

Parts and Controls**Receiver**

- [Front panel \(with the front cover attached\) \[1\]](#)
- [Front panel \(without the front cover attached\) \[2\]](#)
- [Power indicator \[3\]](#)
- [Indicators on the display panel \[4\]](#)
- [Rear panel \[5\]](#)

Remote control

- [Remote control \(upper section\) \[6\]](#)
- [Remote control \(lower section\) \[7\]](#)

Preparation**1. Installing speakers**

- [Locations and names of speakers \[8\]](#)
- [Installing 5.1.4-channel speaker system using top front and top rear speakers \[9\]](#)
- [Installing 7.1.2-channel speaker system using top middle speakers \[10\]](#)
- [Installing 7.1.2-channel speaker system using front Dolby Atmos enabled speakers \[11\]](#)
- [Installing 7.1.4-channel speaker system using an additional stereo power amplifier \[12\]](#)
- [Installing 7.1-channel speaker system with Zone 2 connection \[13\]](#)
- [Speaker configuration and speaker pattern settings \[14\]](#)

2. Connecting speakers

- [Connecting 5.1.4-channel speaker system using top front and top rear speakers \[15\]](#)
- [Connecting 7.1.2-channel speaker system using top middle speakers \[16\]](#)
- [Connecting 7.1.2-channel speaker system using front Dolby Atmos enabled speakers \[17\]](#)
- [Connecting 7.1.4-channel speaker system using an additional stereo power amplifier \[18\]](#)
- [Connecting 7.1-channel speaker system with Zone 2 connection \[19\]](#)
- [Speaker patterns and terminals to be connected \[20\]](#)

3. Connecting a TV

- [Connecting a TV \[21\]](#)
- [Connecting a 4K TV \[22\]](#)
- [Connecting a 4K TV that supports HDCP 2.2 and a 4K streaming box using a 4K-compatible HDMI cable \[23\]](#)
- [Notes on connecting cables \[24\]](#)
- [About HDMI connections \[25\]](#)

4. Connecting audio-visual devices and the antennas (aerials)

- [Connecting devices with HDMI jacks \[26\]](#)
- [Connecting devices with jacks other than HDMI jacks \[27\]](#)
- [Connecting the antennas \(aerials\) \[28\]](#)
- [Connecting another amplifier in Zone 2/3 \[29\]](#)
- [Digital audio formats supported by the receiver \[30\]](#)
- [Notes on connecting cables \[31\]](#)
- [About HDMI connections \[32\]](#)

5. Connecting to the network

- [Connecting the receiver to the network using LAN cables \[33\]](#)

6. Turning on the receiver/preparing the remote control

- [Inserting batteries into the remote control \[34\]](#)
- [Turning on the receiver \[35\]](#)
- [Notes on installing the receiver \[36\]](#)

7. Setting up the receiver using Easy Setup

- [Setting up the receiver using the Easy Setup](#) [37]

Performing Auto Calibration

- [1. About Auto Calibration](#) [38]
- [2. Before you perform Auto Calibration](#) [39]
- [3. Connecting the optimizer microphone](#) [40]
- [4. Selecting the front speakers](#) [41]
- [5. Performing Auto Calibration](#) [42]
- [6. Checking Auto Calibration results](#) [43]

Enjoying Video and Sound

Playing AV devices

- [Using the menu on the TV screen](#) [44]
- [Enjoying video/sound from the connected device](#) [45]
- [Enjoying sound of an ARC compatible TV \(Audio Return Channel\)](#) [46]
- [If you use a TV compatible with Dolby Digital Plus output](#) [47]
- [Watching HDCP 2.2 copyright-protected content](#) [48]

Listening to the radio

- [Listening to FM/AM radio](#) [49]
- [Presetting FM/AM radio stations \(Preset Memory\)](#) [50]
- [Tuning to a station directly \(Direct Tuning\)](#) [51]
- [Changing the AM tuning scale](#) [52]

Enjoying sound effects

- [Selecting a sound field \(Sound Field\)](#) [53]
- [Resetting sound fields to the default settings](#) [54]
- [Adjusting the equalizer \(Equalizer\)](#) [55]
- [Enjoying clear and dynamic sound at a low volume \(Sound Optimizer\)](#) [56]
- [Enjoying more natural sound with speakers installed in the ceiling \(In-Ceiling Speaker Mode\)](#) [57]
- [Enjoying high-fidelity sound \(Pure Direct\)](#) [58]
- [Using the DTS:X Dialog Control function](#) [59]

Using the Multi-Zone Features

Overview of multi-zone features

- [What you can do with multi-zone features](#) [60]
- [Available input sources for each zone](#) [61]

Enjoying sound from speakers located in other rooms

- [Connecting 7.1-channel speaker system with Zone 2 connection](#) [62]
- [Assigning the speakers for Zone 2](#) [63]
- [Enjoying sound in Zone 2](#) [64]

Enjoying sound from speakers located in other rooms using another amplifier

- [Connecting another amplifier in Zone 2/3](#) [65]
- [Setting the volume control for Zone 2/3 \(Zone2/3 Line Out\)](#) [66]
- [Setting the Zone 2 HDMI audio output of connected devices \(Zone2 Audio Out\)](#) [67]
- [Setting the priority for the main zone \(Priority\)](#) [68]
- [Enjoying sound using another amplifier in Zone 2 and/or Zone 3](#) [69]

Using Other Features

Interlocking with BRAVIA TV and other devices ("BRAVIA" Sync)

- [What is "BRAVIA" Sync?](#) [70]
- [Preparing for "BRAVIA" Sync](#) [71]
- [Turning off the receiver and connected devices simultaneously with the TV \(System Power Off function\) \(Standby Linked to TV\)](#) [72]
- [Enjoying TV sound from the speakers connected to the receiver \(System Audio](#)

Control function) [73]

- [Enjoying an input source from a connected device immediately \(One-Touch Play function\) \[74\]](#)
- [Selecting the optimum picture quality and sound field automatically \(Scene Select function\) \[75\]](#)
- [About Home Theatre Control function \[76\]](#)
- [Operating the receiver menu using the TV remote control \(Remote Easy Control function\) \[77\]](#)
- [Echo Canceling function \[78\]](#)
- [About Language Follow function \[79\]](#)

Enjoying video and sound with your desired way of use

- [Switching the monitors that output the HDMI video signals \[80\]](#)
- [Switching between digital and analog audio \(Input Mode\) \[81\]](#)
- [Using other video/audio input jacks \(Input Assign\) \[82\]](#)

Saving and recalling various settings for the receiver (Custom Preset)

- [About Custom Preset \[83\]](#)
- [Saving the settings to a preset \[84\]](#)
- [Recalling the settings saved to the scene \[85\]](#)
- [Items for which you can save settings and the default values for each item \[86\]](#)

Using the sleep timer

- [Using the sleep timer \(Sleep\) \[87\]](#)

Checking information on the receiver

- [Viewing information on the display panel \[88\]](#)

Adjusting Settings

Easy Setup

- [Setting up the receiver using the Easy Setup \[89\]](#)

Input Setup

- [Changing the assignment and display for the input jacks \[90\]](#)
- [Changing the name for each input \(Name\) \[91\]](#)

Speaker Setup

- [1. About Auto Calibration \[92\]](#)
- [2. Before you perform Auto Calibration \[93\]](#)
- [3. Connecting the optimizer microphone \[94\]](#)
- [4. Selecting the front speakers \[95\]](#)
- [5. Performing Auto Calibration \[96\]](#)
- [6. Checking Auto Calibration results \[97\]](#)
- [Calibrating the phase characteristics of the speakers \(Automatic Phase Matching\) \[98\]](#)
- [Selecting the Auto Calibration type \(Calibration Type\) \[99\]](#)
- [Checking the speaker position and the corresponding speaker terminals \(Speaker Connections\) \[100\]](#)
- [Selecting the speaker pattern \(Speaker Pattern\) \[101\]](#)
- [Assigning the surround back speaker terminals \(SB Speaker Assign\) \[102\]](#)
- [Assigning the height1 speaker terminals \(Height1 SP Assign\) \[103\]](#)
- [Adjusting the speaker size \(Size\) \[104\]](#)
- [Adjusting the speaker distance \(Distance\) \[105\]](#)
- [Adjusting the speaker level \(Level\) \[106\]](#)
- [Outputting a test tone from each speaker \(Test Tone\) \[107\]](#)
- [Setting the crossover frequency of the speakers \(Crossover Frequency\) \[108\]](#)
- [Adjusting the equalizer \(Equalizer\) \[109\]](#)
- [Lifting up the sound of the center speaker \(Center Speaker Lift Up\) \[110\]](#)
- [Setting the correct angles of the surround speakers \(Surround Speaker Position\) \[111\]](#)
- [Calibrating speaker positioning \(Speaker Relocation\) \[112\]](#)
- [Setting the height from the floor to the ceiling speakers \(Ceiling Height\) \[113\]](#)
- [Selecting the speaker impedance \(Speaker Impedance\) \[114\]](#)
- [Selecting the unit of measurement \(Distance Unit\) \[115\]](#)
- [Playing back WAV files stored on a USB flash drive \[116\]](#)

Network Setup

- [Setting up a network \(Internet Setup\)](#) [117]
- [Checking the network information \(Information\)](#) [118]
- [Enabling the network function even when this receiver is in standby mode \(Network Standby\)](#) [119]
- [Enjoying Hi-Fi System sound \(Music Connect\)](#) [120]

Audio Setup

- [Playing audio signals with high-quality sound \(Digital Legato Linear \(D.L.L.\)\)](#) [121]
- [Enjoying clear and dynamic sound at a low volume \(Sound Optimizer\)](#) [122]
- [Selecting a sound field \(Sound Field\)](#) [123]
- [Enjoying more natural sound with speakers installed in the ceiling \(In-Ceiling Speaker Mode\)](#) [124]
- [Enjoying high-fidelity sound \(Pure Direct\)](#) [125]
- [Setting the low-pass filter for the subwoofer output \(Subwoofer Low Pass Filter\)](#) [126]
- [Synchronizing audio with video output \(A/V Sync\)](#) [127]
- [Selecting the language of digital broadcasts \(Dual Mono\)](#) [128]
- [Compressing the dynamic range \(Dynamic Range Compressor\)](#) [129]
- [Switching the mode of the DTS decoder \(Neural:X\)](#) [130]

HDMI Setup

- [Up-converting video signals to 4K \(4K Scaling\)](#) [131]
- [Controlling HDMI devices \(Control for HDMI\)](#) [132]
- [Turning off the receiver and connected devices simultaneously with the TV \(System Power Off function\) \(Standby Linked to TV\)](#) [133]
- [Enjoying sound of an ARC compatible TV \(Audio Return Channel\)](#) [134]
- [Enjoying content of a connected device without turning on the receiver \(Pass Through\)](#) [135]
- [Setting the HDMI audio signal output of connected devices \(Audio Out\)](#) [136]
- [Setting the Zone 2 HDMI audio output of connected devices \(Zone2 Audio Out\)](#) [137]
- [Setting the level of the subwoofer \(Subwoofer Level\)](#) [138]
- [Selecting the method to use the HDMI OUT B \(ZONE 2\) jack \(HDMI Out B Mode\)](#) [139]
- [Setting the priority for the main zone \(Priority\)](#) [140]
- [Speeding up the display when switching the HDMI input \(Fast View\)](#) [141]
- [Setting HDMI signal formats \(HDMI Signal Format\)](#) [142]

Zone Setup

- [Setting up the receiver to enjoy sound in Zone 2/3 \(Zone Controls\)](#) [143]
- [Presetting the volume in the main zone \(Main Preset Volume\)](#) [144]
- [Limiting the volume for the main zone \(Main Max Volume\)](#) [145]
- [Presetting the volume in Zone 2/3 \(Zone2/3 Preset Volume\)](#) [146]
- [Limiting the volume for Zone 2/3 \(Zone2/3 Max Volume\)](#) [147]
- [Setting the volume control for Zone 2/3 \(Zone2/3 Line Out\)](#) [148]

System Setup

- [Selecting the language \(Language\)](#) [149]
- [Tuning on/off the display for the volume level or sound field \(Auto Display\)](#) [150]
- [Setting standby mode \(Auto Standby\)](#) [151]
- [Changing the volume display \(Volume Display\)](#) [152]
- [Switching the brightness of the display panel \(Dimmer\)](#) [153]
- [Using the sleep timer \(Sleep\)](#) [154]
- [Checking the software version \(Software Version\)](#) [155]
- [Updating the software via the network \(Network Update\)](#) [156]
- [Updating the software using the USB flash drive \(USB Update\)](#) [157]
- [Setting the tuner \(Tuner Setup\)](#) [158]

Install Setup

- [Turning on control mode for maintenance \(External Control\)](#) [159]
- [Switching on/off the 12V trigger output \(Trigger Out 1/2/3\)](#) [160]
- [Displaying a test screen \(Test Picture for HDMI Out A/B\)](#) [161]
- [Locking settings of the receiver \(Settings Lock\)](#) [162]

Using the menu on the display panel

- [Operating the receiver with the menu on the display panel \[163\]](#)
- [Viewing information on the display panel \[164\]](#)

Reverting to the factory default settings

- [Reverting to the factory default settings \[165\]](#)

Troubleshooting

Error messages

- [PROTECTOR \[166\]](#)
- [UPDATE FAILED \[167\]](#)
- [FAN STOPPED \[168\]](#)
- [List of messages after Auto Calibration measurements \[169\]](#)
- [Network features message list \[170\]](#)

General

- [The receiver is turned off automatically. \[171\]](#)
- [The receiver does not turn on after performing USB Update or Network Update. \[172\]](#)
- [The receiver does not turn on even when the TV is turned on. \[173\]](#)
- [The receiver turns off when the TV is turned off. \[174\]](#)
- [The receiver does not turn off even when the TV is turned off. \[175\]](#)

