PIONEER

Instruction Manual

AV RECEIVER
VSX-535
VSX-535DAB

En

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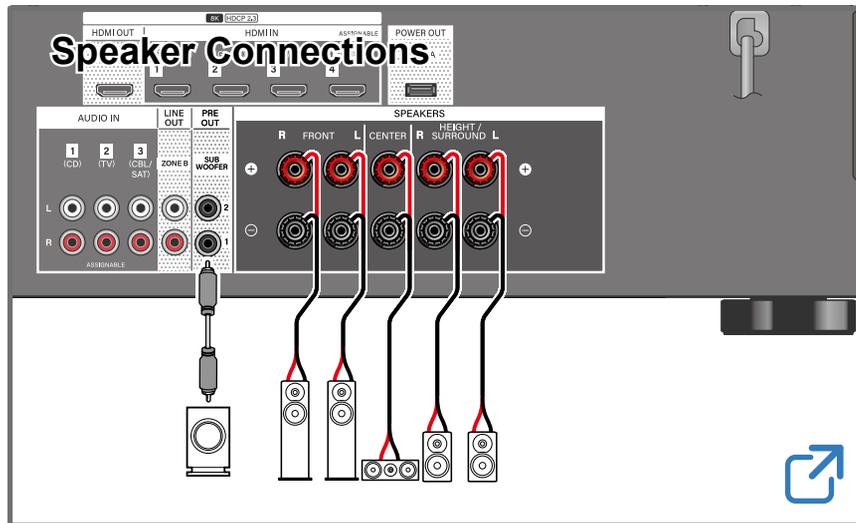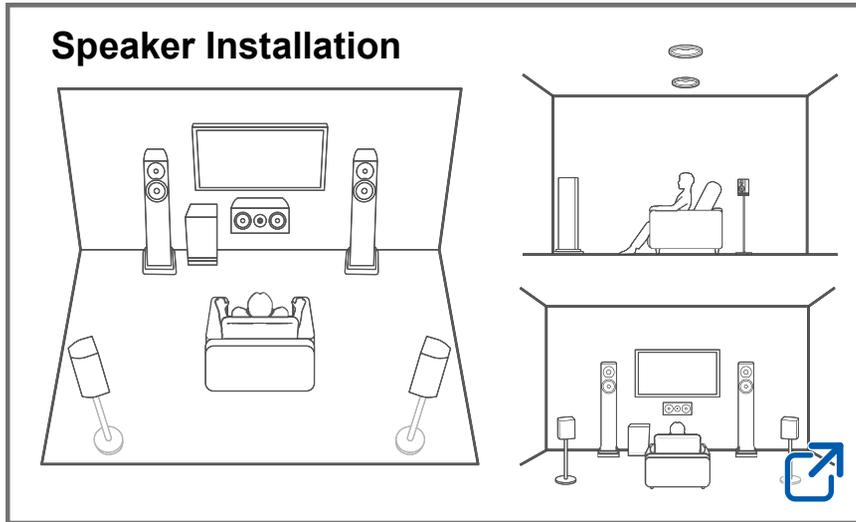
Firmware Update

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Supplementary Information

Features, etc. released in firmware updates

Reducing the Power Consumption in Standby State

When the following functions are enabled, the power consumption in standby state increases. To reduce the power consumption in standby state, check each setting and set the functions to "Off".

Speaker Installation

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Connections

Playback

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Appendix

Before starting the procedure

■ **What's in the box**

①

②   ③   ④

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① Main unit (1)
② Remote controller (RC-971R) (1), Batteries (AAA/R03) (2)
③ Speaker setup microphone (1)
  • Used during Initial Setup.
④ Indoor FM antenna (North American, Taiwanese, Middle East, Australian and Asian model) (1)
⑤ AM loop antenna (North American, Taiwanese, Middle East, Australian and Asian model) (1)
⑥ DAB/FM antenna (European models) (1)
• Initial Setup Guide (1)

* This document is an online instruction manual. This is not supplied with the product.

■ **Note**

• Connect speakers with an impedance of 4 Ω to 16 Ω.
• The power cord must be connected only after all other connections are completed.
• We will not accept any responsibility for damage arising from the connection with equipment manufactured by other companies.
• Details on the firmware update will be posted on our website and through other means at a later date.
• The illustrations in this manual use those of North American models unless otherwise mentioned.
• Specifications and appearance are subject to change without prior notice.

Firmware Update

Disclaimer: The program and accompanying online documentation are furnished to you for use at your own risk.

Our company will not be liable and you will have no remedy for damages for any claim of any kind whatsoever concerning your use of the program or the accompanying online documentation, regardless of legal theory, and whether arising in tort or contract.

In no event will our company be liable to you or any third party for any special, indirect, incidental, or consequential damages of any kind, including, but not limited to, compensation, reimbursement or damages on account of the loss of present or prospective profits, loss of data, or for any other reason whatsoever.

Update Information of the firmware

For the latest firmware contents and the firmware version, visit website.

Checking the Firmware Version of the Unit

To confirm the firmware version of your product, press the ⌂ HOME button on the remote controller, and refer to "Miscellaneous" - "Firmware Update" - "Version" ( ).

Firmware Update Procedure

Updating can take about 20 minutes. Existing settings are maintained.

Updating via USB

- Save only the updating data on the USB storage device. Delete any other data.
- While updating the firmware, do not do the following:
  – Disconnecting and reconnecting cables, USB storage device, speaker setup microphone or headphones, or performing operations on the unit such as turning the power off
- Prepare a 1 GB or larger USB storage device. The format of USB storage devices supports FAT16 or FAT32 file system format.
  – Media inserted into a USB card reader may not be used for this function.
  – USB storage devices equipped with the security function are not supported.
  – USB hubs and USB devices equipped with the hub function are not supported. Do not connect these devices to the unit.
- If "HDMI CEC" is set to "On", set it to "Off".
  – Press ⌂ HOME button. Next, select "Hardware" - "HDMI", press ENTER, select "HDMI CEC" and select "Off".
  * Depending on the USB storage device or its content, long time may be required for loading, the content may not be loaded correctly, or power may not be supplied correctly.
  * Our company will not be liable whatsoever for any loss or damage of data, or storage failure arising from the use of the USB storage device. Please note this in advance.
  * The descriptions may differ from the actual on-screen displays, however, operations and functions are the same.

Update

1. Connect the USB storage device to your PC.
2. Download the firmware file from the our company's website to your PC and unzip.
   Firmware files are named as below.
      PIOAVR∗∗∗∗_R∗∗∗.zip
   Unzip the file on your PC. The number of unzipped files and folders varies depending on the model.
3. Copy all unzipped files and folders to the root folder of the USB storage device.
   • Make sure to copy the unzipped files.
4. Connect the USB storage device to the USB port of this unit.
   • If an AC adapter is supplied with the USB storage device, connect the AC adapter, and use it with a household outlet.
   • If the USB storage device has been partitioned, each section will be treated as an independent device.
5. Turn on the power of the unit and wait for about 20 seconds.
6. Press the ⌂ HOME button on the remote controller, select "Miscellaneous" - "Firmware Update" - "Update via USB" with the cursors in order, then press ENTER.
   • If "Firmware Update" is not available for selection, wait until the system has started.
   • "Update via USB" will not be available for selection if the firmware of the unit is the latest.
7. Press ENTER with "Update" selected, and start update.
   "Completed!" is displayed when updating is completed.
   • Check the progress on the display of the unit.
   • During the update, do not turn the power off, or disconnect or reconnect the USB storage device.
8. Disconnect the USB storage device from the unit.
9. Press ⏻ STANDBY/ON button on the main unit to turn the unit into standby mode. The process is completed, and your firmware is updated to the latest version.
   • Do not use ⏻ STANDBY/ON button on the remote controller.

If an Error Message is Displayed

If an error occurs, "∗-∗∗ Error!" is displayed on the display of the unit. ("∗" represents an alphanumeric character.) Refer to the following descriptions and check.

Error Code
• ∗-01, ∗-10:
   The USB storage device cannot be recognized. Check if the USB storage device or USB cable is securely inserted to the USB port of the unit.
   Connect the USB storage device to an external power source if it has its own power supply.
• ∗-05, ∗-13, ∗-20, ∗-21:
   The firmware file is not present in the root folder of the USB storage device, or the firmware file is for another model. Retry from the download of the firmware file.
• Others:
   After removing the power plug once, insert it to the outlet, and then start the operation from the beginning.

Part Names

Front Panel
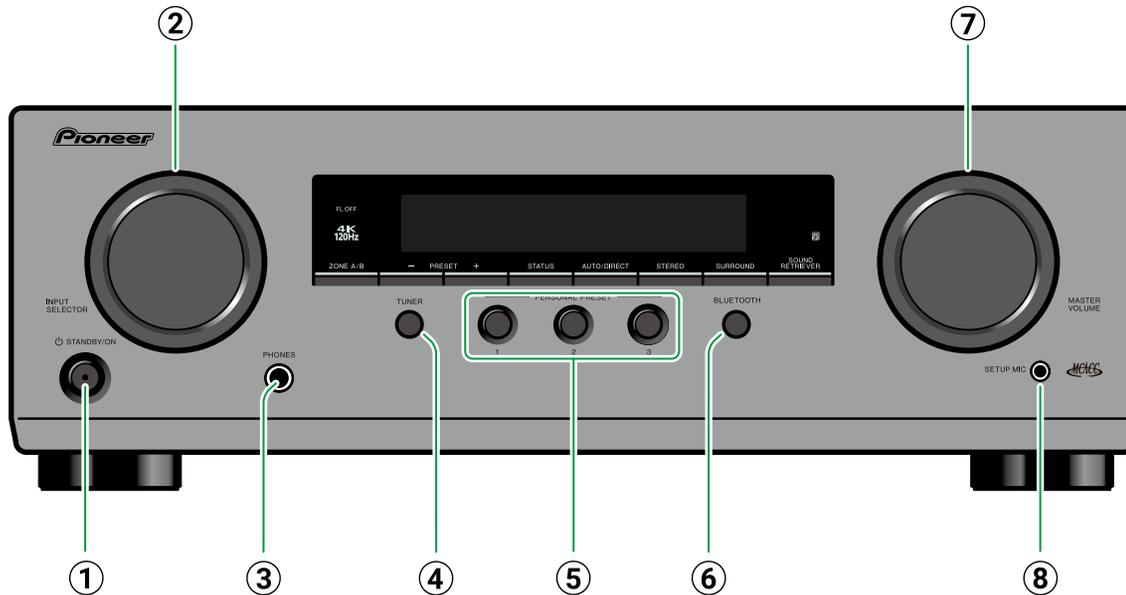
① ⏻ **STANDBY/ON button**
② **INPUT SELECTOR dial**: Switch the input to be played.
③ **PHONES jack**: Headphones with a standard plug (ø1/4" / 6.3 mm) are connected.
④ **TUNER button***1 **/DAB/FM button***2 : Switches the input to be played to "TUNER". Also, pressing this button repeatedly switches the input between "AM"*1, "FM" and "DAB"*2.
*1 North American, Taiwanese, Middle East,

Australian and Asian models
*2 European models
⑤ **PERSONAL PRESET 1/2/3 buttons**: Registers the current setting conditions such as input selector, listening mode, etc. or call the registered settings. (→**p50**)
⑥ **BLUETOOTH button**: Switches the input to be played to "BLUETOOTH".
⑦ **MASTER VOLUME**
⑧ **SETUP MIC jack**: Connect the supplied speaker

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Sound Retriever function that provides better sound quality for compressed audio.

⑰ **Remote control sensor**: Receives signals from the remote controller.
 • The signal range of the remote controller is within about 16′/5 m, at an angle of 20° on the perpendicular axis and 30° to either side.
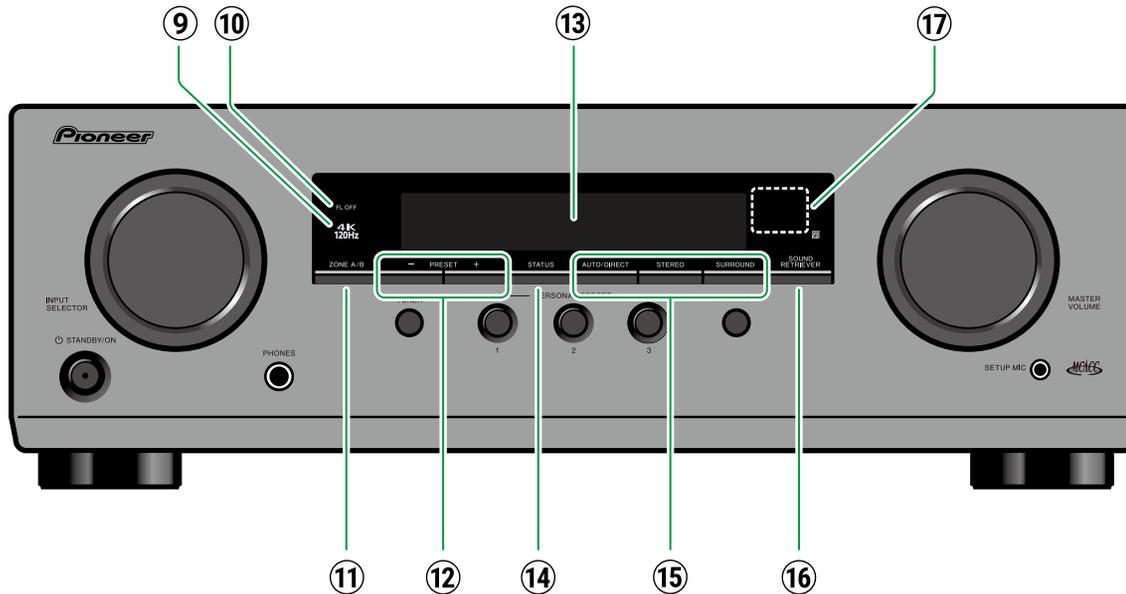
⑨ **4K 120Hz indicator**: Lights up when output video signals with 4K 120Hz.

⑩ **FL OFF indicator**: Lights up when the display is turned off by repeatedly pressing the DIMMER button on the remote controller.

⑪ **ZONE A/B button**: Selects an audio output destination from among "ZONE A", "ZONE B" and "ZONE A+B". **(→p48)**

⑫ **PRESET +/- button**: Selects preset radio stations registered when using TUNER.

(→p44)

⑬ **Display** (→p10)

⑭ **STATUS button**: Switches the information on the display and is used to operate RDS (European, Middle East, Australian and Asian models). (→p42)

⑮ **Listening mode button**: Press "AUTO/ DIRECT", "SURROUND" or "STEREO" to switch the listening mode. (→p38)

⑯ **SOUND RETRIEVER button**: Turns on/off the

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Display

A).
B: Outputs audio only to the other place (ZONE B).
AB: Outputs audio to both the main room (ZONE A) and other place (ZONE B).
⑥ Lights when headphones are connected.
⑦ Blinks when muting is on.
⑧ Lights when adjusting the volume.
⑨ Speaker/Channel display: Displays the output channel that corresponds to the selected listening mode.

① Displays various information of the input signals.
② Lights in the following conditions.
   ⁕: Connected by BLUETOOTH.
   HDMI: HDMI signals are input and the HDMI input is selected.
   DIGITAL: Digital signals are input and the digital input is selected.
③ Lights according to the type of input digital audio signal and the listening mode.
④ Lights in the following conditions.

RDS (European, Middle East, Australian and Asian models): Receiving RDS broadcasting.
TUNED: Receiving DAB (European models)/AM(North American, Taiwanese, Middle East, Australian and Asian models)/FM radio.
STEREO: Receiving FM stereo.
SLEEP: Sleep timer is set. (→**p71**)
AUTO STBY: Auto Standby is set. (→**p71**)
⑤ Displays the audio output destination.
   A: Outputs audio only to the main room (ZONE A)

Rear Panel

supplied antennas.
***ANTENNA DAB/FM terminal** (European models): Connect the supplied antennas.
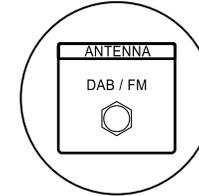
① **HDMI OUT jacks**: Transmit video signals and audio signals with an HDMI cable connected to a TV.

② **HDMI IN jacks**: Transmit video signals and audio signals with an HDMI cable connected to an AV component.

③ **POWER OUT port**: You can supply power (5 V/1 A) to the Streaming media player connected to the HDMI IN terminal of this unit with a USB cable (→**p29**). The playback

function of music files and power supply to smart phones/tablets, or other devices are not supported.

④ **Power cord**

⑤ **DIGITAL AUDIO IN OPTICAL/COAXIAL jacks**: Input TV or AV component digital audio signals with a digital optical cable or digital coaxial cable.

⑥ **ANTENNA AM LOOP/FM UNBAL 75 Ω terminal**: (North American, Taiwanese, Middle East, Australian and Asian models) Connect the

Rear Panel
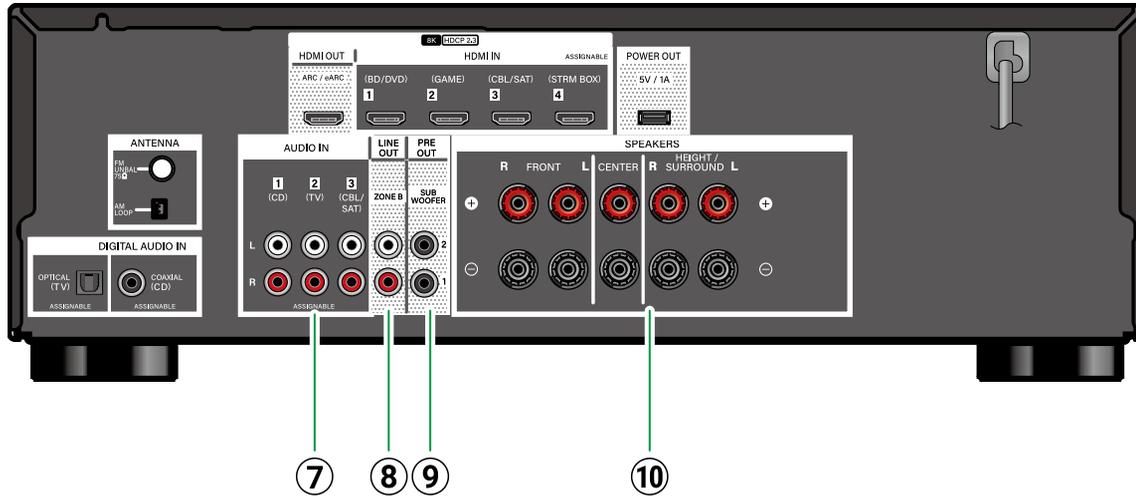
⑦ **AUDIO IN jacks**: Input TV or AV component audio signals with an analog audio cable.

⑧ **ZONE B LINE OUT jacks**: Output audio signals with an analog audio cable connected to an integrated amplifier or a transmitter in the other place (ZONE B).

⑨ **SUBWOOFER PRE OUT jack**: Connect a powered subwoofer with a subwoofer cable. Up to two powered subwoofers can be connected. The same signal is output from each of the SUBWOOFER PRE OUT jacks.

⑩ **SPEAKERS terminals**: Connect speakers with speaker cables. (North American and Taiwanese models are banana plug ready. Use plugs with a diameter of 4 mm.) Y plug connection is not supported.

Remote Controller
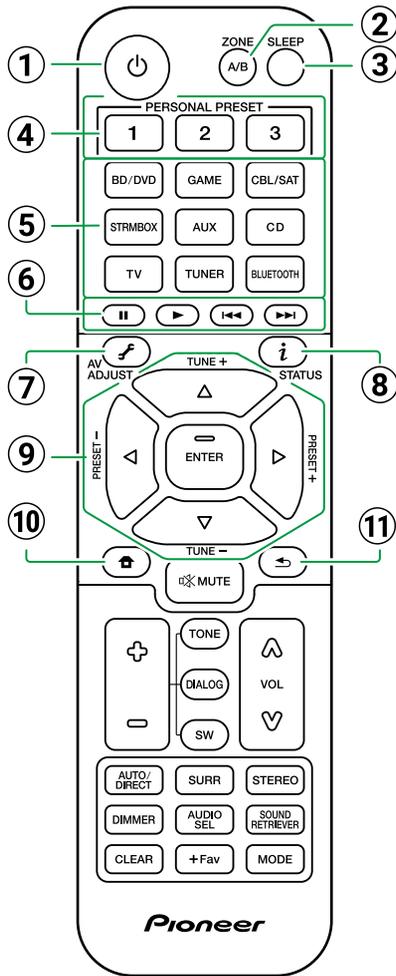
① ⏻ **STANDBY/ON button**

② **ZONE A/B button**: Selects an audio output destination from among "ZONE A", "ZONE B" and "ZONE A+B". (→**p49)**

③ **SLEEP button**: Set the sleep timer. Select the time from "30 min", "60 min" and "90 min". (→**p71**)

④ **PERSONAL PRESET 1/2/3 buttons**: Registers the current setting conditions such as input selector, listening mode, etc. or call the registered settings. (→**p50**)

⑤ **Input selector buttons**: Switches the input to be played.

⑥ **Play buttons**: Used for playback operation of a BLUETOOTH-enabled device. If the unit is switched to "CEC MODE" using the ㉑ MODE button, an HDMI CEC function-enabled AV component can be operated. (Depending on the device, operation may not be possible.)

⑦ 🛠 **AV ADJUST button**: Settings such as "HDMI" and "Audio" can be made quickly during play on the TV screen. (→**p46**)

⑧ 𝑖 **STATUS button**: Switches the information on the display and is used to operate RDS (European, Middle East, Australian, and Asian models) (→**p42**).

⑨ **Cursor ▲ / ▼ / ◀ / ▶ UP/DOWN/LEFT/RIGHT buttons and ENTER button**: Select the item with the cursors, and press ENTER to confirm your selection.

⑩ 🏠 **HOME button**: Display advanced setting items on the TV or the display to have a more enjoyable experience with this unit. (→**p52**)

⑪ ↰ **RETURN/EXIT button**: Returns the display to the previous state.

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Remote Controller
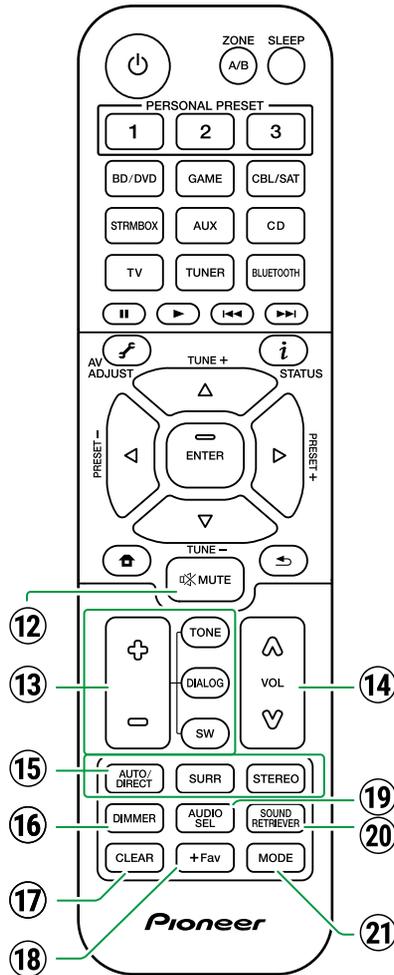
⑫ ◁× **MUTE button**: Temporarily mutes audio. Press the button again to cancel muting.

