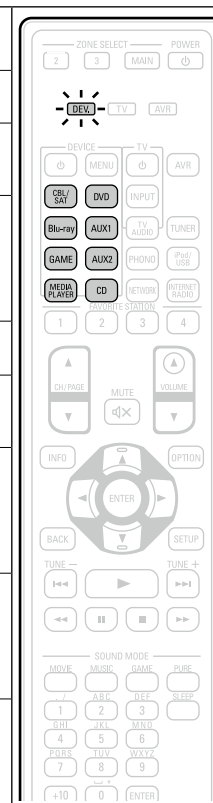
• When you press an input source select button that has a preset code registered to it, the "DEV." indication on the remote control lights.
• To unregister the device from a button and reset to the default setting, set the AVR code "73347" to the button.

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## Preset codes that can be registered to TV buttons

| Button | Default preset mode | Available change to preset | |
|--------|---------------------|----------------------------|---|
| TV AUDIO | AVR | TV group |  |
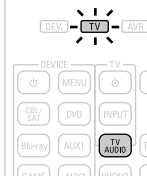
• When you press TV AUDIO that has a preset code registered to it, the "TV" indication on the remote control lights.

🖉

To perform menu operations of this unit, press **AVR** to have the remote control enter the AVR operation mode.

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# Operating external devices

**Press the input source select button ().**
• The operation mode of the remote control unit is switched as shown in the table.
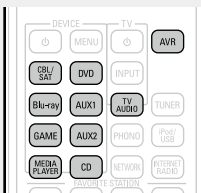
| Input source select button | Input source of this unit | Operation mode |
| --- | --- | --- |
| | | **Devices controllable with the remote control unit** |
| AVR | – | This unit (AVR-operation) *2 |
| CBL/SAT *1 | CBL/SAT | Device registered on the **CBL/SAT** button |
| Blu-ray *1 | Blu-ray | Device registered on the **Blu-ray** button |
| GAME *1 | GAME | Device registered on the **GAME** button |
| MEDIA PLAYER *1 | MEDIA PLAYER | Device registered on the **MEDIA PLAYER** button |
| DVD *1 | DVD | Device registered on the **DVD** button |
| AUX1 *1 | AUX1 | Device registered on the **AUX1** button |
| AUX2 *1 | AUX2 | Device registered on the **AUX2** button |
| CD *1 | CD | Device registered on the **CD** button |
| TV AUDIO *1 | TV AUDIO | Device registered on the **TV AUDIO** button |

*1 If a preset code is registered for this button, the remote control unit of this unit can control another devices.
*2 With this mode, you can operate: FM, iPod, USB memory device, turn table and network function.

---

When the **FAVORITE STATION** is pressed, the AVR-operation mode starts automatically.

**NOTE**

If the mode of the remote control unit is set to other than AVR-operation mode, press **AVR** to switch the remote control unit to the AVR-operation mode to perform the following operations:
• For menu operation by pressing **SETUP**.

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# Operating devices

The supplied remote control unit can control a device other than this unit.

**1** **Press the input source select button to which the preset code for the device you want to operate has been registered (**☞**page 148).**

**2** **Operate the device.**

- For details, refer to the device's operating instructions.

## ❏ CBL/SAT group (0❋❋❋❋) (Set top box for satellite (SAT) / cable (CBL) / Media player / IP TV) operation

| Operation buttons | Function |
|---|---|
| DEVICE ⏻ | Power on/standby❋ |
| DEVICE MENU | Menu |
| TV ⏻ | TV power on/standby |
| TV INPUT | Switch TV input |
| CH/PAGE ▲▼ | Switch channels (up/down) |
| INFO | Information |
| OPTION | Sub menu, Option |
| △▽◁▷ | Cursor operation |
| ENTER (Cursor) | Enter |
| BACK | Return |
| SETUP | Home menu |
| �i◀◀ ▶▶i | Auto search (cue) |
| ▶ | Playback |
| ◀◀ ▶▶ | Manual search (fast-reverse/fast-forward) |
| ❙❙ | Pause |
| ■ | Stop |
| 0 – 9, +10 | Channel selection |
| ENTER (Number) | 3 digit entry |

❋ This may power some devices on.

## ❏ TV group (1❋❋❋❋) (TV) operation
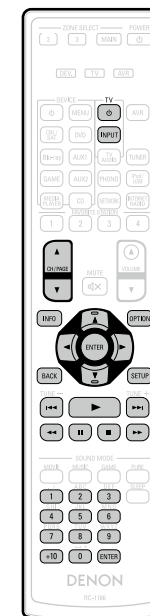
| Operation buttons | Function |
|---|---|
| TV ⏻ | TV power on/standby❋ |
| TV INPUT | Switch TV input |
| CH/PAGE ▲▼ | Switch channels (up/down) |
| INFO | Information |
| OPTION | Menu |
| △▽◁▷ | Cursor operation |
| ENTER (Cursor) | Enter |
| BACK | Return |
| SETUP | Setup |
| ▸◀◀ ▶▶▸ | Auto search (cue) |
| ▶ | Playback |
| ◀◀ ▶▶ | Manual search (fast-reverse/fast-forward) |
| ❙❙ | Pause |
| ■ | Stop |
| 0 – 9, +10 | Channel selection |
| ENTER (Number) | 3 digit entry |

❋ This may power some devices on.

❏ **VCR/DVR group (2✳✳✳✳)**
**(DVD recorder (DVR) / Personal video recorder (PVR) / video cassette recorder (VCR)) operation**

| Operation buttons | Function |
|---|---|
| DEVICE ⏻ | Power on/standby ✳ |
| DEVICE MENU | Menu |
| TV ⏻ | TV power on/standby |
| TV INPUT | Switch TV input |
| CH/PAGE ▲▼ | Switch channels (up/down) |
| INFO | Information |
| OPTION | Sub menu, Option |
| △▽◁▷ | Cursor operation |
| ENTER | Enter |
| BACK | Return |
| SETUP | Setup |
| I◀◀ ▶▶I | Auto search (cue) |
| ▶ | Playback |
| ◀◀ ▶▶ | Manual search (fast-reverse/fast-forward) |
| II | Pause |
| ■ | Stop |
| 0 – 9, +10 | Select title, chapter or channel selection |

✳ This may power some devices on.

❏ **BD/DVD group (3✳✳✳✳)**
**(Blu-ray Disc player / HD-DVD player / DVD player) operation**

| Operation buttons | Function |
|---|---|
| DEVICE ⏻ | Power on/standby ✳ |
| DEVICE MENU | (Popup) Menu |
| TV ⏻ | TV power on/standby |
| TV INPUT | Switch TV input |
| CH/PAGE ▲▼ | Switch channels (up/down) |
| INFO | Information |
| OPTION | Top menu |
| △▽◁▷ | Cursor operation |
| ENTER | Enter |
| BACK | Return |
| SETUP | Setup |
| I◀◀ ▶▶I | Auto search (cue) |
| ▶ | Playback |
| ◀◀ ▶▶ | Manual search (fast-reverse/fast-forward) |
| II | Pause |
| ■ | Stop |
| 0 – 9, +10 | Select title, chapter or channel selection |

✳ This may power some devices on.
(Only the power-on operation is available for some DENON model devices as well.)

❏ **Audio group (4✳✳✳✳)**
**(CD player / CD recorder) operation**

| Operation buttons | Function |
|---|---|
| DEVICE ⏻ | Power on/standby ✳ |
| TV ⏻ | TV power on/standby |
| TV INPUT | Switch TV input |
| △▽◁▷ | Cursor operation |
| ENTER | Enter |
| I◀◀ ▶▶I | Auto search (cue) |
| ▶ | Playback |
| ◀◀ ▶▶ | Manual search (fast-reverse/fast-forward) |
| II | Pause |
| ■ | Stop |
| 0 – 9, +10 | Track selection |

✳ This may power some devices on.
(Only the power-on operation is available for some DENON model devices as well.)

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## Specifying the zone used with the remote control unit

To prevent accidental misuse, you can set the zone for which the remote control unit is used.

**Press and hold any of the MAIN, 2 or 3 buttons and SETUP at the same time for three seconds or longer.**
The operation mode indicator flashes twice.

【Settable items】

| | |
|---|---|
| **MAIN** | When only using "MAIN ZONE" |
| **2** | When using "MAIN ZONE" / "ZONE2" |
| **3** | When using "MAIN ZONE" / "ZONE2" / "ZONE3" (Default) |
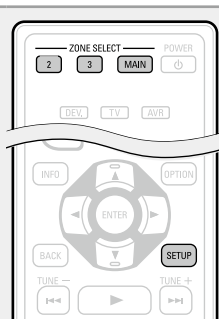
## Resetting the remote control unit

All the settings are restored to their defaults.

*1* **Press and hold MENU for at least 3 seconds.**
The operation mode indicator flashes twice.

*2* **Press 9, 8 and 1, in that order.**
The remote control unit operation mode indicator flashes twice.
All the settings are restored to their defaults.
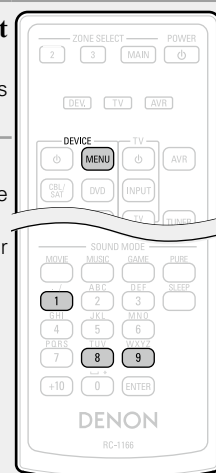
# Informations

**Here, we list various information related to this unit.**
**Please refer to this information as needed.**

# Part names and functions

## Front panel

For buttons not explained here, see the page indicated in parentheses ( ).
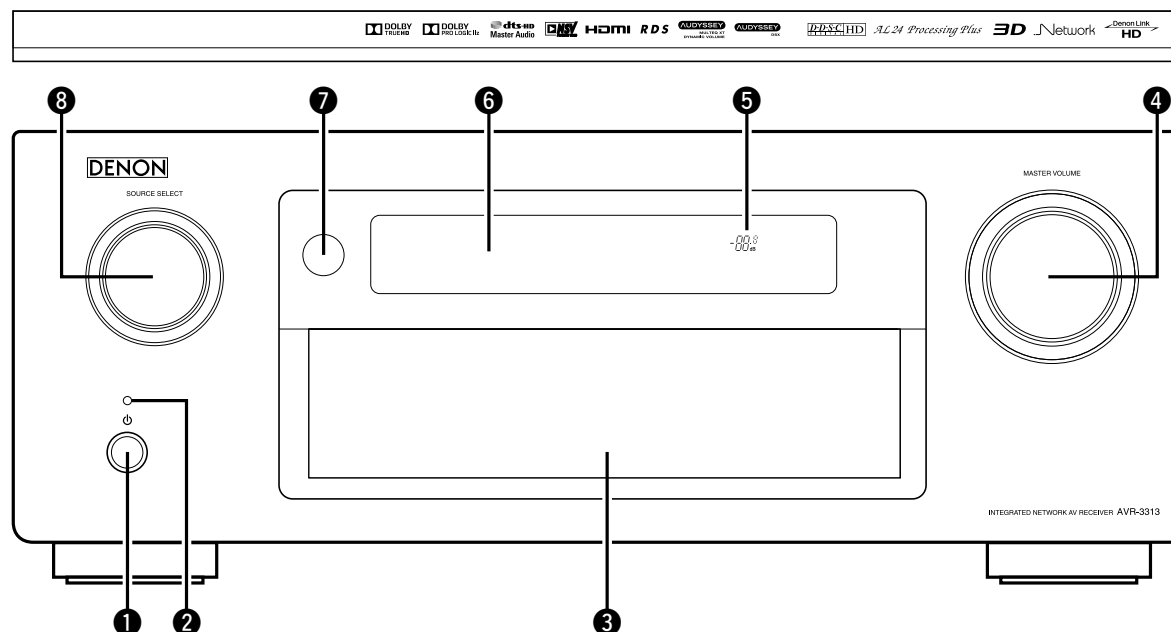


❶ **Power operation button (⏻)** ............................................. (36)
Turns power to this unit on and off (standby).

❷ **Power indicator** ............................................................... (36)
**[Power indicator status]**
• Power on : Green
• Normal standby : Off
• When "HDMI Control" (☞page 121) is set to "On" : Red
• When "IP Control" (☞page 136) is set to "Always On" : Red

❸ **Door**
When you are using buttons and/or connectors behind the door, press the bottom of the door to open it. When not using buttons and/or connectors behind the door, close it. Be careful not to catch your fingers when closing the door.
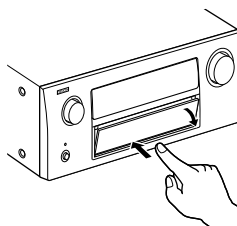


❹ **MASTER VOLUME knob** ............................................. (37, 105)

❺ **Master volume indicator**

❻ **Display** ........................................................................... (155)

❼ **Remote control sensor** ............................................... (158)

❽ **SOURCE SELECT knob** .......................................... (36, 176)

# With the door open

For buttons not explained here, see the page indicated in parentheses ( ).

# Display



**❶ Information display**
The input source name, sound mode, setting values and other information are displayed here.

**❷ Front speaker indicator**
This lights according to the setting of the front A and B speakers.

**❸ Output signal channel indicators**
Lights when audio signals are being output from the speakers.

**❹ Master volume indicator**

**❺ MUTE indicator**
This lights when the mute mode is selected (☞page 37).

**❻ Sleep timer indicator**
This lights when the sleep mode is selected (☞page 97, 105).

**❼ MULTI ZONE indicators**
This lights up when ZONE2, ZONE3 (separate room) power is turned on (☞page 105).

**❽ Monitor output indicator**
These light according to the HDMI monitor output setting.
When set to "Auto (Dual)", the indicators light according to connection status.

**❾ Tuner reception mode indicators**
These light according to the reception conditions when the input source is set to "FM".
**STEREO** : In FM mode, this lights up when receiving analog stereo broadcasts.
**TUNED** : Lights up when the broadcast is properly tuned in.
**RDS** : Lights up when receiving RDS broadcasts.

**❿ Audyssey® indicator**
This indicator lights when the "MultEQ® XT" (☞page 116), "Dynamic EQ" (☞page 117), or "Dynamic Volume" (☞page 117) setting is set to "On".