Image

- [No image appears on the TV screen. \[176\]](#)
- [No 3D content appears on the TV screen. \[177\]](#)
- [No 4K content appears on the TV screen. \[178\]](#)
- [No image is output to the TV screen when the receiver is in standby mode. \[179\]](#)
- [The home menu does not appear on the TV screen. \[180\]](#)
- [The display panel is turned off. \[181\]](#)
- [Image does not appear on the TV screen when the receiver is not turned on. \[182\]](#)
- [When the language for the on-screen display of the TV is changed, the on-screen display language of the receiver is changed simultaneously. \[183\]](#)

Sound

- [No sound or only a very low level of sound is heard, no matter which device is selected. \[184\]](#)
- [There is severe humming or noise. \[185\]](#)
- [No sound or only a very low level of sound is heard from specific speakers. \[186\]](#)
- [There is no sound from a specific device. \[187\]](#)
- [There is no sound from the TV via the HDMI OUT A jack when using the Audio Return Channel function. \[188\]](#)
- [The Dolby Atmos-compatible sound played back on the TV is not output from the receiver. \[189\]](#)
- [The left and right sound is unbalanced or reversed. \[190\]](#)
- [Dolby Digital or DTS multi-channel sound is not reproduced. \[191\]](#)
- [No sound is heard from specific speakers when the receiver decodes the DTS audio signals or performs Neural:X processing. \[192\]](#)
- [The surround effect cannot be obtained. \[193\]](#)
- [A test tone is not output from the speakers. \[194\]](#)
- [A test tone is output from a different speaker than the speaker displayed on the TV screen. \[195\]](#)
- [No sound is output from the TV when the receiver is in standby mode. \[196\]](#)

Tuner

- [The FM reception is poor. \[197\]](#)
- [The FM stereo reception is poor. \[198\]](#)
- [You cannot tune to radio stations. \[199\]](#)

USB devices

- [A USB device is not recognized. \[200\]](#)
- [A USB device cannot be connected to the USB port. \[201\]](#)

Network connection

[An error message appears. \[202\]](#)

- [Cannot connect to the network. \[203\]](#)

“BRAVIA” Sync (Control for HDMI)

- [The Control for HDMI function does not work. \[204\]](#)
- [TV sound cannot be heard from the speakers connected to the receiver. \[205\]](#)

Remote control

- [The remote control does not function. \[206\]](#)

If the problem is not solved

- [Reverting to the factory default settings \[207\]](#)
- [Resetting sound fields to the default settings \[208\]](#)
- [Customer support websites \[209\]](#)

Other Information

Trademarks

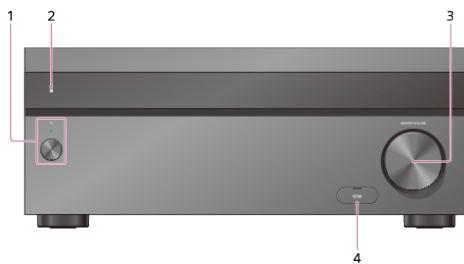
- [Trademarks \[210\]](#)

Software License Information

- [Software License Information \[211\]](#)

[1] Parts and Controls | Receiver

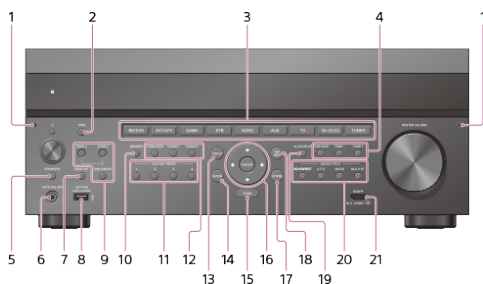
Front panel (with the front cover attached)



1. **⏻ (power)**
Turns the receiver on or sets it to standby mode. The indicator lights up according to the status of the receiver. Also, the color of the indicator changes depending on the status of the receiver.
2. **Remote sensor**
Receives signals from remote control.
3. **MASTER VOLUME**
Turns to adjust the volume level.
4. **HDMI jack cover**
Open the cover when you use HDMI IN 6 (GAME) jack.

[2] Parts and Controls | Receiver

Front panel (without the front cover attached)



1. **Fixing point of the front cover**
Attaches the front cover using this fixing point.
2. **PING**
Displays the IP address and MAC address on the display panel.

3. **Input buttons**
Select the device you want to use.
4. **TONE MODE, TONE+/-**
Press to adjust the bass/treble level of the speaker.
5. **SPEAKERS**
Select the front speaker system (FRONT A speakers, FRONT B speakers or both FRONT A and FRONT B speakers) or turn off the speaker output.
6. **AUTO CAL MIC jack**
Connect the supplied optimizer microphone for Auto Calibration to this jack.
7. **HDMI OUT**
Switches the output for two monitors connected to the HDMI OUT A and HDMI OUT B (ZONE 2) jacks.
8. **SETTING Ψ (USB) port**
Used for maintenance and service.
9. **ZONE CONTROL (ZONE2, ZONE3)**
Selects the place where you will control.
10. **MEMORY**
Press to store a station during tuner operation.
11. **CUSTOM PRESET (1, 2, 3, 4)**
Saves and recalls various settings for the receiver.
12. **TUNING MODE, TUNING +/-**
Press to operate a tuner (FM/AM).
13. **DISPLAY**
Displays information on the display panel.
14. **RETURN**
Returns to the previous menu.
15. **HOME**
Displays the home menu on the TV screen.
16. **ENTER, $\blacktriangle$ / $\blacktriangleleft$ / $\blacktriangleright$ / $\blacktriangledown$**
Press $\blacktriangle$ / $\blacktriangleleft$ / $\blacktriangleright$ / $\blacktriangledown$ to select the menu items. Then press ENTER to enter the selection.
17. **OPTIONS**
Displays and selects items from the options menus.
18. **AMP MENU**
Displays the menu on the display panel of the receiver to operate the receiver.
19. **IN-CEILING SP**
Activates the In-Ceiling Speaker Mode.
20. **SOUND FIELD (2CH/DIRECT, A.F.D., MOVIE, MULTI ST.)**
Selects the sound field you want.
21. **HDMI IN 6 (GAME) jack**
Connect to a video game console. The video and sound from your video game console is input.

[3] Parts and Controls | Receiver

Power indicator

- Green: The receiver is turned on.
- Amber: The receiver is in standby mode, and:
 - [Control for HDMI] or [Network Standby] is set to [On].
 - [Pass Through] is set to [On] or [Auto].
 - [Zone2 Power] or [Zone3 Power] is set to [On].

The indicator turns off when the receiver is in standby mode and [Control for HDMI], [Pass Through], [Network Standby], [Zone2 Power] and [Zone3 Power] are set to [Off].

The top of the cabinet may become hot. This is because part of the circuit(s) inside the receiver is(are) still turned on, and is not a malfunction.

Note

- The indicator flashes slowly when a software update is in progress.

[4] Parts and Controls | Receiver

Indicators on the display panel

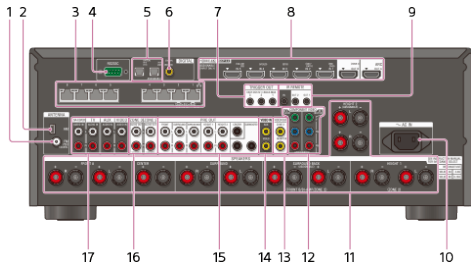


1. **Speaker system indicator**
2. **SW**
Lights up when subwoofer(s) is (are) connected and the audio signal is output from the PRE OUT SUBWOOFER jack(s).
3. **Playback channel indicator**
Indicates the speaker that is designated to output sound. Shows how the receiver down-mixes or up-mixes the source sound, based on the speaker settings.
 - L**
Front Left
 - R**
Front Right
 - C**
Center
 - SL**
Surround Left
 - SR**
Surround Right
 - SBL**
Surround Back Left
 - SBR**
Surround Back Right
 - H1L**
Height1 Left
 - H1R**
Height1 Right
 - H2L**
Height2 Left
 - H2R**
Height2 Right
4.  /  /  / 
Indicates currently available operation on the display panel using  /  /  /  on the remote control.
5. **IN-CEILING**
Lights up when the In-Ceiling Speaker Mode is activated.
6. **SLEEP**
Lights up when the sleep timer is activated.
7. **Tuning indicator**
Lights up when the receiver tunes to a radio station.
 - ST**
The receiver tunes to a stereo broadcast.
 - MONO**
FM receiving mode is set to the mono mode.
 - PRESET**
The tuning mode is set to the preset mode.
8. **ZONE2, ZONE3**
The applicable indicator lights up while [Zone2 Power] or [Zone3 Power] is set to [On].
9. **VOLUME**
Displays the current volume.
10. **HDMI OUT A+B**
11. **D.C.A.C.**
Lights up when the measurement results of the Auto Calibration function are applied.
12. **A.P.M.**
Lights up when the A.P.M. (Automatic Phase Matching) function is activated. You can only set the A.P.M. function in the D.C.A.C. (Digital Cinema Auto Calibration) function.
13. **D.L.L.**
Lights up when the Digital Legato Linear (D.L.L.) function is activated.
14. **S.OPT.**
Lights up when the Sound Optimizer function is activated.
15. **EQ**
Lights up when the equalizer is activated.
16. **D.RANGE**
Lights up when dynamic range compression is activated.
17. **DTS:X**
Lights up when DTS:X decoding is activated.
18. **Neural:X**
Lights up when DTS Neural:X decoding is activated.
19.  **Surr**
Lights up when Dolby Surround decoding is activated.
20.  **Atmos**
Lights up when Dolby Atmos decoding is activated.
21. **Input indicator**
Lights up to indicate the current input.
 - AUTO**
[Input Mode] is set to [Auto].
 - HDMI**
The receiver recognizes devices connected via an HDMI IN jack.
 - COAX**
Digital signals are input through the COAXIAL jack.
 - OPT**
Digital signals are input through the OPTICAL jack.
 - ARC**

TV input is selected and Audio Return Channel (ARC) signals are detected.

22. **BI-AMP**
- Lights up when [SB Speaker Assign] in the [Speaker Setup] menu is set to [Bi-Amp] to use a bi-amplifier connection.

Rear panel

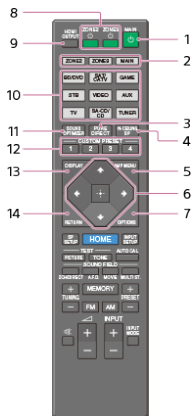


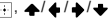
1. FM ANTENNA terminal
2. AM ANTENNA terminal
3. Giga-bit Ethernet hub (*1)
4. RS232C port (*1)
5. DIGITAL OPTICAL IN jacks
6. DIGITAL COAXIAL IN jack
7. TRIGGER OUT jacks
- Connect to interlock on/off of the power supply of other 12V TRIGGER compliant equipment, or the amplifier/receiver of Zone 2 or Zone 3.
8. HDMI IN/OUT (*2) (*3) jacks
9. IR REMOTE IN/OUT jacks
- You can control the receiver from a distance by connecting an IR repeater (not supplied) to the IR REMOTE IN jack.
- You can start or stop playback of devices such as a CD player connected to the receiver by connecting an IR Blaster (not supplied) to the IR REMOTE OUT jack.
10. AC IN terminal
- Connect the supplied AC power cord (mains lead).
11. SPEAKERS terminals
12. COMPONENT VIDEO IN jacks
13. VIDEO OUT (*3) jacks
14. VIDEO IN jacks
15. PRE OUT jacks
- Connect to an external power amplifier and a subwoofer.
16. ZONE 2/ZONE 3 AUDIO OUT jacks
17. AUDIO IN jacks
- *1 These are control expansion terminals for custom installation.
- *2 HDCP 2.2 is newly enhanced copyright protection technology that is used to protect content such as 4K movies.
- *3 Connect a TV to the corresponding output jacks to watch video input from these jacks. For details, see "Connecting a TV."

Input jack	Output jack
HDMI IN	HDMI OUT A or HDMI OUT B (ZONE 2)
VIDEO IN	MONITOR VIDEO OUT

Remote control (upper section)

Use the supplied remote control to operate this receiver.



1. **MAIN**  **(power)**
Turns the receiver on or sets it to the standby mode.
Saving power in standby mode
Save power by setting the receiver as follows:
 - Set [Control for HDMI], [Pass Through], [Network Standby], [Zone2 Power] and [Zone3 Power] to [Off].
2. **ZONE2, ZONE3, MAIN**
Selects the place where you will control.
3. **PURE DIRECT**
Press to use the Pure Direct function.
4. **IN-CEILING SP**
Activates the In-Ceiling Speaker Mode.
5. **AMP MENU**
Displays the menu on the display panel of the receiver to operate the receiver.
6. , , , , 
Press , , ,  to select the menu items.
Then press  to enter the selection.
7. **OPTIONS**
Displays the options menus on the TV screen for item selection.
8. **ZONE2** , **(power)**, **ZONE3** , **(power)**
Turns the receiver in Zone 2 or Zone 3 on or sets it to the standby mode.
9. **HDMI OUTPUT**
Switches the output for two monitors connected to the HDMI OUT A and HDMI OUT B (ZONE 2) jacks.
10. **Input buttons**
Select the device you want to use.
When you press any of the input buttons, the receiver turns on.
11. **SOUND OPTIMIZER**
Press to use the Sound Optimizer function to enjoy clear and dynamic sound at low volume levels.
12. **CUSTOM PRESET (1, 2, 3, 4)**
Saves and recalls various settings for the receiver.
13. **DISPLAY**
Displays information on the TV screen.
14. **RETURN**
Returns to the previous menu.

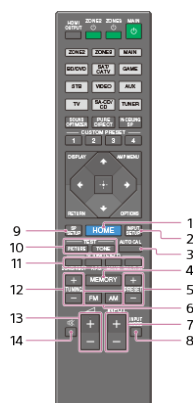
Note

- The above explanations are intended to serve as examples.

[7] Parts and Controls | Remote control

Remote control (lower section)

Use the supplied remote control to operate this receiver.