⑬ **TONE/DIALOG/SW buttons**: Adjusts the sound quality of the speakers and volume level of the subwoofer. (→**p45**)

⑭ **VOLUME buttons**

⑮ **LISTENING MODE buttons**: Selects a listening mode (→**p38**).

⑯ **DIMMER button**: You can switch the display off or adjust the brightness of the display in three steps.

⑰ **CLEAR button**: Deletes all characters you have entered when entering text on the TV screen.

⑱ **+Fav button**: Used to register DAB (European models)/AM (North American, Taiwanese, Middle East, Australian and Asian models)/FM radio stations. (→**p44**)

⑲ **AUDIO SEL button**: When a device is connected to two or more audio input terminals for one input selector, you can select which audio input signal to play.

⑳ **SOUND RETRIEVER button**: Turns on/off the Sound Retriever function that provides better sound quality for compressed audio.

㉑ **MODE button**: Switches between automatic tuning and manual tuning (→**p40**) for AM (North American, Taiwanese, Middle East, Australian and Asian models)/FM stations, and allows you to select the order for displaying DAB stations (European models) (→**p43**). Also, when an HDMI CEC function-enabled AV component is connected to this unit, you can switch "⑥ Play buttons" between "CEC MODE" and "RCV MODE" (normal mode).

Inputting Characters

You can input characters or symbols on the keyboard displayed on the TV screen such as when naming a preset radio station (→**p66**).

1. Select a character or symbol with the cursors ▲ / ▼ / ◄ / ► UP/DOWN/LEFT/ RIGHT on the remote controller and press the ENTER button.
2. When saving characters after input, select "OK" and press the ENTER button.
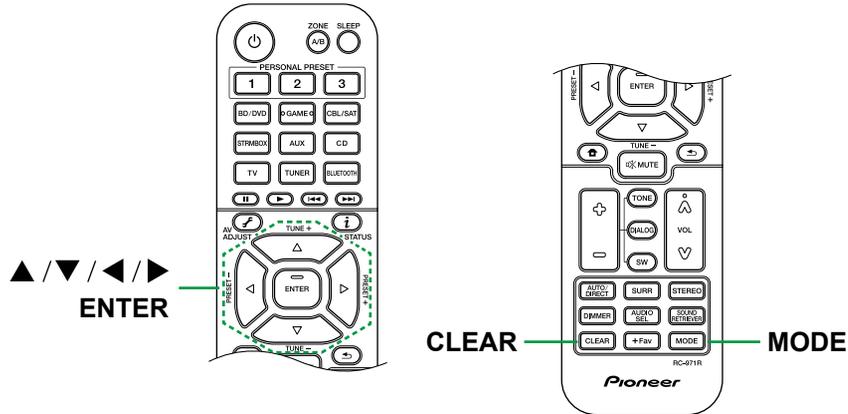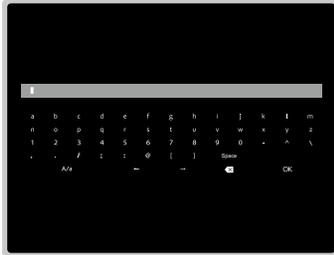
- Select "A/a" to switch between upper and lower cases. (Can also be switched with the MODE button on the remote controller.)
- To enter a space, select "Space".
- To delete a character on the left of the cursor, select "⌫".
- To delete all the input characters, press the CLEAR button on the remote control.

▲ / ▼ / ◄ / ►
ENTER

CLEAR   MODE

Speaker Installation
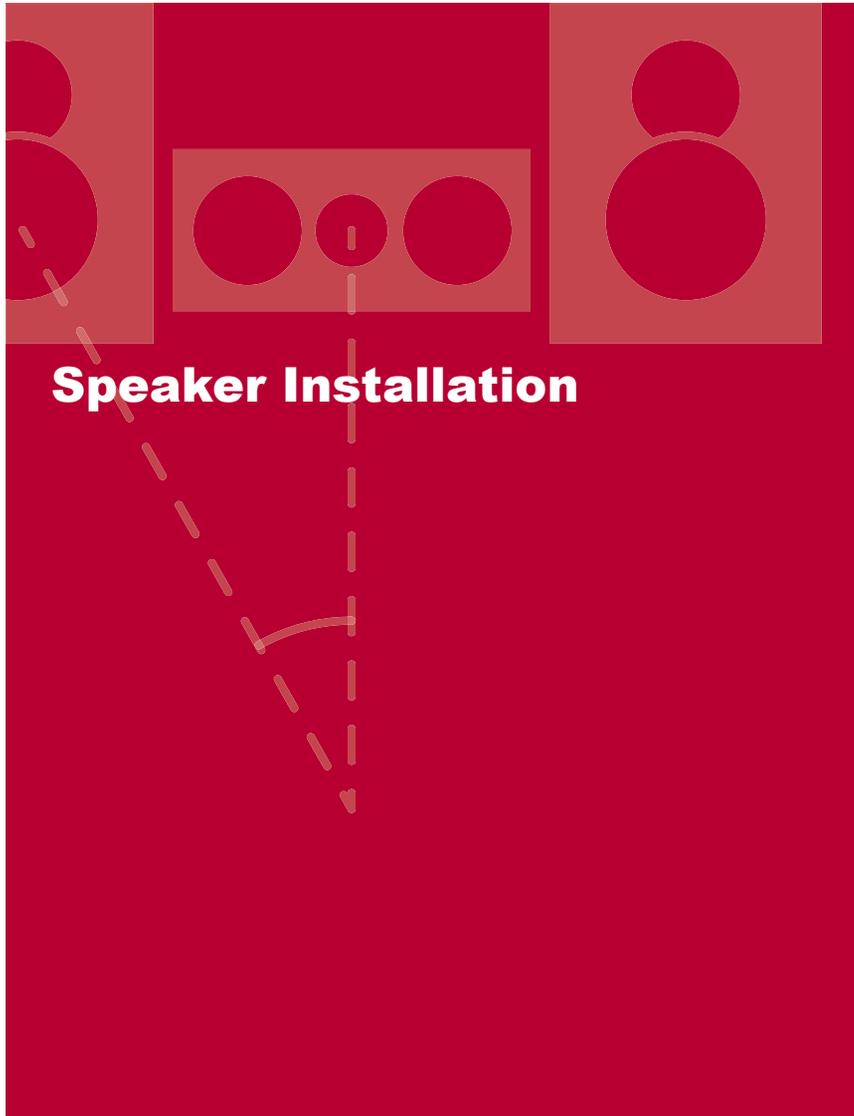
Setting Up the Speakers

How the speakers are set up depends on the size and shape of the room, so here we introduce just a basic layout example.

The alphabetic symbols used in this chapter represent the following speakers:

FL	Front speaker Left
FR	Front speaker Right
C	Center speaker
SW	powered SubWoofer
SL	Surround speaker Left
SR	Surround speaker Right
FHL	Front High speaker Left
FHR	Front High speaker Right
TML	Top Middle speaker Left
TMR	Top Middle speaker Right
DFL	Dolby enabled speaker Front Left
DFR	Dolby enabled speaker Front Right

3.1ch

5.1ch

3.1.2ch

❏ **Speaker Connections (** →**p19****)**
❏ **Speaker Combinations (** →**p97****)**

■ 3.1 Channel System
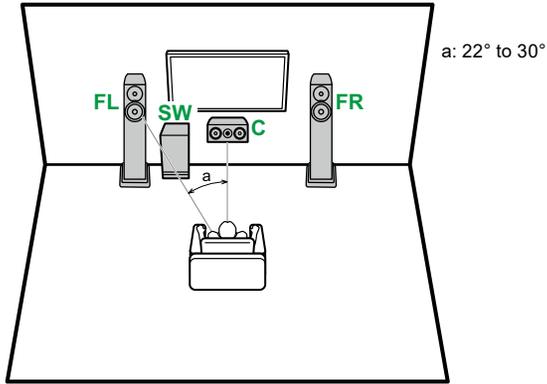
a: 22° to 30°

FL, FR Place the Left and Right Front Speakers to match ear height.
C The center speaker should be set up facing the listening position at an angle.
SW Place next to the Front Speakers.

■ 5.1 Channel System
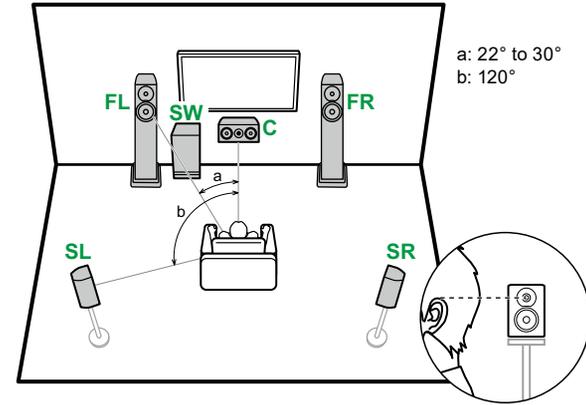
a: 22° to 30°
b: 120°

FL, FR Place the Left and Right Front Speakers to match ear height.
C The center speaker should be set up facing the listening position at an angle.
SW Place next to the Front Speakers.
SL, SR Place the Left and Right Surround Speakers to be just above ear height.

3.1ch

5.1ch

3.1.2ch

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■ 3.1.2 Channel System

High Speakers

a: 22° to 30°
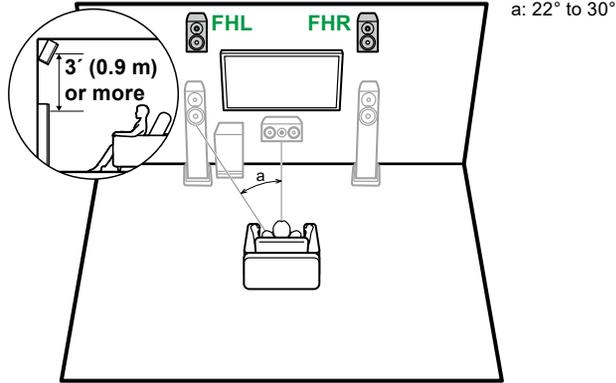
FHL, FHR   Place the front high speakers directly above the front speakers, angled to face the listening position.

Top Speakers

a: 65° to 100°
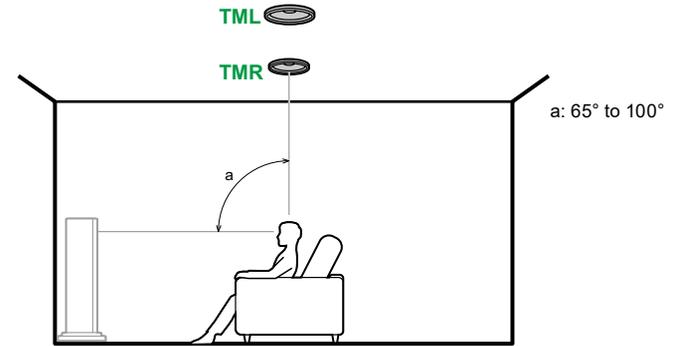
TML, TMR   Fit top middle speakers on the ceiling directly above the listening position.
• Match the lateral distance of the top speakers to the front speakers.

Dolby Enabled Speakers

a: 22° to 30°
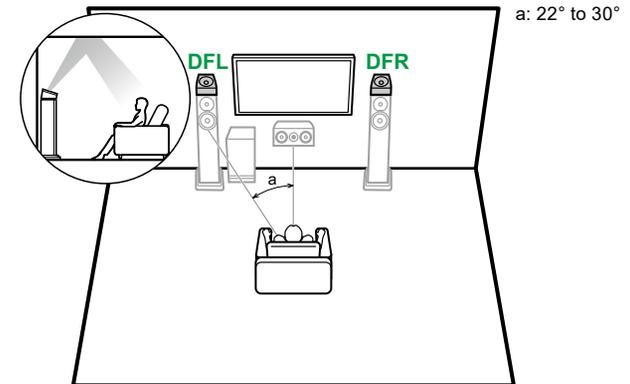
DFL, DFR   The Dolby enabled speakers (front) are installed on top of the front speakers.

■ **3.1.2 ch connection (→p24)**

3.1ch

5.1ch

3.1.2ch

Speaker Connections

(Before starting the procedure)
Speakers you can use with this unit and cable
connections   **20**

4-16Ω

3.1ch

5.1ch

3.1.2ch

Speakers you can use with this unit and cable connections

■ Speakers you can use with this unit

This unit supports speakers with 4 Ω to 16 Ω impedance. For speaker impedance, check the speaker instruction manual.

■ (Note) Speaker Impedance

If any of the speakers to be connected has an impedance of 4 Ω or more and less than 6 Ω, set "Speaker Impedance" to "4ohms" for "Speaker Setup" in the Initial Setup section (→**p74**). When setting "Speaker Impedance" from the Setup menu, press the ⌂ HOME button on the remote controller to display the Setup menu, and set "Speaker" - "Configuration", then set "Speaker Impedance" (→**p58**) to "4ohms".

■ Connect the Speaker Cables

∗: 1/2″ (12 mm)
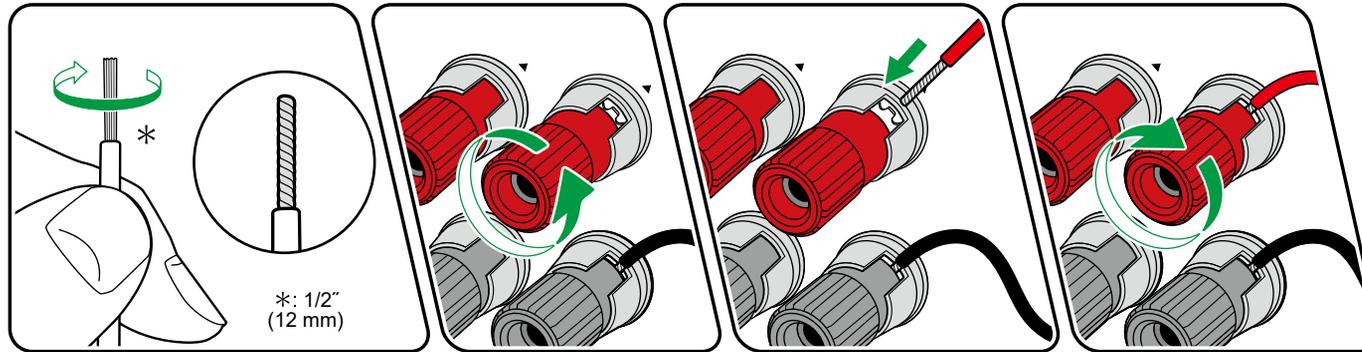
Make correct connection between the unit's jacks and speaker's jacks (+ side to + side, and - side to - side) for each channel. If the connection is wrong, a bass sound will not be reproduced properly due to reverse phase. Twist the wires exposed from the tip of the speaker cable so that the wires do not stick out of the speaker terminal when connecting. If the exposed wires touch the rear panel, or the + side and - side wires touch each other, a malfunction may occur.

3.1ch

5.1ch

3.1.2ch

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Connect the Subwoofer
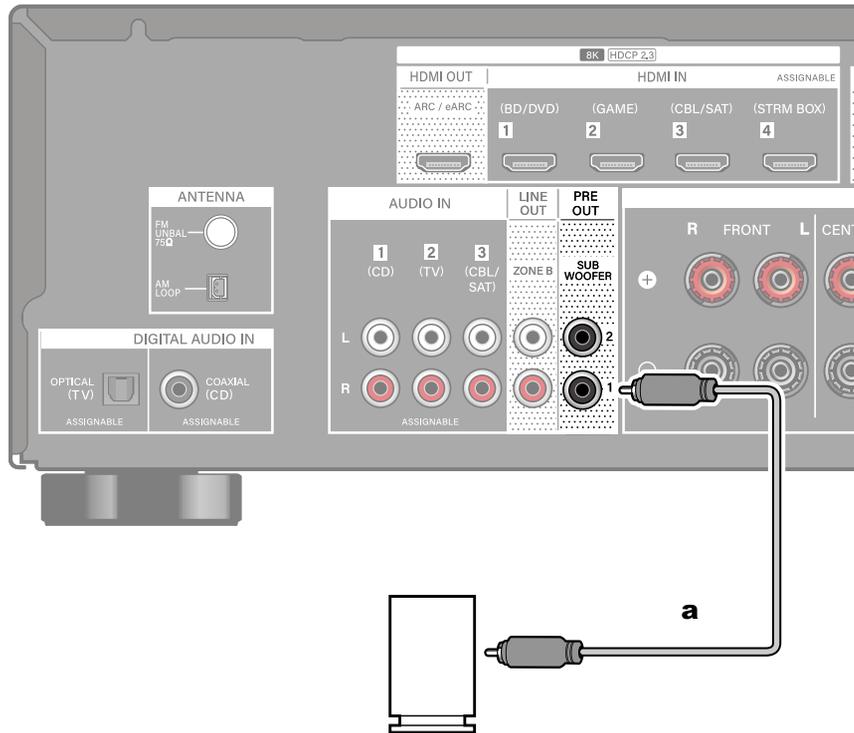
Connect a powered subwoofer with this unit using a subwoofer cable.
- Up to two powered subwoofers can be connected. The same signal is output from each SUBWOOFER PRE OUT jack.

a Subwoofer cable

3.1ch

5.1ch

3.1.2ch

■ 3.1 Channel System

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■ 5.1 Channel System

23
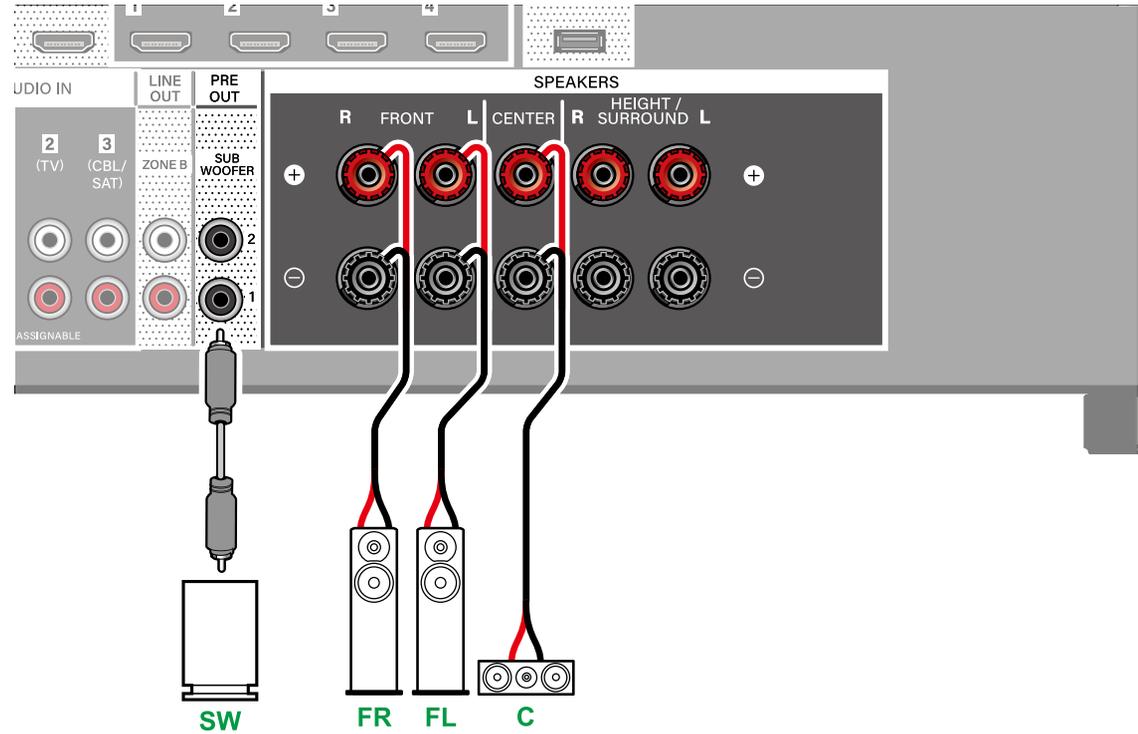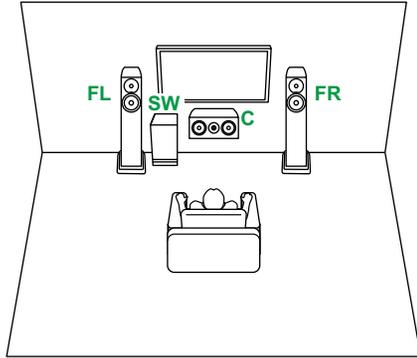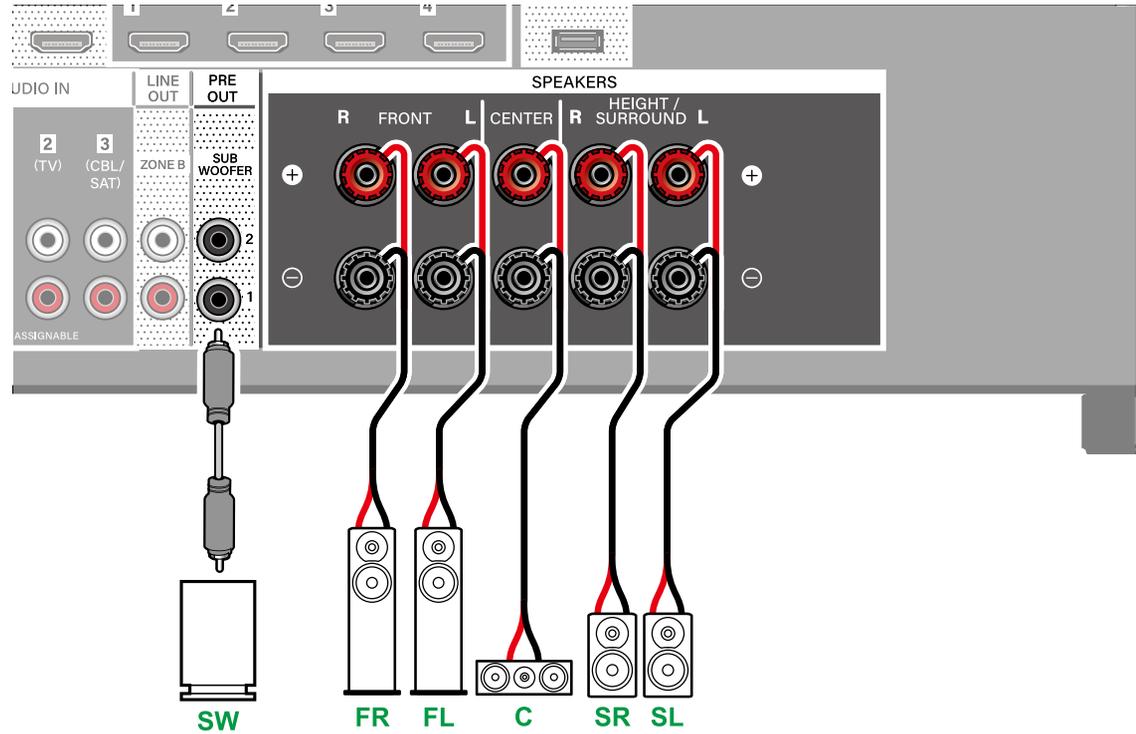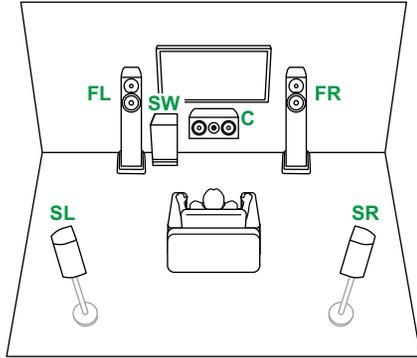
■ 3.1.2 Channel System
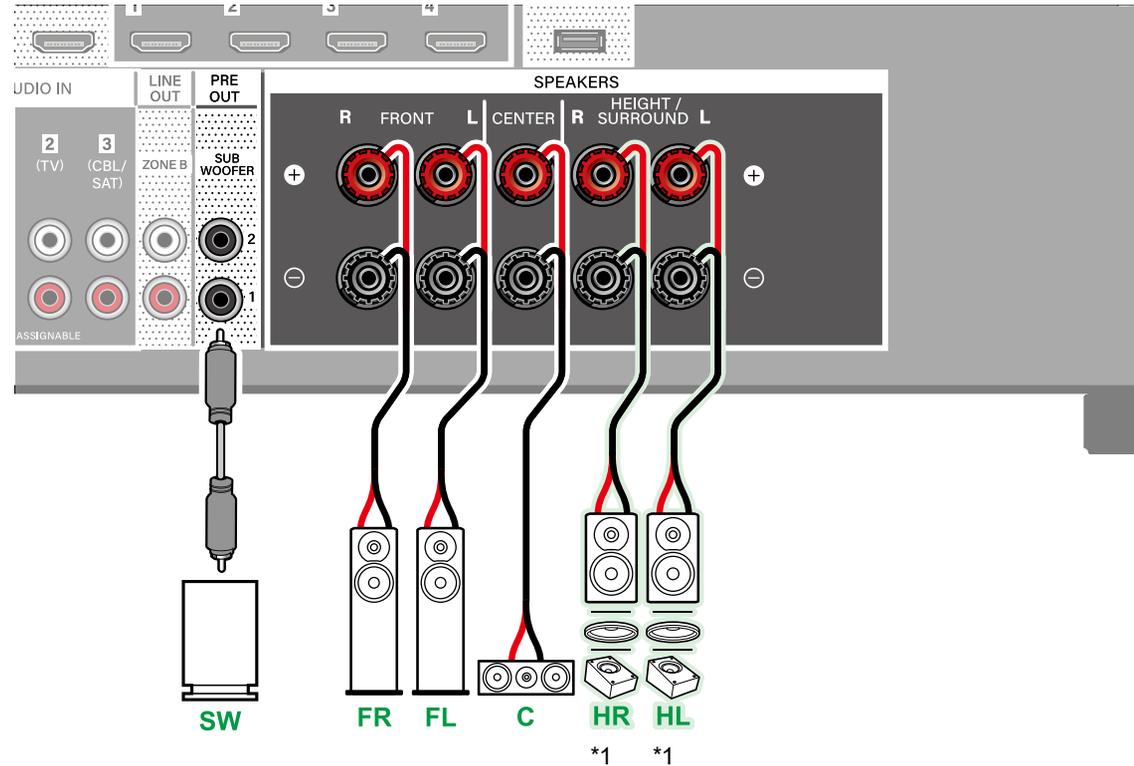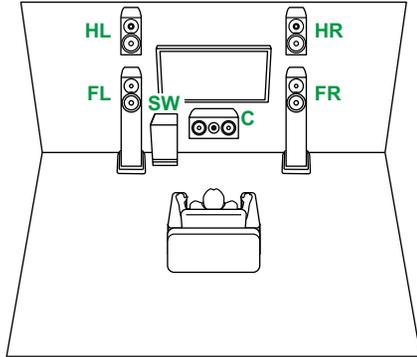
*1 Connect the Height Speakers you have actually installed (HL/HR: Height Speakers, Top Speakers, Dolby Enabled Speakers).