**⓫ Decoder indicator**
These light when Dolby or DTS signals are input or when the Dolby or DTS decoder is running.

**⓬ Input mode indicators**
Set the audio input modes for the different input sources (☞page 127).

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# Rear panel

See the page indicated in parentheses ( ).
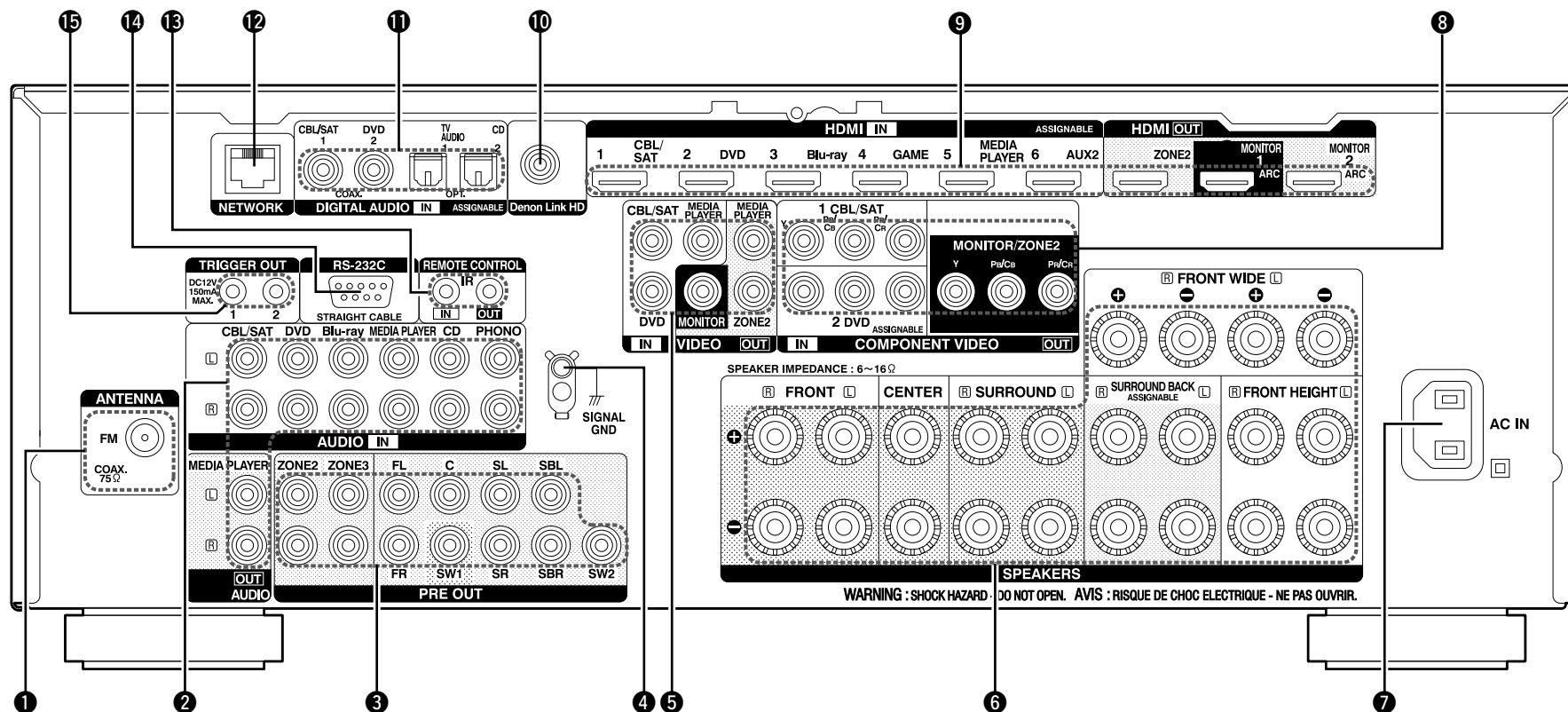


❶ **FM antenna terminals (ANTENNA)** ········································· (24)

❷ **Analog audio connectors
(AUDIO)** ····················································· (16, 17, 18, 20, 22, 23)

❸ **PRE OUT connectors**
················································ (25, 85, 86, 87, 88, 89, 90, 91, 104)

❹ **SIGNAL GND terminal** ························································ (23)

❺ **Video connectors (VIDEO)** ···························· (15, 16, 17, 20, 104)

❻ **Speaker terminals
(SPEAKERS)** ······································ (85, 86, 87, 88, 89, 90, 91)

❼ **AC inlet (AC IN)** ································································ (28)

❽ **Component video connectors
(COMPONENT VIDEO)** ···························· (15, 16, 17, 18, 19, 20)

❾ **HDMI connectors** ·········································· (10, 11, 104)

❿ **Denon Link HD connector** ···················································· (12)

⓫ **Digital audio connectors
(DIGITAL AUDIO)** ······························ (15, 16, 17, 18, 19, 20, 22)

⓬ **Network connector (NETWORK)** ········································· (27)

⓭ **REMOTE CONTROL jacks** ·················································· (26)

⓮ **RS-232C connector** ··························································· (26)

⓯ **TRIGGER OUT jack** ··························································· (26)

**NOTE**

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

# Remote control unit

For buttons not explained here, see the page indicated in parentheses ( ).



DENON
RC-1166
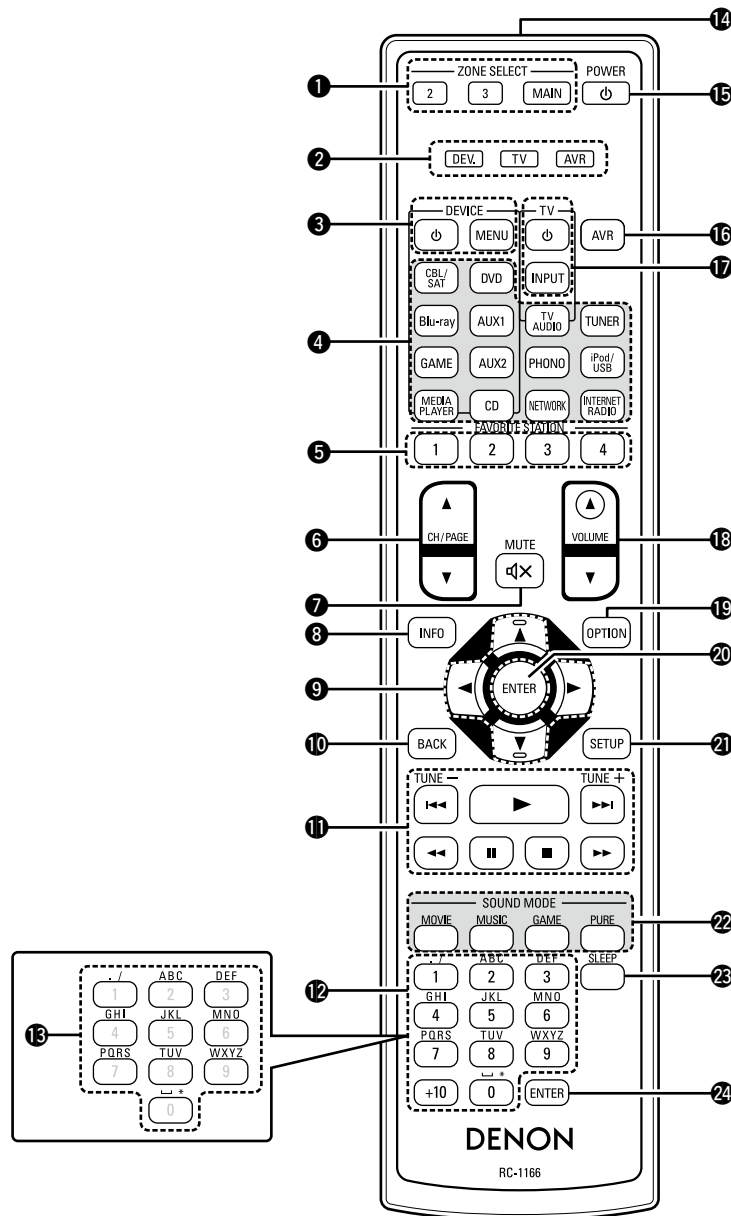
**❶ ZONE SELECT buttons**
(MAIN, 2, 3) ········································· (30, 105)

**❷ Operation mode indicators** ············· (145, 151)

**❸ Device operation buttons**
(DEVICE Φ / MENU) ························· (145, 149)

**❹ Input source select buttons** ··············· (36, 105)

**❺ FAVORITE STATION buttons**
(1 – 4) ··············································· (71)

**❻ Channel/page search buttons**
(CH/PAGE ▲▼)
············································ (41, 44, 55, 58, 62, 66, 68)

**❼ MUTE button (◁×)** ··························· (37, 105)

**❽ Information button (INFO)** ···················· (142)

**❾ Cursor buttons (△▽◁ ▷)**
···················· (109, 112, 119, 124, 129, 135, 139)

**❿ BACK button**
···························· (112, 119, 124, 129, 135, 139)

**⓫ System buttons**
········································ (41, 44, 58, 62, 66, 68)
• Skip buttons (I◀◀, ▶▶I)
• Play button (▶)
• Search buttons (◀◀, ▶▶)
• Pause button (II)
• Stop button (■)

**Tuning up / Tuning down buttons**
(TUNE +, –) ········································· (45, 46)

**⓬ Number buttons** ··················· (47, 49, 111, 145)

**⓭ Character buttons** ···························· (111)

**⓮ Remote control signal transmitter** ········· (158)

**⓯ POWER button (Φ)** ····························· (36)

**⓰ AVR-operation mode button** ·················· (148)

**⓱ TV operation buttons**
(TV Φ / INPUT) ································· (145)

**⓲ VOLUME buttons (▲▼)** ····················· (37, 105)

**⓳ OPTION button**
········································ (39, 43, 45, 57, 62, 67)

**⓴ ENTER button**
···················· (109, 112, 119, 124, 129, 135, 139)

**㉑ SETUP button**
···························· (112, 119, 124, 129, 135, 139)

**㉒ SOUND MODE buttons** ······························ (75)
• MOVIE button
• MUSIC button
• GAME button
• PURE button

**㉓ SLEEP button** ·································· (97, 105)

**㉔ ENTER button** ····························· (149)

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## Inserting the batteries

① Slide the rear lid in the direction of the arrow and remove it.

② Load the two batteries properly as indicated by the marks in the battery compartment.

R6/AA
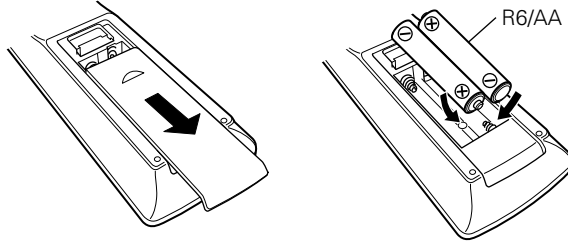
③ Put the rear cover back on.

> **NOTE**
>
> - Insert the specified batteries in the remote control unit.
> - Replace the batteries with new ones if the set does not operate even when the remote control unit is operated close to the unit. (The supplied batteries are only for verifying operation. Replace them with new batteries at an early date.)
> - When inserting the batteries, be sure to do so in the proper direction, following the ⊕ and ⊖ marks in the battery compartment.
> - To prevent damage or leakage of battery fluid:
>   - Do not use a new battery together with an old one.
>   - Do not use two different types of batteries.
>   - Do not attempt to charge dry batteries.
>   - Do not short-circuit, disassemble, heat or dispose of batteries in flames.
>   - Do not keep the battery in a place exposed to direct sunlight or in places with extremely high temperatures, such as near a heater.
> - If the battery fluid should leak, carefully wipe the fluid off the inside of the battery compartment and insert new batteries.
> - Remove the batteries from the remote control unit if it will not be in use for long periods.
> - Used batteries should be disposed of in accordance with the local regulations regarding battery disposal.
> - The remote control unit may function improperly if rechargeable batteries are used.

## Operating range of the remote control unit

Point the remote control unit at the remote sensor when operating it.

Approx. 7 m

30°  30°
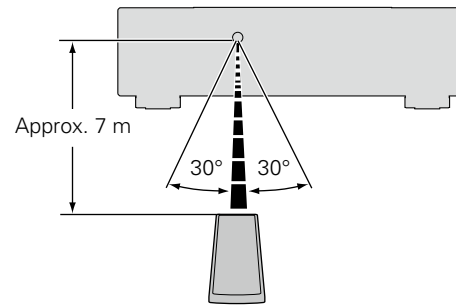
> **NOTE**
>
> - The set may function improperly or the remote control unit may not operate if the remote control sensor is exposed to direct sunlight, strong artificial light from an inverter type fluorescent lamp or infrared light.
> - When using 3D video devices that transmit radio communication signals (such as infrared signals etc) between the various units (such as the monitor, 3D glasses, 3D transmitter unit etc), the remote control unit may not operate due to interference from those radio communication signals. If this occurs, adjust the direction and distance of the 3D communication for each unit, and check that the remote control unit operation is not affected by these signals.

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# Other information

## Trademark information

This product uses the following technologies (Random order):

**AUDYSSEY MULTEQ XT DYNAMIC VOLUME**    **AUDYSSEY DSX**

Manufactured under license from Audyssey Laboratories™. U.S. and foreign patents pending. Audyssey MultEQ® XT, Audyssey Dynamic EQ®, Audyssey Dynamic Volume® and Audyssey DSX® are registered trademarks of Audyssey Laboratories.

**DOLBY TRUEHD**    **DOLBY PRO LOGIC IIz**

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

**dts-HD Master Audio**

Manufactured under license under U.S. Patent Nos: 5,956,674; 5,974,380; 6,226,616; 6,487,535; 7,212,872; 7,333,929; 7,392,195; 7,272,567 & other U.S. and worldwide patents issued & pending. DTS-HD, the Symbol, & DTS-HD and the Symbol together are registered trademarks & DTS-HD Master Audio is a trademark of DTS, Inc. Product includes software. © DTS, Inc. All Rights Reserved.

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**Made for iPod  iPhone**    **AirPlay**

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# Surround

This unit is equipped with a digital signal processing circuit that lets you play program sources in the sound mode to achieve the same sense of presence as in a movie theater.

## Sound modes and surround parameters

This table shows the speakers that can be used in each sound mode and the surround parameters adjustable in each sound mode.