1. **HOME**
Displays the home menu on the TV screen.
2. **INPUT SETUP**
Displays the [Input Setup] menu.
3. **AUTO CAL**
Displays the auto calibration menu on the display panel of the receiver to perform Auto Calibration.
4. **MEMORY**
Press to enter the memory mode of the tuner.

5. **PRESET +/-**
Press to select the preset stations.
6. **FM/AM**
Press to select the band you want.
7. **INPUT +/-**
Press to select the input source.
8. **INPUT MODE**
Press to select the input mode.
9. **SP SETUP**
Displays the [Speaker Setup] menu.
10. **TEST (PICTURE, TONE)**
Press to output the test picture or test tone.
11. **SOUND FIELD (2CH/DIRECT, A.F.D., MOVIE, MULTI ST.)**
Selects the sound field you want.
12. **TUNING +/-**
Press to select a station.
13. **∠ + (*)/-**
Adjust the volume level.
14. **🔇**
Turns off the sound temporarily. Press the button again to restore the sound.

* The ∠+ button has tactile dot. Use the tactile dot as a reference when operating the receiver.

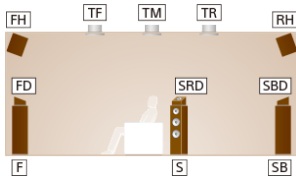
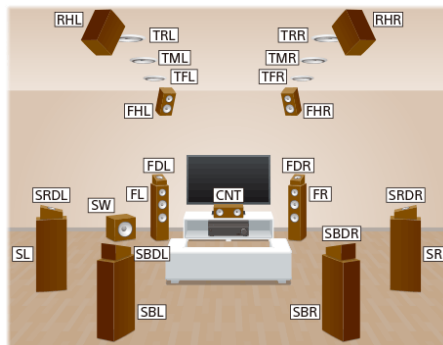
Note

- The above explanations are intended to serve as examples.

[8] Preparation | 1. Installing speakers

Locations and names of speakers

Location of each speaker



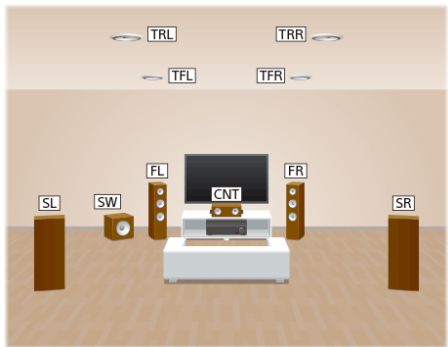
Abbreviations used in illustrations	Speaker name
FL	Front left speaker
FR	Front right speaker
CNT	Center speaker
SL	Surround left speaker
SR	Surround right speaker
SBL	Surround back left speaker
SBR	Surround back right speaker
SB	Surround back speaker
SW	Subwoofer
TFL	Top front left speaker
TFR	Top front right speaker
TML	Top middle left speaker
TMR	Top middle right speaker

TRL	Top rear left speaker
TRR	Top rear right speaker
FHL	Front high left speaker
FHR	Front high right speaker
RHL	Rear high left speaker
RHR	Rear high right speaker
FDL	Front Dolby Atmos enabled left speaker
FDR	Front Dolby Atmos enabled right speaker
SDL	Surround Dolby Atmos enabled left speaker
SDR	Surround Dolby Atmos enabled right speaker
SBDL	Surround back Dolby Atmos enabled left speaker
SBDR	Surround back Dolby Atmos enabled right speaker
Z2L	Zone 2 left speaker
Z2R	Zone 2 right speaker
Z3L	Zone 3 left speaker
Z3R	Zone 3 right speaker

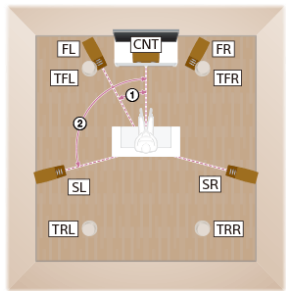
[9] Preparation | 1. Installing speakers

Installing 5.1.4-channel speaker system using top front and top rear speakers

This speaker installation is configured by adding top front speakers and top rear speakers to standard 5.1-channel speaker system placed on the listener-level.

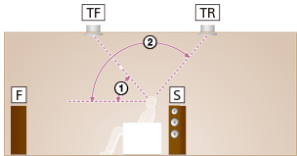


1 Place the speakers on the listener-level at the angles shown below.



- ① 30°
- ② 100° - 120°

2 Install the overhead (top) speakers at the angles shown below.



- ① 30° - 55°
- ② 125° - 150°

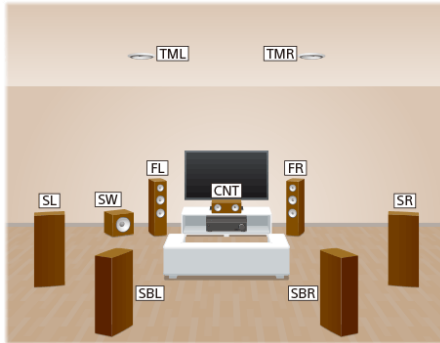
Hint

- As the subwoofer does not emit highly directional signals, you can place it wherever you want.

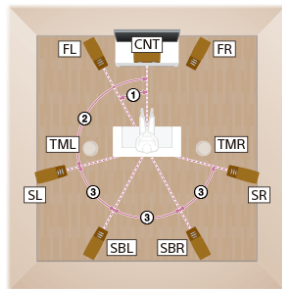
[10] Preparation | 1. Installing speakers

Installing 7.1.2-channel speaker system using top middle speakers

This speaker installation is configured by adding top middle speakers to 7.1-channel speaker system consisting of standard 5.1-channel speaker system and additional surround back speakers placed on the listener-level.

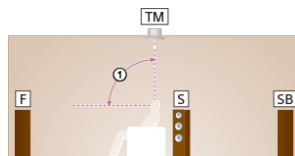


- 1 Place the speakers on the listener-level at the angles shown below.



- ① 30°
- ② 100° - 120°
- ③ Same angle

- 2 Install the overhead (top) speakers at the angles shown below.



- ① 65° - 100°

Hint

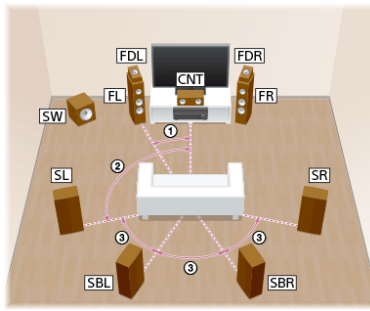
- As the subwoofer does not emit highly directional signals, you can place it wherever you want.

[11] Preparation | 1. Installing speakers

Installing 7.1.2-channel speaker system using front Dolby Atmos enabled speakers

This speaker installation is configured by adding front Dolby Atmos enabled speakers (*) to 7.1-channel speaker system consisting of standard 5.1-channel speaker system and additional surround back speakers placed on the listener-level.

* You can enjoy the exciting and powerful sound of the Dolby Atmos 3D content without installing overhead (top) speakers by using Dolby Atmos enabled speakers which reflect off the ceiling.



- ① 30°
- ② 100° - 120°
- ③ Same angle

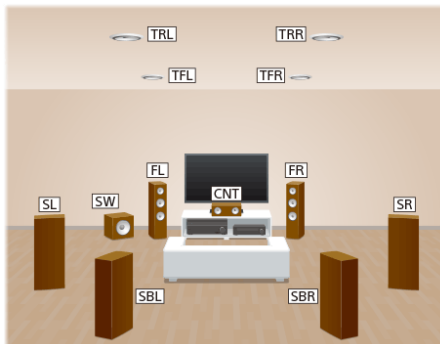
Hint

- As the subwoofer does not emit highly directional signals, you can place it wherever you want.

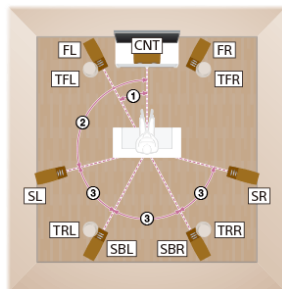
[12] Preparation | 1. Installing speakers

Installing 7.1.4-channel speaker system using an additional stereo power amplifier

This speaker installation is configured by adding top front speakers and top rear speakers to 7.1-channel speaker system consisting of standard 5.1-channel speaker system and additional surround back speakers placed on the listener-level. An additional stereo power amplifier is used for the top rear speakers.

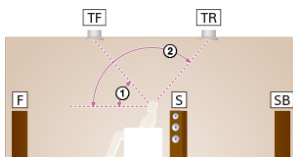


- 1 Place the speakers on the listener-level at the angles shown below.



- ① 30°
- ② 100° - 120°
- ③ Same angle

- 2 Install the overhead (top) speakers at the angles shown below.



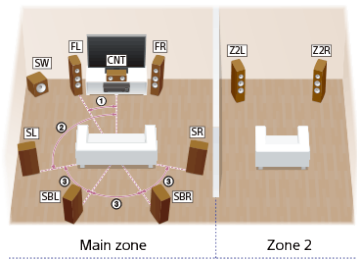
- ① 30° - 55°
- ② 125° - 150°

Hint

- As the subwoofer does not emit highly directional signals, you can place it wherever you want.

Installing 7.1-channel speaker system with Zone 2 connection

This speaker installation shows configurations in the main zone and Zone 2. In the main zone, 7.1-channel speaker system consisting of standard 5.1-channel speaker system and additional surround back speakers placed on the listener-level is installed, and another pair of speakers is installed in Zone 2.



- ① 30°
- ② 100° - 120°
- ③ Same angle

Hint

- As the subwoofer does not emit highly directional signals, you can place it wherever you want.

Speaker configuration and speaker pattern settings

Select the speaker pattern using [Speaker Pattern] in the [Setup] - [Speaker Setup] menu according to the speaker configuration which you are using.

Speaker configuration in each zone		[SB Speaker Assign] (*1)	[Height1 SP Assign] (*2)	Speaker pattern to be selected in [Speaker Pattern]
Main zone	Zone 2			
5.1.4-channel speaker system using top front and top rear speakers	Not used	[Off]	[Off]	[5.1.4 (TF+TR)]
7.1.2-channel speaker system using top middle speakers	Not used	[Off]	[Off]	[7.1.2 (TM)]
7.1.2-channel speaker system using front Dolby Atmos enabled speaker	Not used	[Off]	[Off]	[7.1.2 (FD)]
7.1.4-channel speaker system using an additional stereo power amplifier	Not used	[Off]	[Off]	[7.1.4 (TF+TR)]
7.1-channel speaker system with Zone 2 connection	2-channel	[Off]	[Zone2]	[7.1]

*1 You can only set [SB Speaker Assign] if the speaker pattern is set to a setting that does not have surround back speakers.

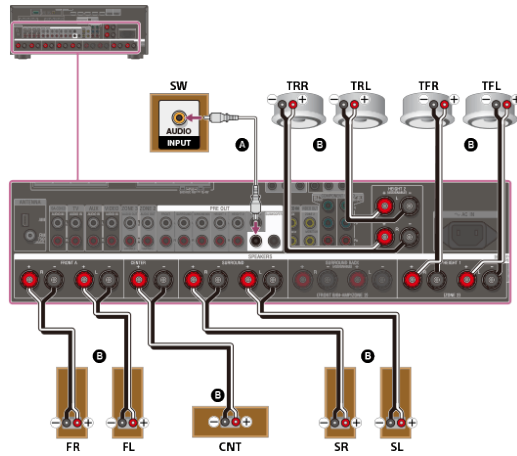
*2 You can only set [Height1 SP Assign] if the speaker pattern is set to a setting that does not have the following speakers:

- Top front speakers
- Top middle speakers
- Top rear speakers
- Front high speakers
- Rear high speakers
- Front Dolby Atmos enabled speakers
- Surround Dolby Atmos enabled speakers
- Surround back Dolby Atmos enabled speakers

Connecting 5.1.4-channel speaker system using top front and top rear speakers

Connect each speaker as illustrated below.
Before connecting cables, be sure to disconnect the AC power cord (mains lead).
For details on how to connect speaker cables to the receiver, see "[How to connect speaker](#)"

cables."



- A Monaural audio cable (not supplied)
- B Speaker cable (not supplied)

Note

- After you have installed and connected your speakers, set the speaker pattern to [5.1.4 (TF+TR)] using [Speaker Pattern] in the [Speaker Setup] menu.

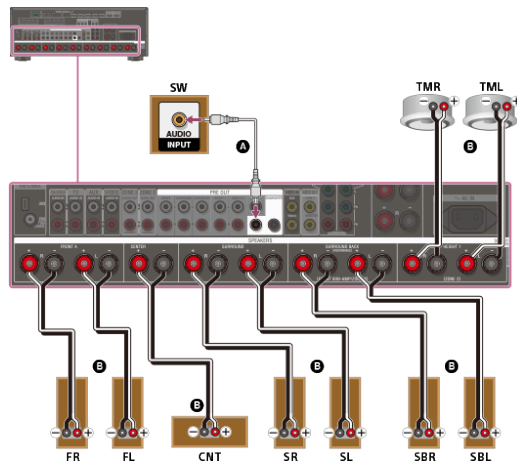
[16] Preparation | 2. Connecting speakers

Connecting 7.1.2-channel speaker system using top middle speakers

Connect each speaker as illustrated below.

Before connecting cables, be sure to disconnect the AC power cord (mains lead).

For details on how to connect speaker cables to the receiver, see "[How to connect speaker cables.](#)"



- A Monaural audio cable (not supplied)
- B Speaker cable (not supplied)

Note

- After you have installed and connected your speakers, set the speaker pattern to [7.1.2 (TM)] using [Speaker Pattern] in the [Speaker Setup] menu.