3.1ch

5.1ch

3.1.2ch

Connections

Notes regarding connections with HDMI cables

HDMI (High-Definition Multimedia Interface) is a digital interface standard for connecting TVs, projectors, Blu-ray Disc players, game consoles, and other video components. With HDMI, a single cable can carry control signals, digital video, and digital audio.

Connections

Push HDMI cables straight in and all the way. You can damage the terminals if you try to insert at an angle.

Correct	Incorrect

Correct	Incorrect
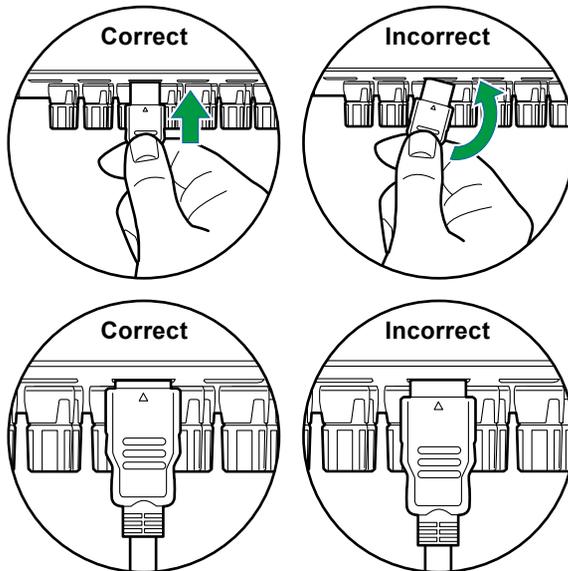
- Hold the terminal housing on the HDMI cable when unplugging. Pulling on the cable may lead to damaged cabling.

■ (Note) Placement of cables

Putting a load on HDMI cables can lead to poor operational performance. Place the cables so there is no load put on them.

Correct	Incorrect	Incorrect
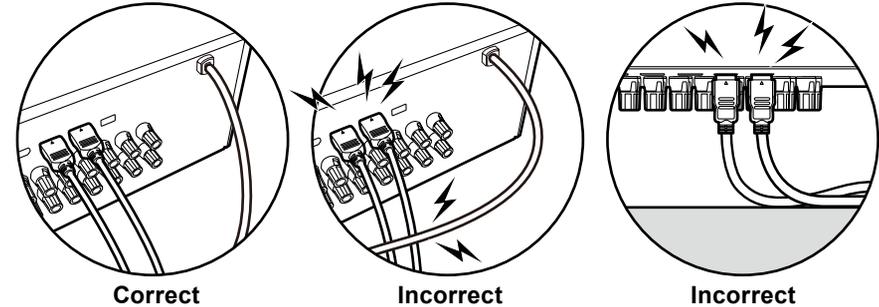
- When 4K high-quality video (4K 120 Hz, etc.) or 8K high-quality video (8K 60 Hz, etc.) is to be played, use ULTRA High Speed HDMI Cable that has the "ULTRA HIGH SPEED" label attached to the packaging.

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Connecting the TV

By connecting a TV to this unit, you can show the video from AV devices connected to this unit on the TV and also play the sound from the TV through this unit.

Be sure to insert the HDMI cable all the way in.
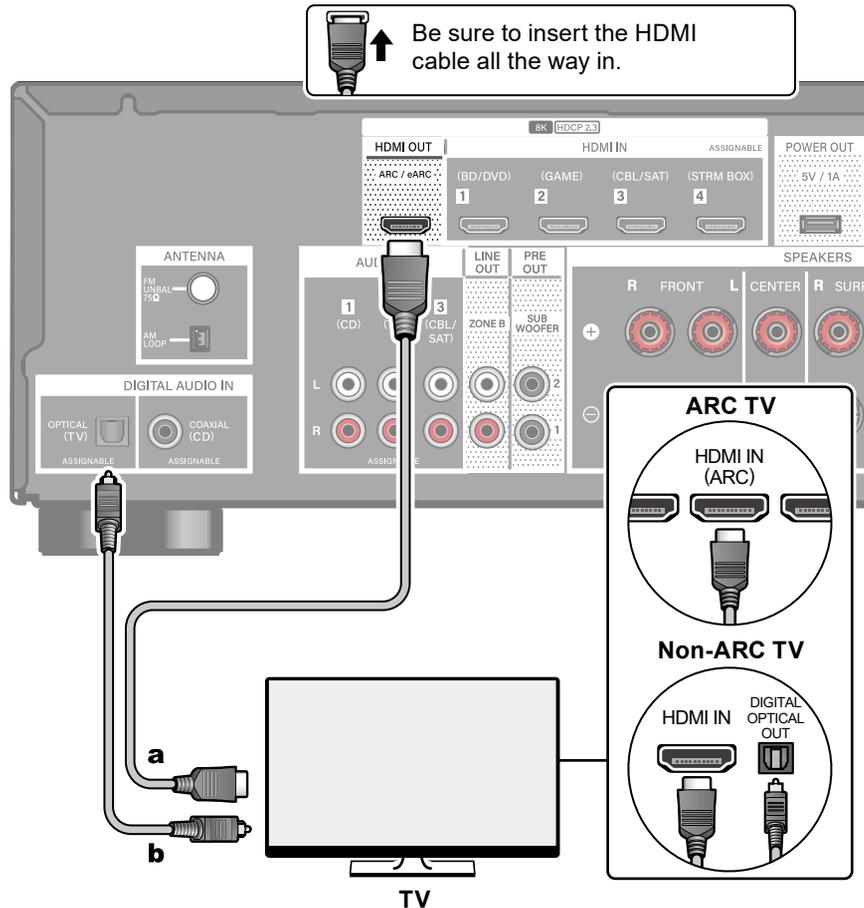
a HDMI cable, **b** Digital optical cable

To ARC/eARC TV

If the TV supports the ARC (Audio Return Channel) function(*), use only the HDMI cable to connect with the TV. Use the ARC-compatible HDMI IN jack of the TV for connection. You connect the HDMI cable to the HDMI OUT jack labeled "ARC" on the receiver side.
- When a TV compatible with the eARC function is connected, use an HDMI cable that supports Ethernet.

To Non-ARC TV

If the TV does not support the ARC (Audio Return Channel) function(*), connect an HDMI cable and digital optical cable. If the TV does not have a DIGITAL OPTICAL OUT jack, you can use an analog audio cable to connect with the AUDIO IN TV jack.
- If you use a cable set-top box, etc. connected to the input jack of this unit to watch TV (without using a TV's built-in tuner), connection with a digital optical cable or analog audio cable is not required.

Setup
- When not using the ARC function, set "Hardware" - "HDMI" - "Audio Return Channel (eARC supported)" (→**p69**) in the setup menu to "Off".

(*)The ARC function and eARC function transmit the audio signals of the TV via an HDMI cable, and plays the audio of the TV on this unit. To check if the TV supports the ARC function and eARC function, refer to the instruction manual of the TV, etc.
ARC/eARC compatible audio formats (→**p100**)

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- Settings are required when 8K high-quality video is to be played. Refer to "HDMI 4K/8K Signal Format" (→**p54**) for information on the settings. Also, use an HDMI cable that supports 8K video.

Connecting Playback Devices

Connections to BD/DVD and GAME with HDMI jacks

Be sure to insert the HDMI cable all the way in.

a

BD/DVD   **GAME**   **Cable/Satellite set-top box**

a HDMI cable
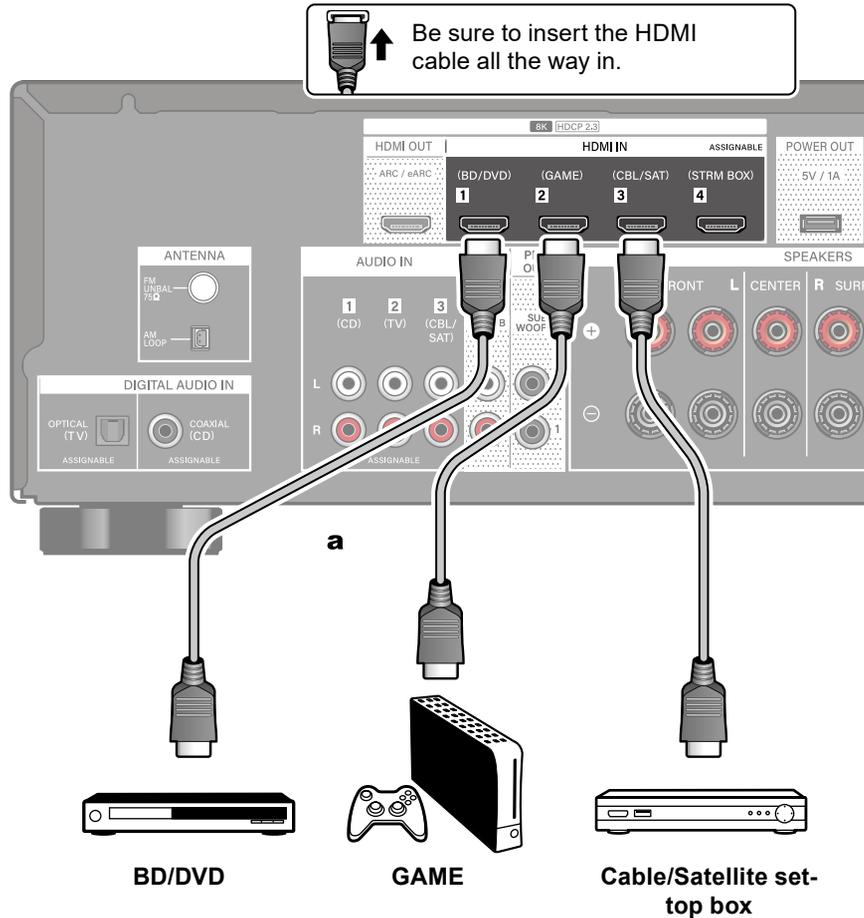
This is a connection example of an AV component equipped with an HDMI jack. When connecting with an AV component that conforms to the CEC (Consumer Electronics Control) standard, you can use the HDMI CEC function(*) that enables linking with input selectors, etc. and the HDMI Standby Through function that can transmit video and audio signals of the AV component to the TV even if this unit is in standby mode.

- Settings are required when 8K high-quality video is to be played. Refer to "HDMI 4K/8K Signal Format" (→**p54**) for information on the settings. Also, use an HDMI cable that supports 8K video.
- The corresponding resolution is different depending on the HDMI jack connected. See "Corresponding input resolutions" (→**p101**) for details.

Note

- To enjoy digital surround sound including Dolby Digital, set the audio output of the connected Blu-ray Disc player etc. to the Bitstream output.

(*)The HDMI CEC function: This function enables various linking operations with CEC-compliant devices, such as switching input selectors interlocking with a CEC-compliant player, switching audio output between TV and this unit or adjusting the volume using the remote controller of a CEC-compliant TV, and automatically switching this unit to standby when the TV is turned off.

29

Connecting an Audio Component
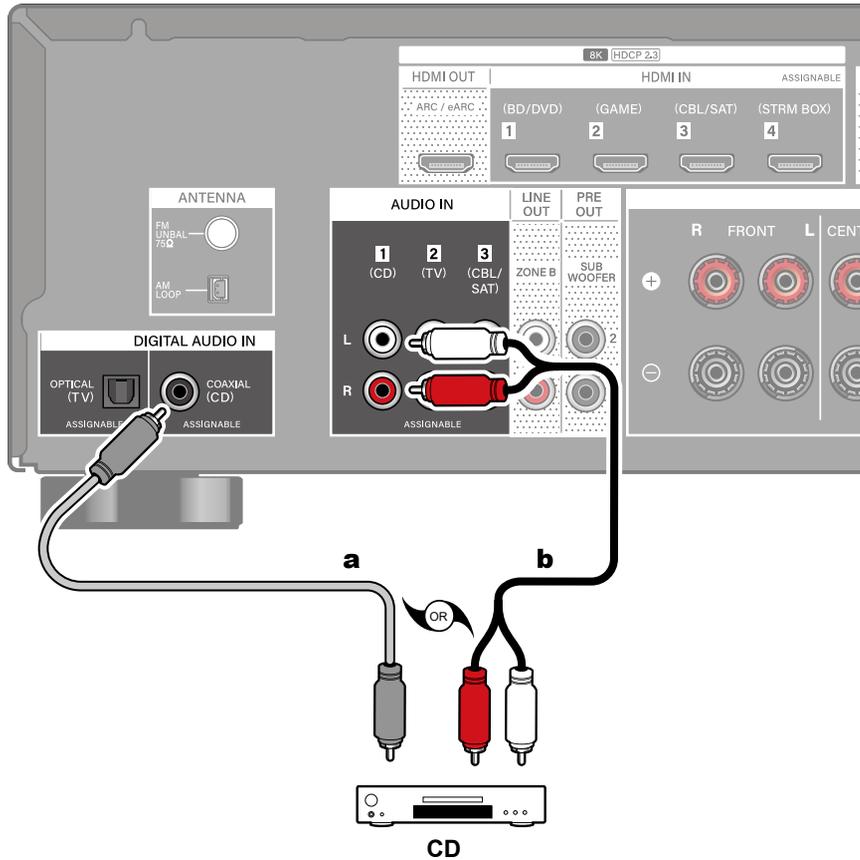
This is a connection example of an audio component. Connect a CD player using a digital coaxial cable or analog audio cable.

CD

a Digital coaxial cable, **b** Analog audio cable

Connecting an Integrated Amplifier or Transmitter (ZONE B)
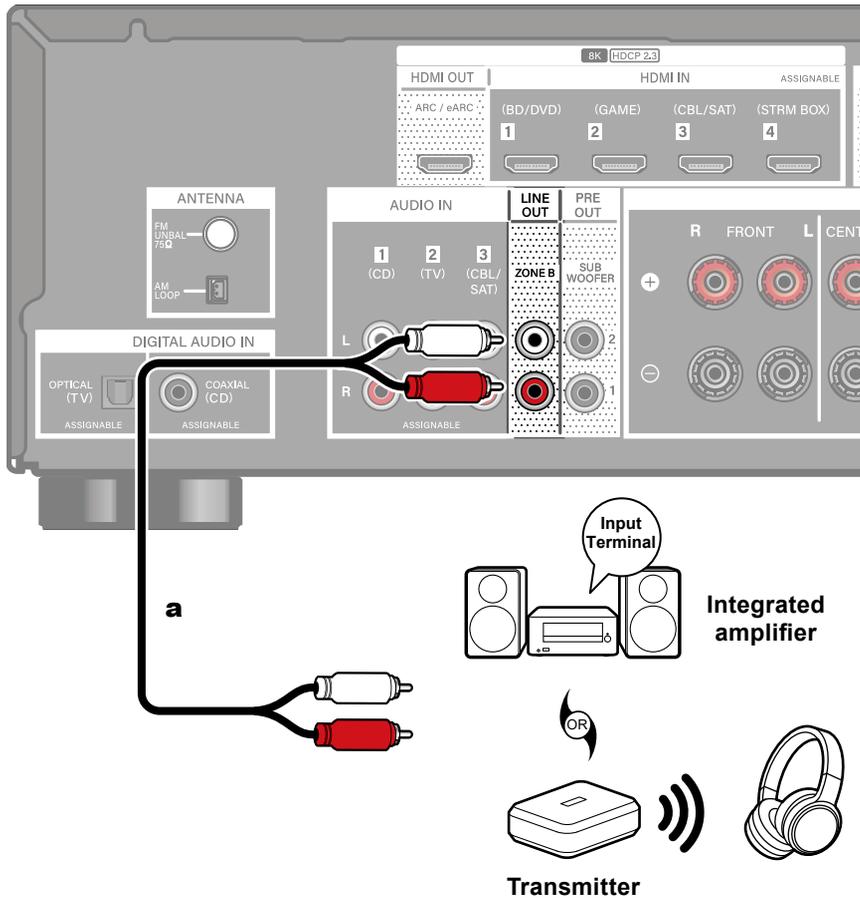
By connecting an Integrated Amplifier to the ZONE B LINE OUT terminal, you can play the same source in the other place (ZONE B) as in the main room. Also, when you connect a transmitter for wireless headphones or wireless speakers, you can play audio through these devices.