### Symbols in the table

○ This indicates the audio output channels or surround parameters that can be set.
◎ This indicates the audio output channels. The output channels depend on the settings of "Speaker Config." (vpage 130).

| Sound Mode (vpage 75) | Channel output | | | | | | | Surround Parameter (vpage 113) | |
|---|---|---|---|---|---|---|---|---|---|
| | Front L/R | Center | Surround L/R | Surround back L/R | Front height L/R | Front wide L/R | Subwoofer | Cinema EQ *2 (vpage 113) | Loudness Management *3 (vpage 113) |
| DIRECT/PURE DIRECT (2channel)*1 | ○ | | | | | | ◎*4 | | ○ |
| DIRECT/PURE DIRECT (Multi-channel)*1 | ○ | ◎ | ◎ | ◎*5 | ◎*5 | ◎*5 | ○ | | ○ |
| DSD DIRECT (2 channel)*1 | ○ | | | | | | ◎*4 | | ○ |
| DSD DIRECT (Multi-channel)*1 | ○ | ◎ | ◎ | ◎*5 | ◎*5 | ◎*5 | ○ | | ○ |
| STEREO | ○ | | | | | | ◎ | | ○ |
| MULTI CH IN | ○ | ◎ | ◎ | ◎ | ◎*6 | | ○ | ○*7 | |
| DOLBY PRO LOGIC IIz | ○ | ◎ | ◎ | | ◎ | | ○ | ○ | ○ |
| DOLBY PRO LOGIC IIx | ○ | ◎ | ◎ | ◎ | | | ○ | ○*8 | ○ |
| DOLBY PRO LOGIC II | ○ | ◎ | ◎ | | | | ○ | ○*9 | ○ |
| DOLBY PRO LOGIC | ○ | ◎ | ◎ | | | | ○ | ○*9 | ○ |
| DOLBY PRO LOGIC II A-DSX | ○ | ◎ | ◎ | | ◎*10 | ◎*11 | ○ | ○*9 | ○ |
| DOLBY PRO LOGIC A-DSX | ○ | ◎ | ◎ | | ◎*10 | ◎*11 | ○ | ○*9 | ○ |
| DTS NEO:6 | ○ | ◎ | ◎ | ◎ | | | ○ | ○*8 | ○ |
| DTS NEO:6 A-DSX | ○ | ◎ | ◎ | | ◎*10 | ◎*11 | ○ | ○*8 | ○ |
| Audyssey DSX® | ○ | ◎ | ◎ | | ◎*10 | ◎*11 | ○ | ○ | ○ |
| DOLBY DIGITAL | ○ | ◎ | ◎ | ◎ | ◎*6 | | ○ | ○*7 | |
| DOLBY DIGITAL Plus | ○ | ◎ | ◎ | ◎ | ◎*6 | | ○ | ○*7 | |
| DOLBY TrueHD | ○ | ◎ | ◎ | ◎ | ◎*6 | | ○ | ○*7 | ○ |
| DTS SURROUND | ○ | ◎ | ◎ | ◎ | ◎*6 | | ○ | ○*7 | |
| DTS 96/24 | ○ | ◎ | ◎ | ◎ | ◎*6 | | ○ | ○*7 | |
| DTS-HD | ○ | ◎ | ◎ | ◎ | ◎*6 | | ○ | ○*7 | |
| DTS Express | ○ | ◎ | ◎ | ◎ | ◎*6 | | ○ | ○*7 | |
| MULTI CH STEREO | ○ | ◎ | ◎ | ◎*12 | ◎*13 | ◎*14 | ◎ | | ○ |
| ROCK ARENA | ○ | ◎ | ◎ | ◎*12 | ◎*13 | ◎*14 | ◎ | | ○ |
| JAZZ CLUB | ○ | ◎ | ◎ | ◎*12 | ◎*13 | ◎*14 | ◎ | | ○ |
| MONO MOVIE | ○ | ◎ | ◎ | ◎*12 | ◎*13 | ◎*14 | ◎ | | ○ |
| VIDEO GAME | ○ | ◎ | ◎ | ◎*12 | ◎*13 | ◎*14 | ◎ | | ○ |
| MATRIX | ○ | ◎ | ◎ | ◎*12 | ◎*13 | ◎*14 | ◎ | | ○ |
| VIRTUAL | ○ | | | | | | ◎ | | ○ |

*1 During playback in PURE DIRECT mode, the surround parameters are the same as in DIRECT mode.
*2 This item cannot be selected during DSD (SA-CD) signal playback.
*3 This item can be selected when a Dolby TrueHD signal is played.
*4 Only when "Subwoofer Mode" is set to "LFE+Main" (vpage 131), sound is output from the subwoofer.
*5 A signal for each channel contained in an input signal is output as audio.
*6 Audio is output from the front height speaker when the set sound mode name contains "+PLIIz". For information on how to check the sound mode, see page 75.
*7 This setting is unavailable when the set sound mode name contains "+PLIIx Music". For information on how to check the sound mode, see page 75.
*8 This setting is possible when the sound mode is "PLIIx Cinema" or "DTS NEO:6 Cinema".
*9 This setting is possible when the sound mode is "PLII Cinema" or "Pro Logic".
*10 Audio is output from the front height speaker when "Assign Mode" (vpage 130) in the menu is set to "Main Only" and "Audyssey DSX®" (vpage 117) is set to "On".
*11 Audio is output from the front wide speaker when "Assign Mode" (vpage 130) in the menu is set to "Main Only" and "Audyssey DSX®" (vpage 117) is set to "On".
*12 Audio is output from the surround back speaker when "Assign Mode" (vpage 130) in the menu is set to "Main Only" and "Speaker Select" (vpage 114) is set to "S. Back".
*13 Audio is output from the front height speaker when "Assign Mode" (vpage 130) in the menu is set to "Main Only" and "Speaker Select" (vpage 114) is set to "F. Height".
*14 Audio is output from the front wide speaker when "Assign Mode" (vpage 130) in the menu is set to "Main Only" and "Speaker Select" (vpage 114) is set to "F. Wide".

| Sound Mode (☞page 75) | Surround Parameter (☞page 113) | | | | | | | PRO LOGIC II/IIx Music mode only | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Dynamic Compression *15 (☞page 113) | Low Frequency Effects *16 (☞page 113) | Delay Time (☞page 114) | Effect Level (☞page 114) | Room Size (☞page 114) | Height Gain *17 (☞page 114) | Speaker Select *18 (☞page114) | Panorama (☞page 113) | Dimension (☞page 113) | Center Width (☞page 113) |
| DIRECT/PURE DIRECT (2channel) *1 | ○ | | | | | | | | | |
| DIRECT/PURE DIRECT (Multi-channel) *1 | ○ | ○ | | | | | | | | |
| DSD DIRECT (2 channel) *1 | ○ | | | | | | | | | |
| DSD DIRECT (Multi-channel) *1 | ○ | ○ | | | | | | | | |
| STEREO | ○ | ○ | | | | | | | | |
| MULTI CH IN | | ○ | | | | | ○ | | | |
| DOLBY PRO LOGIC IIz | ○ | | | | | ○ | | | | |
| DOLBY PRO LOGIC IIx | ○ | | | | | | | ○ | ○ | ○ |
| DOLBY PRO LOGIC II | ○ | | | | | | | ○ | ○ | ○ |
| DOLBY PRO LOGIC | ○ | | | | | | | | | |
| DOLBY PRO LOGIC II A-DSX | ○ | | | | | | | ○ | ○ | ○ |
| DOLBY PRO LOGIC A-DSX | ○ | | | | | | | ○ | ○ | ○ |
| DTS NEO:6 | ○ | | | | | | | | | |
| DTS NEO:6 A-DSX | ○ | | | | | | | | | |
| Audyssey DSX® | ○ | ○ | | | | | | | | |
| DOLBY DIGITAL | ○ | ○ | | | | | ○ | | | |
| DOLBY DIGITAL Plus | ○ | ○ | | | | | ○ | | | |
| DOLBY TrueHD | ○ | ○ | | | | | ○ | | | |
| DTS SURROUND | ○ | ○ | | | | | ○ | | | |
| DTS 96/24 | | ○ | | | | | ○ | | | |
| DTS-HD | | ○ | | | | | ○ | | | |
| DTS Express | | ○ | | | | | ○ | | | |
| MULTI CH STEREO | ○ | ○ | | | | | ○ | | | |
| ROCK ARENA | ○ | ○ | | ○ | ○ | | ○ | | | |
| JAZZ CLUB | ○ | ○ | | ○ | ○ | | ○ | | | |
| MONO MOVIE | ○ | ○ | | ○ | ○ | | ○ | | | |
| VIDEO GAME | ○ | ○ | | ○ | ○ | | ○ | | | |
| MATRIX | ○ | ○ | ○ | | | | | | | |
| VIRTUAL | ○ | ○ | | | | | | | | |

*1 During playback in PURE DIRECT mode, the surround parameters are the same as in DIRECT mode.

*15 This item can be selected when a Dolby Digital or DTS signal is played.

*16 This item can be selected when a Dolby Digital or DTS signal or DVD-Audio is played.

*17 This setting is available when the set sound mode name contains "+PLIIz". For information on how to check the sound mode, see page 75.

*18 This item can be selected when "Assign Mode" (☞page 130) is set to "Main Only".

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| Sound Mode (page 75) | Surround Parameter (page 113) / NEO:6 Music mode only / Center Image (page 113) | Subwoofer (page 115) | Tone *19 (page 115) | Audyssey (page 116) MultEQ® XT *20 (page 116) | Dynamic EQ *21 (page 117) | Dynamic Volume *21 (page 117) | Audyssey DSX® *20 (page 117) | Restorer *22 (page 115) |
|---|---|---|---|---|---|---|---|---|
| DIRECT/PURE DIRECT (2channel) *1 | | ○*5 | | | | | | |
| DIRECT/PURE DIRECT (Multi-channel) *1 | | | | | | | | |
| DSD DIRECT (2 channel) *1 | | ○*5 | | | | | | |
| DSD DIRECT (Multi-channel) *1 | | | | | | | | |
| STEREO | | | ○ | ○ | ○ | ○ | | ○ |
| MULTI CH IN | | ○ | ○ | ○ | ○ | ○ | ○ | |
| DOLBY PRO LOGIC IIz | | ○ | ○ | ○ | ○ | ○ | | ○ |
| DOLBY PRO LOGIC IIx | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| DOLBY PRO LOGIC II | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| DOLBY PRO LOGIC | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| DOLBY PRO LOGIC II A-DSX | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| DOLBY PRO LOGIC A-DSX | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| DTS NEO:6 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| DTS NEO:6 A-DSX | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Audyssey DSX® | | ○ | ○ | ○ | ○ | ○ | ○ | |
| DOLBY DIGITAL | | ○ | ○ | ○ | ○ | ○ | ○ | |
| DOLBY DIGITAL Plus | | ○ | ○ | ○ | ○ | ○ | ○ | |
| DOLBY TrueHD | | ○ | ○ | ○ | ○ | ○ | ○ | |
| DTS SURROUND | | ○ | ○ | ○ | ○ | ○ | ○ | |
| DTS 96/24 | | ○ | ○ | ○ | ○ | ○ | ○ | |
| DTS-HD | | ○ | ○ | ○ | ○ | ○ | ○ | |
| DTS Express | | ○ | ○ | ○ | ○ | ○ | ○ | |
| MULTI CH STEREO | | ○ | ○ | ○ | ○ | ○ | | ○ |
| ROCK ARENA | | ○ | ○*23 | ○ | ○ | ○ | | ○ |
| JAZZ CLUB | | ○ | ○ | ○ | ○ | ○ | | ○ |
| MONO MOVIE | | ○ | ○ | ○ | ○ | ○ | | ○ |
| VIDEO GAME | | ○ | ○ | ○ | ○ | ○ | | ○ |
| MATRIX | | ○ | ○ | ○ | ○ | ○ | | ○ |
| VIRTUAL | | ○ | ○ | ○ | ○ | ○ | | ○ |

*1 During playback in PURE DIRECT mode, the surround parameters are the same as in DIRECT mode.

*5 Only when "Subwoofer Mode" is set to "LFE+Main" (page 131), sound is output from the subwoofer.

*19 This item cannot be set when "Dynamic EQ" (page 117) is set to "On".

*20 This item cannot be set for HD audio exceeding a frequency of 96 kHz or during DSD (SA-CD) signal playback.

*21 This item cannot be set when "MultEQ® XT" (page 116) is set to "Off" or "Graphic EQ".

*22 This item can be set when the input signal is analog, PCM 48 kHz or 44.1 kHz.

*23 In this sound mode, bass is +6 dB, and treble is +4 dB (Default).

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## ❏ Types of input signals, and corresponding sound modes

This table shows the input signal that can be played in each sound mode. Check the audio signal of the input source then select the sound mode.

### Symbols in the table

● This indicates the default sound mode.
○ This indicates the selectable sound mode.

| Sound Mode (☞page 75) | NOTE | Input signal types and formats | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ANALOG | PCM | | DTS-HD | | DTS | | | | | DOLBY | | DOLBY DIGITAL | | | | Super Audio CD | |
| | | | PCM (multi ch) | PCM (2ch) | DTS-HD Master Audio | DTS-HD High Resolution Audio | DTS EXPRESS | DTS ES DSCRT (With Flag) | DTS ES MTRX (With Flag) | DTS (5.1ch) | DTS 96/24 | DOLBY TrueHD | DOLBY DIGITAL Plus | DOLBY DIGITAL EX (With Flag) | DOLBY DIGITAL EX (With no Flag) | DOLBY DIGITAL (5.1ch) | DOLBY DIGITAL (2ch) | DSD (multi ch) | DSD (2ch) |
| **DTS SURROUND** | | | | | | | | | | | | | | | | | | | |
| DTS-HD MSTR | ∗1 | | | | ● | | | | | | | | | | | | | | |
| DTS-HD HI RES | ∗1 | | | | | ● | | | | | | | | | | | | | |
| DTS ES DSCRT6.1 | ∗2∗3 | | | | | | | ● | | | | | | | | | | | |
| DTS ES MTRX6.1 | ∗2∗3 | | | | | | | | ● | | | | | | | | | | |
| DTS SURROUND | ∗1 | | | | | | | ○ | ○ | ● | | | | | | | | | |
| DTS 96/24 | ∗1 | | | | | | | | | | ● | | | | | | | | |
| DTS (–HD) + PLⅡx CINEMA | ∗2∗4 | | | | ○ | ○ | ○ | | | ○ | ○ | | | | | | | | |
| DTS (–HD) + PLⅡx MUSIC | ∗2∗3 | | | | ○ | ○ | ○ | | | ○ | ○ | | | | | | | | |
| DTS (–HD) + PLⅡz | ∗2∗5 | | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | | | | | | | |
| DTS EXPRESS | ∗1 | | | | | | ● | | | | | | | | | | | | |
| DTS (–HD) + NEO:6 | ∗2∗3 | | | | ○ | ○ | ○ | | | ○ | ○ | | | | | | | | |
| DTS NEO:6 CINEMA | ∗1 | ○ | | ○ | | | | | | | | | | | | | ○ | | ○ |
| DTS NEO:6 MUSIC | ∗1 | ○ | | ○ | | | | | | | | | | | | | ○ | | ○ |
| DTS NEO:6 CINEMA A-DSX | | ○ | | ○ | | | | | | | | | | | | | ○ | | |
| DTS NEO:6 MUSIC A-DSX | | ○ | | ○ | | | | | | | | | | | | | ○ | | |
| Audyssey DSX® | | | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | | | | | | | |