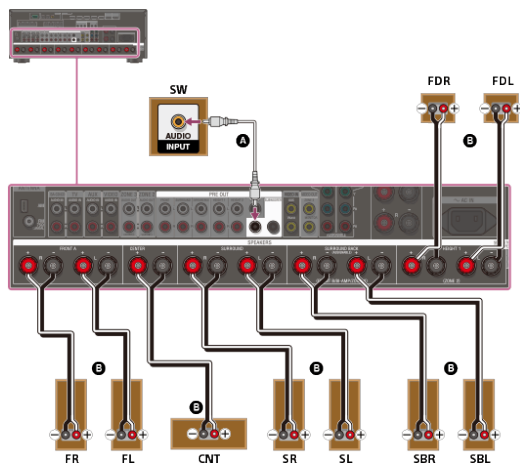
[17] Preparation | 2. Connecting speakers

Connecting 7.1.2-channel speaker system using front Dolby Atmos enabled speakers

Connect each speaker as illustrated below.

Before connecting cables, be sure to disconnect the AC power cord (mains lead).

For details on how to connect speaker cables to the receiver, see "[How to connect speaker cables.](#)"



- Ⓐ Monaural audio cable (not supplied)
- Ⓑ Speaker cable (not supplied)

Note

- After you have installed and connected your speakers, set the speaker pattern to [7.1.2 (FD)] using [Speaker Pattern] in the [Speaker Setup] menu.

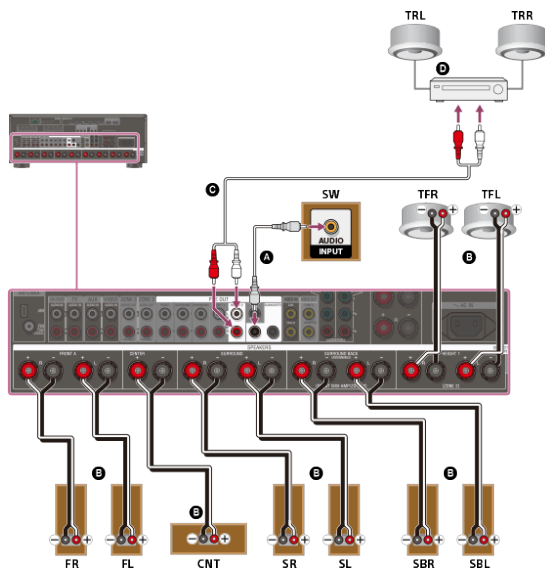
[18] Preparation | 2. Connecting speakers

Connecting 7.1.4-channel speaker system using an additional stereo power amplifier

Connect each speaker as illustrated below.

Before connecting cables, be sure to disconnect the AC power cord (mains lead).

For details on how to connect speaker cables to the receiver, see "[How to connect speaker cables.](#)"



- Ⓐ Monaural audio cable (not supplied)
- Ⓑ Speaker cable (not supplied)
- Ⓒ Audio cable (not supplied)
- Ⓓ Stereo power amplifier (not supplied)

Note

- After you have installed and connected your speakers, set the speaker pattern to [7.1.4 (TF+TR)] using [Speaker Pattern] in the [Speaker Setup] menu.

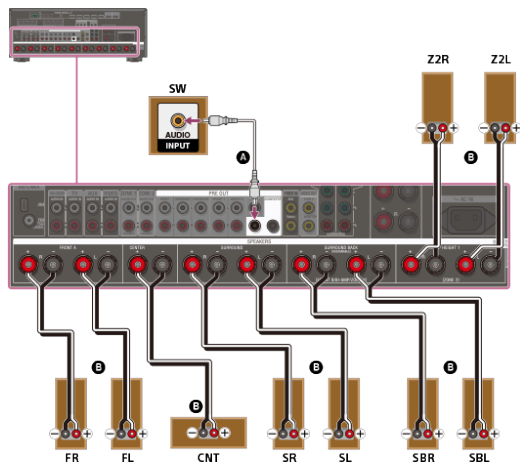
[19] Preparation | 2. Connecting speakers

Connecting 7.1-channel speaker system with Zone 2 connection

Connect each speaker as illustrated below.

Before connecting cables, be sure to disconnect the AC power cord (mains lead).

For details on how to connect speaker cables to the receiver, see "[How to connect speaker cables.](#)"



A Monaural audio cable (not supplied)

B Speaker cable (not supplied)

After you have made the Zone 2 speaker connection, set [Height1 SP Assign] to [Zone2] in the [Speaker Setup] menu.

Note

- After you have installed and connected your speakers, set the speaker pattern to [7.1] using [Speaker Pattern] in the [Speaker Setup] menu.

[20] Preparation | 2. Connecting speakers

Speaker patterns and terminals to be connected

When you connect speakers to the receiver, refer to the following table.

You can use the following table to confirm the speaker patterns supported by the receiver as well as the speaker terminals to which the speakers of each speaker pattern are to be connected.

When playing back DTS content, select a speaker pattern which supports DTS playback (*), indicated with ♦ below. If you select other speaker patterns, the sound may not be output from some speakers.

To set the speaker pattern, select [Setup] - [Speaker Setup] - [Speaker Pattern] from the home menu.

* According to the latest specification information released by DTS, Inc. (as of February 2016)

The abbreviations and symbol used in the list are as follows.

- FH: Front high speakers
- TF: Top front speakers
- TM: Top middle speakers
- TR: Top rear speakers
- RH: Rear high speakers
- FD: Front Dolby Atmos enabled speakers
- SRD: Surround Dolby Atmos enabled speakers
- SBD: Surround back Dolby Atmos enabled speakers
- △: There are no speaker terminals that can be assigned and output is enabled from the PRE OUT jacks only.
- SB: SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals
- H1: SPEAKERS HEIGHT 1 (ZONE 2) terminals

What the numbers in the speaker pattern indicate:

7.1.4

A B C

A Number of speakers located at listener's level

B Number of subwoofers

C Number of height or overhead (top) speakers

Speaker pattern	SPEAKERS terminals/PRE OUT jacks								Zone 2 connection (*1)	Front B speaker connection (*1)	Bi-amplifier connection (*1)
	FRONT A	CENTER	SURROUND	SURROUND BACK (FRONT B/BI-AMP/ZONE 2) (single)	SURROUND BACK (FRONT B/BI-AMP/ZONE 2) (L/R)	HEIGHT 1 (ZONE 2)	HEIGHT 2	SUBWOOFER			
2.0 ♦	○	-	-	-	-	-	-	-	SB or H1	SB	SB
2.0.2 (TM)	○	-	-	-	-	○ (TM)	-	-	SB	SB	SB
2.0.2 (FD)	○	-	-	-	-	○ (FD)	-	-	SB	SB	SB
2.1 ♦	○	-	-	-	-	-	-	○	SB or H1	SB	SB
2.1.2 (TM)	○	-	-	-	-	○ (TM)	-	○	SB	SB	SB

2.1.2 (FD)	○	-	-	-	-	○ (FD)	-	○	SB	SB	SB
3.0 ♦	○	○	-	-	-	-	-	-	SB or H1	SB	SB
3.0.2 (TM)	○	○	-	-	-	○ (TM)	-	-	SB	SB	SB
3.0.2 (FD)	○	○	-	-	-	○ (FD)	-	-	SB	SB	SB
3.1 ♦	○	○	-	-	-	-	-	○	SB or H1	SB	SB
3.1.2 (TM)	○	○	-	-	-	○ (TM)	-	○	SB	SB	SB
3.1.2 (FD)	○	○	-	-	-	○ (FD)	-	○	SB	SB	SB

*1 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals, select one of the following three connection methods: "Zone 2 connection," "front B speaker connection," or "bi-amplifier connection."

*2 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals for Zone 2, front B speaker or bi-amplifier connection, the SPEAKERS HEIGHT 2 terminals cannot be used for height speakers. In this case, use the PRE OUT HEIGHT 2 jacks instead.

Speaker pattern	SPEAKERS terminals/PRE OUT jacks								Zone 2 connection (*1)	Front B speaker connection (*1)	Bi-amplifier connection (*1)
	FRONT A	CENTER	SURROUND	SURROUND BACK (FRONT B/BI-AMP/ZONE 2) (single)	SURROUND BACK (FRONT B/BI-AMP/ZONE 2) (L/R)	HEIGHT 1 (ZONE 2)	HEIGHT 2	SUBWOOFER			
4.0 ♦	○	-	○	-	-	-	-	-	SB or H1	SB	SB
4.0.2 (FH)	○	-	○	-	-	○ (FH)	-	-	SB	SB	SB
4.0.2 (TM)	○	-	○	-	-	○ (TM)	-	-	SB	SB	SB
4.0.2 (FD)	○	-	○	-	-	○ (FD)	-	-	SB	SB	SB
4.0.2 (SRD)	○	-	○	-	-	○ (SRD)	-	-	SB	SB	SB
4.0.4 (FH+TM)	○	-	○	-	-	○ (FH)	○ (TM) (*2)	-	SB	SB	SB
4.0.4 (FH+TR)	○	-	○	-	-	○ (FH)	○ (TR) (*2)	-	SB	SB	SB
4.0.4 (FH+RH) ♦	○	-	○	-	-	○ (FH)	○ (RH) (*2)	-	SB	SB	SB
4.0.4 (TF+TM)	○	-	○	-	-	○ (TF)	○ (TM) (*2)	-	SB	SB	SB
4.0.4 (TF+TR)	○	-	○	-	-	○ (TF)	○ (TR) (*2)	-	SB	SB	SB
4.0.4 (TF+RH)	○	-	○	-	-	○ (TF)	○ (RH) (*2)	-	SB	SB	SB
4.0.4 (TM+TR)	○	-	○	-	-	○ (TM)	○ (TR) (*2)	-	SB	SB	SB
4.0.4 (TM+RH)	○	-	○	-	-	○ (TM)	○ (RH) (*2)	-	SB	SB	SB
4.0.4 (FD+SRD)	○	-	○	-	-	○ (FD)	○ (SRD) (*2)	-	SB	SB	SB

*1 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals, select one of the following three connection methods: "Zone 2 connection," "front B speaker connection," or "bi-amplifier connection."

*2 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals for Zone 2, front B speaker or bi-amplifier connection, the SPEAKERS HEIGHT 2 terminals cannot be used for height speakers. In this case, use the PRE OUT HEIGHT 2 jacks instead.

Speaker pattern	SPEAKERS terminals/PRE OUT jacks								Zone 2 connection (*1)	Front B speaker connection (*1)	Bi-amplifier connection (*1)
	FRONT A	CENTER	SURROUND	SURROUND BACK (FRONT B/BI-AMP/ZONE 2) (single)	SURROUND BACK (FRONT B/BI-AMP/ZONE 2) (L/R)	HEIGHT 1 (ZONE 2)	HEIGHT 2	SUBWOOFER			
4.1 ♦	○	-	○	-	-	-	-	○	SB or H1	SB	SB
4.1.2 (FH)	○	-	○	-	-	○ (FH)	-	○	SB	SB	SB
4.1.2 (TM)	○	-	○	-	-	○ (TM)	-	○	SB	SB	SB
4.1.2 (FD)	○	-	○	-	-	○ (FD)	-	○	SB	SB	SB
4.1.2 (SRD)	○	-	○	-	-	○ (SRD)	-	○	SB	SB	SB
4.1.4 (FH+TM)	○	-	○	-	-	○ (FH)	○ (TM) (*2)	○	SB	SB	SB
4.1.4							○ (TR)				

(FH+TR)	○	-	○	-	-	○ (FH)	(*2)	○	SB	SB	SB
4.1.4 (FH+RH) ◆	○	-	○	-	-	○ (FH)	○ (RH) (*2)	○	SB	SB	SB
4.1.4 (TF+TM)	○	-	○	-	-	○ (TF)	○ (TM) (*2)	○	SB	SB	SB
4.1.4 (TF+TR)	○	-	○	-	-	○ (TF)	○ (TR) (*2)	○	SB	SB	SB
4.1.4 (TF+RH)	○	-	○	-	-	○ (TF)	○ (RH) (*2)	○	SB	SB	SB
4.1.4 (TM+TR)	○	-	○	-	-	○ (TM)	○ (TR) (*2)	○	SB	SB	SB
4.1.4 (TM+RH)	○	-	○	-	-	○ (TM)	○ (RH) (*2)	○	SB	SB	SB
4.1.4 (FD+SRD)	○	-	○	-	-	○ (FD)	○ (SRD) (*2)	○	SB	SB	SB

*1 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals, select one of the following three connection methods: "Zone 2 connection," "front B speaker connection," or "bi-amplifier connection."

*2 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals for Zone 2, front B speaker or bi-amplifier connection, the SPEAKERS HEIGHT 2 terminals cannot be used for height speakers. In this case, use the PRE OUT HEIGHT 2 jacks instead.

Speaker pattern	SPEAKERS terminals/PRE OUT jacks								Zone 2 connection (*1)	Front B speaker connection (*1)	Bi-amplifier connection (*1)
	FRONT A	CENTER	SURROUND	SURROUND BACK (FRONT B/BI-AMP/ZONE 2) (single)	SURROUND BACK (FRONT B/BI-AMP/ZONE 2) (L/R)	HEIGHT 1 (ZONE 2)	HEIGHT 2	SUBWOOFER			
5.0 ◆	○	○	○	-	-	-	-	-	SB or H1	SB	SB
5.0.2 (FH) ◆	○	○	○	-	-	○ (FH)	-	-	SB	SB	SB
5.0.2 (TM)	○	○	○	-	-	○ (TM)	-	-	SB	SB	SB
5.0.2 (FD)	○	○	○	-	-	○ (FD)	-	-	SB	SB	SB
5.0.2 (SRD)	○	○	○	-	-	○ (SRD)	-	-	SB	SB	SB
5.0.4 (FH+TM)	○	○	○	-	-	○ (FH)	○ (TM) (*2)	-	SB	SB	SB
5.0.4 (FH+TR) ◆	○	○	○	-	-	○ (FH)	○ (TR) (*2)	-	SB	SB	SB
5.0.4 (FH+RH) ◆	○	○	○	-	-	○ (FH)	○ (RH) (*2)	-	SB	SB	SB
5.0.4 (TF+TM)	○	○	○	-	-	○ (TF)	○ (TM) (*2)	-	SB	SB	SB
5.0.4 (TF+TR) ◆	○	○	○	-	-	○ (TF)	○ (TR) (*2)	-	SB	SB	SB
5.0.4 (TF+RH) ◆	○	○	○	-	-	○ (TF)	○ (RH) (*2)	-	SB	SB	SB
5.0.4 (TM+TR)	○	○	○	-	-	○ (TM)	○ (TR) (*2)	-	SB	SB	SB
5.0.4 (TM+RH)	○	○	○	-	-	○ (TM)	○ (RH) (*2)	-	SB	SB	SB
5.0.4 (FD+SRD) ◆	○	○	○	-	-	○ (FD)	○ (SRD) (*2)	-	SB	SB	SB

*1 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals, select one of the following three connection methods: "Zone 2 connection," "front B speaker connection," or "bi-amplifier connection."