Input Terminal

Integrated amplifier

OR

Transmitter

a Analog audio cable

❑ **Playing Back (ZONE B) (** →**p49**)

31

Connecting Antennas

FM

b

b

B   A

A   B
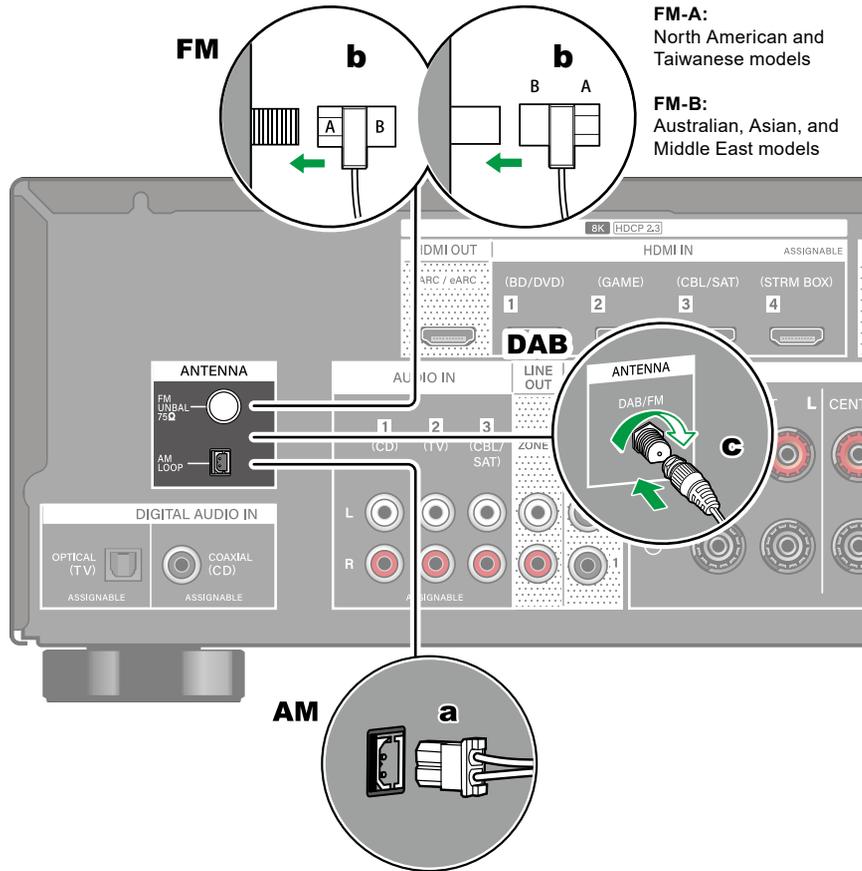
FM-A:
North American and
Taiwanese models

FM-B:
Australian, Asian, and
Middle East models

HDMI OUT

8K HDCP 2.3

HDMI IN   ASSIGNABLE

ARC / eARC

(BD/DVD)   (GAME)   (CBL/SAT)   (STRM BOX)
1   2   3   4

DAB

ANTENNA

AUDIO IN

LINE
OUT

ANTENNA

DAB/FM

L   CENT

FM
UNBAL
75Ω

1   2   3

ZONE

c

AM
LOOP

(CD)   (TV)   (CBL/
SAT)

DIGITAL AUDIO IN

L

OPTICAL
(TV)

COAXIAL
(CD)

R

ASSIGNABLE   ASSIGNABLE

ASSIGNABLE

1

AM   **a**

North American, Taiwanese, Middle East, Australian and Asian models
Connect the antenna to this unit, and set up the antenna at the best position for
listening while receiving radio signals. Attach the indoor FM antenna to the wall
using push pins or adhesive tape.

a

b
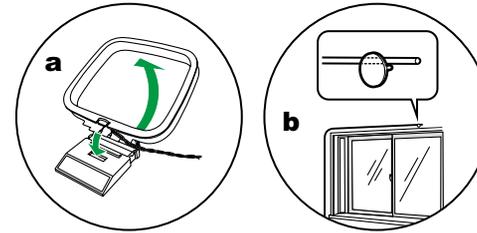
European models
Make sure the plug is pushed in all the way, then fix in place by turning the nut to
the right. Use a tack or similar to fix the antenna to a wall.

c
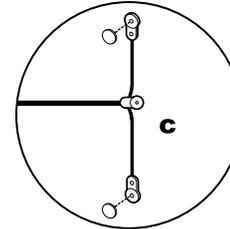
a AM loop antenna, **b** Indoor FM antenna, **c** DAB/FM antenna

Connecting the Power Cord
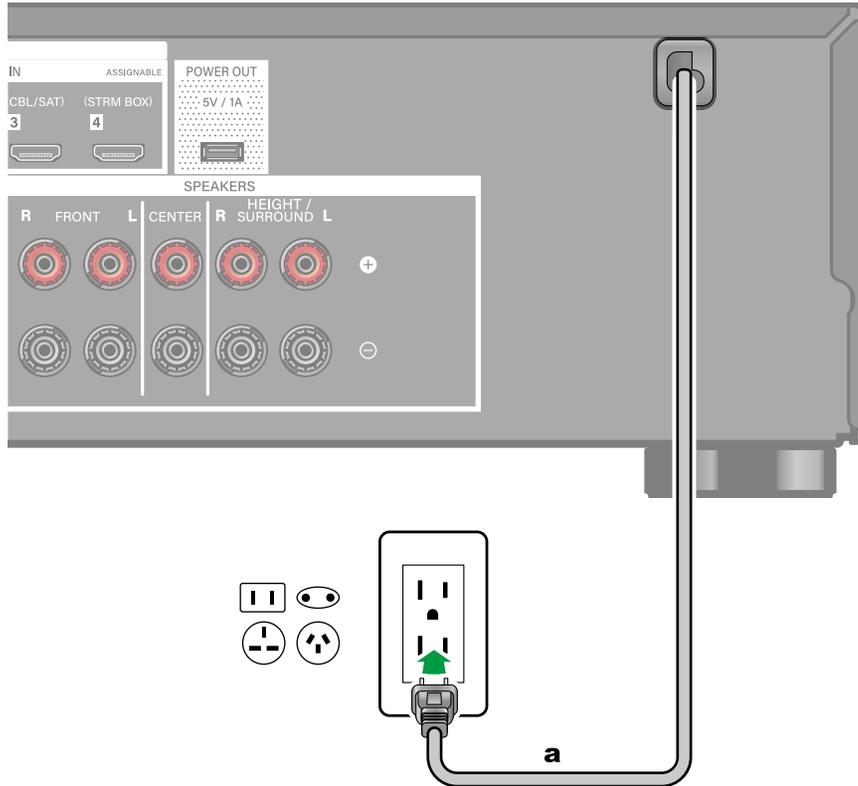
Connect the power cord after all the connections are completed.

IN   ASSIGNABLE   POWER OUT

CBL/SAT) (STRM BOX)   5V / 1A
3   4

SPEAKERS

R FRONT L CENTER R HEIGHT /
SURROUND L

a

a Power cord

33

Playback

Basic Operations

Turning the power on

1. Press ⏻ STANDBY/ON on the remote controller to turn on the power of the unit.
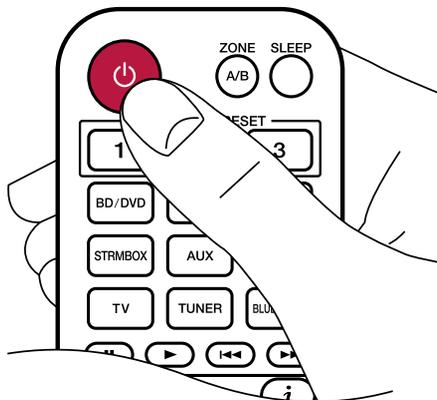
You can also turn on the power of the unit with the following operations:
– Pressing ⏻ STANDBY/ON on the main unit.
– Using the linking function (HDMI CEC) (→**p36**)

Selecting a source to play

1. Press an input selector button on the remote controller to select a source. For example, to play the device connected to the BD/DVD jack, press the BD/DVD button. To listen to the audio of the TV, press TV button.
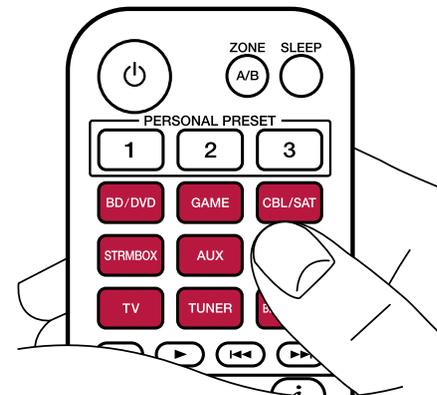
You can also select a source to play with the following operations:
– Turn the INPUT SELECTOR dial on the main unit.

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Adjusting the volume

1. Press the VOLUME buttons on the remote controller to adjust the volume.
   To temporarily turn off the sound, press the ⑪ MUTE button. Press again to cancel.
   - When Dolby Vision images are received, the volume bar on the TV screen changes from blue to magenta.
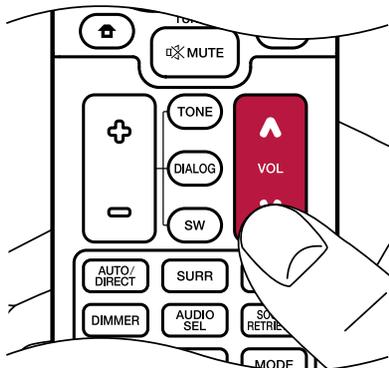
You can also adjust the volume with the following operations:
- Using the MASTER VOLUME on the main unit
- Using the linking function (HDMI CEC) ( )

Using the linking function (HDMI CEC)

By using an HDMI cable and connecting to a TV that is compatible with the HDMI CEC (Consumer Electronics Control) function, you are able to perform operations such as adjusting the volume of this unit with the TV's remote controller and link power On/Off. Furthermore, if you have connected a Blu-ray Disc player, GAME, etc. that is compatible with the HDMI CEC function, input switching is performed automatically.
- HDMI CEC settings ( ) (the default value is "On")
- For information about the HDMI CEC functions of the TV, refer to the operating instructions, etc., for the TV.
- The unit is designed to link with products that comply with the CEC standard, and that linked operation is not always guaranteed with all CEC devices.
- For linked functions to work properly, do not connect CEC-compliant devices exceeding the connectable number to the HDMI jack as shown below.
  - Blu-ray Disc/DVD players: up to 3 units
  - Blu-ray Disc/DVD recorders: up to 3 units
  - Cable TV tuner, terrestrial digital tuner, and satellite broadcasting tuner: up to 4 units

Switching the display

Repeatedly pressing the *i* STATUS button on the remote controller switches the display of the main unit in the following order.
- The content displayed depends on the source, BLUETOOTH, etc., being played.
- Depending on the audio signal, "B (Back)" or "W (Wide)" is displayed next to the number of channels of the input format.
- Not all the information is necessarily displayed.

Listening mode

Dolby Surround

↓

Input format

Dolby   5 . 1

The display is switched in a few seconds.

Sampling frequency

4 8 . 0   k H z

↓

Input signal resolution

1 0 8 0 p / 5 9   1 6 : 9

↓

Input source and volume

BD/DVD   4 0 . 0
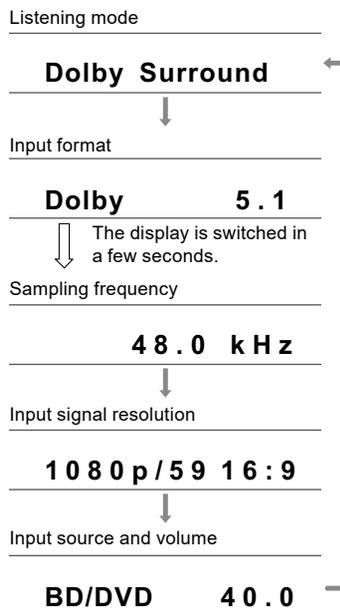
Listening Mode

The listening mode can be switched by pressing the "AUTO/DIRECT", "SURR", and "STEREO" buttons repeatedly during play.

• For details of the effects of each listening mode, refer to "Listening Mode Effects" (→**p93**).
• For listening modes selectable for each audio format of input signals, refer to "Input Formats and Selectable Listening Modes" (→**p91**).

Selecting a Listening mode

1. Press one from among AUTO/DIRECT, SURR, and STEREO during playback.
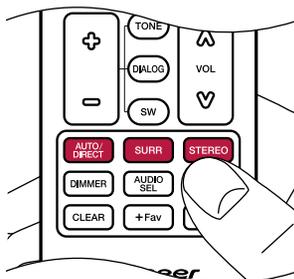
2. Press the selected button repeatedly to switch the modes displayed on the display of the main unit.

Dolby Surround

• Each of AUTO/DIRECT, SURR, and STEREO buttons stores the listening mode that was selected last. If content incompatible of the listening mode selected last is played, the most standard listening mode for the content is automatically selected.

D⫶ Dolby Atmos

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BLUETOOTH® Playback

You can wirelessly play music on a smartphone or other BLUETOOTH wireless technology enabled device through the speakers connected to this unit.
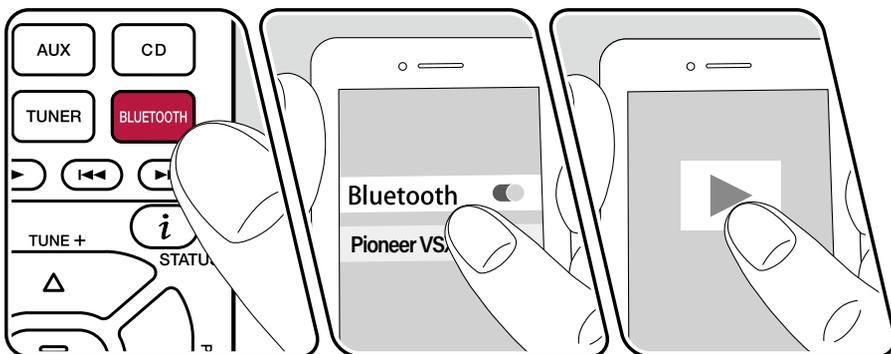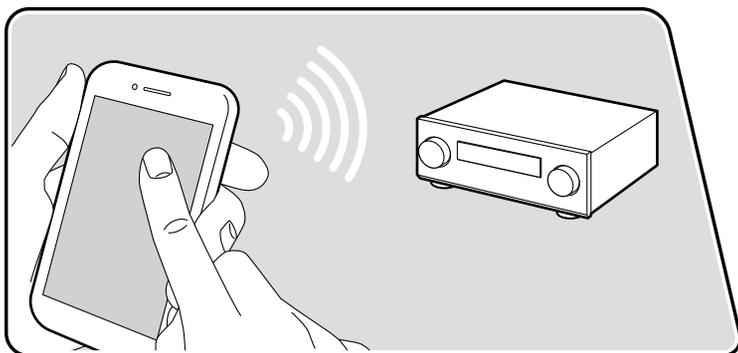
The illustration shows an image.

Perform the following procedure when this unit is on.

Pairing

1. When you press the BLUETOOTH button, "Now Pairing..." is displayed on this unit's display, and the pairing mode is enabled.

> Now Pairing...

2. Enable (turn on) the BLUETOOTH function of the BLUETOOTH enabled device, and then select this unit from among the devices displayed. If a password is requested, enter "0000".
   • This unit is displayed as "Pioneer VSX-535 XXXXXX".
   • To connect another BLUETOOTH enabled device, press and hold the BLUETOOTH button until "Now Pairing..." is displayed, and then perform step 2. This unit can store the pairing information of up to 8 paired devices.
   • The coverage area is approx. 48′/15 m. Note that connection is not always guaranteed with all BLUETOOTH enabled devices.

Playing Back

1. Perform the connection procedure on the BLUETOOTH enabled device.
2. Playing the music file.
   The input on this unit automatically switches to "BLUETOOTH".
   Turn up the volume of the BLUETOOTH enabled device to an appropriate level.
   • Due to the characteristics of BLUETOOTH wireless technology, the sound produced on this unit may slightly be behind the sound played on the BLUETOOTH enabled device.

Listening To the Radio

AM   FM   DAB

You can receive AM (North American, Taiwanese, Middle East, Australian and Asian models)/FM/DAB (European models) radio on this unit with the built-in tuner.

Listening To the AM/FM Radio (AM : North American, Taiwanese, Middle East, Australian and Asian models)

Perform the following procedure when this unit is on.

■ Tuning Automatically

1. Press TUNER repeatedly to select either "AM" or "FM".
2. Press MODE repeatedly to display "TunMode: Auto" on the display.

TunMode:Auto

3. When you press the cursors ▲ / ▼ UP/DOWN, automatic tuning starts, and searching stops when a station is found. When tuned in to a radio station, the "TUNED" indicator on the display lights up. When tuned in to an FM radio station, the "STEREO" indicator lights up.

When FM broadcasts reception is poor: Perform the procedure for "Tuning Manually" (→**p40**). Note that if you tune manually, the reception for FM broadcasts will be monaural rather than stereo, irrespective of the sensitivity of the reception.

■ Tuning Manually

Note that if you tune manually, the reception for FM broadcasts will be monaural rather than stereo, irrespective of the sensitivity of the reception.
1. Press TUNER repeatedly to select either "AM" or "FM".
2. Press MODE repeatedly to display "TunMode: Manual" on the display.

TunMode:Manual

3. While pressing the cursors ▲ / ▼ UP/DOWN, select the desired radio station.
   • Each time you press the cursors ▲ / ▼ UP/DOWN, the frequency changes by 1 step. If the button is held down, the frequency changes continuously, and if the button is released, the frequency stops changing.

TUNER

▲ /▼ / ◀ /▶
ENTER

MODE

40
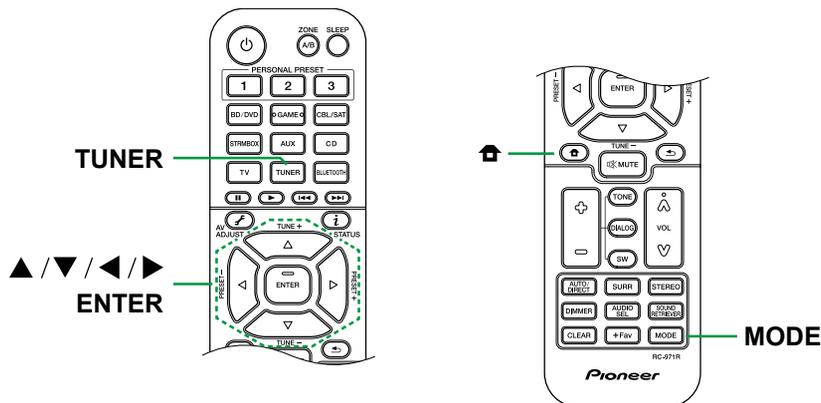
■ Frequency step setting (North American, Taiwanese, Middle East, Australian and Asian models)

Press ⌂ HOME on the remote controller, and from the Setup menu select "Miscellaneous" - "Tuner" - "AM/FM Frequency Step" (North American and Taiwanese models) or "AM Frequency Step" (Middle East, Australian and Asian models), and then select the frequency step for your area. Note that when this setting is changed, all radio presets are deleted.

❑ Presetting a Radio Station ( )

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Using RDS (European, Middle East, Australian and Asian models)

RDS stands for Radio Data System, and is a method of transmitting data in FM radio signals. In regions where RDS can be used, when you tune in to a radio station broadcasting program information, the radio station name is displayed on the display. When you press the i STATUS button on the remote controller in this state, you can use the following functions.

■ Display Text Information (Radio Text)

1. While the name of the station is being displayed on the display, press the i STATUS button on the remote controller once.
   The Radio Text (RT), which is text information delivered by the station, is displayed scrolling across the display. "No Text Data" is displayed when no text information is delivered.

■ Search for Stations by Program Type

1. While the name of the station is being displayed on the display, press the i STATUS button on the remote controller twice.
   • If none of the Program Types are set for the radio station under reception, "None" is displayed.
2. Press the cursor buttons ◄ / ► LEFT/RIGHT on the remote controller to select the Program Type you want to search for, and then press the ENTER button to start the search.
   • The Program Types displayed are as follows: None / News (News reports) / Affairs (Current affairs) / Info (Information) / Sport / Educate (Education) / Drama / Culture / Science (Science and technology) / Varied / Pop M (Pop music) / Rock M (Rock music) / Easy M (Middle of the road music) / Light M (Light classics) / Classics (Serious classics) / Other M (Other music) / Weather / Finance / Children (Children's programmes) / Social (Social affairs) / Religion / Phone In / Travel / Leisure / Jazz (Jazz music) / Country (Country music) / Nation M (National music) / Oldies (Oldies music) / Folk M (Folk music) / Document (Documentary)
   • The information displayed may not match the content delivered by the station.

3. When a station is found, the station blinks on the display. Pressing the ENTER button in this state will receive that station. If you don't press the ENTER button, the unit starts to search for another station.
   • If no stations are found, the message "Not Found" is displayed.
• Unusual characters may be displayed when the unit receives unsupported characters. This is not a malfunction. Also, if the signal from a station is weak, information may not be displayed.

TUNER

▲ / ▼ / ◄ / ►
ENTER

i
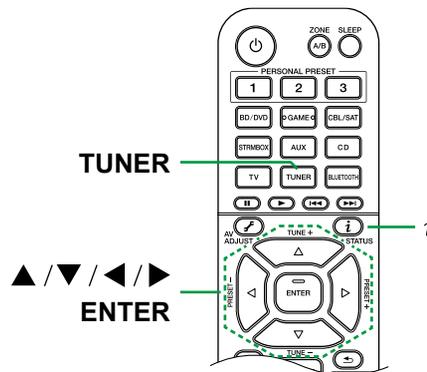
❑ Presetting a Radio Station (→p44)

Listening To DAB Digital Radio (European models only)

Perform the following procedure when this unit is on.
1. Press TUNER repeatedly to select "DAB".
   - The very first time you select DAB, the Auto Tuning function automatically scans the DAB Band 3 for the multiplexes (i.e., stations) available in your area. Once the scanning process is complete, the first station that was detected is selected.

```
Scan:    100%
```
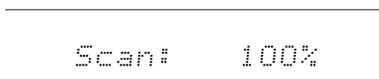
2. Select the desired radio station with ▲ / ▼ UP/DOWN.
   - If a new DAB station is introduced, or you move to a new area, press ⌂ HOME , then use the cursors and ENTER button to run the "DAB Auto Scan" in "Miscellaneous" - "Tuner".

TUNER

▲ / ▼ / ◀ / ▶
ENTER

i
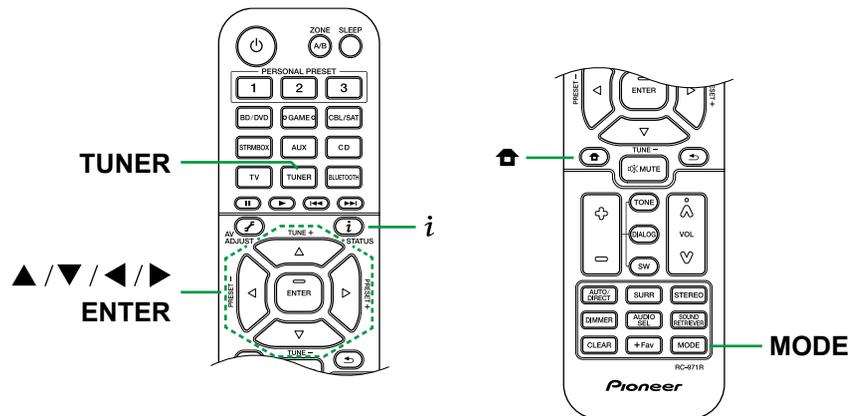
MODE

■ Changing the order stations are displayed

You can sort the available stations alphabetically or by multiplex.
1. Press MODE repeatedly to set the method for sorting the display order from the following.
   Alphabet (default setting): Sort stations alphabetically.
   Multiplex: Sort stations by multiplex.

■ Displaying DAB Radio Information

1. Press *i* STATUS repeatedly to display more information about the selected DAB station.

   DLS (Dynamic Label Segment): When tuned to a station that's broadcasting DLS text data, the text will scroll across the display.
   Program Type: Displays the type of program.
   Bit Rate and Audio Mode: Displays the station's bit rate and audio mode (Stereo, Mono).
   Quality: Displays the signal quality.
   0 - 59: Poor reception
   60 - 79: Good reception
   80 - 100: Excellent reception
   Multiplex Name: Displays the name of the current multiplex.
   Multiplex Number and Frequency: Displays the number and frequency of the current multiplex.

❏ Presetting a Radio Station (→p44)

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Presetting a Radio Station

■ Registration Procedure

You can preset up to 40(*) of your favorite radio stations.
(*) North American, Taiwanese, Middle East, Australian and Asian models: AM and FM stations
European models: FM and DAB stations

After tuning in to the radio station you want to register, perform the following procedure.

1. Press +Fav so that the preset number on the display blinks.

```
FM 87.5 MHz  1
```

2. While the preset number is blinking (approx. 8 seconds), repeatedly press the cursors ◀ / ▶ LEFT/RIGHT to select a number between 1 and 40.
3. Press +Fav again to register the station.
   When the station is registered, the preset number stops blinking. Repeat this steps to register your favorite radio stations.

TUNER

▲ / ▼ / ◀ / ▶

ENTER

CLEAR

+Fav
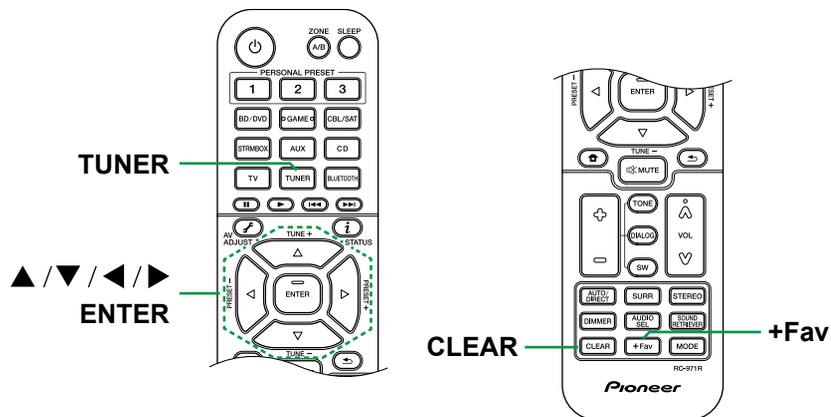
■ Selecting a Preset Radio Station

1. Press TUNER.
2. Press the cursors ◀ / ▶ LEFT/RIGHT to select a preset number.

■ Deleting a Preset Radio Station

1. Press TUNER.
2. Press the cursors ◀ / ▶ LEFT/RIGHT to select the preset number to delete.
3. After pressing +Fav, press CLEAR while the preset number is blinking, and delete the preset number. When deleted, the number on the display disappears.