∗1 If "Audyssey DSX®" (☞page 117) is set to "On", the Audyssey DSX® effect is added to the sound mode marked with ∗1.
∗2 This sound mode can be selected when "Assign Mode" (☞page 130) is set to "Main Only".
∗3 If "Speaker Config." – "Surr. Back" (☞page 131) is set to "None", this sound mode cannot be selected.
∗4 If "Speaker Config." – "Surr. Back" (☞page 131) is set to "1spkr" or "None", this sound mode cannot be selected.
∗5 If "Speaker Config." – "Front Height" (☞page 131) is set to "None", this sound mode cannot be selected.

| Sound Mode (☞page 75) | NOTE | ANALOG | PCM (multi ch) | PCM (2ch) | DTS-HD Master Audio | DTS-HD High Resolution Audio | DTS EXPRESS | DTS ES DSCRT (With Flag) | DTS ES MTRX (With Flag) | DTS (5.1ch) | DTS 96/24 | DOLBY TrueHD | DOLBY DIGITAL Plus | DOLBY DIGITAL EX (With Flag) | DOLBY DIGITAL EX (With no Flag) | DOLBY DIGITAL (5.1ch) | DOLBY DIGITAL (2ch) | DSD (multi ch) | DSD (2ch) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DOLBY SURROUND** | | | | | | | | | | | | | | | | | | | |
| DOLBY TrueHD | *1 | | | | | | | | | | | ● | | | | | | | |
| DOLBY DIGITAL+ | *1 | | | | | | | | | | | | ● | | | | | | |
| DOLBY DIGITAL EX | *2*3 | | | | | | | | | | | | | ○ | ○ | ○ | | | |
| DOLBY (D+)(HD)+EX | *2*3 | | | | | | | | | | | ○ | ○ | | | | | | |
| DOLBY DIGITAL | *1 | | | | | | | | | | | | | | ● | ● | ● | | |
| DOLBY (D)(D+)(HD)+PLIIx CINEMA | *2*4 | | | | | | | | | | | ○ | ○ | ○ | ○ | ○ | | | |
| DOLBY (D)(D+)(HD)+PLIIx MUSIC | *2*3 | | | | | | | | | | | ○ | ○ | ○ | ○ | ○ | | | |
| DOLBY (D)(D+)(HD)+PLIIz | *5 | | | | | | | | | | | ○ | ○ | ○ | ○ | ○ | | | |
| DOLBY PRO LOGIC IIx CINEMA | *2*3 | ○ | | ○ | | | | | | | | | | | | | ○ | | ○ |
| DOLBY PRO LOGIC IIx MUSIC | *2*3 | ○ | | ○ | | | | | | | | | | | | | ○ | | ○ |
| DOLBY PRO LOGIC IIx GAME | *2*3 | ○ | | ○ | | | | | | | | | | | | | ○ | | ○ |
| DOLBY PRO LOGIC IIz | *2*5 | ○ | | ○ | | | | | | | | | | | | | ○ | | ○ |
| DOLBY PRO LOGIC II CINEMA | *1 | ○ | | ○ | | | | | | | | | | | | | ○ | | ○ |
| DOLBY PRO LOGIC II MUSIC | *1 | ○ | | ○ | | | | | | | | | | | | | ○ | | ○ |
| DOLBY PRO LOGIC II GAME | *1 | ○ | | ○ | | | | | | | | | | | | | ○ | | ○ |
| DOLBY PRO LOGIC | *1 | ○ | | ○ | | | | | | | | | | | | | ○ | | ○ |
| DOLBY PRO LOGIC II CINEMA A-DSX | | ○ | | ○ | | | | | | | | | | | | | ○ | | |
| DOLBY PRO LOGIC II MUSIC A-DSX | | ○ | | ○ | | | | | | | | | | | | | ○ | | |
| DOLBY PRO LOGIC II GAME A-DSX | | ○ | | ○ | | | | | | | | | | | | | ○ | | |
| DOLBY PRO LOGIC A-DSX | | ○ | | ○ | | | | | | | | | | | | | ○ | | |
| Audyssey DSX® | | | | | | | | | | | | ○ | ○ | ○ | ○ | ○ | | | |

*1 If "Audyssey DSX®" (☞page 117) is set to "On", the Audyssey DSX® effect is added to the sound mode marked with *1.
*2 This sound mode can be selected when "Assign Mode" (☞page 130) is set to "Main Only".
*3 If "Speaker Config." – "Surr. Back" (☞page 131) is set to "None", this sound mode cannot be selected.
*4 If "Speaker Config." – "Surr. Back" (☞page 131) is set to "1spkr" or "None", this sound mode cannot be selected.
*5 If "Speaker Config." – "Front Height" (☞page 131) is set to "None", this sound mode cannot be selected.

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| Sound Mode (page 75) | NOTE | ANALOG | PCM (multi ch) | PCM (2ch) | DTS-HD Master Audio | DTS-HD High Resolution Audio | DTS EXPRESS | DTS ES DSCRT (With Flag) | DTS ES MTRX (With Flag) | DTS (5.1ch) | DTS 96/24 | DOLBY TrueHD | DOLBY DIGITAL Plus | DOLBY DIGITAL EX (With Flag) | DOLBY DIGITAL EX (With no Flag) | DOLBY DIGITAL (5.1ch) | DOLBY DIGITAL (2ch) | DSD (multi ch) | DSD (2ch) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MULTI CH IN** | | | | | | | | | | | | | | | | | | | |
| MULTI CH IN | *1 | | ● | | | | | | | | | | | | | | | ○ | |
| MULTI CH IN + PLⅡx CINEMA | *2*4 | | ○ | | | | | | | | | | | | | | | ○ | |
| MULTI CH IN + PLⅡx MUSIC | *2*3 | | ○ | | | | | | | | | | | | | | | ○ | |
| MULTI CH IN + PLⅡz | *2*5 | | ○ | | | | | | | | | | | | | | | ○ | |
| MULTI CH IN + Dolby EX | *2*3 | | ○ | | | | | | | | | | | | | | | ○ | |
| MULTI CH IN 7.1 | *2*3 | | ● (7.1) | | | | | | | | | | | | | | | | |
| Audyssey DSX® | | | ○ | | | | | | | | | | | | | | | | |
| **DIRECT** | | | | | | | | | | | | | | | | | | | |
| DIRECT | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| **PURE DIRECT** | | | | | | | | | | | | | | | | | | | |
| PURE DIRECT | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| **DSP SIMULATION** | | | | | | | | | | | | | | | | | | | |
| MULTI CH STEREO | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | |
| ROCK ARENA | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| JAZZ CLUB | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| MONO MOVIE | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| VIDEO GAME | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| MATRIX | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| VIRTUAL | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| **STEREO** | | | | | | | | | | | | | | | | | | | |
| STEREO | | ● | ○ | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

*1 If "Audyssey DSX®" (page 117) is set to "On", the Audyssey DSX® effect is added to the sound mode marked with *1.
*2 This sound mode can be selected when "Assign Mode" (page 130) is set to "Main Only".
*3 If "Speaker Config." – "Surr. Back" (page 131) is set to "None", this sound mode cannot be selected.
*4 If "Speaker Config." – "Surr. Back" (page 131) is set to "1spkr" or "None", this sound mode cannot be selected.
*5 If "Speaker Config." – "Front Height" (page 131) is set to "None", this sound mode cannot be selected.

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# Relationship between video signals and monitor output

| MAIN ZONE MONITOR OUT | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Video Conversion | Input connector | | | Output connector | | | Menu displayed | | |
| | HDMI | COMPONENT | VIDEO | HDMI | COMPONENT | VIDEO | HDMI | COMPONENT | VIDEO |
| On | × | × | × | × | × | × | Only the menu is displayed | × | × |
| On | × | × | ○ | ○ <VIDEO> | | ○ <VIDEO> | ○ (VIDEO) | | × (VIDEO) |
| On | × | ○ | × | ○ <COMPONENT> | ○ <COMPONENT> | × | ○ (COMPONENT) | × (COMPONENT) | × |
| On | × | ○ | ○ | | | ○ <VIDEO> | | | × (VIDEO) |
| On | ○ | × | × | ○ <HDMI> | × | × | ○ (HDMI) | × | × |
| On | ○ | × | ○ | | | ○ <VIDEO> | | | × (VIDEO) |
| On | ○ | ○ | × | | ○ <COMPONENT> | × | | × (COMPONENT) | × |
| On | ○ | ○ | ○ | | | ○ <VIDEO> | | | × (VIDEO) |
| Off | × | × | × | × | × | × | Only the menu is displayed | × | × |
| Off | × | × | ○ | | | ○ <VIDEO> | | | × (VIDEO) |
| Off | × | ○ | × | | ○ <COMPONENT> | × | | × (COMPONENT) | × |
| Off | × | ○ | ○ | | | ○ <VIDEO> | | | × (VIDEO) |
| Off | ○ | × | × | ○ <HDMI> | × | × | | × | × |
| Off | ○ | × | ○ | | | ○ <VIDEO> | | | × (VIDEO) |
| Off | ○ | ○ | × | | ○ <COMPONENT> | × | | × (COMPONENT) | × |
| Off | ○ | ○ | ○ | | | ○ <VIDEO> | | | × (VIDEO) |

○ : Video signal input present
× : No video signal input

○ <> : The input signal between the < > marks is output.
× : No video signal output

○ ( ) : Superimposed on the picture indicated in ( ).
× ( ) : Only the picture in ( ) is output.
× : Neither the picture nor the menu is output.

| ZONE2 MONITOR OUT | | | | | |
|---|---|---|---|---|---|
| Input connector | | | Output connector | | |
| HDMI | COMPONENT | VIDEO | HDMI | COMPONENT | VIDEO |
| × | × | × | × | × | × |
| × | × | ○ | | | ○ <VIDEO> |
| × | ○ | × | | ○ <COMPONENT> | × |
| × | ○ | ○ | | | ○ <VIDEO> |
| ○ | × | × | ○ <HDMI> | × | × |
| ○ | × | ○ | | | ○ <VIDEO> |
| ○ | ○ | × | | ○ <COMPONENT> | × |
| ○ | ○ | ○ | | | ○ <VIDEO> |

○ : Video signal input present
× : No video signal input

○ <> : The input signal between the < > marks is output.
× : No video signal output

The main zone video conversion function is compatible with the following formats: NTSC, PAL, SECAM, NTSC4.43, PAL-N, PAL-M and PAL-60.

**NOTE**

• The status display screen cannot be displayed at a computer's resolution (e.g. VGA) or while certain 3D video contents is being played.
• When the menu is operated on a computer's resolution (e.g. VGA) or during playback of certain 3D video content, the playback image switches to the menu screen image.

# Video signal resolution conversion table

When "Video Conversion" (☞page 121) is set to "On", "i/p Scaler" (☞page 122) is set to "Analog", "Analog & HDMI" or "HDMI" are set, the resolution of the input video signal can be converted to a different resolution for output (☞page 6 "Converting input video signals for output (Video conversion function)").
The relationship between the resolution of the convertible video signal and HDMI output resolution is shown in the table below.

| | Output resolution / Input resolution | HDMI Output | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 480i/576i *1 | 480p/576p | 1080i | 720p | 1080p | 1080p 24Hz | 4K *2 |
| Video input | 480i/576i | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Component video input | 480i/576i | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | 480p/576p | – | ○ | ○ | ○ | ○ | ○ | ○ |
| | 1080i | – | – | ○ | ○ | ○ | ○ | ○ |
| | 720p | – | – | ○ | ○ | ○ | ○ | ○ |
| | 1080p | – | – | – | – | ○ | ○ | ○ |
| HDMI input | 480i/576i | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | 480p/576p | – | ○ | ○ | ○ | ○ | ○ | ○ |
| | 1080i | – | – | ○ | ○ | ○ | ○ | ○ |
| | 720p | – | – | ○ | ○ | ○ | ○ | ○ |
| | 1080p 24Hz | – | – | – | – | ○*3 | ○*4 | ○ |
| | 1080p | – | – | – | – | ○ | ○ | ○ |
| | 4K | – | – | – | – | – | – | ○*5 |

○ The resolution set in "Resolution" (☞page 122) in the menu is output.
– Output at the same resolution as the input video signal resolution.
*1 Only output when "i/p Scaler" in the menu is set to "Off".
*2 Output at a resolution of 3840 x 2160 (24/25/30 Hz).
*3 The resolution set in "Resolution" (☞page 122) in the menu is set to "Auto", and a television that does not support 1080p 24Hz video signals is connected.
*4 The resolution set in "Resolution" (☞page 122) in the menu is set to "Auto", and a television that supports 1080p 24Hz video signals is connected.
*5 Output at the same resolution as the input video signal resolution.

**NOTE**

- Component video and video output are output at the same resolution as the input video signal resolution.
- The 4K, 3D, Computer resolution, "x.v.Color", sYCC601 color, Adobe RGB color or Adobe YCC601 color input to HDMI is output at the same resolution as the input video signal.
- When "Video Mode" in the menu is set to "Game" or "Auto" and game contents are played, the same resolution as the input video signal is output.
- When "Resolution" in the menu is set to "Auto", the number of pixels in the television panel connected to the HDMI output connector is automatically detected, and the optimum resolution is output according to the table above.
- If 1080p 24Hz signals input from the HDMI terminal are converted into 1080p 60Hz/1080p 50Hz for output, they are output according to the specified "Format" (☞page 123) setting in the menu:
  "NTSC" – Output as 1080p 60Hz.
  "PAL" – Output as 1080p 50Hz.
- You can not convert 60Hz into 50Hz or vice versa.
- You can not convert 50Hz into 24Hz.
- This item does not support the HDMI ZONE2 function.

# Explanation of terms

## A

### Adobe RGB color, Adobe YCC601 color

The color space defined by Adobe Systems Inc. Because it is a wider color space than RGB, it can produce more vivid and natural images.

### AirPlay

AirPlay sends (plays) contents recorded in iTunes or on an iPhone/iPod touch/iPad to a compatible device via the network.

### AL24 Processing Plus

AL24 Processing for All Channels

DENON has further developed its proprietary AL24 Processing, an analog waveform reproduction technology, to support the 192 kHz sampling frequency. AL24 Processing Plus, thoroughly suppresses quantization noise associated with D/A conversion of LPCM signals to reproduce the low-level signals with optimum clarity that will bring out all the delicate nuances of the music.

Equipped foe not only front left and right channels but also for the surround left and right, center and subwoofer channels.

### App Store

App Store is a site that sells application software for such devices as the iPhone or iPod Touch, and is operated by Apple Inc.

### Audyssey Dynamic EQ®

Dynamic EQ solves the problem of deteriorating sound quality as volume is decreased by taking into account human perception and room acoustics. Audyssey Dynamic EQ® works in tandem with Audyssey MultEQ® XT to provide well-balanced sound for every listener at any volume level.

### Audyssey Dynamic Surround Expansion (A-DSX)

Audyssey DSX® is a scalable system that adds new speakers to improve surround impression.