*2 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals for Zone 2, front B speaker or bi-amplifier connection, the SPEAKERS HEIGHT 2 terminals cannot be used for height speakers. In this case, use the PRE OUT HEIGHT 2 jacks instead.

Speaker pattern	SPEAKERS terminals/PRE OUT jacks								Zone 2 connection (*1)	Front B speaker connection (*1)	Bi-amplifier connection (*1)
	FRONT A	CENTER	SURROUND	SURROUND BACK (FRONT B/BI-AMP/ZONE 2) (single)	SURROUND BACK (FRONT B/BI-AMP/ZONE 2) (L/R)	HEIGHT 1 (ZONE 2)	HEIGHT 2	SUBWOOFER			
5.1 ◆	○	○	○	-	-	-	-	○	SB or H1	SB	SB
5.1.2 (FH)	○	○	○	-	-	○ (FH)	-	○	SB	SB	SB

◆											
5.1.2 (TM)	○	○	○	-	-	○ (TM)	-	○	SB	SB	SB
5.1.2 (FD)	○	○	○	-	-	○ (FD)	-	○	SB	SB	SB
5.1.2 (SRD)	○	○	○	-	-	○ (SRD)	-	○	SB	SB	SB
5.1.4 (FH+TM)	○	○	○	-	-	○ (FH)	○ (TM) (*2)	○	SB	SB	SB
5.1.4 (FH+TR) ◆	○	○	○	-	-	○ (FH)	○ (TR) (*2)	○	SB	SB	SB
5.1.4 (FH+RH) ◆	○	○	○	-	-	○ (FH)	○ (RH) (*2)	○	SB	SB	SB
5.1.4 (TF+TM)	○	○	○	-	-	○ (TF)	○ (TM) (*2)	○	SB	SB	SB
5.1.4 (TF+TR) ◆	○	○	○	-	-	○ (TF)	○ (TR) (*2)	○	SB	SB	SB
5.1.4 (TF+RH) ◆	○	○	○	-	-	○ (TF)	○ (RH) (*2)	○	SB	SB	SB
5.1.4 (TM+TR)	○	○	○	-	-	○ (TM)	○ (TR) (*2)	○	SB	SB	SB
5.1.4 (TM+RH)	○	○	○	-	-	○ (TM)	○ (RH) (*2)	○	SB	SB	SB
5.1.4 (FD+SRD) ◆	○	○	○	-	-	○ (FD)	○ (SRD) (*2)	○	SB	SB	SB

*1 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals, select one of the following three connection methods: "Zone 2 connection," "front B speaker connection," or "bi-amplifier connection."

*2 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals for Zone 2, front B speaker or bi-amplifier connection, the SPEAKERS HEIGHT 2 terminals cannot be used for height speakers. In this case, use the PRE OUT HEIGHT 2 jacks instead.

Speaker pattern	SPEAKERS terminals/PRE OUT jacks								Zone 2 connection (*1)	Front B speaker connection (*1)	Bi-amplifier connection (*1)
	FRONT A	CENTER	SURROUND	SURROUND BACK (FRONT B/BI-AMP/ZONE 2) (single)	SURROUND BACK (FRONT B/BI-AMP/ZONE 2) (L/R)	HEIGHT 1 (ZONE 2)	HEIGHT 2	SUBWOOFER			
5.0 (SB)	○	-	○	○	-	-	-	-	H1	Not available	Not available
5.0.2 (SB+FH)	○	-	○	○	-	○ (FH)	-	-	Only PRE OUT	Not available	Not available
5.0.2 (SB+TM)	○	-	○	○	-	○ (TM)	-	-	Only PRE OUT	Not available	Not available
5.0.2 (SB+FD)	○	-	○	○	-	○ (FD)	-	-	Only PRE OUT	Not available	Not available
5.0.2 (SB+SRD)	○	-	○	○	-	○ (SRD)	-	-	Only PRE OUT	Not available	Not available
5.0.4 (SB+FH+TM)	○	-	○	○	-	○ (FH)	△ (TM)	-	Only PRE OUT	Not available	Not available
5.0.4 (SB+FH+TR)	○	-	○	○	-	○ (FH)	△ (TR)	-	Only PRE OUT	Not available	Not available
5.0.4 (SB+FH+RH)	○	-	○	○	-	○ (FH)	△ (RH)	-	Only PRE OUT	Not available	Not available
5.0.4 (SB+TF+TM)	○	-	○	○	-	○ (TF)	△ (TM)	-	Only PRE OUT	Not available	Not available
5.0.4 (SB+TF+TR)	○	-	○	○	-	○ (TF)	△ (TR)	-	Only PRE OUT	Not available	Not available
5.0.4 (SB+TF+RH)	○	-	○	○	-	○ (TF)	△ (RH)	-	Only PRE OUT	Not available	Not available
5.0.4 (SB+TM+TR)	○	-	○	○	-	○ (TM)	△ (TR)	-	Only PRE OUT	Not available	Not available
5.0.4 (SB+TM+RH)	○	-	○	○	-	○ (TM)	△ (RH)	-	Only PRE OUT	Not available	Not available
5.0.4 (SB+FD+SRD)	○	-	○	○	-	○ (FD)	△ (SRD)	-	Only PRE OUT	Not available	Not available

*1 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals, select one of the following three connection methods: "Zone 2 connection," "front B speaker connection," or "bi-amplifier connection."

*2 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals for Zone 2, front B speaker or bi-amplifier connection, the SPEAKERS HEIGHT 2 terminals cannot be used for

height speakers. In this case, use the PRE OUT HEIGHT 2 jacks instead.

Speaker pattern	SPEAKERS terminals/PRE OUT jacks								Zone 2 connection (*1)	Front B speaker connection (*1)	Bi-amplifier connection (*1)
	FRONT A	CENTER	SURROUND	SURROUND BACK (FRONT B/BI-AMP/ZONE 2) (single)	SURROUND BACK (FRONT B/BI-AMP/ZONE 2) (L/R)	HEIGHT 1 (ZONE 2)	HEIGHT 2	SUBWOOFER			
5.1 (SB)	○	-	○	○	-	-	-	○	H1	Not available	Not available
5.1.2 (SB+FH)	○	-	○	○	-	○ (FH)	-	○	Only PRE OUT	Not available	Not available
5.1.2 (SB+TM)	○	-	○	○	-	○ (TM)	-	○	Only PRE OUT	Not available	Not available
5.1.2 (SB+FD)	○	-	○	○	-	○ (FD)	-	○	Only PRE OUT	Not available	Not available
5.1.2 (SB+SRD)	○	-	○	○	-	○ (SRD)	-	○	Only PRE OUT	Not available	Not available
5.1.4 (SB+FH+TM)	○	-	○	○	-	○ (FH)	△ (TM)	○	Only PRE OUT	Not available	Not available
5.1.4 (SB+FH+TR)	○	-	○	○	-	○ (FH)	△ (TR)	○	Only PRE OUT	Not available	Not available
5.1.4 (SB+FH+RH)	○	-	○	○	-	○ (FH)	△ (RH)	○	Only PRE OUT	Not available	Not available
5.1.4 (SB+TF+TM)	○	-	○	○	-	○ (TF)	△ (TM)	○	Only PRE OUT	Not available	Not available
5.1.4 (SB+TF+TR)	○	-	○	○	-	○ (TF)	△ (TR)	○	Only PRE OUT	Not available	Not available
5.1.4 (SB+TF+RH)	○	-	○	○	-	○ (TF)	△ (RH)	○	Only PRE OUT	Not available	Not available
5.1.4 (SB+TM+TR)	○	-	○	○	-	○ (TM)	△ (TR)	○	Only PRE OUT	Not available	Not available
5.1.4 (SB+TM+RH)	○	-	○	○	-	○ (TM)	△ (RH)	○	Only PRE OUT	Not available	Not available
5.1.4 (SB+FD+SRD)	○	-	○	○	-	○ (FD)	△ (SRD)	○	Only PRE OUT	Not available	Not available

*1 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals, select one of the following three connection methods: "Zone 2 connection," "front B speaker connection," or "bi-amplifier connection."

*2 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals for Zone 2, front B speaker or bi-amplifier connection, the SPEAKERS HEIGHT 2 terminals cannot be used for height speakers. In this case, use the PRE OUT HEIGHT 2 jacks instead.

Speaker pattern	SPEAKERS terminals/PRE OUT jacks								Zone 2 connection (*1)	Front B speaker connection (*1)	Bi-amplifier connection (*1)
	FRONT A	CENTER	SURROUND	SURROUND BACK (FRONT B/BI-AMP/ZONE 2) (single)	SURROUND BACK (FRONT B/BI-AMP/ZONE 2) (L/R)	HEIGHT 1 (ZONE 2)	HEIGHT 2	SUBWOOFER			
6.0 (SB) ◆	○	○	○	○	-	-	-	-	H1	Not available	Not available
6.0.2 (SB+FH)	○	○	○	○	-	○ (FH)	-	-	Only PRE OUT	Not available	Not available
6.0.2 (SB+TM)	○	○	○	○	-	○ (TM)	-	-	Only PRE OUT	Not available	Not available
6.0.2 (SB+FD)	○	○	○	○	-	○ (FD)	-	-	Only PRE OUT	Not available	Not available
6.0.2 (SB+SRD)	○	○	○	○	-	○ (SRD)	-	-	Only PRE OUT	Not available	Not available
6.0.4 (SB+FH+TM)	○	○	○	○	-	○ (FH)	△ (TM)	-	Only PRE OUT	Not available	Not available
6.0.4 (SB+FH+TR)	○	○	○	○	-	○ (FH)	△ (TR)	-	Only PRE OUT	Not available	Not available
6.0.4 (SB+FH+RH)	○	○	○	○	-	○ (FH)	△ (RH)	-	Only PRE OUT	Not available	Not available
6.0.4 (SB+TF+TM)	○	○	○	○	-	○ (TF)	△ (TM)	-	Only PRE OUT	Not available	Not available
6.0.4 (SB+TF+TR)	○	○	○	○	-	○ (TF)	△ (TR)	-	Only PRE OUT	Not available	Not available
6.0.4 (SB+TF+RH)	○	○	○	○	-	○ (TF)	△ (RH)	-	Only PRE OUT	Not available	Not available
6.0.4 (SB+TM+TR)	○	○	○	○	-	○ (TM)	△ (TR)	-	Only PRE OUT	Not available	Not available

6.0.4 (SB+TM+RH)	○	○	○	○	-	○ (TM)	△ (RH)	-	Only PRE OUT	Not available	Not available
6.0.4 (SB+FD+SRD)	○	○	○	○	-	○ (FD)	△ (SRD)	-	Only PRE OUT	Not available	Not available

*1 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals, select one of the following three connection methods: "Zone 2 connection," "front B speaker connection," or "bi-amplifier connection."

*2 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals for Zone 2, front B speaker or bi-amplifier connection, the SPEAKERS HEIGHT 2 terminals cannot be used for height speakers. In this case, use the PRE OUT HEIGHT 2 jacks instead.

Speaker pattern	SPEAKERS terminals/PRE OUT jacks								Zone 2 connection (*1)	Front B speaker connection (*1)	Bi- amplifier connection (*1)
	FRONT A	CENTER	SURROUND	SURROUND BACK (FRONT B/BI- AMP/ZONE 2) (single)	SURROUND BACK (FRONT B/BI- AMP/ZONE 2) (L/R)	HEIGHT 1 (ZONE 2)	HEIGHT 2	SUBWOOFER			
6.1 (SB) ◆	○	○	○	○	-	-	-	○	H1	Not available	Not available
6.1.2 (SB+FH)	○	○	○	○	-	○ (FH)	-	○	Only PRE OUT	Not available	Not available
6.1.2 (SB+TM)	○	○	○	○	-	○ (TM)	-	○	Only PRE OUT	Not available	Not available
6.1.2 (SB+FD)	○	○	○	○	-	○ (FD)	-	○	Only PRE OUT	Not available	Not available
6.1.2 (SB+SRD)	○	○	○	○	-	○ (SRD)	-	○	Only PRE OUT	Not available	Not available
6.1.4 (SB+FH+TM)	○	○	○	○	-	○ (FH)	△ (TM)	○	Only PRE OUT	Not available	Not available
6.1.4 (SB+FH+TR)	○	○	○	○	-	○ (FH)	△ (TR)	○	Only PRE OUT	Not available	Not available
6.1.4 (SB+FH+RH)	○	○	○	○	-	○ (FH)	△ (RH)	○	Only PRE OUT	Not available	Not available
6.1.4 (SB+TF+TM)	○	○	○	○	-	○ (TF)	△ (TM)	○	Only PRE OUT	Not available	Not available
6.1.4 (SB+TF+TR)	○	○	○	○	-	○ (TF)	△ (TR)	○	Only PRE OUT	Not available	Not available
6.1.4 (SB+TF+RH)	○	○	○	○	-	○ (TF)	△ (RH)	○	Only PRE OUT	Not available	Not available
6.1.4 (SB+TM+TR)	○	○	○	○	-	○ (TM)	△ (TR)	○	Only PRE OUT	Not available	Not available
6.1.4 (SB+TM+RH)	○	○	○	○	-	○ (TM)	△ (RH)	○	Only PRE OUT	Not available	Not available
6.1.4 (SB+FD+SRD)	○	○	○	○	-	○ (FD)	△ (SRD)	○	Only PRE OUT	Not available	Not available

*1 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals, select one of the following three connection methods: "Zone 2 connection," "front B speaker connection," or "bi-amplifier connection."