44

Adjusting the tone

Adjusting the TREBLE/BASS

You can adjust the sound quality of the speakers.
1. Press TONE repeatedly to select Treble or Bass and adjust the content.
   Treble: Enhances or moderates the high-tone range of the speakers.
   Bass: Enhances or moderates the low-tone range of the speakers.
2. Press + or - for adjustment.

Adjusting the DIALOG

Emphasizes movie dialogues and music vocals to listen to them more easily. It is effective to movie lines in particular. Also, it exerts the effect even if the center speaker is not used. Select a desired level from "1" (low) to "5" (high).
1. Press DIALOG.
2. Press + or - for adjustment.
 • Depending on the input source or listening mode setting, selection is not possible, or the desired effect may not be achieved.

Adjusting the SUBWOOFER

Adjust the speaker level of the subwoofer while listening to the sound.
1. Press SW.
2. Press + or - to adjust the level between "-15.0 dB" and "+12.0 dB".
 • If you set the unit to the standby mode, the adjustments you made will be restored to the previous statuses.

45
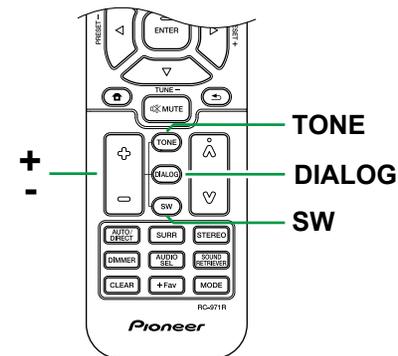
AV Adjust

You can quickly set convenient features such as adjusting sound quality.

AV Adjust		BD/DVD
HDMI	Sound Delay	
Audio	Audio Return Channel	
Room EQ		
Level		
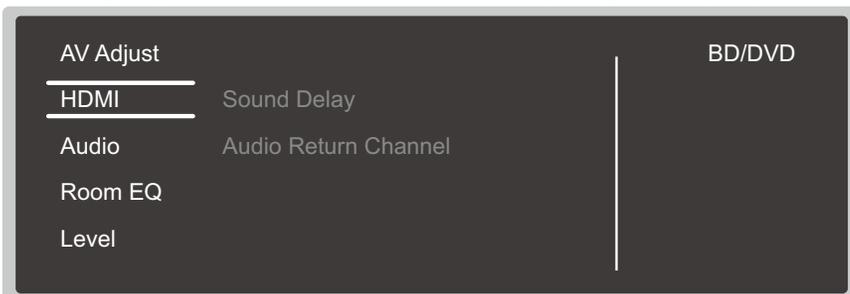
You can make the settings on the TV screen while playing something. Press
🔧 AV ADJUST on the remote controller to display the "AV Adjust" menu.
Select the item with the cursor ▲ / ▼ UP/DOWN buttons of the remote controller
and press ENTER to confirm your selection.
Use the cursors to change the settings.
- To return to the previous screen, press ⬑ RETURN/EXIT.
- To exit the settings, press 🔧 AV ADJUST.

Note

- When the input signals are ones that need a high bandwidth, such as 8K
signals, the "AV Adjust" may not be displayed.

■ HDMI

Sound Delay: If the video is behind the audio, you can delay the audio to offset
the gap. Different settings can be set for each input selector.

Audio Return Channel: You can enjoy the sound of the HDMI-connected ARC-
compatible TV through the speakers connected to the unit. Select "On" when
listening to the audio of TV using the speakers of this unit. Select "Off" when the
ARC function is not used.

■ Audio

Sound Retriever: Improve the quality of the compressed audio. Playback sound
of lossy compressed files such as MP3 will be improved. The setting can be
separately set to each input selector. The setting is effective in the signals of
48 kHz or less. The setting is not effective in the bitstream signals.
- It cannot be set if the listening mode is Direct or Pure Direct.

Midnight: Make small sounds easily heard. It is useful when you need to reduce
the volume while watching a movie late night.
- It cannot be set if the listening mode is Direct or Pure Direct.
- The setting cannot be used in the following cases.
  – If "Loudness Management" is set to "Off" when playing Dolby Digital Plus
    or Dolby TrueHD

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Stereo Assign: This function enables you to select a pair of speakers to output stereo sound. Apart from the front speakers (Front), you can select the Surround speakers (Surround) and Height speakers (Height).

Selectable ⟷

"Front"   "Surround"
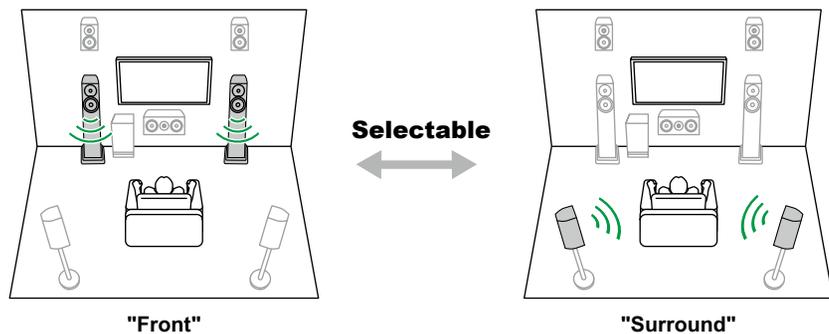
- The listening mode switches to "Stereo" if the audio output destination is changed.

Zone B: Select a method of outputting audio to ZONE B from among "Off", "On (A+B)" and "On (B)".

■ Room EQ

MCACC EQ: Enable or disable the equalizer function that corrects for distortion caused by the acoustic environment of the room.
- It cannot be set if the listening mode is Pure Direct.

Phase Control: Correct phase disturbance in the low range to enhance the bass. This enables you to achieve powerful bass reproduction that is faithful to the original sound.
- It cannot be set if the listening mode is Pure Direct.

Theater Filter: Adjust the soundtrack that was processed to enhance its high pitch range, in order to make it suitable for home theater.
- It cannot be set if the listening mode is Direct or Pure Direct.

■ Level

Front: Adjust the speaker level of the front speakers while listening to the sound.

Center: Adjust the speaker level of the center speaker while listening to the sound.

Subwoofer: Adjust the speaker level of the subwoofer while listening to the sound.
- If you set the unit to the standby mode, the adjustments you made will be restored to the previous statuses.

ZONE B Playback

While performing playback in the main room (ZONE A), you can enjoy the audio of the same source in the other place (ZONE B) at the same time.

**Main Room
(ZONE A)**
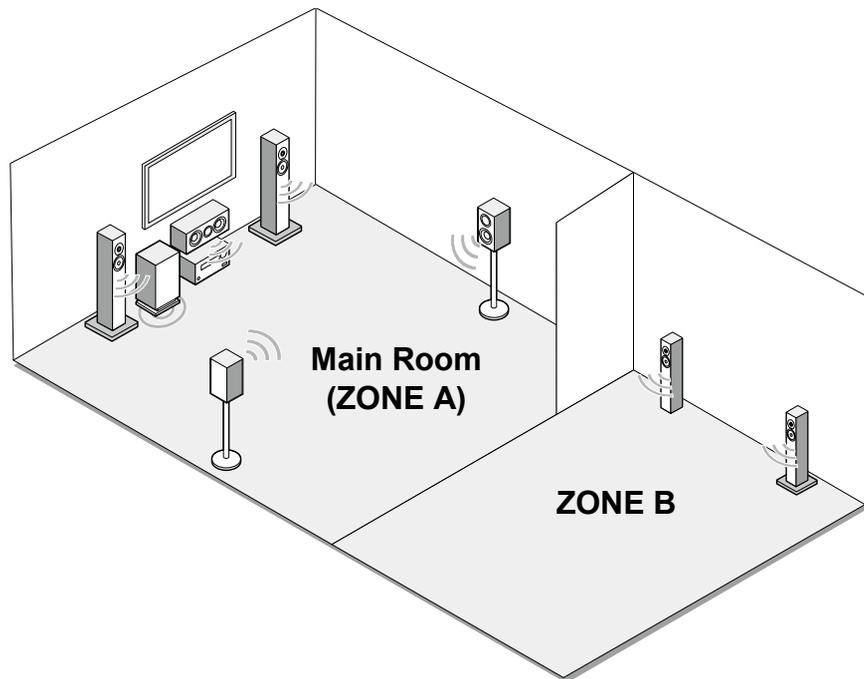
ZONE B

Connections

When connecting an Integrated Amplifier or transmitter in the other place (ZONE B) to the ZONE B LINE OUT terminal on this unit.
 – "Connecting an Integrated Amplifier or Transmitter (ZONE B)" (→**p31**)

❏ **Playing Back (→p49)**

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Playing Back

1. Press ZONE A/B to select an audio output destination.
- ZONE A: Outputs audio only to the main room (ZONE A). "A" on the display of the main unit lights up.
- ZONE B: Outputs audio only to the other place (ZONE B). "B" on the display of the main unit lights up.
- ZONE A+B: Outputs audio to both the main room (ZONE A) and the other place (ZONE B). "A" and "B" on the display of the main unit light up.

A B
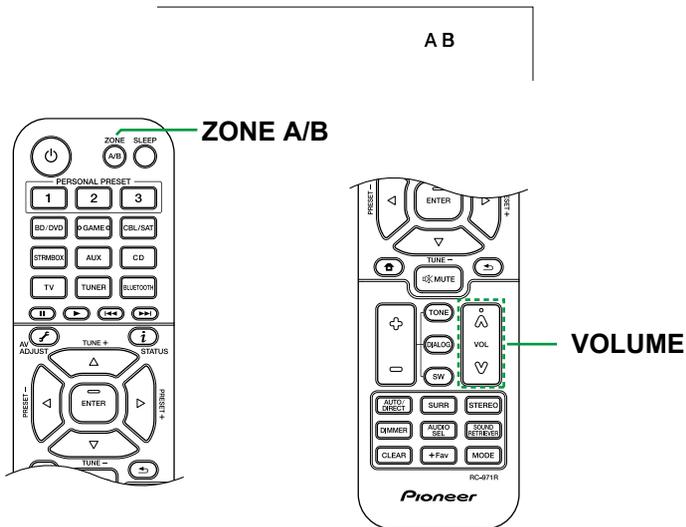
ZONE A/B

VOLUME

2. Start play on the AV component.
3. Adjust the volume on the integrated amplifier.
- If the wireless headphones or wireless speakers have volume controls, control the volume on those devices.
- If "ZONE A+B" is selected as an audio output destination, you can select only the "Stereo" listening mode for the main room (ZONE A) when using the 2.1ch speaker layout. When using a speaker layout of 3.1ch or more, you can select only the "Ext.Stereo" listening mode.

Using PERSONAL PRESET

You can register settings (→**p50**) such as the current input selector and listening mode with the three PERSONAL PRESET buttons, and call a registered setting in a single operation.
e.g.) Pressing the PERSONAL PRESET button will automatically switch the input selector to "TUNER" to receive the registered station. Also, the listening mode and volume level are switched as registered.
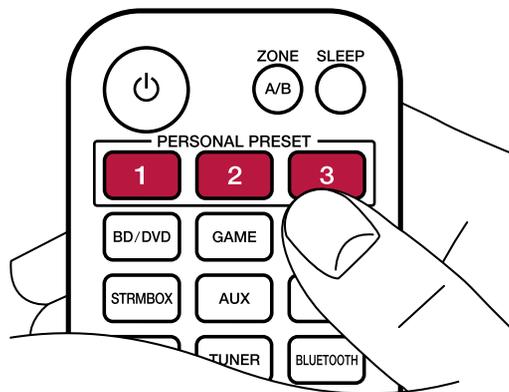
Settings that can be registered

The following settings can be registered with PERSONAL PRESET.
 – You can register AM (North American, Taiwanese, Middle East, Australian and Asian models)/FM/DAB (European models) radio stations.
 – Listening mode
 – Volume level (Upper limit "0.0 dB")
 – Output destination (Zone)
 – Sound Retriever function's "On" and "Off"
 – TREBLE/BASS/DIALOG, etc.
 * When AM/FM/DAB radio stations are registered, TUNER's preset numbers "38", "39" and "40" (→**p44**) are overwritten.

Registration

Perform the following steps in the state of the setting to register.
1. Press and hold any of the 1 to 3 buttons of PERSONAL PRESET.
2. "Preset Written" appears on the display, and the setting is registered. If registration has already been made, the registered setting is overwritten.

Using the registered settings

1. Press any of the 1 to 3 buttons of PERSONAL PRESET with which settings have been registered.

Checking the registered settings

1. Press ⌂ HOME, select "Input/Output Assign" - "PERSONAL PRESET Information" (→**p57**) in the Setup menu, and press ENTER.
2. The registered settings are displayed in the list.
   • Some of the items such as the Sound Retriever function are not displayed in the list.
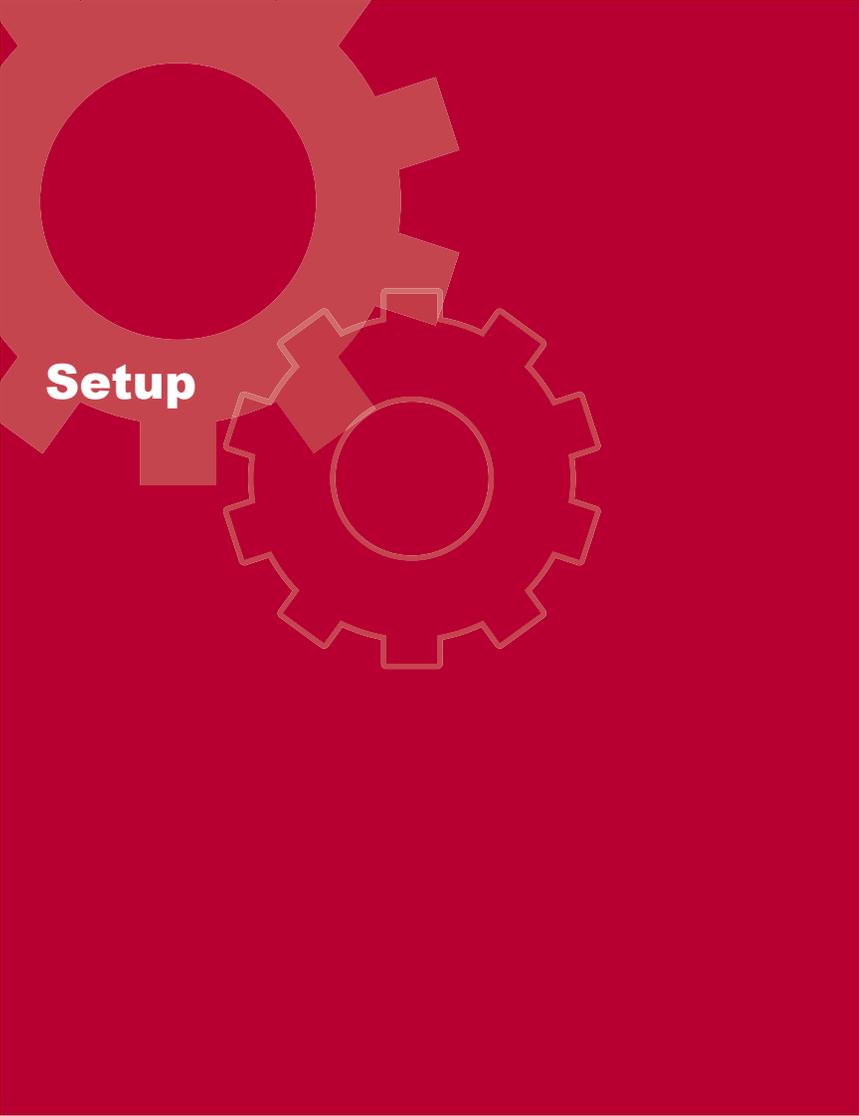
Setup

Setup Menu

Use the OSD (On-Screen Displays) that appear on the TV to make the settings.
Press ⌂ HOME on the remote controller to display the Setup menu.
Select the item with the cursor ▲ / ▼ UP/DOWN buttons of the remote controller and press ENTER to confirm your selection.
Use the cursors ◄ / ► LEFT/RIGHT to change the default values.
• To return to the previous screen, press ⬅ RETURN/EXIT.
• To exit the settings, press ⌂ HOME.

Menu list

Audio Adjust	**Dual Mono / Mono**	Change the settings of multiplex audio playback.	**p64**
	Dolby	Change the setting of when Dolby signals are input.	**p64**
	Volume	Change the Volume settings.	**p65**
Source	**Input Volume Absorber**	Adjust the volume level when there are differences in volume level among multiple devices connected to this unit.	**p66**
	Name Edit	Set an easy name for each input.	**p66**
	Audio Select	Select the priority for input selection when multiple audio sources are connected to one input selector.	**p67**
Hardware	**HDMI**	Change the settings of the HDMI function.	**p68**
	Bluetooth	Change the settings for the Bluetooth function.	**p70**
	Power Management	Change the settings for the power-save function.	**p71**
Miscellaneous	**Tuner**	Change the settings for Tuner.	**p72**
	Firmware Update	Change the settings for Firmware Update.	**p73**
	Initial Setup	Make the initial setup from the setup menu.	**p73**
	Lock	Lock the Setup menu so that the settings cannot be changed.	**p73**
	Factory Reset	All the settings are restored to factory defaults.	**p73**

Input/Output Assign

■ TV Out / OSD

Make settings for TV output and On-Screen Displays (OSD) that appear on the TV.

❑ Upscaling (Default Value: Off)

When using a TV that supports 4K/8K, video signals input at 1080p can be automatically upscaled to 4K/8K for output. Video signals that are input at 4K can also automatically be output as 8K. Note that to output as 8K, set "HDMI 4K/8K Signal Format" (→**p54**) to "8K Standard" or "8K Enhanced", and you need to connect to a TV that is compatible with the 8K signal format with an HDMI cable.

- If the TV does not support the 4K/8K resolution with the same frequency as the frequency of HDMI input video signals, upscaling to 4K or 8K is not correctly performed. Check the frequency of 4K/8K resolution supported by the TV, and change the resolution of the video signals input from the AV component.

Off	When this function is not used • Select "Off" if your TV does not support 4K/8K.
Auto	When this function is used

❑ Super Resolution (Default Value: 2)

When you have set "Upscaling" to "Auto", you can select the degree of video signal correction from "Off" and between "1" (weak) and "3" (strong).

❑ HDMI 4K/8K Signal Format

Set the 4K/8K signal format input and output by this unit. Set to suit the TV or player connected.

- The corresponding resolution is different depending on the HDMI IN jack connected. See "Corresponding input resolutions" (→**p101**) for details.

BD/DVD	**(Default Value: 4K Enhanced)**
GAME	**(Default Value: 8K Enhanced)**
CBL/SAT	**(Default Value: 4K Enhanced)**
STRM BOX	**(Default Value: 4K Enhanced)**

4K Standard	When using a High Speed HDMI Cable that supports 10.2 Gbps to connect a TV or player compatible with standard 4K signal formats (4K 30 Hz, etc.)
4K Enhanced	When using a Premium High Speed HDMI Cable that supports 18 Gbps to connect a TV or player compatible with high-definition 4K signal formats (4K 60 Hz, 4K HDR, etc.) • There may be some image disruption depending on the connected component and the HDMI cable. If this occurs, switch to "4K Standard".
8K Standard	When using an ULTRA High Speed HDMI Cable that supports 48 Gbps to connect a TV or player compatible with 4K 120 Hz, 5K 30 Hz, or 8K 30 Hz signal formats
8K Enhanced	When using an ULTRA High Speed HDMI Cable that supports 48 Gbps to connect a TV or player compatible with 5K 60 Hz or 8K 60 Hz signal formats

Input/Output Assign

❏ **OSD Language (Default Value: English)**

Select the on-screen display language from the following.
(North American models) English, German, French, Spanish, Italian, Dutch, Swedish
(European, Taiwanese, Middle East, Australian and Asian models) English, German, French, Spanish, Italian, Dutch, Swedish, Russian, Chinese

❏ **Impose OSD (Default Value: On)**

Set whether or not to display information such as volume adjustment or switching of input on the TV screen.

On	OSD is displayed on the TV
	• OSD may not be displayed depending on the input signal even if "On" is selected.
	• When Dolby Vision signals are input, the volume bar changes from blue to magenta.
Off	OSD is not displayed on the TV

❏ **Screen Saver (Default Value: 3 minutes)**

Set the time to start the screen saver.
Select a value from "3 minutes", "5 minutes", "10 minutes" and "Off".

■ HDMI Input

Change input assignment between the input selectors and HDMI IN jacks.

❏ **BD/DVD   (Default Value: HDMI 1 (HDCP 2.3))**
   GAME   (Default Value: HDMI 2 (HDCP 2.3))
   CBL/SAT   (Default Value: HDMI 3 (HDCP 2.3))
   STRM BOX   (Default Value: HDMI 4 (HDCP 2.3))

"HDMI 1 (HDCP 2.3)" to "HDMI 4 (HDCP 2.3)":
Assign any HDMI IN jack to each of the input selectors. If you do not assign a jack, select "---". To select an HDMI IN jack already assigned to another input selector, change its setting to "---" first.

■ Digital Audio Input

Change input assignment between the input selectors and DIGITAL AUDIO IN COAXIAL/OPTICAL jacks. If you do not assign a jack, select "---".

❏ **BD/DVD   (Default Value: ---)**
   GAME   (Default Value: ---)
   CBL/SAT   (Default Value: ---)
   STRM BOX   (Default Value: ---)
   CD   (Default Value: COAXIAL)
   TV   (Default Value: OPTICAL)

COAXIAL, OPTICAL	Assign the COAXIAL jacks or OPTICAL jacks to any input selector.

Input/Output Assign

■ Analog Audio Input

Change input assignment between the input selectors and AUDIO IN jacks. If you do not assign a jack, select "---".

❑ **BD/DVD** **(Default Value: ---)**
  GAME **(Default Value: ---)**
  CBL/SAT **(Default Value: AUDIO 3)**
  STRM BOX **(Default Value: ---)**
  AUX **(Default Value: ---)**
  CD **(Default Value: AUDIO 1)**
  TV **(Default Value: AUDIO 2)**

AUDIO 1, AUDIO 2, AUDIO 3	Assign the AUDIO IN jacks to any input selector.

■ Input Skip

You can skip inputs to which nothing is connected when selecting them with the INPUT SELECTOR dial on the main unit or with the INPUT SELECT button on the remote controller.

❑ **BD/DVD** **(Default Value: Use)**
  GAME **(Default Value: Use)**
  CBL/SAT **(Default Value: Use)**
  STRM BOX **(Default Value: Use)**
  AUX **(Default Value: Use)**
  CD **(Default Value: Use)**
  TV **(Default Value: Use)**
  TUNER **(Default Value: Use)**
  BLUETOOTH **(Default Value: Use)**

Use	Use this input.
Skip	Skip this input.

■ PERSONAL PRESET Information

Confirm the registered contents of 1 to 3 buttons of PERSONAL PRESET.
The registered settings are displayed in the list.