Starting with a 5.1 system Audyssey DSX® first adds Wide channels for the biggest impact on envelopment. Research in human hearing has proven that information from the Wide channels is much more critical in the presentation of a realistic soundstage than the Back Surround channels found in traditional 7.1 systems. Audyssey DSX® then creates a pair of Height channels to reproduce the next most important acoustical and perceptual cues. In addition to these new Wide and Height channels, Audyssey DSX® applies Surround Envelopment Processing to enhance the blend between the front and surround channels.

### Audyssey Dynamic Volume®

Dynamic Volume solves the problem of large variations in volume level between television programs, commercials, and between the soft and loud passages of movies. Audyssey Dynamic EQ® is integrated into Dynamic Volume so that as the playback volume is adjusted automatically, the perceived bass response, tonal balance, surround impression, and dialog clarity remain the same.

### Audyssey MultEQ® XT

MultEQ® XT is a room equalization solution that calibrates any audio system so that it can achieve optimum performance for every listener in a large listening area. Based on several room measurements, MultEQ® XT calculates an equalization solution that corrects for both time and frequency response problems in the listening area and also performs a fully automated surround system setup.

### Auto Lip Sync

If you connect the unit to a TV that supports the Auto Lip Sync function, it can automatically correct delay between the audio and video.

## D

### Deep Color

An imaging technology supported by HDMI. Unlike RGB, which uses 8 bits (256 shades) per color, it can use 10 bits (1024 shades), 12 bits (4096 shades), or 16 bits (65536 shades) to produce colors in higher definition.

Both devices linked via HDMI must support Deep Color.

### Denon Link HD

Denon Link HD uses the clock of the AV amplifier connected by Denon Link to achieve HDMI signal transfer with low jitter when playing BD.

### DLNA

DLNA and DLNA CERTIFIED are trademarks and/or service marks of Digital Living Network Alliance. Some contents may not be compatible with other DLNA CERTIFIED® products.

### Dolby Digital

Dolby Digital is a multi-channel digital signal format developed by Dolby Laboratories.

A total of 5.1 channels are played: 3 front channels ("FL", "FR" and "C"), 2 surround channels ("SL" and "SR") and the "LFE" channel for low frequencies.

Because of this, there is no crosstalk between channels and a realistic sound field with a "three-dimensional" feeling (sense of distance, movement and positioning) is achieved.

A realistic, powerful sense of presence is achieved when playing movie sources in AV rooms as well.

### Dolby Digital EX

Dolby Digital EX is a 6.1-channel surround format proposed by Dolby Laboratories that allows users to enjoy in their homes the "DOLBY DIGITAL SURROUND EX" audio format jointly developed by Dolby Laboratories and Lucas Films.

The 6.1 channels of sound, including surround back channels, provide improved sound positioning and expression of space.

### Dolby Digital Plus

Dolby Digital Plus is an improved Dolby Digital signal format that is compatible with up to 7.1 channels of discrete digital sound and also improves sound quality thanks to extra data bit rate performance. It is upwardly compatible with conventional Dolby Digital, so it offers greater flexibility in response to the source signal and the conditions of the playback device.

### Dolby Pro Logic II

Dolby Pro Logic II is a matrix decoding technology developed by Dolby Laboratories.

Regular music such as that on CDs is encoded into 5 channels to achieve an excellent surround effect. The surround channel signals are converted into stereo and full band signals (with a frequency response of 20 Hz to 20 kHz or greater) to create a "three-dimensional" sound image offering a rich sense of presence for all stereo sources.

### Dolby Pro Logic IIx

Dolby Pro Logic IIx is a further improved version of the Dolby Pro Logic II matrix decoding technology. Audio signals recorded in 2 channels are decoded to achieve a natural sound with up to 7.1 channels. There are three modes: "Music" suited for playing music, "Cinema" suited for playing movies, and "Game" which is optimized for playing games.

### Dolby Pro Logic IIz

Dolby Pro Logic IIz introduces a new dimension to Home Entertainment through the addition of a pair of front height channels. Compatible with stereo, 5.1-channel and 7.1-channel content, Dolby Pro Logic IIz provides enhanced spaciousness, depth and dimension to movies, concert video and video game playback while maintaining the full integrity of the source mix.

Dolby Pro Logic IIz identifies and decodes spatial cues that occur naturally in all content, directing this information to the front height channels, complementing the performance of left and right surround sound speakers. Content that is encoded with Dolby Pro Logic IIz height channel information can be even more revealing, with perceptually discrete height channel information bringing an exciting new dimension to home entertainment.

Dolby Pro Logic IIz, with front height channels is also an ideal alternative for households that cannot support the placement of back surround speakers of a typical 7.1-channel system but may have bookshelf space available to support the addition of height speakers.

**Dolby TrueHD**

Dolby TrueHD is a high definition audio technology developed by Dolby Laboratories, using lossless coding technology to faithfully reproduce the sound of the studio master.

This format provides the facility to support up to 8 audio channels with a sampling frequency of 96 kHz/24 bit resolution and up to 6 audio channels with a sampling frequency of 192 kHz/24 bit resolution. Dolby TrueHD is adopted for applications that put very high importance on sound quality.

**Downmix**

This function converts the number of channels of surround audio to less number of channels and plays back.

**DTS**

This is an abbreviation of Digital Theater System, which is a digital audio system developed by DTS. When playing back audio by connecting this system with a device such as DTS amplifier, accurate sound field position and realistic sound effect as if you are in a movie theater can be obtained.

**DTS 96/24**

DTS 96/24 is a digital audio format enabling high sound quality playback in 5.1 channels with a sampling frequency of 96 kHz and 24 bit quantization on DVD-Video.

**DTS Digital Surround**

DTS Digital Surround is the standard digital surround format of DTS, Inc., compatible with a sampling frequency of 44.1 or 48 kHz and up to 5.1 channels of digital discrete surround sound.

**DTS-ES™ Discrete 6.1**

DTS-ES™ Discrete 6.1 is a 6.1-channel discrete digital audio format adding a surround back (SB) channel to the DTS digital surround sound.

Decoding of conventional 5.1-channel audio signals is also possible according to the decoder.

**DTS-ES™ Matrix 6.1**

DTS-ES™ Matrix 6.1 is a 6.1-channel discrete digital audio format inserting a surround back (SB) channel to the DTS digital surround sound through matrix encoding. Decoding of conventional 5.1-channel audio signals is also possible according to the decoder.

**DTS Express**

DTS Express is an audio format supporting low bit rates (max. 5.1 channels, 24 to 256 kbps).

**DTS-HD**

This audio technology provides higher sound quality and enhanced functionality than the conventional DTS and is adopted as an optional audio for Blu-ray Disc. This technology supports multi-channel, high data transfer speed, high sampling frequency, and lossless audio playback. Maximum 7.1-channels are supported in Blu-ray Disc.

**DTS-HD High Resolution Audio**

DTS-HD High Resolution Audio is an improved version of the conventional DTS, DTS-ES and DTS 96/24 signals formats, compatible with sampling frequencies of 96 or 48 kHz and up to 7.1 channels of discrete digital sound. High data bit rate performance provides high quality sound. This format is fully compatible with conventional products, including conventional DTS digital surround 5.1-channel data.

**DTS-HD Master Audio**

DTS-HD Master Audio is a lossless audio format created by Digital Theater System (DTS). This format provides the facility to support up to 8 audio channels with a sampling frequency of 96 kHz/ 24 bit resolution and up to 6 audio channels with a sampling frequency of 192 kHz/24 bit resolution. It is fully compatible with conventional products, including conventional DTS digital surround 5.1-channel data.

**DTS NEO:6™ Surround**

DTS NEO:6™ is a matrix decoding technology for achieving 6.1-channel surround playback with 2-channel sources. It includes "DTS NEO:6 Cinema" suited for playing movies and "DTS NEO:6 Music" suited for playing music.

**Dynamic range**

The difference between the maximum undistorted sound level and the minimum discernible level above the noise emitted by the device.

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**F**

**FLAC**

FLAC stands for Free lossless Audio Codec, and is a lossless free audio file format. Lossless means that the audio is compressed without any loss in quality. The FLAC license is as shown below.

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**H**

**HDCP**

When transmitting digital signals between devices, this copyright protection technology encrypts the signals to prevent content from being copied without authorization.

**HDMI**

This is an abbreviation of High-Definition Multimedia Interface, which is an AV digital interface that can be connected to a TV or amplifier. Video signal and audio signal can be connected using 1 cable.

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**I**

**iTunes**

iTunes is the name of the multimedia player provided by Apple Inc. It enables management and playback of multimedia contents including music and movies. iTunes supports many main file formats including AAC, WAV, and MP3.

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**L**

**LFE**

This is an abbreviation of Low Frequency Effect, which is an output channel that emphasizes low frequency effect sound. Surround audio is intensified by outputting 20 Hz to 120 Hz deep bass.

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**M**

**MAIN ZONE**

The room where this unit is placed is called the MAIN ZONE .

**MP3 (MPEG Audio Layer-3)**

This is an internationally standardized audio data compression scheme, using the "MPEG-1" video compression standard. It compresses the data volume to about one eleventh its original size while maintaining sound quality equivalent to a music CD.

**MPEG (Moving Picture Experts Group), MPEG-2, MPEG-4**

These are the names for digital compression format standards used for the encoding of video and audio. Video standards include "MPEG-1 Video", "MPEG-2 Video", "MPEG-4 Visual", "MPEG-4 AVC". Audio standards include "MPEG-1 Audio", "MPEG-2 Audio", "MPEG-4 AAC".

### P

**Progressive (sequential scanning)**

This is a scanning system of video signal that displays 1 frame of video as one image. Compared to the interlace system, this system provides images with less flickering and bleeding.

**Protection Circuit**

This is a function to prevent damage to devices within the power supply when an abnormality such as an overload, excess voltage occurs or temperature for any reason.

In this unit, the power indicator blinks and the unit enters standby mode when an abnormality occurs.

### S

**Sampling frequency**

Sampling involves taking a reading of a sound wave (analog signal) at regular intervals and expressing the height of the wave at each reading in digitized format (producing a digital signal).

The number of readings taken in one second is called the "sampling frequency". The larger the value, the closer the reproduced sound is to the original.

**Speaker impedance**

This is an AC resistance value, indicated in Ω (ohms). Greater power can be obtained with this value smaller.

**sYCC601 color**

Like "x.v.Color", each of these color spaces defines a palette of available colors that is larger than the traditional RGB color model.

### V

**vTuner**

This is a free online content server for Internet radio. Note that usage fees are included in upgrade costs.

For inquiries about this service, visit the vTuner site below.

vTuner website: http://www.radiodenon.com

This product is protected by certain intellectual property rights of Nothing Else Matters Software and BridgeCo. Use or distribution of such technology outside of this product is prohibited without a license from Nothing Else Matters Software and BridgeCo or an authorized subsidiary.

### W

**Windows Media DRM**

This is a copyright protection technology developed by Microsoft.

Content providers are using the digital rights management technology for Windows Media contained in this device (WM-DRM) to protect the integrity of their content (Secure Content) so that their intellectual property, including copyright, in such content is not misappropriated. This device uses WM-DRM software to play Secure Content (WM-DRM Software). If the security of the WM-DRM Software in this device has been compromised, owners of Secure Content (Secure Content Owners) may request that Microsoft revoke the WM-DRM Software's right to acquire new licenses to copy, display and/or play Secure Content. Revocation does not alter the WM-DRM Software's ability to play unprotected content. A list of revoked WM-DRM Software is sent to your device whenever you download a license for Secure Content from the Internet or from a PC. Microsoft may, in conjunction with such license, also download revocation list onto your device on behalf of Secure Content Owners.

**Windows Media Player Ver.11 or later**

This is a media player distributed free of charge by Microsoft Corporation.

It can play playlists created with Ver.11 or later of Windows Media Player, as well as WMA, DRM WMA, WAV, and other files.

**WMA (Windows Media Audio)**

This is audio compression technology developed by Microsoft Corporation.

WMA data can be encoded using Windows Media® Player Ver.7, 7.1, Windows Media® Player for Windows® XP and Windows Media® Player 9 Series.

To encode WMA files, only use applications authorized by Microsoft Corporation. If you use an unauthorized application, the file may not work properly.

### X

**x.v.Color**

This function lets HDTVs display colors more accurately. It enables display with natural, vivid colors. "x.v.Color" is trademark of Sony Corporation.

### Z

**ZONE2**

This unit can operate in a room other than the room where this unit is placed (MAIN ZONE) (ZONE2 playback). The room for ZONE2 playback is called ZONE2.

**ZONE3**

This unit can operate in a room other than the room where this unit is placed (MAIN ZONE) (ZONE3 playback). The room for ZONE3 playback is called ZONE3.

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# Troubleshooting

**If a problem should arise, first check the following:**

**1. Are the connections correct?**

**2. Is the set being operated as described in the owner's manual?**

**3. Are the other devices operating properly?**

If this unit does not operate properly, check the items listed in the table below. Should the problem persist, there may be a malfunction.

In this case, disconnect the power immediately and contact your store of purchase.