*2 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals for Zone 2, front B speaker or bi-amplifier connection, the SPEAKERS HEIGHT 2 terminals cannot be used for height speakers. In this case, use the PRE OUT HEIGHT 2 jacks instead.

Speaker pattern	SPEAKERS terminals/PRE OUT jacks								Zone 2 connection (*1)	Front B speaker connection (*1)	Bi- amplifier connection (*1)
	FRONT A	CENTER	SURROUND	SURROUND BACK (FRONT B/BI- AMP/ZONE 2) (single)	SURROUND BACK (FRONT B/BI- AMP/ZONE 2) (L/R)	HEIGHT 1 (ZONE 2)	HEIGHT 2	SUBWOOFER			
6.0	○	-	○	-	○	-	-	-	H1	Not available	Not available
6.0.2 (FH)	○	-	○	-	○	○ (FH)	-	-	Only PRE OUT	Not available	Not available
6.0.2 (TM)	○	-	○	-	○	○ (TM)	-	-	Only PRE OUT	Not available	Not available
6.0.2 (FD)	○	-	○	-	○	○ (FD)	-	-	Only PRE OUT	Not available	Not available
6.0.2 (SRD)	○	-	○	-	○	○ (SRD)	-	-	Only PRE OUT	Not available	Not available
6.0.2 (SBD)	○	-	○	-	○	○ (SBD)	-	-	Only PRE OUT	Not available	Not available
6.0.4 (FH+TM)	○	-	○	-	○	○ (FH)	△ (TM)	-	Only PRE OUT	Not available	Not available
6.0.4 (FH+TR)	○	-	○	-	○	○ (FH)	△ (TR)	-	Only PRE OUT	Not available	Not available

6.0.4 (FH+RH)	○	-	○	-	○	○ (FH)	△ (RH)	-	Only PRE OUT	Not available	Not available
6.0.4 (TF+TM)	○	-	○	-	○	○ (TF)	△ (TM)	-	Only PRE OUT	Not available	Not available
6.0.4 (TF+TR)	○	-	○	-	○	○ (TF)	△ (TR)	-	Only PRE OUT	Not available	Not available
6.0.4 (TF+RH)	○	-	○	-	○	○ (TF)	△ (RH)	-	Only PRE OUT	Not available	Not available
6.0.4 (TM+TR)	○	-	○	-	○	○ (TM)	△ (TR)	-	Only PRE OUT	Not available	Not available
6.0.4 (TM+RH)	○	-	○	-	○	○ (TM)	△ (RH)	-	Only PRE OUT	Not available	Not available
6.0.4 (FD+SBD)	○	-	○	-	○	○ (FD)	△ (SBD)	-	Only PRE OUT	Not available	Not available

*1 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals, select one of the following three connection methods: "Zone 2 connection," "front B speaker connection," or "bi-amplifier connection."

*2 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals for Zone 2, front B speaker or bi-amplifier connection, the SPEAKERS HEIGHT 2 terminals cannot be used for height speakers. In this case, use the PRE OUT HEIGHT 2 jacks instead.

Speaker pattern	SPEAKERS terminals/PRE OUT jacks								Zone 2 connection (*1)	Front B speaker connection (*1)	Bi- amplifier connection (*1)
	FRONT A	CENTER	SURROUND	SURROUND BACK (FRONT B/BI- AMP/ZONE 2) (single)	SURROUND BACK (FRONT B/BI- AMP/ZONE 2) (L/R)	HEIGHT 1 (ZONE 2)	HEIGHT 2	SUBWOOFER			
6.1	○	-	○	-	○	-	-	○	H1	Not available	Not available
6.1.2 (FH)	○	-	○	-	○	○ (FH)	-	○	Only PRE OUT	Not available	Not available
6.1.2 (TM)	○	-	○	-	○	○ (TM)	-	○	Only PRE OUT	Not available	Not available
6.1.2 (FD)	○	-	○	-	○	○ (FD)	-	○	Only PRE OUT	Not available	Not available
6.1.2 (SRD)	○	-	○	-	○	○ (SRD)	-	○	Only PRE OUT	Not available	Not available
6.1.2 (SBD)	○	-	○	-	○	○ (SBD)	-	○	Only PRE OUT	Not available	Not available
6.1.4 (FH+TM)	○	-	○	-	○	○ (FH)	△ (TM)	○	Only PRE OUT	Not available	Not available
6.1.4 (FH+TR)	○	-	○	-	○	○ (FH)	△ (TR)	○	Only PRE OUT	Not available	Not available
6.1.4 (FH+RH)	○	-	○	-	○	○ (FH)	△ (RH)	○	Only PRE OUT	Not available	Not available
6.1.4 (TF+TM)	○	-	○	-	○	○ (TF)	△ (TM)	○	Only PRE OUT	Not available	Not available
6.1.4 (TF+TR)	○	-	○	-	○	○ (TF)	△ (TR)	○	Only PRE OUT	Not available	Not available
6.1.4 (TF+RH)	○	-	○	-	○	○ (TF)	△ (RH)	○	Only PRE OUT	Not available	Not available
6.1.4 (TM+TR)	○	-	○	-	○	○ (TM)	△ (TR)	○	Only PRE OUT	Not available	Not available
6.1.4 (TM+RH)	○	-	○	-	○	○ (TM)	△ (RH)	○	Only PRE OUT	Not available	Not available
6.1.4 (FD+SBD)	○	-	○	-	○	○ (FD)	△ (SBD)	○	Only PRE OUT	Not available	Not available

*1 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals, select one of the following three connection methods: "Zone 2 connection," "front B speaker connection," or "bi-amplifier connection."

*2 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals for Zone 2, front B speaker or bi-amplifier connection, the SPEAKERS HEIGHT 2 terminals cannot be used for height speakers. In this case, use the PRE OUT HEIGHT 2 jacks instead.

Speaker pattern	SPEAKERS terminals/PRE OUT jacks								Zone 2 connection (*1)	Front B speaker connection (*1)	Bi- amplifier connection (*1)
	FRONT A	CENTER	SURROUND	SURROUND BACK (FRONT B/BI- AMP/ZONE 2) (single)	SURROUND BACK (FRONT B/BI- AMP/ZONE 2) (L/R)	HEIGHT 1 (ZONE 2)	HEIGHT 2	SUBWOOFER			
7.0 ◆	○	○	○	-	○	-	-	-	H1	Not available	Not available
7.0.2 (FH) ◆	○	○	○	-	○	○ (FH)	-	-	Only PRE OUT	Not available	Not available

7.0.2 (TM)	○	○	○	-	○	○ (TM)	-	-	Only PRE OUT	Not available	Not available
7.0.2 (FD)	○	○	○	-	○	○ (FD)	-	-	Only PRE OUT	Not available	Not available
7.0.2 (SRD)	○	○	○	-	○	○ (SRD)	-	-	Only PRE OUT	Not available	Not available
7.0.2 (SBD)	○	○	○	-	○	○ (SBD)	-	-	Only PRE OUT	Not available	Not available
7.0.4 (FH+TM)	○	○	○	-	○	○ (FH)	△ (TM)	-	Only PRE OUT	Not available	Not available
7.0.4 (FH+TR) ◆	○	○	○	-	○	○ (FH)	△ (TR)	-	Only PRE OUT	Not available	Not available
7.0.4 (FH+RH) ◆	○	○	○	-	○	○ (FH)	△ (RH)	-	Only PRE OUT	Not available	Not available
7.0.4 (TF+TM)	○	○	○	-	○	○ (TF)	△ (TM)	-	Only PRE OUT	Not available	Not available
7.0.4 (TF+TR) ◆	○	○	○	-	○	○ (TF)	△ (TR)	-	Only PRE OUT	Not available	Not available
7.0.4 (TF+RH) ◆	○	○	○	-	○	○ (TF)	△ (RH)	-	Only PRE OUT	Not available	Not available
7.0.4 (TM+TR)	○	○	○	-	○	○ (TM)	△ (TR)	-	Only PRE OUT	Not available	Not available
7.0.4 (TM+RH)	○	○	○	-	○	○ (TM)	△ (RH)	-	Only PRE OUT	Not available	Not available
7.0.4 (FD+SBD) ◆	○	○	○	-	○	○ (FD)	△ (SBD)	-	Only PRE OUT	Not available	Not available

*1 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals, select one of the following three connection methods: "Zone 2 connection," "front B speaker connection," or "bi-amplifier connection."

*2 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals for Zone 2, front B speaker or bi-amplifier connection, the SPEAKERS HEIGHT 2 terminals cannot be used for height speakers. In this case, use the PRE OUT HEIGHT 2 jacks instead.

Speaker pattern	SPEAKERS terminals/PRE OUT jacks								Zone 2 connection (*1)	Front B speaker connection (*1)	Bi-amplifier connection (*1)
	FRONT A	CENTER	SURROUND	SURROUND BACK (FRONT B/BI-AMP/ZONE 2) (single)	SURROUND BACK (FRONT B/BI-AMP/ZONE 2) (L/R)	HEIGHT 1 (ZONE 2)	HEIGHT 2	SUBWOOFER			
7.1 ◆	○	○	○	-	○	-	-	○	H1	Not available	Not available
7.1.2 (FH) ◆	○	○	○	-	○	○ (FH)	-	○	Only PRE OUT	Not available	Not available
7.1.2 (TM)	○	○	○	-	○	○ (TM)	-	○	Only PRE OUT	Not available	Not available
7.1.2 (FD)	○	○	○	-	○	○ (FD)	-	○	Only PRE OUT	Not available	Not available
7.1.2 (SRD)	○	○	○	-	○	○ (SRD)	-	○	Only PRE OUT	Not available	Not available
7.1.2 (SBD)	○	○	○	-	○	○ (SBD)	-	○	Only PRE OUT	Not available	Not available
7.1.4 (FH+TM)	○	○	○	-	○	○ (FH)	△ (TM)	○	Only PRE OUT	Not available	Not available
7.1.4 (FH+TR) ◆	○	○	○	-	○	○ (FH)	△ (TR)	○	Only PRE OUT	Not available	Not available
7.1.4 (FH+RH) ◆	○	○	○	-	○	○ (FH)	△ (RH)	○	Only PRE OUT	Not available	Not available
7.1.4 (TF+TM)	○	○	○	-	○	○ (TF)	△ (TM)	○	Only PRE OUT	Not available	Not available
7.1.4 (TF+TR) ◆	○	○	○	-	○	○ (TF)	△ (TR)	○	Only PRE OUT	Not available	Not available
7.1.4 (TF+RH) ◆	○	○	○	-	○	○ (TF)	△ (RH)	○	Only PRE OUT	Not available	Not available
7.1.4 (TM+TR)	○	○	○	-	○	○ (TM)	△ (TR)	○	Only PRE OUT	Not available	Not available
7.1.4									Only PRE	Not	Not

(TM+RH)	○	○	○	-	○	○ (TM)	△ (RH)	○		OUT	available	available
7.1.4 (FD+SBD) ◆	○	○	○	-	○	○ (FD)	△ (SBD)	○		Only PRE OUT	Not available	Not available

*1 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals, select one of the following three connection methods: "Zone 2 connection," "front B speaker connection," or "bi-amplifier connection."

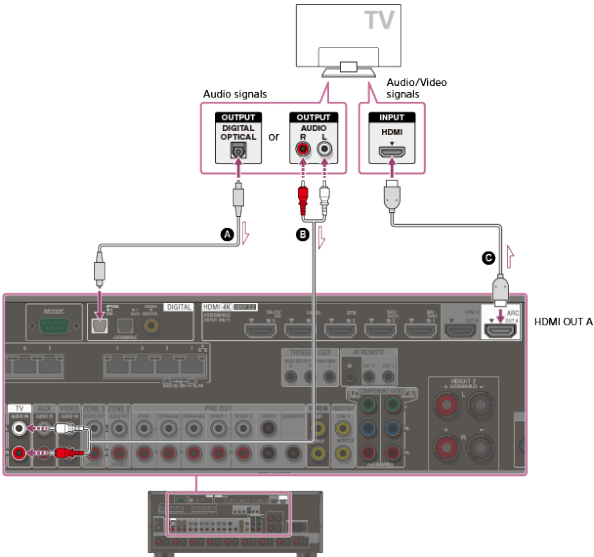
*2 If you are connecting speakers to SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals for Zone 2, front B speaker or bi-amplifier connection, the SPEAKERS HEIGHT 2 terminals cannot be used for height speakers. In this case, use the PRE OUT HEIGHT 2 jacks instead.

Connecting a TV

Connect a TV to the HDMI OUT or MONITOR OUT jack. You can operate this receiver using the menu on the TV screen when you connect the TV to the HDMI OUT A jack. Be sure to disconnect the AC power cord (mains lead) before connecting cables.

Connecting a TV incompatible with the Audio Return Channel (ARC) function via an HDMI connection

Solid lines show recommended connections and the dashed lines show alternative connections for audio signals. It is not necessary to connect all the cables. HDMI connection for audio/video signals is required.



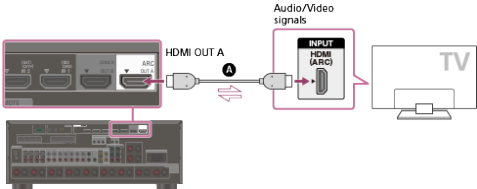
- A Optical digital cable (not supplied)
- B Audio cable (not supplied)
- C HDMI cable (not supplied)

Note

- Sony recommends that you use an HDMI-authorized cable or HDMI cable made by Sony. Be sure to use a High Speed HDMI Cable with Ethernet. Premium High Speed HDMI Cable with Ethernet that supports 18 Gbps is required for 4K/60p 4:4:4, 4:2:2, and 4K/60p 4:2:0 10 bit, etc.