❑ Preset (Default Value: Preset 1)

Setting Item	Default Value	Setting Details
Preset	Preset 1	Selects a preset number from among "Preset 1", "Preset 2" and "Preset 3".
Input Selector	---	Displays the input selector that has been set.
Band/Station	---	Displays the set "AM", "FM" or "DAB" band and the Preset Name for the station.
Listening Mode	---	Displays the listening mode that has been set.
Volume	---	Displays the volume level that has been set. (Upper limit "-32 dB")
Zone	---	Displays the output destination (Zone) from among "A", "B" or "A+B" that has been set.

• "Band/Station" is displayed only when the input selector is set to "TUNER".
• Preset Name of "Band/Station" is displayed with the name set by "Source"
  - "Name Edit". If the name is not set, the frequency of the radio station is
  displayed instead.

Speaker

■ Configuration

Change the settings of connection environment of the speakers.

❏ Speaker Channels (Default Value: 5.1 ch)

Select "2.1 ch", "3.1 ch", "4.1 ch", "5.1 ch", "2.1.2 ch" or "3.1.2 ch" to suit the number of speaker channels connected.

❏ Subwoofer (Default Value: Yes)

Set whether a subwoofer is connected or not.

Yes	When a subwoofer is connected
No	When a subwoofer is not connected

❏ Height Speaker (Default Value: Top Middle)

Set the speaker type if height speakers are connected to the HEIGHT / SURROUND terminals.

Select "Top Middle", "Dolby Speaker (Front)" or "Front High" according to the type and layout of the connected speakers.

- If an item cannot be selected even though connection is correct, check that the settings in "Speaker Channels" matches the number of connected channels.

❏ Speaker Impedance (Default Value: 6 ohms or above)

Set the impedance (Ω) of the connected speakers.

- For impedance, check the indications on the back of the speakers or their instruction manual.

4ohms	When any of the connected speakers have 4 Ω or more to less than 6 Ω impedance
6 ohms or above	When the connected speakers all have 6 Ω or more impedance

Speaker

■ Crossover

Set what number of Hz in the low frequency range is output from each speaker and what should be output from the subwoofer. When a subwoofer is not to be used, set to "Large" so that the bass is output from the speakers.

❑ **Front**   **(Default Value: Small)**
 Center   **(Default Value: Small)**
 Height   **(Default Value: Small)**
 Surround   **(Default Value: Small)**
 Crossover   **(Default Value: 80 Hz)**

Front:
Set according to the speakers to be used.
"Small": When not using floor standing front speakers.
"Large": When using floor standing front speakers.
• If "Configuration" - "Subwoofer" is set to "No", "Front" will be fixed to "Large" and the low pitched range of the other channels will be output from the front speakers. Refer to the instruction manual of your speakers to make the setting.

Center, Height, Surround:
Set according to the speakers to be used.
"Small": When speaker where the speaker diameter is 16 cm or less are to be used.
"Large": When speaker where the speaker diameter is larger than 16 cm are to be used.
• When "Front" is set to "Small", this is set to "Small".
• If an item cannot be selected even though connection is correct, check that the settings in "Configuration" - "Speaker Channels" matches the number of connected channels.

Crossover:
When there are speakers that have been set to "Small", set the Hz under which you would like other speakers to play bass, and also set Hz under which you would like the LFE (low frequency effect) to play the bass.
The value from "50 Hz" to "200 Hz" can be set.

Double Bass:
This can be selected only when "Configuration" - "Subwoofer" is set to "Yes" and "Front" is set to "Large".
Boost bass output by feeding bass sounds from the front left and right speakers and the center speaker to the subwoofer.
"On": Bass output will be boosted
"Off": Bass output will not be boosted
• The setting will not automatically be configured even if you performed Full Auto MCACC.

Speaker

■ Distance

Set the distance from each speaker to the listening position.

❑ **Front Left**   **(Default Value: 10.0 ft/3.00 m)**
  Center   **(Default Value: 10.0 ft/3.00 m)**
  Front Right   **(Default Value: 10.0 ft/3.00 m)**
  Height Left   **(Default Value: 10.0 ft/3.00 m)**
  Height Right   **(Default Value: 10.0 ft/3.00 m)**
  Surround Right   **(Default Value: 10.0 ft/3.00 m)**
  Surround Left   **(Default Value: 10.0 ft/3.00 m)**
  Subwoofer   **(Default Value: 10.0 ft/3.00 m)**

- Default values vary depending on the regions.
- The unit of distance can be changed by pressing the MODE button on the remote controller. When the unit is set as feet, you can set between 0.1 ft and 30.0 ft in increments of 0.1 ft. When the unit is set as meters, you can set between 0.03 m and 9.00 m in increments of 0.03 m.

■ Channel Level

Adjust the volume level of each speaker.

❑ **Front Left**   **(Default Value: 0.0 dB)**
  Center   **(Default Value: 0.0 dB)**
  Front Right   **(Default Value: 0.0 dB)**
  Height Left   **(Default Value: 0.0 dB)**
  Height Right   **(Default Value: 0.0 dB)**
  Surround Right   **(Default Value: 0.0 dB)**
  Surround Left   **(Default Value: 0.0 dB)**
  Subwoofer   **(Default Value: 0.0 dB)**

Select a value between "-12.0 dB" and "+12.0 dB" ("-15.0 dB" and "+12.0 dB" for Subwoofer) (in 0.5 dB increments). A test tone will be output each time you change the value. Select the desired level.

Speaker

■ Dolby Enabled Speaker

Change the settings of Dolby Enabled Speakers.
- This setting can be selected when "Configuration" - "Height Speaker" is set to "Dolby Speaker".

❑ Distance from the ceiling (Default Value: 6.0 ft/1.80 m)

Set the distance between the Dolby Enabled Speaker and the ceiling. Select between "0.1 ft"/"0.03 m" and "15.0 ft"/"4.50 m" ("0.1 ft"/"0.03 m" units).
- The unit of distance (ft/m) is displayed using the unit selected for the "Distance" setting.

❑ Reflex Optimizer (Default Value: Off)

You can enhance the reflection effect of Dolby Enabled Speakers from the ceiling.
- The function is not effective if the listening mode is Pure Direct.

Off	When this function is not used
On	When this function is used

■ Speaker Virtualizer

The Speaker Virtualizer function can be switched between On and Off.

❑ Speaker Virtualizer (Default Value: On)

On	The listening mode with virtual speaker effect such as F.S.Surround can be selected.
Off	The listening mode with virtual speaker effect such as F.S.Surround cannot be selected.

MCACC

■ Full Auto MCACC

Place the supplied speaker setup microphone in the listening position, measure the test tones emitted by the speakers, then the unit automatically sets the optimum volume level for each speaker, the crossover frequencies, and the distance from the listening position. This also reduces the effect of the standing wave in accordance with the viewing environment and automatically adjusts the equalizers for the speakers and enables correction of distortion caused by the acoustic environment of the room.

• Calibration takes between 3 and 12 minutes to be completed. The speakers emit the test tone at high volume during measurement, so be careful of your surroundings. Keep the room as quiet as possible during measurement.

• If you connect a subwoofer, check the power and volume of the subwoofer. Set the subwoofer volume to more than half.

• If the power of this unit suddenly turns off, the wires in the speaker cables have touched the rear panel or other wires, and the protection circuit is working. Twist the wires again securely, and make sure they do not stick out of the speaker terminals when connecting.

1. Select the connected speaker configuration.

Note that the image on the screen changes each time you select the number of channels in "Speaker Channels".

2. Place the supplied speaker setup microphone at the listening position, and connect it to the SETUP MIC jack on the main unit.
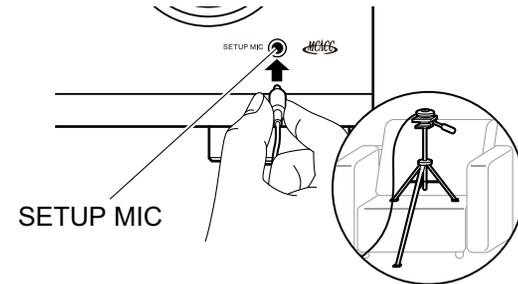
SETUP MIC

When placing the speaker setup microphone on a tripod, refer to the illustration.

3. Confirm a test tone is output from the subwoofer and press ENTER.

4. Press ENTER. Then, test tones are output from each speaker, and the connected speakers and the noise in the surrounding environment are automatically measured.

5. The measurement results in step 4 are displayed. Select "Next" and press ENTER to output the test tone again to automatically set the settings such as volume level, crossover frequency, etc., to their optimum.

• When an error message is displayed or when the connected speakers cannot be detected, perform re-measurement by selecting "Retry" and pressing ENTER.

• When it cannot be resolved by performing the re-measurement, confirm if the speakers are connected correctly. If there is any problem with the speaker connection, perform the connection after disconnecting the power cord.

6. When the measurement is completed, the measurement results are displayed.
You can check each setting using the cursors ◀ / ▶ LEFT/RIGHT. Select "Save" and press ENTER to save the settings.

7. Disconnect the speaker setup microphone.

MCACC

■ MCACC Data Check

You can check the number of speaker channels connected and the content and values you have set for each of the speaker settings.

Speaker Setting
You can check the number of speaker channels connected and the large and small settings you have set for the low range reproduction capabilities for each of the speakers.

Channel Level
You can check the output level settings for each of the speakers.

Speaker Distance
You can check the distance from each speaker to the listening position.

Audio Adjust

■ Dual Mono / Mono

Change the settings of multiplex audio playback.

❑ Dual Mono (Default Value: Main)

Set the audio channel or language to be output when playing multiplex audio or multilingual broadcasts, etc.

• For multiplex audio broadcasts, pressing the *i* STATUS button on the remote controller will display "1+1" on the main unit's display.

Main	Main channel only
Sub	Sub channel only
Main / Sub	Main and sub channels will be output at the same time.

❑ Mono Input Channel (Default Value: Left + Right)

Set the input channel when playing back analog or 2 ch PCM signals in the Mono listening mode.

Left	Left channel only
Right	Right channel only
Left + Right	Left and right channels

■ Dolby

Change the setting of when Dolby signals are input.

❑ Loudness Management (Default Value: On)

When playing Dolby TrueHD, enable the dialog normalization function which keeps the volume of dialog at a certain level. Note that when this setting is "Off", the Midnight function that allows you to enjoy surround at low volumes is fixed to "Off" when playing Dolby Digital Plus/Dolby TrueHD.

On	When this function is used
Off	When this function is not used

❑ Center Spread (Default Value: Off)

Adjust the width of the front sound field created when playing back with the Dolby Audio - Surr listening mode.

• Depending on the speaker settings, "Off" is applied.

On	The sound field is spread to left and right.
Off	The sound field is centralized.

❑ Dialogue Enhancement (Default Value: Off)

Improves the intelligibility of dialogue by continually monitoring audio and applying dynamic processing.

On	When this function is used
Off	When this function is not used

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Audio Adjust

■ Volume

Change the Volume settings.

❏ Volume Display (Default Value: Absolute)

Switch the volume display between the absolute value and relative value. The absolute value 82.0 is equivalent to the relative value 0.0 dB.

Absolute	Absolute value such as "0.5" and "99.5"
Relative	Relative value such as "-81.0 dB" and "+18.0 dB"

❏ Mute Level (Default Value: -∞ dB)

Set the volume lowered from the listening volume when muting is on. Select a value from "-∞ dB", "-40 dB" and "-20 dB".

❏ Volume Limit (Default Value: Off)

Set the maximum value to prevent the volume from becoming too loud. Select a value from "Off", "-32 dB" to "+17 dB".

❏ Power On Level (Default Value: Last)

Set the volume level of when the power is turned on. Select a value from "Last" (Volume level before entering standby mode), "-∞ dB", and "-81.5 dB" to "+18.0 dB".
• You cannot set a higher value than that of "Volume Limit".

❏ Headphone Level (Default Value: 0.0 dB)

Adjust the output level of headphones. Select a value between "-12.0 dB" and "+12.0 dB".

Source

■ Input Volume Absorber

Adjust the volume level when there are differences in volume level among multiple devices connected to this unit. Select the input selector to make the setting.

❏ **Input Volume Absorber (Default Value: 0.0 dB)**

Select a value between "-12.0 dB" and "+12.0 dB". Set a negative value if the volume of the target device is larger than the others and a positive value if smaller. To check the audio, play back the connected device.

■ Name Edit

Set an easy name for each input. The set name appears on the main unit's display. Select the input selector to make the setting.

❏ **Name Edit (Default Value: Input name)**

1. Select a character or symbol with the cursors, and press ENTER.
   Repeat this operation to input up to 10 characters.
   "A/a": Switches between upper and lower cases. (Pressing MODE on the remote controller also toggles between upper and lower cases)
   "←" "→": Moves the cursor in the arrow direction.
   "⌫": Removes a character on the left of the cursor.
   "Space": Enters a space.
   • Pressing CLEAR on the remote controller will remove all the input characters.
2. After inputting, select "OK" with the cursors, and press ENTER.
   The input name will be saved.

To restore the name to the default value, press CLEAR on the remote controller on the input screen. Then while nothing is entered, select "OK", and press ENTER.

• To name a preset radio station, press TUNER on the remote controller, select AM (North American, Taiwanese, Middle East, Australian and Asian models)/ FM, and select the preset number. (Preset names cannot be given to DAB stations (European models))
• This cannot be set if the "BLUETOOTH" input is selected.

Source

■ Audio Select

Select the priority for input selection when multiple audio sources are connected to one input selector, such as connections to both the "CD" DIGITAL IN jack and the "CD" AUDIO IN jack. The setting can be separately set to each input selector button. Select the input selector to configure. Note that there are some default values you cannot change.

❑ **BD/DVD**   **(Default Value: HDMI)**
  GAME   **(Default Value: HDMI)**
  CBL/SAT   **(Default Value: HDMI)**
  STRM BOX **(Default Value: HDMI)**
  CD   **(Default Value: COAXIAL)**
  TV   **(Default Value: ARC)**

ARC	When giving priority to input signal from ARC compatible TV • This item can be selected only when "Hardware" - "HDMI" - "Audio Return Channel (eARC supported)" is set to "On" and also the "TV" input is selected.
HDMI	When giving priority to input signal from HDMI IN jacks • This item can be selected only when the input to be set is assigned to the HDMI jack in the "Input/Output Assign" - "HDMI Input" setting.
COAXIAL	When giving priority to input signal from DIGITAL AUDIO IN COAXIAL jacks • This item can be selected only when the input to be set is assigned to the COAXIAL jack in the "Input/Output Assign" - "Digital Audio Input" setting.
OPTICAL	When giving priority to input signal from DIGITAL AUDIO IN OPTICAL jacks • This item can be selected only when the input to be set is assigned to the OPTICAL jack in the "Input/Output Assign" - "Digital Audio Input" setting.
Analog	When giving priority to the input signal from AUDIO IN jacks • This item can be selected only when the input to be set is assigned to the AUDIO IN jack in the "Input/Output Assign" - "Analog Audio Input" setting.

❑ **Fixed PCM (Default Value: Off)**

Select whether to fix input signals to PCM (except multi-channel PCM) when you select "HDMI", "COAXIAL", or "OPTICAL" in the "Audio Select" setting. Set this item to "On" if noise is produced or truncation occurs at the beginning of a track when playing PCM sources. Select "Off" normally.
• Each time the "Audio Select" setting is changed, the setting is restored to "Off".

• The setting cannot be changed when "TUNER" or "BLUETOOTH" input is selected.

Hardware

■ HDMI

Change the settings of the HDMI function.

❏ HDMI CEC (Default Value: On)

Setting this to "On" enables the input selection link and other link functions with HDMI-connected CEC-compatible device.

When this setting is changed, turn off and then on again the power of all connected devices.

- Depending on the TV to use, a link setting may be required on the TV.
- Setting this to "On" and closing the operation screen will display the name of the connected CEC-compatible device and "CEC On" on the main unit's display.
- When this function is set to "On", the power consumption in standby state increases, however, the increase in power consumption is minimized by automatically entering the HYBRID STANDBY mode where only the essential circuits operate.
- If you operate the MASTER VOLUME dial on the main unit when this setting is "On" and audio is output from the TV speakers, audio will be output also from the speakers connected to this unit. To output audio from only either of them, change the setting of this unit or TV, or reduce the volume of this unit.
- If abnormal behavior is observed when this is set to "On", set it to "Off".
- If a connected device is not CEC-compatible, or if you are not sure whether it is compatible, set it to "Off".

On	When this function is used
Off	When this function is not used

❏ HDMI Standby Through (Default Value: Auto (Eco))

When this is set to anything other than "Off", you can play the video and audio of an HDMI-connected player on the TV even if the unit is in standby mode. Also, only "Auto" and "Auto (Eco)" can be selected if "HDMI CEC" is set to "On". If you select anything else, set "HDMI CEC" to "Off".

- When this function is set to a value other than "Off", the power consumption in standby state increases, however, the increase in power consumption is minimized by automatically entering the HYBRID STANDBY mode where only the essential circuits operate.
- To play a non-CEC compliant player on the TV, turn the unit on and switch the input.
- When using a CEC-compliant TV, you can reduce the power consumption in standby mode by selecting "Auto (Eco)".

Off	When this function is not used
BD/DVD, GAME, CBL/SAT, STRM BOX	For example, if you select "BD/DVD", you can play the equipment connected to the "BD/DVD" jack on the TV even if the unit is in standby mode. Select this setting if you have decided which player to use with this function.
Last	You can play on the TV the video and audio of the input selected immediately before the unit is switched to standby.
Auto, Auto (Eco)	Select one of these settings when you have connected equipment that conforms to the CEC standard. You can play the video and audio of the input selected on the TV, irrespective of what input was selected immediately prior to the unit being switched to standby, using the CEC link function.

Hardware

❑ Audio TV Out (Default Value: Auto)

You can enjoy audio through the speakers of the TV while this unit is on.

- Listening mode cannot be changed while "Audio TV Out" is set to "On" and audio is being output from the TV.
- Depending on your TV or input signal of the connected device, audio may not be output from the TV even if this is set to "On". In such a case, audio is output from the speakers of the unit.
- Audio is output from this unit if you operate the MASTER VOLUME dial on this unit when audio that is input to this unit is output from your TV speakers. If you do not want to output audio, change the setting of this unit or TV, or reduce the volume of this unit.

On	When this function is used
Off	When this function is not used
Auto	When the "HDMI CEC" setting is "On", the setting is fixed to "Auto". With "Auto", when audio is output from the TV speakers, audio is not output from the speakers of this unit, and when audio is output from the speakers of this unit, audio is not output from the TV speakers. • If the HDMI CEC setting is off on the TV, there may be audio output from both the TV speakers and the speakers of this unit.

❑ Audio Return Channel (eARC supported) (Default Value: On)

You can enjoy the sound of an HDMI-connected ARC-compatible TV or eARC-compatible TV through the speakers connected to the unit.

On	When enjoying the TV sound through the speakers connected to the unit
Off	When the ARC function or eARC function is not used

❑ Auto Delay (Default Value: On)

Automatically corrects desynchronization between the video and audio signals based on the information from the HDMI Lip-Sync-compatible TV.

On	When enabling the automatic correction function
Off	When not using the automatic correction function

Hardware

■ Bluetooth

Change the settings for the BLUETOOTH function.

❏ Bluetooth Receiver (Default Value: On)

Select whether or not to use the BLUETOOTH function.

On	Enables connection with a BLUETOOTH wireless technology enabled device by using the BLUETOOTH function. Select "On" also when making various BLUETOOTH settings.
Off	When not using the BLUETOOTH function

❏ Auto Input Change (Default Value: On)

When a BLUETOOTH enabled device is played while it is connected to the unit, the input of the unit can be automatically switched to "BLUETOOTH".

On	The input will automatically become "BLUETOOTH" when a BLUETOOTH enabled device is connected. • If the input is not switched automatically, set to "Off" and change the input manually.
Off	The function is disabled.

❏ Auto Reconnect (Default Value: On)

This function automatically reconnects to the BLUETOOTH wireless technology enabled device connected last when you change the input to "BLUETOOTH".

On	When this function is used • This may not work with some BLUETOOTH wireless technology enabled devices.
Off	When this function is not used

❏ Pairing Information (Default Value: -)

You can initialize the pairing information stored on this unit. Pressing ENTER when "Clear" is displayed initializes the pairing information stored on this unit.

• This function does not initialize the pairing information on the BLUETOOTH wireless technology enabled device. When pairing the unit again with the device, be sure to clear the pairing information on the BLUETOOTH wireless technology enabled device in advance. For information on how to clear the pairing information, refer to the BLUETOOTH wireless technology enabled device's instruction manual.

❏ Device (Default Value: -)

Displays the name of the BLUETOOTH wireless technology enabled device connected to the unit.

• The name is not displayed when "Status" is "Ready" and "Pairing".

❏ Status (Default Value: -)

Displays the status of the BLUETOOTH wireless technology enabled device connected to the unit.

Ready	Not paired
Pairing	Paired
Connected	Successfully connected

• Wait for a while if "Bluetooth" cannot be selected. It will appear when the BLUETOOTH function is started up.

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Hardware

■ Power Management

Change the settings for the power-save function.

❏ Sleep Timer (Default Value: Off)

30 minutes, 60 minutes, 90 minutes	You can allow the unit to enter standby automatically when the specified time elapsed. Select a value from "30 minutes", "60 minutes" and "90 minutes".
Off	Does not turn the unit to standby automatically.

❏ Auto Standby (Default Value: On/Off)

This setting allows the unit to enter standby mode automatically after 20 minutes of inactivity without any video or audio input. (When "USB Power Out at Standby" is enabled, the unit enters the HYBRID STANDBY mode which minimizes the increase in power consumption.)
• Default values vary depending on the regions.

On	The unit will automatically enter standby mode ("AUTO STBY" will light). • "Auto Standby" is displayed on the main unit's display and TV screen 30 seconds before entering standby mode.
Off	The unit will not automatically enter standby mode.

❏ Auto Standby in HDMI Standby Through (Default Value: On/Off)

Enable or disable "Auto Standby" while "HDMI Standby Through" is on.
• Default values vary depending on the regions.

On	The setting will be enabled. • This setting cannot be set to "On" if "Auto Standby" and "HDMI Standby Through" are set to "Off".
Off	The setting will be disabled.

❏ USB Power Out at Standby (Default Value: Off)

Devices connected to the USB port (5 V/1 A) on the rear of the unit can be supplied with electricity even when this unit is in standby mode when this function is "On".
• When this function is set to "On", the power consumption in standby state increases, however, the increase in power consumption is minimized by automatically entering the HYBRID STANDBY mode where only the essential circuits operate.

Miscellaneous

◼ Tuner

Change the settings for Tuner.

❑ AM/FM Frequency Step (North American and Taiwanese models) (Default Value: 10 kHz / 0.2 MHz)

Select a frequency step to suit your residential area.
Select "10 kHz/0.2 MHz" or "9 kHz/0.05 MHz".
- When this setting is changed, all radio presets are deleted.

❑ AM Frequency Step (Middle East, Australian and Asian models) (Default Value: 9 kHz)

Select a frequency step to suit your residential area.
Select "10 kHz" or "9 kHz".
- When this setting is changed, all radio presets are deleted.