【General】

| Symptom | Cause/Solution | Page |
|---|---|---|
| Power does not turn on. | • Check whether the power plug is correctly inserted into the power outlet. | 36 |
| | • The protection circuit is active. Disconnect the power plug from the electric outlet, wait 5 to 10 seconds and then insert it back into the outlet. | 170 |
| Power automatically switches to standby mode. | • The sleep timer is set. Turn on the power again, or change the sleep timer settings. | 97, 105 |
| | • "Auto Standby" is triggered when there is no operation for a set amount of time. To disable "Auto Standby", set "Auto Standby" on the menu to "Off". | 141 |
| Display is off. | • Set "Dimmer" on the menu to something other than "Off". | 141 |
| The power indicator is blinking red in intervals of approximately 2 seconds. | • Due to the temperature rise within this unit, the protection circuit is working. Please turn off power once, and re-apply the power after the temperature has fallen sufficiently. | – |
| | • Please re-install this unit in a place having good ventilation. | – |
| The power indicator is blinking red in intervals of approximately 0.5 seconds. | • Please use speakers which have the specified impedance. | 84 |
| | • The protection circuit has been activated because the speaker cable core wires are touching, a core wire has come loose from the terminal, or a core wire is touching the rear panel of this unit. After unplugging the power cord, take corrective action such as firmly re-twisting the core wire or taking care of the terminal, and then reconnect the wire. | 84 |
| After turning on the power, the power indicator is blinking red in intervals of approximately 0.5 seconds. | • This unit amplifier circuit has failed. Turn off the power and please contact the DENON service adviser. | – |
| Set does not operate properly. | • Reset the microprocessor. | 176 |

【HDMI】

| Symptom | Cause/Solution | Page |
|---|---|---|
| No audio is output with HDMI connection. | • Check the connection of the HDMI connectors. | 11 |
| | • When outputting HDMI audio from the speakers, set "HDMI Audio Out" on the menu to "AVR". | 120 |
| | • When outputting HDMI audio from a TV, set "HDMI Audio Out" on the menu to "TV". | 120 |
| No video is output with HDMI connection. | • Check the connection of the HDMI connectors. | 11 |
| | • Set the input source to match the connected HDMI connector. | 11, 36 |
| | • Check whether the TV is compatible with copyright protection (HDCP). If connected to a device not compatible with HDCP, video will not be output correctly. | 13 |
| When the following operations are performed on devices compatible with HDMI control, the same operations occur on this unit.<br>• Power ON/OFF<br>• Switching audio output devices<br>• Adjust volume<br>• Switch input source | • Set "HDMI Control" in the menu to "Off". Furthermore, if you do not want to link the power off operation with devices compatible with HDMI control, set "Power Off Control" in the menu to "Off". | 95, 121 |
| When the HDMI ZONE2 function is used and an operation is performed in MAIN ZONE, the following operations occur.<br>• The player is turned off or playback pauses.<br>• The input source on this unit automatically changes. | • "HDMI Control" in the menu is set to "On". In this case, the HDMI control function set for MAIN ZONE affects playback in ZONE2. When the HDMI ZONE2 function is used, set "HDMI Control" in the menu to "Off". | 95, 121 |
| | • When the input source for ZONE2 is "SOURCE", select an input source that is different from the one for MAIN ZONE. | – |

| Symptom | Cause/Solution | Page |
|---|---|---|
| When the HDMI ZONE2 function is used, Dolby TrueHD/DTS HD Master Audio/Dolby Digital/DTS cannot be played back in MAIN ZONE. | • Make sure that "HDMI Audio Out" in the menu is set to "AVR". When a same input source is selected for MAIN ZONE and ZONE2, set the ZONE2 ON/OFF button to "OFF", or change the input source for ZONE2 to an input source that is different from the one for MAIN ZONE. | 120 |
| When the HDMI ZONE2 function is used, no video or audio is output to TV in ZONE2. | • Make sure that the power is on for ZONE2.<br>• Check the input source for ZONE2.<br>• Check the output settings (resolution/audio format) for the input device. | 105<br>105<br>– |
| When playing back the input device just to use the HDMI ZONE2 function, the TV used for MAIN ZONE is turned on. | • "HDMI Control" in the menu is set to "On". When using the HDMI ZONE2 function, set "HDMI Control" in the menu to "Off". | 95, 121 |

【Video】

| Symptom | Cause/Solution | Page |
|---|---|---|
| No picture appears. | • Check the connection between the video output terminal of this unit and the input terminal of the TV.<br>• Match the input settings to the input terminal of the TV connected to this unit. | 10, 15<br><br>– |

【Audio】

| Symptom | Cause/Solution | Page |
|---|---|---|
| Audio is not output. | • Check the connections for all devices. | 10,11,15,16, 17,18,19,20, 21,22,23,24, 25, 27 |
| | • Check the speaker connections and configurations. | 85,86,87,88, 89, 90, 91 |
| | • Check whether the audio device power is turned on.<br>• Adjust the master volume.<br>• Cancel the mute mode.<br>• Check the connection with the playback device and select the proper input source.<br>• Match the input mode and the terminal assigned to be the digital input terminal.<br>• Disconnect the headphones. No sound is output from the speakers or the PRE OUT connectors when headphones are connected. | –<br>37, 105<br>37, 105<br>36, 105<br><br>127<br><br>154 |
| The volume does not increase. | • The maximum volume is set too low. Set the maximum volume using "Limit"on the menu.<br>• Power for external devices connected to the output connectors of the unit may not be turned on. Check the power of connected external devices. | 116<br><br>– |
| No sound is produced from surround speaker. | • Check if the surround speakers are connected to the SURROUND terminals. | – |
| No sound is produced from surround back speaker. | • Check if "Assign Mode" is set appropriately in order to output audio from the surround back speakers.<br>• Set "Speaker Config." – "Surr. Back" on the menu to something other than "None".<br>• Set the sound mode to something other than "STEREO" and "VIRTUAL". | 130<br><br>131<br><br>75 |
| No sound is produced from front height speaker. | • Set "Speaker Config." – "Front Height" on the menu to something other than "None". | 131 |
| No sound is produced from front wide speaker. | • Set "Speaker Config." – "Front Wide" on the menu to something other than "None". | 131 |

| Symptom | Cause/Solution | Page |
|---|---|---|
| No sound is produced from subwoofer. | • Check the subwoofer connections. | 85, 86, 87, 88, 89, 90, 91 |
| | • Turn on the subwoofer's power. | – |
| | • Set "Speaker Config." – "Subwoofer" on the menu to "Yes". | 130 |
| | • If "Front" and "Center" for "Speaker Config." are set to "Large", and "Subwoofer Mode" is set to "LFE", no sound may be output from the subwoofers, depending on the input signal or selected sound mode. | 130, 131 |
| DTS sound is not output. | • Set "Decode Mode" on the menu to "Auto" or "DTS". | 127 |
| Dolby TrueHD, DTS-HD, Dolby Digital Plus audio is not output. | • Make HDMI connections. | 11 |
| Dolby PLⅡ mode or DTS NEO:6 mode cannot be selected. | • Check that "Speaker Config." – "Center" or "Surround" is set to other than "None". If the speaker system is 2.0/2.1ch, this sound mode cannot be selected. | 130 |
| | • When headphones are used, Dolby PLⅡ or DTS NEO:6 cannot be selected. | – |
| Audyssey MultEQ® XT, Audyssey Dynamic EQ® and Audyssey Dynamic Volume® cannot be selected. | • Switch the sound mode to other than "DIRECT" or "PURE DIRECT". | 75 |
| | • When headphones are used, Audyssey MultEQ® XT, Audyssey Dynamic EQ® and Audyssey Dynamic Volume® cannot be selected. | – |
| Audyssey DSX® cannot be selected. | • Check that "Speaker Config." – "Front Height" or "Front Wide" is set to other than "None". | 131 |
| | • Check that "Speaker Config." – "Center" is set to other than "None". | 130 |
| | • Switch the sound mode to DOLBY listening mode or DTS listening mode. | 75 |
| | • When headphones are used, Audyssey DSX® cannot be selected. | – |
| Audyssey Dynamic EQ® and Audyssey Dynamic Volume® cannot be selected. | • Run Audyssey® Setup. | 29, 92 |

| Symptom | Cause/Solution | Page |
|---|---|---|
| "Restorer" cannot be selected. | • Check that an analog signal or PCM signal (Sample Rate=44.1/48 kHz) is input. For playback of multichannel signals such as Dolby Digital or DTS surround, "Restorer" cannot be used. | 115 |
| | • Switch the sound mode to other than "DIRECT" or "PURE DIRECT". | 75 |
| When the HDMI ZONE2 function is used, in spite of "Assign Mode" being set to "ZONE2", no audio is output from the speakers connected with this unit. | • The HDMI audio signals selected for ZONE2 are only output to the HDMI ZONE2 OUT connector. (The HDMI audio signals selected for ZONE2 are not output from the speaker of the TV in ZONE2 that is connected to this unit.) | – |

**[FM]**

| Symptom | Cause/Solution | Page |
|---|---|---|
| Reception fails, or there is a lot of noise or distortion. | • Change the antenna orientation or position. | 24 |
| | • Use an FM outdoor antenna. | 24 |
| | • Separate the antenna from other connection cables. | 24 |

**【iPod / USB memory device / Internet radio / Media server / Last.fm / Flickr】**

| Symptom | Cause/Solution | Page |
|---|---|---|
| iPod cannot be played. | • Some iPods do not support being used connected directly to the iPod/USB port. | 21 |
| The file names are not displayed properly ("...", etc.). | • Characters that cannot be displayed are used. This is not a malfunction. On this unit, characters that cannot be displayed are replaced with a "." (period). | – |
| | • Invalid tags are used for files within the USB memory device connected to this unit. Use tags that are supported by this unit. | 42 |
| When a USB memory device is connected, "No Connection" is displayed. | • The set cannot recognize a USB memory device. Check the connection. | 21 |
| | • This unit supports mass storage class and MTP-compatible USB memory devices. It will not recognize other USB memory devices. | – |
| | • A USB memory device that the set cannot recognize is connected. This is not a malfunction. DENON does not guarantee that all USB memory devices will operate or receive power. | – |
| | • USB memory device is connected via USB hub. Connect the USB memory device directly to the iPod/USB port. | – |
| | • The unit supports file structures with up to 8 levels and a total maximum of 5000 subfolders and files per 1 folder. Change the file structure of the USB memory device if necessary. | 42 |
| Files on a USB memory device cannot be played. | • The USB memory device format should be set to FAT16 or FAT32. For details, refer to the USB memory device's operating instructions. | – |
| | • If the USB memory device is divided into multiple partitions, only files in partition one can be played. | – |
| | • Files are stored in a non-compatible format. Record the files in a compatible format. | 42 |
| | • You are attempting to play a file that is copyright protected. Files that are copyright protected cannot be played on this unit. | 42 |
| Internet radio cannot be played. | • Ethernet cable is not properly connected or network is disconnected. Check the connection status. | 27 |
| | • Program is being broadcast in non-compatible format. Only Internet radio programs in MP3 and WMA can be played on this unit. | 56 |
| | • The firewall of the PC or router has been activated. Check the firewall settings of the connected PC or router. | – |
| | • Radio station is not currently broadcasting. Choose a radio station that is currently broadcasting. | 56 |
| | • IP address is wrong. Check the set's IP address. | 136 |
| | • Some radio stations may go silent at certain times of the day. In this case, no audio is output even when a station is received. Try again later, or switch to another radio station. | – |

| Symptom | Cause/Solution | Page |
|---|---|---|
| Files stored on a computer cannot be played. | • Files are stored in a non-compatible format. Record in a compatible format. | 59 |
| | • You are attempting to play a file that is copyright protected. Files that are copyright protected cannot be played on this unit. | 59 |
| | • Set and computer are connected by USB cable. The set's iPod/USB port cannot be used for connection to a computer. | – |
| | • Media sharing settings are not correct. Change media sharing settings so that the unit can access the folders on your computer. | 60 |
| Music stored on a NAS cannot be played. | • If you use a NAS in conformity with the DLNA standard, enable the DLNA server function in the NAS setting. | – |
| | • If you use a NAS that does not conform with the DLNA standard, play the music via a PC. Set Windows Media Player's media sharing function and add NAS to the selected play folder. | 60 |
| | • If connection is restricted, set audio equipment as the connection target. | – |
| Server is not found, or it is not possible to connect to the server. | • The computer's or router's firewall is activated. Check the computer's or router's firewall settings. | – |
| | • Computer's power is not turned on. Turn on the power. | – |
| | • Server is not running. Launch the server. | – |
| | • Set's IP address is wrong. Check the set's IP address. | 136 |
| Cannot connect to preset or favorite radio stations. | • Radio station is not currently broadcasting. Wait a while before trying again. | – |
| | • Radio station is not currently in service. It is not possible to connect to radio stations that are no longer in service. | – |
| A list of broadcasting stations is not displayed. | • Connection to the network is unstable. Reconnect to the network or redo the "Network" setting in the menu. | 27, 137 |
| For some radio stations, "Radio station server full" or "Connection down" is displayed and station cannot be connected to. | • Station is congested or not currently broadcasting. Wait a while before trying again. | – |
| Sound is broken during playback. | • Network or USB memory device's signal transfer speed is slow or communications lines or radio station is congested. This is not a malfunction. When playing broadcast data with a high bit rate, the sound may be broken, depending on the communications conditions. | – |
| Sound quality is poor or noise is heard during play. | • File being played has a low bit rate. This is not a malfunction. | – |

**【AirPlay】**

| Symptom | Cause/Solution | Page |
|---|---|---|
| The AirPlay icon ▲ is not displayed in iTunes or on the iPhone/iPod touch/iPad. | • This unit and the computer or iPhone/iPod touch/iPad are not connected to the same network (LAN). Connect the computer or iPhone/iPod touch/iPad to the same network as this unit. | 27 |
| | • iTunes or the iPhone/iPod touch/iPad do not have firmware that supports AirPlay installed. Update to the latest firmware. | 143 |
| No sound. | • The volume in iTunes or on the iPhone/iPod touch/iPad is set to the minimum setting. Adjust the volume to the optimum level. | – |
| | • This unit is not selected in the screen that is displayed when iTunes or the iPhone/iPod touch/iPad is started. Start iTunes or switch on the iPhone/iPod touch/iPad, click the AirPlay icon ▲ in the displayed screen, and select this unit. | 73 |
| | • AirPlay playback has not started. Click the ► button in iTunes or press the ► button on the iPhone/iPod touch/iPad. | – |
| When using AirPlay with the iPhone/iPod touch/iPad, the sound suffers from intermittent breaks or AirPlay does not function. | • Quit the application running in the background of the iPhone/iPod touch/iPad, and then play using AirPlay. | – |
| | • When playing via a wireless connection, outside conditions may affect the unit. To remedy this, change the network environment, e.g. shorten the distance to the wireless LAN access point. | – |
| | • Update the iPhone/iPod touch/iPad application or iTunes to the latest version. | – |

**【Remote control unit】**

| Symptom | Cause/Solution | Page |
|---|---|---|
| The set cannot be operated with the remote control unit. | • Batteries are worn out. Replace with new batteries. | 158 |
| | • Operate the remote control unit within a distance of about 7 m from this unit and at an angle of within 30°. | 158 |
| | • Remove any obstacle between this unit and the remote control unit. | 158 |
| | • Insert the batteries in the proper direction, checking the ⊕ and ⊖ marks. | 158 |
| | • The set's remote control sensor is exposed to strong light (direct sunlight, inverter type fluorescent bulb light, etc.). Move the set to a place in which the remote control sensor will not be exposed to strong light. | 158 |
| | • The setting of the zone to operate does not match. Press **ZONE SELECT** to select the zone to operate. | 30, 105 |

## Resetting the microprocessor

Perform this procedure if the display is abnormal or if operations cannot be performed.
When the microprocessor is reset, all the settings are reset to their default values.
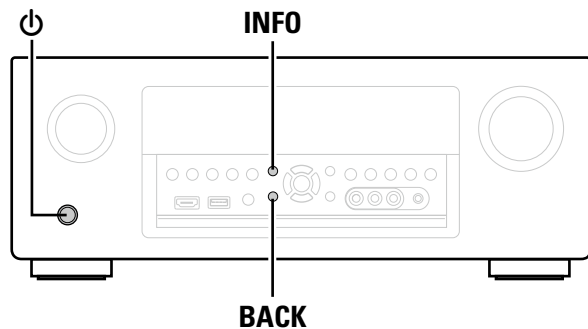


**1** Turn off the power using ⏻.

**2** Press ⏻ while simultaneously pressing **INFO** and **BACK**.

**3** Once the display starts flashing at intervals of about 1 second, release the two buttons.

If in step 3 the display does not flash at intervals of about 1 second, start over from step 1.