Connecting a TV compatible with the Audio Return Channel (ARC) function via an HDMI connection

With just one HDMI cable connection, you can listen to the TV audio from the speakers connected to the receiver while the receiver sends audio and video to the TV.



- A HDMI cable (not supplied)

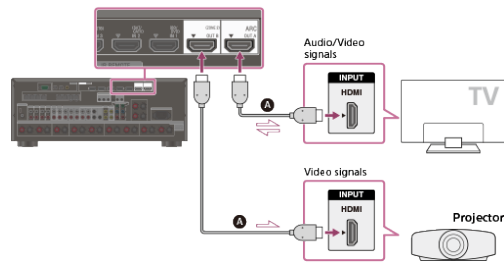
Note

- Sony recommends that you use an HDMI-authorized cable or HDMI cable made by Sony. Be sure to use a High Speed HDMI Cable with Ethernet. Premium High Speed HDMI Cable with Ethernet that supports 18 Gbps is required for 4K/60p 4:4:4, 4:2:2, and 4K/60p 4:2:0 10 bit, etc.
- For this connection, you need to turn the Audio Return Channel function on. Press HOME to display the home menu, select [Setup] - [HDMI Setup], and set [Audio Return Channel] to [On].

Hint

- If the HDMI jack of the TV (labeled "ARC") is already connected to another device, disconnect the device and connect the receiver.

Connecting a TV and a projector



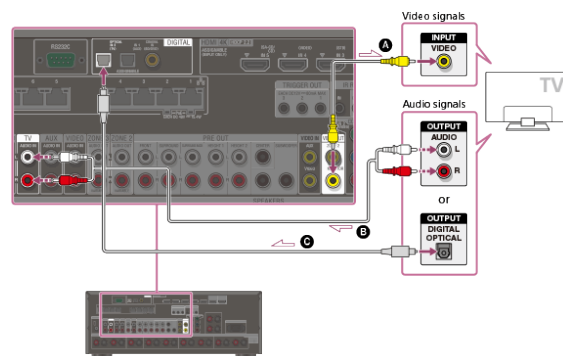
A HDMI cable (not supplied)

Note

- Sony recommends that you use an HDMI-authorized cable or HDMI cable made by Sony. Be sure to use a High Speed HDMI Cable with Ethernet. Premium High Speed HDMI Cable with Ethernet that supports 18 Gbps is required for 4K/60p 4:4:4, 4:2:2, and 4K/60p 4:2:0 10 bit, etc.
- To use this connection in only one room, select [Setup] - [HDMI Setup], and set [HDMI Out B Mode] to [Main].

Connecting a TV without HDMI jacks

Solid lines show recommended connections and the dashed lines show alternative connections for both video and audio signals. It is not necessary to connect all the cables.



- A** Video cable (not supplied)
- B** Audio cable (not supplied)
- C** Optical digital cable (not supplied)

Note

- The MONITOR VIDEO OUT jack can output video signal input from the VIDEO IN jacks.
- Depending on the status of the connection between the TV and the antenna (aerial), the image on the TV screen may be distorted. If this is the case, place the antenna (aerial) farther away from the receiver.

Hint

- When connecting a TV to the receiver via the TV IN jacks of the receiver, set the sound output jack of the TV to "Fixed" if it can be switched between "Fixed" or "Variable."

[22] Preparation | 3. Connecting a TV

Connecting a 4K TV

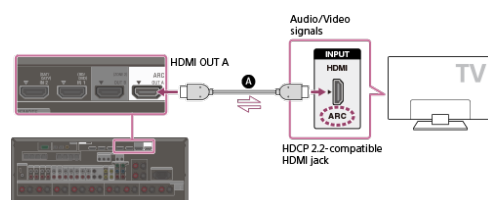
All HDMI jacks on the receiver support 4K resolution and HDCP 2.2 (High-bandwidth Digital Content Protection System Revision 2.2).

HDCP 2.2 is newly enhanced copyright protection technology that is used to protect content such as 4K movies.

To watch HDCP 2.2 protected content such as 4K content, connect the HDMI jacks to jacks that support HDCP 2.2 on the TV and AV device. For details on whether the TV and AV device are equipped with HDCP 2.2-compatible HDMI jack, refer to the operating instructions of the connected device.

When you use high bandwidth video formats such as 4K/60p 4:4:4, 4:2:2, and 4K/60p 4:2:0 10 bit, etc., be sure to set the HDMI signal format. For details, see "[Setting HDMI signal formats \(HDMI Signal Format\)](#)."

When an HDCP 2.2-compatible HDMI jack on the TV is labeled "ARC" (*)



A HDMI cable (not supplied)

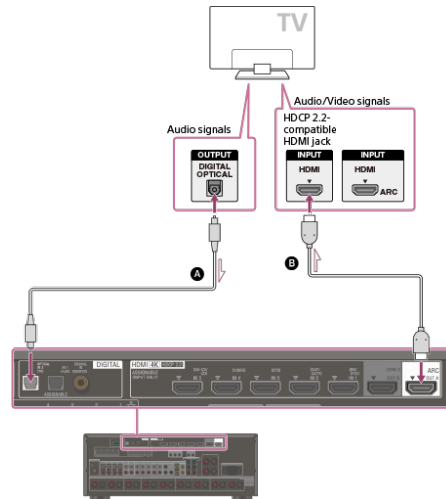
- * The ARC (Audio Return Channel) function sends digital sound from a TV to the receiver using only an HDMI cable.

Note

- Sony recommends that you use an HDMI-authorized cable or HDMI cable made by Sony. Be sure to use a High Speed HDMI Cable with Ethernet. Premium High Speed HDMI Cable with Ethernet that supports 18 Gbps is required for 4K/60p 4:4:4, 4:2:2, and 4K/60p 4:2:0 10 bit, etc.

When you want to watch HDCP 2.2 protected content and the non-HDCP 2.2-compatible HDMI jack on the TV is labeled “ARC”

If the HDMI jack on the TV is labeled ARC and is not HDCP 2.2-compatible, connect the receiver to the HDCP 2.2-compatible HDMI jack on the TV using a Premium High Speed HDMI Cable with Ethernet that supports 18 Gbps. Then, connect an optical digital cable to the optical output jack of the TV to listen to digital sound.



- A Optical digital cable (not supplied)
- B HDMI cable (not supplied)

Note

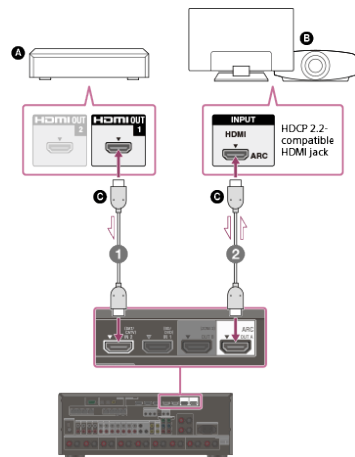
- Sony recommends that you use an HDMI-authorized cable or HDMI cable made by Sony. Be sure to use a High Speed HDMI Cable with Ethernet. Premium High Speed HDMI Cable with Ethernet that supports 18 Gbps is required for 4K/60p 4:4:4, 4:2:2, and 4K/60p 4:2:0 10 bit, etc.

[23] Preparation | 3. Connecting a TV

Connecting a 4K TV that supports HDCP 2.2 and a 4K streaming box using a 4K-compatible HDMI cable

To enjoy audio from 4K content such as 4K movies, connect the HDMI output/input jacks of each device that supports HDCP 2.2 (*) using HDMI cables, as illustrated below.

- * HDCP 2.2 (High-bandwidth Digital Content Protection 2.2) is newly enhanced copyright protection technology that is used to protect content such as 4K movies from Studios.



- A 4K media player
- B 4K TV or 4K projector
- C HDMI cable (not supplied)

- 1 Connect the receiver to a 4K media player using an HDMI cable.

If you are using an FMP-X10/X5 Media Player:

Connect the cable to the HDMI OUT 1 (for AUDIO VIDEO) jack of the player.

Select [⚙️ (Settings)] - [Sound] - [Audio from HDMI OUT] - [HDMI OUT 1] in the Home menu of the FMP-X10/X5 Media Player after Initial Setup is complete.

If you are using a different 4K media player:

Connect the cable to one of the HDCP 2.2-compatible HDMI output jacks. For details, refer

to the operating instructions supplied with your player.

2 Connect the receiver to a 4K TV or 4K projector using an HDMI cable.

If you are using a BRAVIA TV with the series name X950B, X900B or X850B:

Connect the cable to the HDMI IN 1 jack of your TV.

If you are using a different 4K TV or 4K projector:

Connect to one of the HDCP 2.2-compatible HDMI input jacks. If the jack is not compatible with the ARC (Audio Return Channel) function, also connect an optical digital cable. For details, refer to the operating instructions supplied with your 4K TV or 4K projector.

Note

- Sony recommends that you use an HDMI-authorized cable or HDMI cable made by Sony. Be sure to use a High Speed HDMI Cable with Ethernet. Premium High Speed HDMI Cable with Ethernet that supports 18 Gbps is required for 4K/60p 4:4:4, 4:2:2, and 4K/60p 4:2:0 10 bit, etc.

[24] Preparation | 3. Connecting a TV

Notes on connecting cables

- Before connecting cables, be sure to disconnect the AC power cord (mains lead).
- It is not necessary to connect all of the cables. Connect cables according to the availability of jacks on the connected device.
- Sony recommends that you use an HDMI authorized cable or HDMI cable made by Sony. Be sure to use a High Speed HDMI Cable with Ethernet. Premium High Speed HDMI Cable with Ethernet that supports 18 Gbps is required for 4K/60p 4:4:4, 4:2:2, and 4K/60p 4:2:0 10 bit, etc. For details about the high bandwidth video format, refer to "Supported video formats" in the supplied Operating Instructions.
- We do not recommend using an HDMI-DVI conversion cable. If you connect an HDMI-DVI conversion cable to a DVI-D device, the sound and/or image may be lost. Connect separate audio cables or digital connecting cables, then reassign the input jacks if the sound is not output correctly.
- When connecting optical digital cables, insert the plugs straight until they click into place.
- Do not bend or tie optical digital cables.
- When you use high bandwidth video formats such as 4K/60p 4:4:4, 4:2:2 and 4K/60p 4:2:0 10 bit, be sure to set the HDMI signal format. For details, see "[Setting HDMI signal formats \(HDMI Signal Format\)](#)."

Hint

- All of the digital audio jacks are compatible with 32 kHz, 44.1 kHz, 48 kHz, and 96 kHz sampling frequencies.

If you want to connect several digital devices, but cannot find an unused input

In this case, reassign the input jacks.

[25] Preparation | 3. Connecting a TV

About HDMI connections

High-Definition Multimedia Interface (HDMI) is an interface that transmits video and audio signals in digital format. Connecting devices made by Sony that are "BRAVIA" Sync-compatible makes operations simpler.

HDMI features

- Digital audio signals transmitted by HDMI can be output from the SPEAKERS terminals and the PRE OUT jacks on this receiver. This signal supports Dolby Audio, DTS, DSD, and Linear PCM.
- The receiver can receive Multi Channel Linear PCM (up to 8 channels) with a sampling frequency of 192 kHz or less via an HDMI connection.
- Analog video signals input to the VIDEO jack or COMPONENT VIDEO jacks can be output as HDMI signals. Audio signals input to the OPTICAL IN, COAXIAL IN and ANALOG IN jacks can be output as HDMI signals with converted analog video signals from the HDMI OUT B (ZONE 2) jack when [HDMI Out B Mode] is set to [Zone2].
- This receiver supports High Bitrate Audio (DTS-HD Master Audio, Dolby TrueHD, DTS:X Master Audio, Dolby Atmos), Deep Color (Deep Colour), and 4K or 3D transmission.
- To enjoy 3D content, connect a 3D-compatible TV and video device (Blu-ray Disc Player, Blu-ray Disc recorder, PlayStation 4, etc.) to the receiver using High Speed HDMI Cables with Ethernet, put on 3D glasses, and then play 3D-compatible content.
- To enjoy 4K content, connect a 4K-compatible TV or video device (Blu-ray Disc Player, etc.) to the receiver using Premium High Speed HDMI Cables with Ethernet that support 18 Gbps, and then play 4K-compatible content.
- Premium High Speed HDMI Cable with Ethernet that supports 18 Gbps is required for 4K/60p 4:4:4, 4:2:2, and 4K/60p 4:2:0 10 bit, etc.
- All HDMI jacks on the receiver support High-bandwidth Digital Content Protection System Revision 2.2 (HDCP 2.2). Connect these HDMI jacks to jacks that support HDCP 2.2 on the TV and AV device. Refer to the operating instructions of the connected device for details.
- The HDMI IN 1, 2, 3, 4 and 5 jacks support bandwidth up to 18 Gbps, and the HDMI IN 6 (GAME) jack supports bandwidth up to 9 Gbps.
- All HDMI jacks support HDCP 2.2, ITU-R BT.2020 wide color spaces, 3D, Deep Color (Deep Colour) and HDR (High Dynamic Range) contents pass-through.
- The HDMI OUT A jack supports Audio Return Channel (ARC).

- HDCP 2.2 is newly enhanced copyright protection technology that is used to protect content such as 4K movies.
- BT.2020 color space is new wider color standard that is defined for ultra-high definition television systems.
- HDR is an emerging video format that can display a wider range of brightness levels.

Note

- Depending on the TV or video device, 4K or 3D content may not be displayed. Check the HDMI video formats supported by the receiver.
- Refer to the operating instructions of each connected device for details.