❑ FM Search Level (European models) (Default Value: Normal)

If automatic tuning regularly stops on FM stations with weak reception when "Normal" is selected, select "Strong" so only those FM stations with strong reception are selected.

❑ DAB Auto Scan (European models) (Default Value: -)

You can run the auto scan when new DAB stations are added or when you move house.

❑ DAB DRC (European models) (Default Value: Off)

With the DRC (Dynamic Range Control) setting, you can reduce the dynamic range of DAB digital radio so that you can still hear quiet parts even when listening at low volume levels - ideal for listening to the radio late at night when you don't want to disturb anyone.

Off	DRC off
Large	Large reduction in dynamic range
Small	Small reduction in dynamic range

Miscellaneous

■ Firmware Update

Change the settings for Firmware Update.

❑ **Version (Default Value: -)**

The current firmware version is displayed.

❑ **Update via USB (Default Value: -)**

Press ENTER to select when updating the firmware via USB.

• Wait for a while if "Firmware Update" cannot be selected.

■ Initial Setup

Make the initial setup from the setup menu.
• Wait for a while if "Initial Setup" cannot be selected.

■ Lock

Lock the Setup menu so that the settings cannot be changed.

❑ **Setup Parameter (Default Value: Unlocked)**

Lock the Setup menu so that the settings cannot be changed.

Locked	The menu is locked.
Unlocked	The menu is unlocked.

■ Factory Reset

All the settings are restored to factory defaults.

❑ **Factory Reset (Default Value: -)**

All the settings are restored to factory defaults.
Select "Start", and press the ENTER button.
• If "Factory Reset" is performed, your settings are restored to the default values. Be sure to note down your setting contents beforehand.
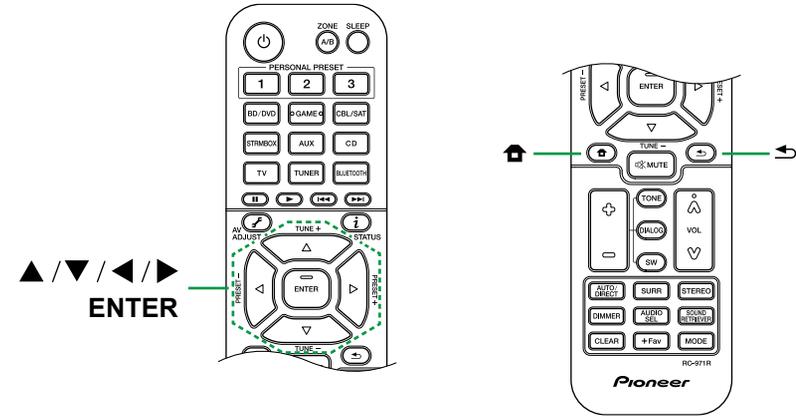
Initial Setup with Auto Start-up Wizard

Operations

TV's REMOTE

INPUT

Inputs
TV
▶ HDMI 1
HDMI 2
HDMI 3

ZONE A/B

PERSONAL PRESET 1 2 3

▲ / ▼ / ◀ / ▶
ENTER
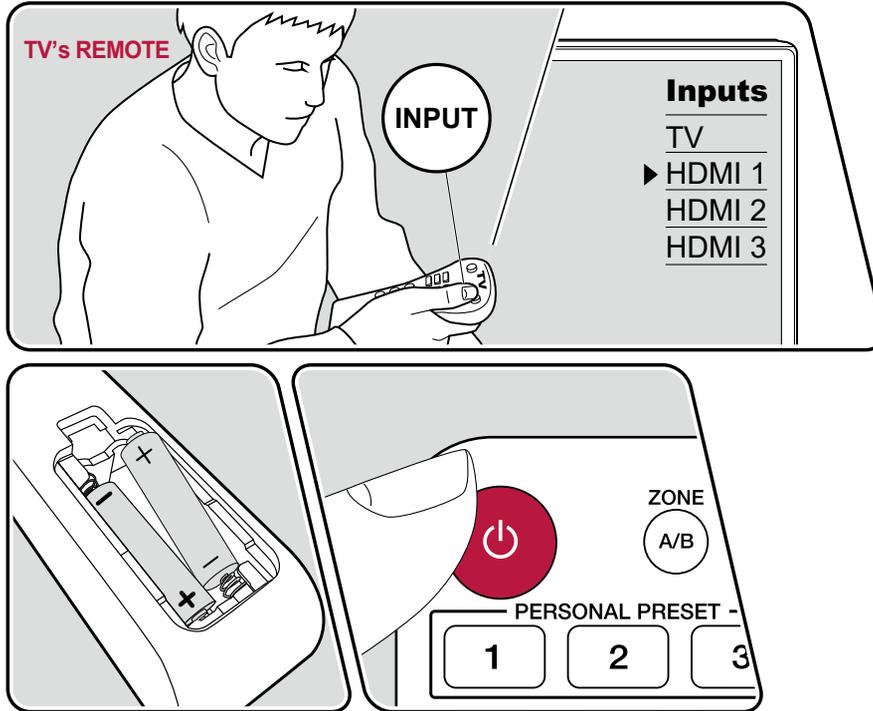
When you turn the unit on for the first time after purchase, the Initial Setup screen is automatically displayed on the TV to allow you to make settings required for startup using simple operations following on-screen guidance.


1. Switch the input of the TV to the input connected to the unit.
2. Put batteries into the remote controller of this unit.
3. Press ⏻ STANDBY/ON on the remote controller to turn the unit on.
4. When the language selection screen is displayed on TV, select the language with the cursors ▲ / ▼ UP/DOWN and press ENTER.
• Select the item with the cursors of the remote controller, and press ENTER to confirm your selection. To return to the previous screen, press ⤺ RETURN/EXIT.
• If you have terminated the Initial Setup halfway, turn this unit to standby mode. Then turning the power on again can display the Initial Setup again. The Initial Setup appears on the screen each time the power is turned on unless the Initial Set up is completed or "Never Show Again" is selected on the first screen.

- To perform the Initial Setup again after the setting is completed, press ⌂ HOME, select "Miscellaneous" - "Initial Setup", and press ENTER.

1. Speaker Setup

1. Select the connected speaker configuration, and press ENTER.
   Note that the image on the screen changes each time you select the number of channels in "Speaker Channels".
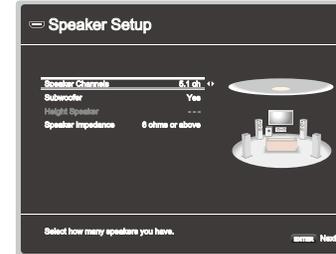
2. The speaker combination selected in step 1 is displayed. "Yes" is displayed for the selected speakers. If the setting is correct, press ENTER.
3. Select "Next" and press ENTER. Then a test tone is output from each speaker to confirm the connection. Selecting each speaker with the cursors ▲ / ▼ UP/DOWN will output the test tone. Press ENTER after confirmation.
4. If there is no problem with the speaker connection, select "Next" and press ENTER. To return to "Speaker Setup", select "Back to Speaker Setup" and press ENTER.

2. ARC Setup

To connect with an ARC-compatible TV, select "Yes". The ARC setting on this unit turns on, and you can listen to the TV's audio through this unit.
- If you select "Yes", the HDMI CEC function is enabled and power consumption increases during standby.

3. Full Auto MCACC

Place the supplied speaker setup microphone in the listening position, measure the test tones emitted by the speakers, then the unit automatically sets the optimum volume level for each speaker, the crossover frequencies, and the distance from the listening position. This also reduces the effect of the standing wave in accordance with the viewing environment and automatically adjusts the equalizers for the speakers and enables correction of distortion caused by the acoustic environment of the room.

- It takes between 3 and 12 minutes for calibration to be completed. Each speaker outputs the test tone at high volume during measurement, so be careful of your surroundings. Also, keep the room as quiet as possible during measurement.
- If you connect a subwoofer, check the power and volume of the subwoofer. Set the subwoofer volume to more than half.
- If the power of this unit suddenly turns off, the wires in the speaker cables have touched the rear panel or other wires, and the protection circuit is working. Twist the wires again securely, and make sure they do not stick out of the speaker terminals when connecting.

1. Place the supplied speaker setup microphone at the listening position, and connect it to the SETUP MIC jack on the main unit.
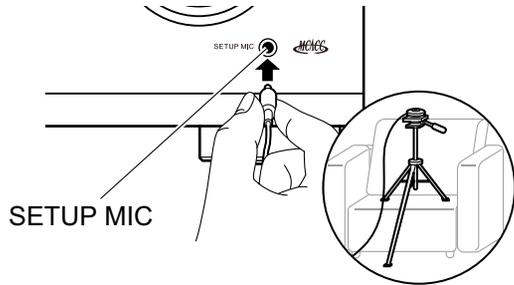
SETUP MIC

When placing the speaker setup microphone on a tripod, refer to the illustration.
2. Confirm a test tone is output from the subwoofer and press ENTER.
3. Press ENTER to output test tones from each speaker, and the connected speakers and the noise in the surrounding environment are automatically measured.

4. The measurement results in step 3 are displayed. If there is no problem in the detection result of the speaker, select "Next" and press ENTER to output the test tone again to automatically set the settings such as volume level, crossover frequency, etc., to their optimum.
   - When an error message is displayed or when the connected speakers cannot be detected, perform re-measurement by selecting "Retry" and pressing ENTER.
   - When it cannot be resolved by performing the re-measurement, confirm if the speakers are connected correctly. If there is any problem with the speaker connection, perform the connection after disconnecting the power cord.
5. When the measurement is completed, the measurement results are displayed. You can check each setting using the cursors ◀ / ▶ LEFT/RIGHT. Select "Save" and press ENTER to save the settings.
6. Disconnect the speaker setup microphone.

Troubleshooting

Before starting the procedure

Problems may be solved by simply turning the power on/off or disconnecting/connecting the power cord, which is easier than working on the connection, setting and operating procedure. Try the simple measures on both the unit and the connected device. If the problem is that the video or audio is not output or the HDMI linked operation does not work, disconnecting/connecting the HDMI cable may solve it. When reconnecting, be careful not to wind the HDMI cable since if wound the HDMI cable may not fit well. After reconnecting, turn off and on the unit and the connected device.
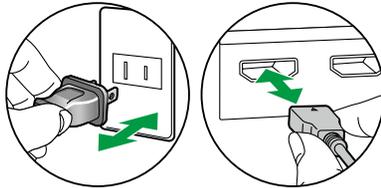
- The AV receiver contains a microPC for signal processing and control functions. In very rare situations, severe interference, noise from an external source, or static electricity may cause it to lockup. In the unlikely event that this happens, unplug the power cord from the wall outlet, wait at least 5 seconds, and then plug it back in.
- Our company is not responsible for damages (such as CD rental fees) due to unsuccessful recordings caused by the unit's malfunction. Before you record important data, make sure that the material will be recorded correctly.

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# When the unit is operating erratically

❑ Try restarting the unit

Restarting this unit may solve the problem. Set the main unit to standby, then after waiting for 5 seconds or more, press and hold the ⏻ STANDBY/ON button of the main unit for at least 5 seconds, and then restart the unit. (The settings on this unit are kept.) If the problem persists after restarting the unit, unplug and plug the power cords or HDMI cable of this unit and connected devices.
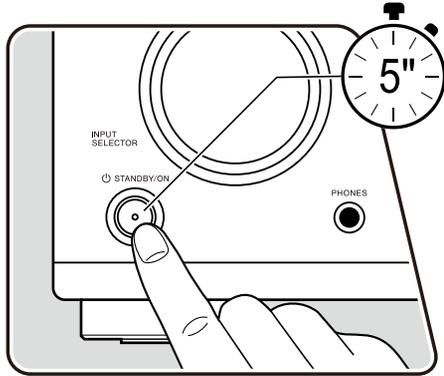
❑ Resetting the unit (this resets the unit settings to the default)

If the restart of the unit does not solve the problem, reset the unit, and restore all the settings to the factory default at the time of purchase. This may solve the problem. If the unit is reset, your settings are restored to the default values. Be sure to note down your setting contents before performing the following operations. Note that it is not possible to reset the unit during the Initial Setup process. Before doing the following procedures, press ⤺ RETURN/EXIT to exit Initial Setup.

1. While pressing and holding AUTO/DIRECT on the main unit with the unit turned on, press the ⏻ STANDBY/ON button.
2. "Clear" is displayed on the display, and the unit returns to the standby state. Do not remove the power cord until "Clear" disappears from the display.

To reset the remote controller, while pressing and holding MODE, press the CLEAR button at least 3 seconds.
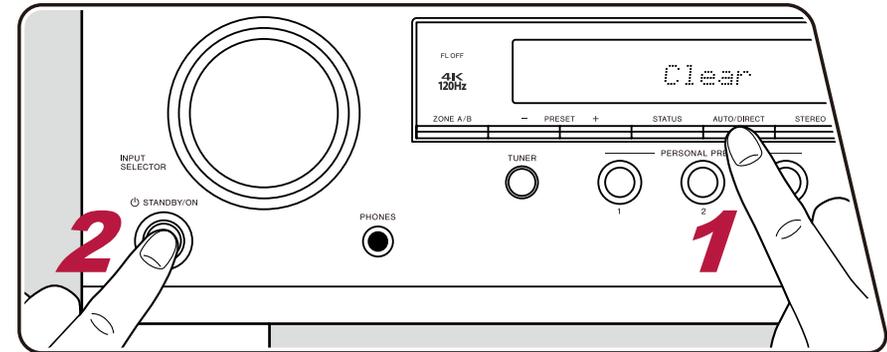
Troubleshooting

■ Power

❑ When the power is turned on, "Diagnostic mode" appears on the display of the main unit

- The protection circuit function may have operated. If the unit suddenly enters the standby state and "Diagnostic mode" appears on the display of the main unit when the power is turned on again, this function is diagnosing whether or not the main unit is malfunctioning or there is an abnormality with the speaker cable connection. When the diagnosis is complete, the following messages are displayed.

Check speaker	If the unit returns to the normal ON state after "Diagnostic mode" appears on the display, the speaker cable may have been short-circuited. After setting the power of this unit to standby state, connect the speaker cable again. Twist the wires exposed from the tip of the speaker cable so that the wires do not stick out of the speaker terminal.
NG: ✳✳✳✳✳	If the operation has stopped with "NG" displayed on the display, set the power of this unit to standby state immediately and remove the power plug from the outlet. The unit may be malfunctioning. Consult a dealer.

❑ The unit turns off unexpectedly

- If "Hardware" - "Power Management" - "Auto Standby" on the Setup menu is activated, the unit automatically enters the standby mode.
- The protection circuit function may have operated due to an abnormal rise in temperature of the unit. In such a case, the power turns off repeatedly even if the power is turned on each time. Secure sufficient ventilation space around the unit, wait for a while until the temperature of the unit decreases. Then, turn the power on again.

WARNING: If smoke, smell or abnormal noise is produced by the unit, unplug the power cord from the outlet immediately, and contact the dealer or our company's support.

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■ Audio

- Make sure that the speaker setup microphone is no longer connected.
- Confirm that the connection between the output jack on the connected device and the input jack on this unit is correct.
- Make sure that none of the connecting cables are bent, twisted, or damaged.
- If "MUTING" is displayed on the display and ⊠ is blinking, press ⊠ MUTE on the remote controller to cancel muting.
- While headphones are connected to the PHONES jack, no sound is output from the speakers.
- When "Source" - "Audio Select" - "Fixed PCM" in the Setup menu is set to "On", no sound is played if signals other than PCM are input. Change the setting to Off.

Check the following if the problem persists after you have confirmed the above.

❑ No sound from the TV

- Change the input selector on this unit to the position of the terminal to which the TV is connected.
- If the TV doesn't support the ARC function, along with connection by HDMI, connect the TV and this unit using a digital optical cable. (→**p27**)

❑ No sound from a connected player

- Change the input selector on this unit to the position of the jack to which the player is connected.
- Check the digital audio output setting on the connected device. On some game consoles, such as those supporting DVD, the default setting may be off.
- For some DVD-Video discs, you need to select an audio output format from a menu.
- If there is a format that is not supported by this unit, set the audio format on the connected device to PCM.

❑ A speaker produces no sound

- Make sure that the polarity (+/-) of the speaker cables is correct, and that no bare wires are in contact with the metal part of speaker terminals. (→**p20**)
- Make sure that the speaker cables are not shorting out.
- Check "Connect the Speaker Cables" (→**p20**) to see if the speaker connections have been made correctly. Settings for the speaker connection environment need to be made in "Speaker Setup" in Initial Setup. Check "Initial Setup with Auto Start-up Wizard" (→**p74**).
- Depending on the input signal and listening mode, not much sound may be output from speakers. Select another listening mode to see if sound is output.

❑ The subwoofer produces no sound

If the setting of the front speakers is "Large", the low range elements will be output from the front speakers instead of from the subwoofer during 2 ch audio input of TV or music. To output the sound from the subwoofer, make one of the following settings.

1. Change the front speakers settings to "Small".
   The low range elements will be output from the subwoofer rather than the front speakers. We do not recommend changing this if your front speakers have good low range reproduction capabilities.
2. Change "Double Bass" to "On".
   The low range elements of the front speakers will be output from both the front speakers and the subwoofer. Due to this, the bass sound may be emphasized too much. In such a case, do not change the setting, or make the setting with the above option 1.

- For the setting details, refer to "Speaker" - "Crossover".
- If the input signals do not contain subwoofer audio elements (LFE), the subwoofer may produce no sound.

❑ Noise can be heard

- Using cable ties to bundle analog audio cables, power cords, speaker cables, etc. may degrade the audio performance. Do not bundle the cords.
- An audio cable may be picking up interference. Change the position of the cables.

❑ The beginning of audio received by an HDMI IN cannot be heard

- Since it takes longer to identify the format of an HDMI signal than it does for other digital audio signals, audio output may not start immediately.

❑ Sound suddenly reduces

- When the temperature inside the unit exceeds a certain temperature for extended periods of use, the volume may be lowered automatically to protect the circuits.

■ Listening Modes

- To enjoy digital surround playback in formats such as Dolby Digital, you need to make a connection for audio signals with an HDMI cable, digital coaxial cable or digital optical cable. Also, audio output need to be set to Bitstream output on the connected Blu-ray Disc player, etc.
- Press *i* STATUS on the remote controller several times to switch the display of the main unit, and you can check the input format.

Check the following if the problem persists after you have confirmed the above.

❑ Cannot select a desired listening mode

- Depending on the connection status of the speaker, some listening modes may not be selected. Check "Speaker Layouts and Selectable Listening Modes" (→**p89**) or "Input Formats and Selectable Listening Modes" (→**p91**).

❑ Cannot listen to the sound in Dolby TrueHD or Dolby Atmos format

- If the audio in Dolby TrueHD or Dolby Atmos format cannot be output correctly in the source format, set "BD video supplementary sound" (or reencode, secondary sound, video additional audio, etc.) to "Off" in the setting of a connected Blu-ray Disc player, etc. After changing the setting, switch the listening mode to that for each source, and confirm.

❑ About Dolby signals

- Some Dolby Atmos audio format that is used on games, etc., may be recognized as "Multichannel PCM". If this occurs, check the firmware updates for the game console.

■ Video

- Confirm that the connection between the output jack on the connected device and the input jack on this unit is correct.
- Make sure that none of the connecting cables are bent, twisted, or damaged.
- When the TV image is blurry or unclear, the power cord or connection cables of the unit may have interfered. In such a case, keep distance between TV antenna cable and cables of the unit.
- Check the switching of the input screen on the monitor side such as a TV.

Check the following if the problem persists after you have confirmed the above.

❑ No image appears

- Change the input selector on this unit to the position of the jack to which the player is connected.
- To display video from the connected player on the TV while the unit is in standby, you need to enable "Hardware" - "HDMI" - "HDMI Standby Through" in the Setup menu. For details of the HDMI Standby Through function, refer to "Hardware" - "HDMI".
- Check if "Resolution Error" is displayed on the main unit display when video input via HDMI IN jack is not displayed. In this case, the TV does not support the resolution of the video input from the player. Change the setting on the player.
- Normal operation with an HDMI-DVI adapter is not guaranteed. In addition, video signals output from a PC are not guaranteed.
- Try switching off the Deep Color function. To turn off the Deep Color function, simultaneously press the SURROUND and ⏻ STANDBY/ON buttons on the main unit. While holding down SURROUND, press ⏻ STANDBY/ON repeatedly until "Deep Color:Off" appears on the display. To reactivate the Deep Color function, repeat the above described step until "Deep Color:On" is appeared on the display.

❑ Images flicker

- The output resolution of the player may not be compatible with the resolution of the TV. If the player is connected to this unit with an HDMI cable, change the output resolution on the player. Also this may be solved by changing the screen mode on the TV.

❑ Video and audio are out of synch

- Depending on the settings on your TV and connection environment, the video may be behind the audio. To adjust, press ✎ AV ADJUST on the remote controller, and adjust in "HDMI" - "Sound Delay" in the "AV Adjust".

■ Linked operation

❑ HDMI linked operation does not work with CEC-compliant devices, such as a TV

- In the Setup menu of the unit, set "Hardware" - "HDMI" - "HDMI CEC" to "On".   (→**p68**)
- It is also necessary to set HDMI linking on the CEC-compliant device. Check the instruction manual.
- When connecting a Sharp brand player or recorder to the HDMI IN jacks, set "Hardware" - "HDMI" - "HDMI Standby Through" to "Auto".

■ Tuner

❑ Poor reception or much noise

- Recheck the antenna connection.   (→**p32**)
- Move the antenna away from the speaker cord or power cord.
- Move the unit away from your TV or PC.
- Passing cars or airplanes in the vicinity can cause interference.
- If radio waves are blocked by concrete walls, etc., radio reception may be poor.
- Change the reception mode to mono (→**p40**).
- When listening to an AM station, operating the remote controller may cause noise. (North American, Taiwanese, Middle East, Australian and Asian models)
- FM reception may be clearer if you use the antenna jack on the wall used for the TV.

■ BLUETOOTH function

- Unplug and plug the power cord of the unit, or turn off and on the BLUETOOTH enabled device. Restart of the BLUETOOTH enabled device may be effective.
- BLUETOOTH enabled devices must support the A2DP profile.
- Because a radio wave interference will occur, this unit may not be used near devices such as a microwave oven or cordless phone which use the radio wave in the 2.4 GHz range.
- A metallic object near the unit can affect on the radio wave, and BLUETOOTH connection may not be possible.

Check the following if the problem persists after you have confirmed the above.

❑ Cannot transmit from a BLUETOOTH wireless technology enabled device (PC, smartphone, etc.) to this unit

- Check if the BLUETOOTH function of the BLUETOOTH enabled device is enabled.

❑ **Cannot connect a BLUETOOTH wireless technology enabled device (PC, smartphone, etc.) to this unit**

• Initialize the pairing information and perform pairing again.
  Firstly delete all the pairing information saved on this unit. In the Setup menu, select "Hardware" - "Bluetooth" - "Bluetooth Receiver" - "Pairing Information", then press ENTER while "Clear" is displayed.
  Next, delete the pairing information of this unit that is saved on the BLUETOOTH wireless technology enabled device. For information on how to clear the pairing information, refer to the BLUETOOTH enabled device's instruction manual.
  Finally, perform pairing again. Refer to "BLUETOOTH® Playback" (→**p39**) for pairing instructions.