# Specifications

## ❏ Audio section

• **Power amplifier**

**Rated output:** Front:
    125 W + 125 W (8 Ω, 20 Hz – 20 kHz with 0.05 % T.H.D.)
    165 W + 165 W (6 Ω, 1 kHz with 0.7 % T.H.D.)
Center:
    125 W (8 Ω, 20 Hz – 20 kHz with 0.05 % T.H.D.)
    165 W (6 Ω, 1 kHz with 0.7 % T.H.D.)
Surround:
    125 W + 125 W (8 Ω, 20 Hz – 20 kHz with 0.05 % T.H.D.)
    165 W + 165 W (6 Ω, 1 kHz with 0.7 % T.H.D.)
Surround back / Front height / Front wide:
    125 W + 125 W (8 Ω, 20 Hz – 20 kHz with 0.05 % T.H.D.)
    165 W + 165 W (6 Ω, 1 kHz with 0.7 % T.H.D.)

**Dynamic power:** 130 W x 2ch (8 Ω)
    190 W x 2ch (4 Ω)
**Output connectors:** 6 – 16 Ω

• **Analog**

**Input sensitivity/Input impedance:** 200 mV/47 kΩ
**Frequency response:** 10 Hz – 100 kHz — +1, –3 dB (DIRECT mode)
**S/N:** 102 dB (IHF–A weighted, DIRECT mode)
**Distortion:** 0.005 % (20 Hz – 20 kHz) (DIRECT mode)
**Rated output:** 1.2 V

• **Digital**

**D/A output:** Rated output — 2 V (at 0 dB playback)
Total harmonic distortion — 0.008 % (1 kHz, at 0 dB)
S/N ratio — 102 dB
Dynamic range — 100 dB
**Digital input:** Format — Digital audio interface

• **Phono equalizer (PHONO input — MEDIA PLAYER OUT)**

**Input sensitivity:** 2.5 mV
**RIAA deviation:** ±1 dB (20 Hz to 20 kHz)
**S/N:** 74 dB (A weighting, with 5 mV input)
**Rated output:** 150 mV
**Distortion factor:** 0.03 % (1 kHz, 3 V)

## ❏ Video section

• **Standard video connectors**

**Input/output level and impedance:** 1 Vp-p, 75 Ω
**Frequency response:** 5 Hz – 10 MHz — 0, –3 dB

• **Color component video connector**

**Input/output level and impedance:** Y (brightness) signal — 1 Vp-p, 75 Ω
    $P_B$ / $C_B$ signal — 0.7 Vp-p, 75 Ω
    $P_R$ / $C_R$ signal — 0.7 Vp-p, 75 Ω
**Frequency response:** 5 Hz – 60 MHz — 0, –3 dB

## ❏ Tuner section
**(ANTENNA input — MEDIA PLAYER)**

**[FM]**
(Note: μV at 75 Ω, 0 dBf = $1 \times 10^{-15}$ W)
**Receiving Range:** 87.5 MHz – 108.0 MHz
**Usable Sensitivity:** 1.2 μV (12.8 dBf)
**50 dB Quieting Sensitivity:** MONO    2.8 μV (20.2 dBf)
**S/N (IHF–A weighted) :** MONO    70 dB
    STEREO    67 dB
**Total harmonic Distortion:** MONO    0.7 % (1 kHz)
    STEREO    1.0 % (1 kHz)

## ❏ General

**Power supply:** AC 230 V, 50/60 Hz
**Power consumption:** 670 W
**Power consumption in standby mode:** 0.1 W
**Power consumption in CEC standby mode:** 0.5 W
**Power consumption in network standby mode:** 2.7 W

For purposes of improvement, specifications and design are subject to change without notice.

# Index

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## List of preset codes

### AVR

| | | |
|---|---|---|
| **D** | Denon | 73347 |

### CBL/SAT group (0✳✳✳✳)

#### CBL

| | | |
|---|---|---|
| **A** | AT&T | 00858 |
| **B** | Bright House | 01376, 01877 |
| **C** | Cable & Wireless | 01068 |
| | Cable One | 01376, 01877 |
| | Cablevision | 01376, 01877 |
| | Charter | 01376, 01877 |
| | Cisco | 01877, 00858, 02378 |
| | Com Hem | 02015 |
| | Comcast | 01376, 01877 |
| | Cox | 01376, 01877 |
| **D** | Daeryung | 01877 |
| **F** | Freebox | 01976 |
| **I** | Insight | 01376, 01877 |
| **K** | KabelBW | 02174 |
| | Knology | 01877 |
| **M** | Mediacom | 01376, 01877 |
| | Motorola | 01376, 00858, 02378 |
| **N** | NTL | 01060, 01068 |
| **O** | Ono | 01068 |
| | Optus | 01060 |
| **P** | Pace | 01376, 01877, 01060, 01068 |
| | Philips | 02174 |
| | Pioneer | 01877 |
| | Premiere | 02174 |
| **R** | RCN | 01376 |
| | Rogers | 01877 |
| **S** | Samsung | 01877, 01060, 02015, 02174 |
| | Scientific Atlanta | 01877, 00858 |
| | Shaw | 01376 |
| | Stofa | 02015 |
| | Suddenlink | 01376, 01877 |
| **T** | Telewest | 01068 |
| | Thomson | 02174 |
| | Time Warner | 01376, 01877 |
| **V** | Verizon | 02378 |
| | Videotron | 01877 |
| | Virgin Media | 01060, 01068 |
| | VTR | 01376 |
| **W** | WideOpenWest | 01877 |
| **Z** | Ziggo | 02015 |

#### CBL/PVR Combination

| | | |
|---|---|---|
| **B** | Bright House | 01376, 01877 |
| **C** | Cable One | 01376, 01877 |
| | Cablevision | 01376, 01877 |
| | Charter | 01376, 01877 |
| | Cisco | 01877 |
| | Comcast | 01376, 01877 |
| | Cox | 01376, 01877 |
| **F** | Freebox | 01976 |
| **I** | Insight | 01376, 01877 |
| **K** | Knology | 01877 |
| **M** | Mediacom | 01376, 01877 |
| | Motorola | 01376 |
| **P** | Pace | 01877 |
| | Pioneer | 01877 |
| | Rogers | 01877 |
| **S** | Samsung | 01877 |
| | Scientific Atlanta | 01877 |
| | Shaw | 01376 |
| | Suddenlink | 01376, 01877 |
| **T** | Time Warner | 01376, 01877 |
| **V** | Videotron | 01877 |
| | VTR | 01376 |
| **W** | WideOpenWest | 01877 |

#### IP TV

| | | |
|---|---|---|
| **A** | AT&T | 00858 |
| **C** | Cisco | 00858, 02378 |
| **M** | Motorola | 01376, 00858, 02378 |
| **P** | Philips | 02174 |
| **S** | Samsung | 02174 |
| | Scientific Atlanta | 00858 |
| **T** | Thomson | 02174 |
| | Verizon | 02378 |

#### MEDIA PLAYER

| | | |
|---|---|---|
| **A** | Apple | 02615 |
| **L** | LG | 03373 |
| **N** | Netgear | 03292 |
| **R** | Roku | 03061 |
| **S** | Sony | 02713 |
| **W** | Western Digital | 02558 |

#### SAT

| | | |
|---|---|---|
| | @Sky | 01334 |
| **A** | Acoustic Solutions | 01284 |
| | Alba | 01284 |
| | Allvision | 01334 |
| | Amstrad | 00847, 01175 |
| | Ansonic | 02418 |
| | ASCI | 01334 |
| | Astrell | 02418 |
| | Atlanta | 02418 |
| | AtSky | 01334 |
| | Audiola | 02418 |
| | Aurora | 00879 |
| | Austar | 00879 |
| | Avanit | 01631 |
| | Awa | 02418 |
| | Axil | 02418 |
| **B** | Bell ExpressVu | 00775 |
| | Belson | 02418 |
| | Black Diamond | 01284 |
| | Boshmann | 01631 |
| | British Sky Broadcasting | 00847, 01175 |
| | BskyB | 00847, 01175 |
| | Bush | 01284, 01291 |
| **C** | Canal Digital | 01334 |
| | Century | 00856 |
| | Chess | 01334 |
| | CityCom | 01176 |
| | Com Hem | 01176, 01915 |
| | Crown | 01284 |
| | CS | 01631 |
| | Cyfra+ | 01409 |
| | Cyfrowy Polsat | 02262 |
| **D** | Denver | 02418 |
| | Dgtec | 01631, 02418 |
| | Dick Smith Electronics | 02418 |
| | Digi Raum Electronics | 01176 |
| | Digiality | 01334 |
| | Digihome | 01284 |
| | DigiLogic | 01284 |
| | DigiQuest | 01631 |
| | DigitalBox | 01631 |
| | Digiwave | 01631 |
| | DirecTV | 01377, 00099 |
| | Dish Network | 00775 |
| | Dishpro | 00775 |
| | DRE | 01176 |
| | DSE | 02418 |
| | DSTV | 00879 |
| | Durabrand | 01284 |
| **E** | Echostar | 00775, 01409, 02262 |
| | Edision | 01631 |
| | Elbe | 02418 |
| | Energy Sistem | 01631, 02418 |
| | Europhon | 01334 |
| | Expressvu | 00775 |
| **F** | Ferguson | 01291 |
| | Foxtel | 00879, 01176, 01356 |
| | Fuji Onkyo | 01631 |
| **G** | Galaxis | 00879 |
| | General Satellite | 01176 |
| | Globo | 01334 |
| | GOI | 00775 |
| | Gold Vision | 01631 |
| | GoldMaster | 01334 |
| | Goodmans | 01284, 01291 |
| | Gradiente | 00856, 00099 |
| | Grocos | 01409 |
| | Grundig | 00847, 00879, 01284, 01291 |
| **H** | Haier | 02418 |
| | Hitachi | 01284 |
| | HTS | 00775 |
| | Hughes Network Systems | 01377 |
| | Humax | 01377, 01176, 01427, 01808, 01915 |
| **I** | ID Digital | 01176 |
| | ID Sat | 01334 |
| | ILLUSION sat | 01631 |
| | Imperial | 01195, 01334 |
| | Indovision | 00856 |
| | Innova | 00099 |
| | inVion | 02418 |
| | ITT | 02418 |
| **J** | Jaeger | 01334 |
| | JVC | 00775 |
| **K** | KabelBW | 01195, 01915 |
| | Kathrein | 01561 |
| | Koenig | 01631 |
| **L** | L&S Electronic | 01334 |
| | Lava | 01631 |
| | Lemon | 01334 |
| | Linsar | 01284 |
| | Lodos | 01284 |
| | Logik | 01284 |
| **M** | Matsui | 01284 |
| | Maximum | 01334 |
| | Medion | 01334 |
| | MegaSat | 01631 |
| | Metronic | 01334, 01631, 02418 |
| | Motorola | 00856 |
| | Movistar | 02262 |
| | Multichoice | 00879 |
| | MySky | 01356 |
| **N** | NEOTION | 01334 |
| | Net Brazil | 02262 |
| | Netsat | 00099 |
| | NPG | 01631 |
| **O** | Onn | 01284 |
| | Optus | 00879, 01356 |
| | Orbis | 01334 |
| | Orbitech | 01195 |
| **P** | Pace | 00847, 01175, 01356 |
| | Pacific | 01284 |
| | Palcom | 01409 |
| | Panasat | 00879 |
| | Panasonic | 00847 |
| | peeKTon | 02418 |
| | Philips | 00856, 00099 |
| | Phoenix | 02418 |
| | Pino | 01334 |
| | Proline | 01284 |
| **R** | RCA | 01291 |
| **S** | SAB | 01631 |
| | Saivod | 02418 |
| | Samsung | 01377, 01175 |
| | SAT+ | 01409 |
| | SatyCon | 01631 |
| | Schaub Lorenz | 02418 |
| | Schwaiger | 01334, 01631 |
| | SEG | 01284 |
| | Shark | 01631 |
| | Sherwood | 01409 |
| | Siemens | 01334, 02418 |
| | Sigmatek | 02418 |
| | SKY | 00856, 00099, 00847, 01175 |
| | SKY Brazil | 00856 |
| | SKY Mexico | 00856 |
| | Sky+ | 01175 |
| | SkyCable | 01631 |
| | Skymaster | 01334, 01409 |
| | Skyplus | 01175, 01334 |
| | Skyvision | 01334 |
| | Skyworth | 01631 |
| | SM Electronic | 01409 |
| | Smart | 01631 |
| | Sony | 00847 |

## Column 1

| | | |
|---|---|---|
| | Strong | 00879, 01284, 01409, 02418 |
| | Systec | 01334 |
| | Sytech | 02418 |
| T | TBoston | 02418 |
| | Technika | 01284 |
| | TechniSat | 01195 |
| | Techwood | 01284 |
| | TELE System | 01409 |
| | Telefonica | 02262 |
| | Telestar | 01195, 01334 |
| | Televes | 01334 |
| | Tevion | 01409 |
| | Thomson | 00847, 01175, 01291 |
| | Toshiba | 01284 |
| | Triax | 01291, 01631 |
| | Tricolor TV | 01176 |
| U | UEC | 00879, 01356 |
| | United | 02418 |
| V | VEA | 02418 |
| | Vestel | 01284 |
| | Viasat | 01195 |
| | Viva | 00856 |
| | Vivax | 02418 |
| | Volcasat | 02418 |
| W | Wharfedale | 01284 |
| | Woxter | 02418 |
| X | Xsat | 00847 |
| Z | Zehnder | 01334, 01631 |
| | Zenith | 00856 |

### CBL/SAT/PVR Combination

| | | |
|---|---|---|
| C | Com Hem | 01176 |
| F | Foxtel | 01356 |
| H | Humax | 01176 |
| K | Kathrein | 01561 |
| P | Pace | 01356 |
| T | TechniSat | 01195 |

### SAT/PVR Combination

| | | |
|---|---|---|
| A | Amstrad | 01175 |
| B | Bell ExpressVu | 00775 |
| | British Sky Broadcasting | 01175 |
| | BskyB | 01175 |
| D | DirecTV | 01377, 00099 |
| | Dish Network | 00775 |
| | Dishpro | 00775 |
| E | Echostar | 00775 |
| | Edision | 01631 |
| | Expressvu | 00775 |
| F | Foxtel | 01356 |

## Column 2

| | | |
|---|---|---|
| | Fuji Onkyo | 01631 |
| H | Humax | 01377, 01176, 01427, 01808 |
| I | ID Sat | 01334 |
| J | JVC | 00775 |
| K | Kathrein | 01561 |
| M | Maximum | 01334 |
| | MegaSat | 01631 |
| | MySky | 01356 |
| N | NEOTION | 01334 |
| O | Orbitech | 01195 |
| P | Pace | 01175, 01356 |
| | Philips | 00099 |
| S | Samsung | 01377, 01175 |
| | SKY | 01175 |
| | SkyCable | 01631 |
| | Skyplus | 01175, 01334 |
| | Skyworth | 01631 |
| | Smart | 01631 |
| T | TechniSat | 01195 |
| | Telestar | 01195 |
| | Thomson | 01175 |
| V | Viasat | 01195 |

# TV group (1****)

### TV

| | | |
|---|---|---|
| A | A.R. Systems | 10556 |
| | Acoustic Solutions | 11037 |
| | AEG | 11037 |
| | Akai | 10556 |
| | Akura | 11037 |
| | Alba | 11037 |
| | Alien | 11037 |
| | Amstrad | 11037 |
| | AOC | 10625 |
| | Aristona | 10556 |
| | ART | 11037 |
| B | Barco | 10556 |
| | Basic Line | 10556, 11037 |
| | Belstar | 11037 |
| | Berthen | 10556 |
| | Black Diamond | 11037 |
| | Blue Sky | 10556, 10625, 11037 |
| | Brandt | 10625 |
| | Bush | 10556, 11037 |
| C | Carad | 11037 |
| | Centrum | 11037 |
| | Clayton | 11037 |
| | CPTEC | 10625 |
| | Crown | 11037 |

## Column 3

| | | |
|---|---|---|
| D | D-Vision | 10556 |
| | Daewoo | 10556 |
| | Dantax | 11037 |
| | Dual | 11037 |
| | Durabrand | 11037 |
| E | Elbe | 10556 |
| | Elfunk | 11037 |
| | Emerson | 11864 |
| | Envision | 11506 |
| | Excello | 11037 |
| F | Ferguson | 10625, 11037 |
| | Finlux | 10556 |
| | Firstline | 10556, 11037 |
| | Freesat | 11636 |
| | Funai | 11037 |
| G | Gaba | 11037 |
| | GE | 11454, 10625 |
| | GFM | 11864 |
| | Goodmans | 10556, 10625, 11037 |
| | Grandin | 10556, 11037 |
| | Grundig | 10556 |
| H | Hanseatic | 10556, 10625 |
| | Hisense | 10556 |
| | Hitachi | 11643, 11037, 11691 |
| | Hypson | 10556, 11037 |
| | Hyundai | 11037 |
| I | Inno Hit | 11037 |
| | Insignia | 11423 |
| | Internal | 10556 |
| J | Jinxing | 10556 |
| | JMB | 10556 |
| | Jubilee | 10556 |
| | JVC | 11601, 11428 |
| K | Kathrein | 10556 |
| | Kendo | 11037 |
| | Kennex | 11037 |
| | Kioto | 10556 |
| | Kneissel | 10556 |
| L | Lavis | 11037 |
| | Lenco | 11037 |
| | LG | 11423, 10556 |
| | Lifetec | 11037 |
| | Lodos | 11037 |
| | Logik | 11037 |
| | Luma | 11037 |
| | Luxor | 11037 |
| M | Magnavox | 11867, 11454, 11506 |
| | Manhattan | 11037 |
| | Marantz | 11454, 10556 |
| | Matsui | 10556, 11037 |
| | Mediator | 10556 |
| | Medion | 10556, 11037 |

## Column 4

| | | |
|---|---|---|
| | MEI | 11037 |
| | Memorex | 11037 |
| | Metronic | 10625 |
| | Metz | 11037 |
| | Micromaxx | 11037 |
| | Mikomi | 11037 |
| | Mitsubishi | 11250, 10556, 11037, 12313 |
| | Multitec | 11037 |
| | Myryad | 10556 |
| N | Neckermann | 10556 |
| | NEI | 11037 |
| | Neufunk | 10556 |
| | New Tech | 10556 |
| O | O.K.Line | 11037 |
| | Orion | 10556, 11037 |
| | Ormond | 11037 |
| | Osaki | 10556 |
| | Otto Versand | 10556 |
| P | Pacific | 10556, 11037 |
| | Palladium | 10556 |
| | Panasonic | 11480, 11636, 12170 |
| | Pansonic | 11636 |
| | Philips | 10810, 11867, 11454, 10556, 11506 |
| | Phonola | 10556 |
| | Pioneer | 11457, 11636 |
| | Prinston | 11037 |
| | Proline | 10625, 11037 |
| | Protech | 11037 |
| | ProVision | 10556 |
| | Pye | 10556 |
| Q | Quelle | 11037 |
| R | Radiola | 10556 |
| | Radiotone | 11037 |
| | RCA | 11454, 10625, 12429 |
| | Reflex | 11037 |
| | Roadstar | 11037 |
| S | Saba | 10625 |
| | Saivod | 11037 |
| | Samsung | 12051, 10556 |
| | Sanyo | 11142, 11037 |
| | SBR | 10556 |
| | Schneider | 10556, 11037 |
| | Schoentech | 11037 |
| | Seelver | 11037 |
| | SEG | 11037 |
| | Sharp | 11423, 10818, 11407, 13101 |
| | Siera | 10556 |
| | SilverCrest | 11037 |
| | Sony | 10810, 11167, 12778 |
| | Soundwave | 11037 |
| | Standard | 11037 |

## Column 5

| | | |
|---|---|---|
| | SuperTech | 10556 |
| | Sylvania | 11864 |
| T | TCL | 12429 |
| | Teac | 11037 |
| | Technica | 11037 |
| | Technics | 10556 |
| | TechniSat | 10556 |
| | Technosonic | 10556, 10625 |
| | Techwood | 11037 |
| | Tecnimagen | 10556 |
| | Telefunken | 10625 |
| | Telestar | 10556 |
| | Teletech | 11037 |
| | Tensai | 11037 |
| | Tesla | 10556, 11037 |
| | Tevion | 10556, 11037 |
| | Thomson | 10625 |
| | Tokai | 11037 |
| | Tokaido | 11037 |
| | Topline | 11037 |
| | Toshiba | 11524, 11037, 11508, 12311, 13105 |
| | TRANS-continents | 10556, 11037 |
| | Triad | 10556 |
| | Triumph | 10556 |
| | TVTEXT 95 | 10556 |
| U | United | 10556, 11037 |
| | Universum | 11037 |
| V | Vestel | 11037 |
| | Victor | 11428 |
| | Vizio | 11758 |
| W | Waltham | 11037 |
| | Watson | 11037 |
| | Weltstar | 11037 |
| | Wharfedale | 10556 |
| | Wilson | 11037 |
| | Windsor | 11037 |
| | Windy Sam | 10556 |
| Y | Yamaha | 11407 |
| Z | Zenith | 11423 |

### TV/DVD Combination

| | | |
|---|---|---|
| B | Black Diamond | 11037 |
| | Blue Sky | 11037 |
| | Bush | 11037 |
| C | Centrum | 11037 |
| | Crown | 11037 |
| D | Dual | 11037 |
| E | Elfunk | 11037 |
| | Emerson | 11864 |
| F | Ferguson | 11037 |

| | | |
|---|---|---|
| G | Goodmans | 11037 |
| H | Hitachi | 11037 |
| L | LG | 11423 |
| | Logik | 11037 |
| | Luxor | 11037 |
| M | Matsui | 11037 |
| P | Panasonic | 12170 |
| | Philips | 11454, 10556 |
| S | Samsung | 12051 |
| | SEG | 11037 |
| | Sharp | 10818 |
| | Sony | 12778 |
| | Sylvania | 11864 |
| T | Technica | 11037 |
| | Teletech | 11037 |
| | Thomson | 10625 |
| | Toshiba | 11524 |
| U | United | 11037 |
| V | Vestel | 11037 |
| W | Weltstar | 11037 |

## TV/VCR Combination

| | | |
|---|---|---|
| F | Ferguson | 10625 |
| G | Grundig | 10556 |
| M | Mitsubishi | 10556 |
| P | Philips | 10556 |
| E | Radiola | 10556 |
| S | Saba | 10625 |
| | Schneider | 10556 |
| | Sharp | 10818 |
| T | Technics | 10556 |
| | Thomson | 10625 |

# VCR/PVR group (2✳✳✳✳)

### VCR

| | | |
|---|---|---|
| D | DirecTV | 20739 |
| H | Humax | 20739 |
| P | Panasonic | 21378 |
| | Philips | 20739 |
| T | TiVo | 20739 |

### PVR

| | | |
|---|---|---|
| D | DirecTV | 20739 |
| H | Humax | 20739 |
| P | Philips | 20739 |
| T | TiVo | 20739 |

# BD/DVD group (3✳✳✳✳)

### DVD

| | | |
|---|---|---|
| | 3D LAB | 30539 |
| A | Accurian | 30675 |
| | AEG | 30675 |
| | Akai | 30675 |
| | Alba | 30539 |
| | Aristona | 30539 |
| B | Bel Canto Design | 31571 |
| | Blue Parade | 30571 |
| | Brandt | 30503 |
| C | California Audio Labs | 30490 |
| | Centrum | 30675 |
| | Clatronic | 30675 |
| D | Dantax | 30539 |
| | Denon | 30490, 31634, 33698 |
| | Disney | 30675 |
| | DSE | 30675 |
| | Durabrand | 30675 |
| E | Emerson | 30675 |
| | EuroLine | 30675 |
| F | Finlux | 30741 |
| | Funai | 30675 |
| G | GFM | 30675 |
| | Go Video | 30741 |
| | GoldStar | 30741 |
| | GPX | 30741 |
| | Grundig | 30539 |
| H | Hanseatic | 30741 |
| | Hitachi | 30573 |
| I | Insignia | 30675, 30741 |
| | Integra | 30571, 31634, 32147 |
| J | JVC | 30539, 30503, 32365 |
| K | Kenwood | 30490 |
| L | LG | 30741 |
| | Loewe | 30539, 30741 |
| | Lumatron | 30741 |
| | Lunatron | 30741 |
| | Luxman | 30573 |
| M | Magnavox | 30539, 30503, 30675 |
| | Marantz | 30539, 32414 |
| | Medion | 30741 |
| | Metz | 30571 |
| | Micromedia | 30539, 30503 |
| | Micromega | 30539 |
| N | NAD | 30741 |
| | NEC | 30741 |
| O | Onkyo | 30503, 32147 |

### Blu-ray Disc

| | | |
|---|---|---|
| D | Denon | 32258, 33698 |
| F | Funai | 30675 |
| I | Insignia | 30675 |
| | Integra | 32147 |
| J | JVC | 32365 |
| L | LG | 30741 |
| M | Magnavox | 30675 |
| | Marantz | 32414 |
| O | Onkyo | 32147 |
| P | Panasonic | 31641, 32523, 32859 |
| | Philips | 32434, 32084 |
| | Pioneer | 30142, 32442 |
| S | Samsung | 30199 |

| | | |
|---|---|---|
| P | Panasonic | 30490, 31641, 30503, 32523, 32859 |
| | Philco | 30675 |
| | Philips | 32056, 30539, 32434, 32084, 30503, 30675 |
| | Pioneer | 30571, 30142, 30631, 31571, 32442 |
| | Polk Audio | 30539 |
| | Presidian | 30675 |
| | Pye | 30539 |
| R | Radionette | 30741 |
| | RCA | 30571 |
| | REC | 30490 |
| S | Salora | 30741 |
| | Samsung | 30199, 30573, 30490 |
| | Schneider | 30539 |
| | Semp | 30503 |
| | Sharp | 30675, 32250, 32479, 33313 |
| | Sherwood | 30741 |
| | Silva Schneider | 30741 |
| | Skantic | 30539 |
| | Sony | 31633, 31516, 31033, 32178, 32180, 33519 |
| | Sylvania | 30675 |
| | Symphonic | 30675 |
| T | Targa | 30741 |
| | Tchibo | 30741 |
| | TCM | 30741 |
| | Teac | 30675, 30741, 30571 |
| | Technics | 30490 |
| | Theta Digital | 30571 |
| | Toshiba | 30503, 32705 |
| U | United | 30675 |
| | Universum | 30741 |
| | Urban Concepts | 30503 |
| W | Windy Sam | 30573 |
| Y | Yamaha | 30490, 30539, 32298 |
| Z | Zenith | 30503, 30741 |

| | | |
|---|---|---|
| | Sharp | 32250, 32479, 33313 |
| | Sony | 31516, 32178, 32180, 33519 |
| | Sylvania | 30675 |
| T | Toshiba | 32705 |
| Y | Yamaha | 32298 |

### DVD-R

| | | |
|---|---|---|
| A | Accurian | 30675 |
| D | Denon | 30490 |
| E | Emerson | 30675 |
| F | Funai | 30675 |
| G | Go Video | 30741 |
| | GPX | 30741 |
| L | LG | 30741 |
| | Loewe | 30741 |
| M | Magnavox | 30675 |
| | Medion | 30741 |
| P | Panasonic | 30490, 32523, 32859 |
| | Pioneer | 30631 |
| S | Samsung | 30490 |
| | Sharp | 30675, 32479, 33313 |
| | Sony | 31633, 31516, 31033, 32178, 32180, 33519 |
| | Sylvania | 30675 |
| T | Targa | 30741 |
| Z | Zenith | 30741 |

### HD-DVD

| | | |
|---|---|---|
| L | LG | 30741 |

# Audio group (4✳✳✳✳)

### CD

| | | |
|---|---|---|
| A | Advantage | 40032 |
| C | California Audio Labs | 40029 |
| D | Denon | 42867, 42868 |
| | DKK | 40000 |
| G | Genexxa | 40000, 40032 |
| H | Hitachi | 40032 |
| M | Marantz | 40029 |
| | MCS | 40029 |
| | Memorex | 40032 |
| | Miro | 40000 |
| N | NAD | 40000 |
| O | Optimus | 40000, 40032 |
| P | Panasonic | 40029 |
| | Pioneer | 40032 |
| Q | Quasar | 40029 |
| R | RCA | 40032 |

| | | |
|---|---|---|
| S | Sony | 40000 |
| T | Tandy | 40032 |
| | Technics | 40029 |
| W | Wards | 40000, 40032 |
| Y | Yamaha | 40032, 41292 |

### CD-R

| | | |
|---|---|---|
| D | Denon | 42868 |
| S | Sony | 40000 |
| Y | Yamaha | 41292 |

## Dimensions

**Unit : mm**

**Weight : 12.0 kg**