❑ **Music playback is unavailable on the unit even after successful BLUETOOTH connection**

• If the volume setting on this unit or the BLUETOOTH wireless technology enabled device is low, audio may not be played. Check the volume setting on this unit or the BLUETOOTH wireless technology enabled device.
• Some BLUETOOTH wireless technology enabled devices may be equipped with a Send/Receive selector switch. Try switching the setting to suit the application the device is being used for.
• Depending on the characteristics or specifications of the BLUETOOTH enabled device, music may not be played back on this unit.

❑ **Sound is interrupted**

• There maybe a problem with the BLUETOOTH enabled device. Check the information on a web page.

❑ **The audio quality is poor after connection with a BLUETOOTH enabled device**

• The BLUETOOTH reception is poor. Move the BLUETOOTH enabled device closer to the unit, or remove any obstacle between the BLUETOOTH enabled device and this unit.

■ ZONE B function

❑ **Cannot output audio to ZONE B**

• To output audio to ZONE B, set the audio output destination to "ZONE A+B" or "ZONE B".   (→**p48**)

■ Remote Controller

• Make sure that the batteries are inserted with the correct polarity.
• Insert new batteries. Do not mix different types of batteries, or old and new batteries.
• Make sure that the sensor of the main unit is not subjected to direct sunlight or inverter-type fluorescent lights. Relocate it if necessary.
• If the main unit is installed in a rack or cabinet with colored-glass doors, or if the doors are closed, the remote controller may not work normally.

■ Display

❑ The display does not light up

• When the Dimmer function is working, the display may go dim or turn off. Press the DIMMER button, and change the brightness level of the display. (→**p14**)

■ Others

❑ Strange noise can be heard from the unit

• If you have connected another device to the same outlet as this unit, strange noise may occur under the influence of the device. If the symptom is remedied by removing the power plug of the other device from the outlet, use different outlets for this unit and the device.

❑ The message "Noise Error" appears during Full Auto MCACC

• This can be caused by a malfunction in your speaker unit. Check the speaker output, etc.

❑ The measurement results of Full Auto MCACC show different distances to the speakers from the actual ones

• Depending on the speakers you are using, some errors may occur in the measurement results. If this is the case, make the settings in "Speaker" - "Distance" in the Setup menu. (→**p60**)

❑ The measurement results of Full Auto MCACC show that the volume level of the subwoofer has been corrected to the lower limit

• The volume level correction of the subwoofer may not have been completed. Lower the volume of the subwoofer before Full Auto MCACC measurement.

Appendix

Speaker Layouts and Selectable Listening Modes

See the following table for selectable listening modes for each speaker layout.

Listening mode	Speaker layout (ch)					
	2.1	3.1	4.1	5.1	2.1.2	3.1.2
🔲 DD (Dolby Audio - DD)		✔(*1)	✔(*1)	✔(*1)		✔(*2)
🔲 DD+ (Dolby Audio - DD+)		✔(*1)	✔(*1)	✔(*1)		✔(*1)
🔲 DTHD (Dolby Audio - TrueHD)		✔(*1)	✔(*1)	✔(*1)		✔(*1)
🔲 Atmos 2.0/2.1	✔					
🔲 Atmos 3.0/3.1		✔				
🔲 Atmos 4.0/4.1			✔			
🔲 Atmos 5.0/5.1				✔		
🔲 Atmos 2.0.2/2.1.2					✔	
🔲 Atmos 3.0.2/3.1.2						✔
Dolby Surr 2.0/2.1 (Dolby Audio - Surr)	✔					
Dolby Surr 3.0/3.1 (Dolby Audio - Surr)		✔				
Dolby Surr 4.0/4.1 (Dolby Audio - Surr)			✔			
Dolby Surr 5.0/5.1 (Dolby Audio - Surr)				✔		
Dolby Surr 2.0.2/2.1.2 (Dolby Audio - Surr)					✔	
Dolby Surr 3.0.2/3.1.2 (Dolby Audio - Surr)						✔

Listening mode	Speaker layout (ch)					
	2.1	3.1	4.1	5.1	2.1.2	3.1.2
PCM	✔	✔(*1)	✔(*1)	✔(*1)		✔(*2)
DSD		✔(*1)	✔(*1)	✔(*1)		✔(*2)
Stereo	✔	✔(*3)	✔(*3)	✔(*3)	✔(*3)	✔(*3)
Mono	✔	✔(*3)	✔(*3)	✔(*3)	✔(*3)	✔(*3)
Mono Music		✔	✔	✔	✔	✔
Ext.Stereo		✔	✔	✔	✔	✔
Classical			✔	✔	✔	✔
Ent.Show (Entertainment Show)			✔	✔	✔	✔
Drama			✔	✔	✔	✔
Unplugged			✔	✔	✔	✔
F.S.Surround (Front Stage Surround)	✔	✔	✔(*3)	✔(*4)	✔(*3)	✔(*4)

*1: Reproduced with the sound field according to the number of channels of input signals.
*2: Not output from height speakers.
*3: Output only from front speakers.
*4: Output only from front speakers and center speaker.

Input Formats and Selectable Listening Modes

You can select a variety of listening modes according to the audio format of the signal to be input.

- The Stereo mode can be selected with any audio format.
- When analog signals are being input in the Pure Direct mode, the modes switches to the Analog Direct mode which passes signals directly to the amplifier without passing through the DSP (Digital Signal Processor).
- Listening modes available when headphones are connected are Pure Direct and Stereo only.

Listening mode / Input format	Pure Direct Direct Stereo	DD (Dolby Audio - DD) (*1)	DD+ (Dolby Audio - DD+) (*1)(*2)	DTHD (Dolby Audio - TrueHD) (*1)	Atmos (*7)	Dolby Surr (Dolby Audio - Surr) (*7)
2-channel signal input						
Analog / PCM	✔					✔
DSD	✔					✔
DD / DD+ / DTHD	✔					✔
Multi-channel signal input						
Multich PCM	✔					✔
DSD	✔					✔
DD	✔	✔				✔
DD+	✔		✔			✔
DTHD	✔			✔		✔
Atmos	✔				✔	

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Input format	PCM (Multich PCM) (*1)	DSD (*1)(*6)	Mono	Classical / Unplugged / Ent.Show (Entertainment Show) / Drama (*3)	Ext.Stereo / Mono Music (*4)	F.S.Surround (Front Stage Surround) (*5)
2-channel signal input						
Analog / PCM			✔	✔	✔	✔
DSD				✔	✔	✔
DD / DD+ / DTHD				✔	✔	✔
Multi-channel signal input						
Multich PCM	✔			✔	✔	✔
DSD		✔		✔	✔	✔
DD				✔	✔	✔
DD+				✔	✔	✔
DTHD				✔	✔	✔
Atmos				✔	✔	✔

(*1) A center speaker or surround speakers need to be installed.
(*2) If the input source is Blu-ray Disc and the speaker layout is 5.1 ch or less, DD+ cannot be selected. Instead, the listening mode for DD can be selected.
(*3) Surround speakers or height speakers need to be installed.
(*4) A center speaker, surround speakers, or height speakers need to be installed.
(*5) Cannot be selected if "Speaker Virtualizer" (→**p61**) is set to "Off".
(*6) Cannot be selected when the input format is monaural.
(*7) The listening mode displayed depends on the speaker layout (→**p89**). Furthermore, when the setting for "Speaker Virtualizer" (→**p61**) is "Off" (the default value is On), then modes other than Atmos and Dolby Surr cannot be selected.

❑ **Speaker Layouts and Selectable Listening Modes (→p89)**

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Listening Mode Effects

In alphabetical order

■ Classical

Suitable for classical or operatic music. This mode emphasizes the surround channels in order to widen the sound image, and simulates the natural reverberation of a large hall.

■ Direct/Pure Direct

The "Direct" mode shuts down some processing that can affect sound quality, such as the tone control features, so you can enjoy even better sound quality. The "Pure Direct" mode shuts down even more processes that affects sound quality, so you get a more faithful reproduction of the original sound. In this case, the speaker calibration made with MCACC is invalid.

■ ◻◻ Atmos

Since this mode calculates the positional data of audio recorded in Dolby Atmos audio in real-time and outputs it from appropriate speakers, you can enjoy the natural and stereophonic sound field of Dolby Atmos with any speaker layout including connection of only front speakers. Also, the Dolby Atmos sound design can be reproduced more faithfully by connecting height speakers. You can select this mode when inputting the Dolby Atmos audio format.
Unlike existing surround systems, Dolby Atmos does not rely on channels, but rather enables the accurate placement of sound objects that have independent motion in a 3D space with even greater clarity. Dolby Atmos is an optional audio format for Blu-ray Discs and achieves a more stereophonic sound field by introducing a sound field above the listener.

According to the speaker layout, the following listening modes are displayed.
– ◻◻ Atmos 2.0/2.1: When only front speakers are installed
– ◻◻ Atmos 3.0/3.1: When front speakers and center speaker are installed
– ◻◻ Atmos 4.0/4.1: When front speakers and surround speakers are installed
– ◻◻ Atmos 5.0/5.1: When front speakers, center speaker and surround speakers are installed
– ◻◻ Atmos 2.0.2/2.1.2: When front speakers and height speakers are installed
– ◻◻ Atmos 3.0.2/3.1.2: When front speakers, center speaker and height speakers are installed

• To enable transfer of this audio format, connect via an HDMI cable and set the audio output on the player to Bitstream output.
• When "Speaker Virtualizer" (→**p61**) is set to "Off" (Default: On), modes other than ◻◻ Atmos cannot be selected.

■ ▧ DD (Dolby Audio - DD)

This mode faithfully reproduces the sound design recorded in the Dolby Digital audio format.
Dolby Digital is a multi-channel digital format developed by Dolby Laboratories, Inc. and is widely adopted for use in movie production. It is also a standard audio format for DVD-Video and Blu-ray Discs. It is possible to record a maximum of 5.1 channels on a DVD-Video or Blu-ray Disc; two front channels, one center channel, two surround channels, and the LFE channel dedicated to the bass region (sound elements for the subwoofer).

- To enable transfer of this audio format, connect via a digital cable and set the audio output on the player to Bitstream output.

■ ▧ DD+ (Dolby Audio - DD+)

This mode faithfully reproduces the sound design recorded in the Dolby Digital Plus audio format.
The Dolby Digital Plus format has been improved based on Dolby Digital, increasing the number of channels and endeavoring to improve sound quality by giving more flexibility in data bit rates. Dolby Digital Plus is an optional audio format based on 5.1 ch for Blu-ray Discs. It is possible to record a maximum of 7.1 channels with additional channels such as the surround back channel.

- To enable transfer of this audio format, connect via an HDMI cable and set the audio output on the player to Bitstream output.

■ Dolby Surr (Dolby Audio - Surr)

This listening mode expands 2 ch input signals to 5.1 ch. This mode expands actual channels to more channels for playback according to the configuration of the connected speakers. Also, even if there is no speaker for expansion, for example when only front speakers are connected, audio of surround channel or height channel is virtually created for expansion playback.

According to the speaker layout, the following listening modes are displayed.
- Dolby Surr 2.0/2.1: When only front speakers are installed
- Dolby Surr 3.0/3.1: When front speakers and center speaker are installed
- Dolby Surr 4.0/4.1: When front speakers and surround speakers are installed
- Dolby Surr 5.0/5.1: When front speakers, center speaker and surround speakers are installed
- Dolby Surr 2.0.2/2.1.2: When front speakers and height speakers are installed
- Dolby Surr 3.0.2/3.1.2: When front speakers, center speaker and height speakers are installed

- When "Speaker Virtualizer" (→**p61**) is set to "Off" (Default: On), modes other than Dolby Surr cannot be selected.

■ ▣ DTHD (Dolby Audio - TrueHD)

This mode faithfully reproduces the sound design recorded in the Dolby TrueHD audio format.

The Dolby TrueHD audio format is a "lossless" format expanded based on the lossless compression technology referred to as MLP, and it faithfully reproduces the master audio recorded in the studio. Dolby TrueHD is an optional audio format based on 5.1 ch for Blu-ray Discs. It is possible to record a maximum of 7.1 channels with additional channels such as the surround back channel. 7.1 ch is recorded at 96 kHz/24 bit, and 5.1 ch is recorded at 192 kHz/24 bit.

- To enable transfer of this audio format, connect via an HDMI cable and set the audio output on the player to Bitstream output.

■ Drama

Suitable for TV shows produced in a TV studio. This mode enhances the surround effects to the entire sound to give clarity to voices and create a realistic acoustic image.

■ DSD

This mode is suitable for playing sources recorded in DSD.

- This unit supports the DSD signal input from the HDMI input terminal. However, depending on the connected player, better sound may be obtained by setting the output on the player side to the PCM output.
- This listening mode cannot be selected if the output setting on your Blu-ray Disc/DVD player is not set to DSD.

■ Ent.Show (Entertainment Show)

Suitable for rock or pop music. Listening to music in this mode creates a lively sound field with a powerful acoustic image, like being at a club or rock concert.

■ Ext.Stereo (Extended Stereo)

This mode is ideal for background music. Stereo sound is played through the surround speakers as well as the front speakers, creating a stereo image.

■ F.S.Surround (Front Stage Surround)

In this mode, you can enjoy a virtual playback of multichannel surround sound even with only two or three speakers. This works by controlling how sounds reach the listener's left and right ears.

- This mode cannot be selected when "Speaker Virtualizer" (→**p61**) is set to "Off" (Default: On).

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■ Mono

In this mode, monaural audio is played from the center speaker at the time of inputting an analog signal or PCM signal. If there is no center speaker connected, monaural audio is played from the front speakers.

■ Mono Music

In this mode, all speakers output the same sound in mono, so the sound you hear is the same regardless of where you are within the listening room.

■ PCM

Mode suitable for playing sources recorded in multichannel PCM.

■ Stereo

In this mode, sound is output from the right and left front speakers and subwoofer.

■ Unplugged

Suitable for acoustic instruments, vocals and jazz. This mode emphasizes the front sound field image, giving the impression of being in front of the stage.

Speaker combinations

• Up to two powered subwoofers can be connected in either combination.

Speaker Channels	FRONT	CENTER	SURROUND	HEIGHT
2.1 ch	✔			
3.1 ch	✔	✔		
4.1 ch	✔		✔	
5.1 ch	✔	✔	✔	
2.1.2 ch	✔			✔
3.1.2 ch	✔	✔		✔

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General Specifications

Amplifier Section	North American and Taiwanese models	European, Middle East, Australian and Asian models
Rated Output Power	**(North American models)** With 8 ohm loads, both channels driven, from 20 Hz-20 kHz; rated 80 watts per channel minimum RMS power, with no more than 0.08% total harmonic distortion from 250 milliwatts to rated output. (FTC) **(Taiwanese models)** 5 ch × 135 W at 6 ohms, 1 kHz, 1 ch driven of 1% THD (IEC)	5 ch × 135 W at 6 ohms, 1 kHz, 1 ch driven of 1% THD (IEC)
Maximum Effective Output Power	**(North American models)** 150 W at 6 ohms, 1 kHz, 1 ch driven of 10% THD **(Taiwanese models)** 5 ch × 150 W at 6 ohms, 1 kHz, 1 ch driven of 10% THD (JEITA)	**(European models)** 5 ch × 150 W at 6 ohms, 1 kHz, 1 ch driven of 10% THD (IEC) **(Middle East, Australian and Asian models)** 5 ch × 150 W at 6 ohms, 1 kHz, 1 ch driven of 10% THD (JEITA)
THD+N (Total Harmonic Distortion + Noise)	0.08% (20 Hz - 20,000 Hz, Rated output power)	
Input Sensitivity and Impedance	200 mV/32 kΩ (LINE(RCA))	
Rated RCA Output Level and Impedance	PRE OUT (SUBWOOFER) : 1 V/470 Ω	
	LINE OUT (ZONE B) : 1 V/200 mV/2.3 kΩ	
Frequency Response	10 Hz - 100 kHz/+1 dB, –3 dB (Direct/Pure Direct)	
Tone Control Characteristics	±10 dB, 20 Hz (BASS), ±10 dB, 20 kHz (TREBLE)	
Signal to Noise Ratio	106 dB (IHF-A, LINE IN, SP OUT)	
Supported impedance of Speakers	4 Ω - 16 Ω	
Headphone Rated Output	80 mW + 80 mW (32 Ω, 1 kHz, 10% THD)	
Supported impedance of Headphones	8 Ω - 600 Ω	
Headphones Frequency Response	10 Hz - 100 kHz	

Tuner Section	North American and Taiwanese models	European, Middle East, Australian and Asian models
FM Tuning Frequency Range	87.5 MHz - 107.9 MHz	87.5 MHz - 108.0 MHz, RDS
50 dB quieting sensitivity (FM MONO)	2.8 μV, 20.2 dBf (IHF, 1 kHz, 100% MOD)	
AM Tuning Frequency Range	530 kHz - 1710 kHz	**(Middle East, Australian and Asian models)** 522/530 kHz - 1611/1710 kHz
DAB Tuning Frequency Range	-	**(European models)** 174.928 MHz - 239.200 MHz (Band III)
DAB Sensitivity	-	**(European models)** -100 dBm (Min.) (Band III)
Preset Channel	40	

BLUETOOTH Section	North American and Taiwanese models	European, Middle East, Australian and Asian models
Communication system	BLUETOOTH Specification version 5.0	
Frequency band	2.4 GHz (2.402 - 2.480 GHz)	
Modulation method	FHSS (Frequency Hopping Spread Spectrum)	
Compatible BLUETOOTH profiles	A2DP v1.3, AVRCP v1.6, AVDTP v1.3, AVCTP v1.4	
Supported Codecs	SBC, AAC	
Transmission range (A2DP)	20 Hz - 20 kHz (Sampling frequency 44.1 kHz)	
Maximum communication range	Line of sight approx. 15 m(*) (*)The actual range will vary depending on factors such as obstacles between devices, magnetic fields around a microwave oven,static electricity, cordless phone, reception sensitivity, antenna's performance, operating system, software application, etc.	

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HDMI	North American and Taiwanese models	European, Middle East, Australian and Asian models
Input	4	
Output	1	

	Input *1				Output
	HDMI 1	**HDMI 2**	**HDMI 3**	**HDMI 4**	**Output**
bandwidth	40Gbps	40Gbps	40Gbps	40Gbps	40Gbps
ALLM	✔	✔	✔	✔	✔
Gaming-VRR	✔	✔	✔	✔	✔
QFT	✔	✔	✔	✔	✔
SBTM	✔	✔	✔	✔	✔
DSC	✔	✔	✔	✔	✔
Uncompressed	8K/60p 4:2:0	8K/60p 4:2:0	8K/60p 4:2:0	8K/60p 4:2:0	8K/60p 4:2:0
Compressed (TV needs DSC)	8K/60p 4:4:4	8K/60p 4:4:4	8K/60p 4:4:4	8K/60p 4:4:4	8K/60p 4:4:4
ARC / eARC *2					✔
HDR10 / HLG (BT.2020)	✔	✔	✔	✔	✔
HDR10+	✔	✔	✔	✔	✔

*1 Audio Format: 2 ch linear PCM (32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz, 16/20/24 bit)
Multi-channel linear PCM (Maximum 7.1 channels, 32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz, 16/20/24 bit)
Bitstream (Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DSD(2.8 MHz), PCM)
*2 ARC compatible audio formats: PCM, Dolby Digital, Dolby Digital Plus
eARC compatible audio formats: PCM, Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos

Corresponding input resolutions	Frame rate	Color space	Color depth	HDMI IN 1 - 4
4K (3840 × 2160p) 4K SMPTE (4096 × 2160p)	24/25/30 Hz	YCbCr4:2:2	12 bit	✔
		YCbCr4:4:4/RGB	8 bit	✔
			10/12 bit	✔
	48/50/60 Hz	YCbCr4:2:0	8 bit	✔
			10/12 bit	✔
		YCbCr4:2:2	12 bit	✔
		YCbCr4:4:4/RGB	8 bit	✔
			10/12 bit	✔
	100/120 Hz	YCbCr4:2:0	8/10/12 bit	✔
		YCbCr4:2:2	12 bit	✔
		YCbCr4:4:4/RGB	8/10 bit	✔
			12 bit	✔(*1)
5K (5120 × 2160p)	24/25/30 Hz	YCbCr4:2:2	12 bit	✔
		YCbCr4:4:4/RGB	8 bit	✔
			10/12 bit	✔
	48/50/60 Hz	YCbCr4:2:0	8/10/12 bit	✔(*2)
		YCbCr4:2:2	12 bit	✔
		YCbCr4:4:4/RGB	8 bit	✔
			10/12 bit	✔
8K (7680 × 4320p)	24/25/30 Hz	YCbCr4:2:0	8/10/12 bit	✔
		YCbCr4:2:2	12 bit	✔
		YCbCr4:4:4/RGB	8/10 bit	✔
			12 bit	✔(*1)
	48/50/60 Hz	YCbCr4:2:0	8/10 bit	✔
			12 bit	✔(*1)
		YCbCr4:2:2	12 bit	✔(*1)
		YCbCr4:4:4/RGB	8/10/12 bit	✔(*1)

(*1) Video compressed with DSC (Display Stream Compression) can be input and output. DSC is a video compression technique that enables the transmission of high-resolution video, which requires high bandwidth, via HDMI. While playing this video format, there is no on-screen display when you perform such operations as using the AV Adjust or adjusting the volume.
(*2) 5K, 48 Hz, YCbCr4:2:0, 8/10/12 bit is not supported.

- The output from the HDMI OUT jack to the TV is the same resolution as the input. When using a TV that supports 4K, 1080p HDMI video signals can also be output as 4K.

USB Section	North American and Taiwanese models	European, Middle East, Australian and Asian models
USB	1 (Only for supplying power to Streaming media player, 5 V/1.0 A)	

General	North American and Taiwanese models	European, Middle East, Australian and Asian models
Power Supply	AC 120 V, 60 Hz	AC 220 - 240 V, 50/60 Hz
Power Consumption	445 W	465 W
Full Standby mode	0.2 W	0.3 W
HDMI CEC Standby	0.2 W	0.3 W
Dimensions (W × H × D)	435 mm × 148 mm × 321 mm 17-1/8" × 5-13/16" × 12-5/8"	
Weight	8 kg (17.6 lbs.)	8.2 kg (18.1 lbs.)
Maximum radio-frequency power transmitted in the frequency band(s)	-	**(European models)** 2402 MHz - 2480 MHz (4 dBm (e.i.r.p))

Audio Inputs	North American and Taiwanese models	European, Middle East, Australian and Asian models
Analog	3 (RCA×3)	
Digital	2 (COAXIAL×1, OPTICAL×1) • Supported sampling rates for PCM signals (stereo, mono) from a digital input are 32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz/16 bit, 20 bit, and 24 bit.	

Audio Outputs	North American and Taiwanese models	European, Middle East, Australian and Asian models
Analog	ZONE B LINE OUT, SUBWOOFER PRE OUT ×2	
Speaker Outputs	FRONT L/R, CENTER, SURROUND L/R or HEIGHT L/R (North American and Taiwanese models support banana plugs)	
Phones	1 (ø 6.3 mm, 1/4")	

Others	North American and Taiwanese models	European, Middle East, Australian and Asian models
Setup Mic	1 (Front)	

Specifications and features are subject to change without notice.

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