[26] Preparation | 4. Connecting audio-visual devices and the antennas (aerials)

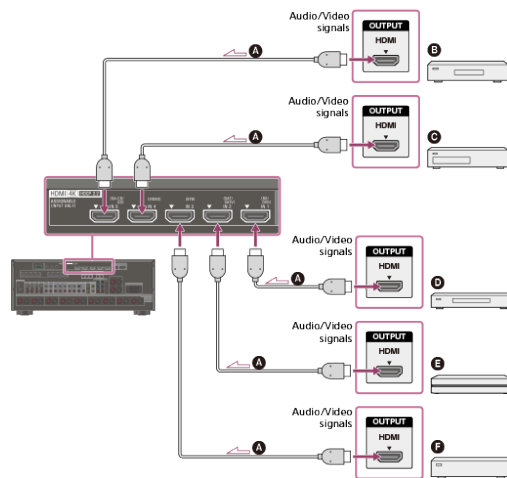
Connecting devices with HDMI jacks

Connect devices to the receiver as illustrated below.

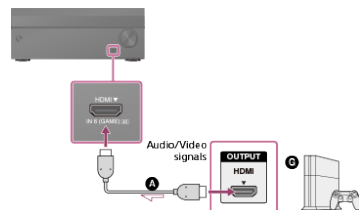
Before connecting cables, be sure to disconnect the AC power cord (mains lead).

All HDMI jacks on the receiver support High-bandwidth Digital Content Protection System Revision 2.2 (HDCP 2.2). To watch content protected by HDCP 2.2, such as 4K content, connect these HDMI jacks to jacks that support HDCP 2.2 on the TV and AV device. Refer to the operating instructions of the connected device for details.

Rear



Front



- Ⓐ HDMI cable (not supplied)
- Ⓑ Super Audio CD player, CD player
- Ⓒ DVD recorder
- Ⓓ Blu-ray Disc™ Player, DVD player
- Ⓔ 4K Media Player
- Ⓕ Set-top box
- Ⓖ Game console such as PlayStation 4

Note

- HDMI IN 1, 2, 3, 4, 5 and all HDMI OUT jacks support bandwidth up to 18 Gbps, and HDMI IN 6 (GAME) jack supports bandwidth up to 9 Gbps.
- Sony recommends that you use an HDMI-authorized cable or HDMI cable made by Sony. Be sure to use a High Speed HDMI Cable with Ethernet. Premium High Speed HDMI Cable with Ethernet that supports 18 Gbps is required for 4K/60p 4:4:4, 4:2:2, and 4K/60p 4:2:0 10 bit, etc.

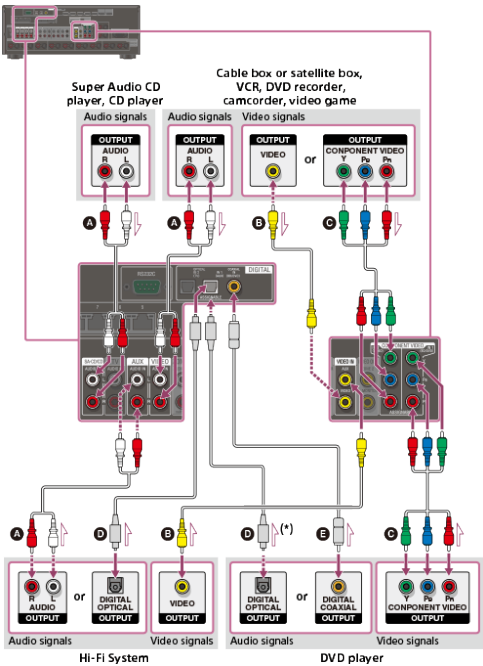
Hint

- This HDMI connection is an example. You can connect each HDMI device to any HDMI input, including the HDMI input on the front panel.
- The image quality depends on the connecting jack. We recommend that you connect your devices via an HDMI connection if they have HDMI jacks.

[27] Preparation | 4. Connecting audio-visual devices and the antennas (aerials)

Connecting devices with jacks other than HDMI jacks

Connect devices to the receiver as illustrated below.
Solid lines show recommended connections and the dashed lines show alternative connections.
Before connecting cables, be sure to disconnect the AC power cord (mains lead).



- A** Audio cable (not supplied)
- B** Video cable (not supplied)
- C** Component video cable (not supplied)
- D** Optical digital cable (not supplied)
- E** Coaxial digital cable (not supplied)

* If you connect devices with an OPTICAL jack, reassign the input jacks. For details, see "[Using other video/audio input jacks \(Input Assign\).](#)"

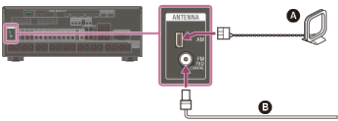
Hint

- You can rename each input so that the name can be displayed on the display panel of the receiver. For details, see "[Changing the name for each input \(Name\).](#)"
- The image quality depends on the connecting jack. We recommend that you connect your devices via an HDMI connection if they have HDMI jacks.

[28] Preparation | 4. Connecting audio-visual devices and the antennas (aerials)

Connecting the antennas (aerials)

Connect the supplied antennas (aerials) to the receiver as illustrated below.
Before connecting antenna (aerial), be sure to disconnect the AC power cord (mains lead).



- A** AM loop antenna (aerial) (supplied)
- B** FM wire antenna (aerial) (supplied)

Note

- To prevent noise pickup, keep the AM loop antenna (aerial) away from the receiver and other devices.
- Be sure to fully extend the FM wire antenna (aerial).
- After connecting the FM wire antenna (aerial), keep it as horizontal as possible.

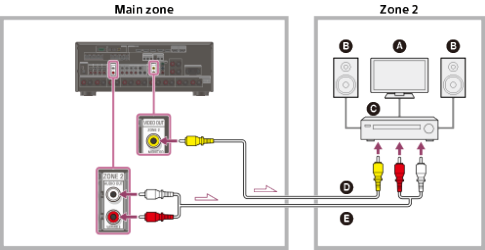
[29] Preparation | 4. Connecting audio-visual devices and the antennas (aerials)

Connecting another amplifier in Zone 2/3

You can enjoy image (*) and sound from a device connected to the receiver in a zone other than the main zone. For example, you can watch a DVD in the main zone and listen to a CD in Zone 2.

* For a connection using the HDMI OUT B (ZONE 2) jack only

Connecting another amplifier using the ZONE 2 VIDEO/AUDIO OUT jack



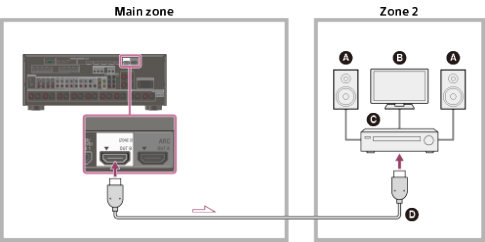
- Ⓐ TV monitor
- Ⓑ Speakers
- Ⓒ Other amplifier/receiver
- Ⓓ Video cable (not supplied)
- Ⓔ Audio cable (not supplied)

Note

- The ZONE2 VIDEO OUT jack can output video signal input from the VIDEO IN jacks.
- When outputting optical/coaxial audio signals, set the audio output to PCM on the connected device. For details, refer to the operating instructions of the connected device.

Connecting another amplifier or TV in Zone 2 (with HDMI connection)

HDMI video/audio input signals, optical/coaxial audio input signals are output to Zone 2 using the HDMI OUT B (ZONE 2) jack on the receiver.

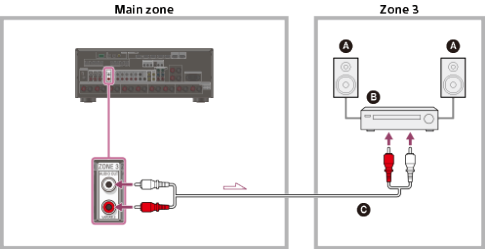


- Ⓐ Speakers
- Ⓑ TV
- Ⓒ Other amplifier/receiver
- Ⓓ HDMI cable (not supplied)

Note

- The following settings are required for this connection.
 - Set [HDMI Out B Mode] in the [HDMI Setup] menu to [Zone2]
 - Set [Zone2 Audio Out] in the [HDMI Setup] menu to [Zone2 AMP]
- When outputting optical/coaxial audio signals, set the audio output to PCM on the connected device. For details, refer to the operating instructions of the connected device.

Connecting another amplifier using the ZONE 3 AUDIO OUT jack



- Ⓐ Speakers
- Ⓑ Other amplifier/receiver
- Ⓒ Audio cable (not supplied)

Note

- Only devices connected to the analog audio input jacks and the built-in tuner (FM/AM) can output signals to Zone 3. No signals are output from devices connected to only the digital input jacks.

[30] Preparation | 4. Connecting audio-visual devices and the antennas (aerials)

Digital audio formats supported by the receiver

The digital audio formats that this receiver can decode depend on the digital audio output jacks of the connected device. This receiver supports the following audio formats. The words in brackets are those indicated on the display panel.

Digital audio format	Maximum number of channels	Connection with the receiver
Dolby Digital [DOLBY DIGITAL]	5.1	COAXIAL/OPTICAL, HDMI

Dolby Digital EX [DOLBY DIGITAL EX]	6.1	COAXIAL/OPTICAL, HDMI
Dolby Digital Plus [DOLBY DIGITAL+] (*1)	7.1	HDMI
Dolby TrueHD [DOLBY TrueHD] (*1)	7.1	HDMI
Dolby Atmos - Dolby Digital Plus [ATMOS - DD+] (*1) (*2)	7.1.4	HDMI
Dolby Atmos - Dolby TrueHD [ATMOS - TrueHD] (*1) (*2)	7.1.4	HDMI
DTS [DTS]	5.1	COAXIAL/OPTICAL, HDMI
DTS-ES Discrete [DTS-ES Dscrt]	6.1	COAXIAL/OPTICAL, HDMI
DTS-ES Matrix [DTS-ES Mtrx]	6.1	COAXIAL/OPTICAL, HDMI
DTS 96/24 [DTS 96/24]	5.1	COAXIAL/OPTICAL, HDMI
DTS-HD High Resolution Audio [DTS-HD HI RES] (*1)	7.1	HDMI
DTS-HD Master Audio [DTS-HD MSTR] (*1)	7.1	HDMI
DTS:X [DTS:X] (*1)	7.1.4	HDMI
DTS:X Master Audio [DTS:X MA] (*1)	7.1.4	HDMI
DSD [DSD] (*1)	5.1	HDMI
Multi Channel Linear PCM [LINEAR PCM] (*1)	7.1	HDMI

- *1 Audio signals are output in another format if the playback device does not correspond to the actual format. For details, refer to the operating instructions of the playback device.
- *2 Dolby Atmos is decoded as Dolby Digital Plus or Dolby TrueHD if the speaker pattern is set to 2.0, 2.1, 3.0, 3.1, 4.0, 4.1, 5.0 or 5.1.

[31] Preparation | 4. Connecting audio-visual devices and the antennas (aerials)

Notes on connecting cables

- Before connecting cables, be sure to disconnect the AC power cord (mains lead).
- It is not necessary to connect all of the cables. Connect cables according to the availability of jacks on the connected device.
- Sony recommends that you use an HDMI authorized cable or HDMI cable made by Sony. Be sure to use a High Speed HDMI Cable with Ethernet. Premium High Speed HDMI Cable with Ethernet that supports 18 Gbps is required for 4K/60p 4:4:4, 4:2:2, and 4K/60p 4:2:0 10 bit, etc. For details about the high bandwidth video format, refer to "Supported video formats" in the supplied Operating Instructions.
- We do not recommend using an HDMI-DVI conversion cable. If you connect an HDMI-DVI conversion cable to a DVI-D device, the sound and/or image may be lost. Connect separate audio cables or digital connecting cables, then reassign the input jacks if the sound is not output correctly.
- When connecting optical digital cables, insert the plugs straight until they click into place.
- Do not bend or tie optical digital cables.
- When you use high bandwidth video formats such as 4K/60p 4:4:4, 4:2:2 and 4K/60p 4:2:0 10 bit, be sure to set the HDMI signal format. For details, see "[Setting HDMI signal formats \(HDMI Signal Format\)](#)."

Hint

- All of the digital audio jacks are compatible with 32 kHz, 44.1 kHz, 48 kHz, and 96 kHz sampling frequencies.

If you want to connect several digital devices, but cannot find an unused input

In this case, reassign the input jacks.

[32] Preparation | 4. Connecting audio-visual devices and the antennas (aerials)

About HDMI connections

High-Definition Multimedia Interface (HDMI) is an interface that transmits video and audio signals in digital format. Connecting devices made by Sony that are "BRAVIA" Sync-compatible makes operations simpler.

HDMI features

- Digital audio signals transmitted by HDMI can be output from the SPEAKERS terminals and the PRE OUT jacks on this receiver. This signal supports Dolby Audio, DTS, DSD, and Linear PCM.
- The receiver can receive Multi Channel Linear PCM (up to 8 channels) with a sampling frequency of 192 kHz or less via an HDMI connection.
-

Analog video signals input to the VIDEO jack or COMPONENT VIDEO jacks can be output as HDMI signals. Audio signals input to the OPTICAL IN, COAXIAL IN and ANALOG IN jacks can be output as HDMI signals with converted analog video signals from the HDMI OUT B (ZONE 2) jack when [HDMI Out B Mode] is set to [Zone2].

- This receiver supports High Bitrate Audio (DTS-HD Master Audio, Dolby TrueHD, DTS:X Master Audio, Dolby Atmos), Deep Color (Deep Colour), and 4K or 3D transmission.
- To enjoy 3D content, connect a 3D-compatible TV and video device (Blu-ray Disc Player, Blu-ray Disc recorder, PlayStation 4, etc.) to the receiver using High Speed HDMI Cables with Ethernet, put on 3D glasses, and then play 3D-compatible content.
- To enjoy 4K content, connect a 4K-compatible TV or video device (Blu-ray Disc Player, etc.) to the receiver using Premium High Speed HDMI Cables with Ethernet that support 18 Gbps, and then play 4K-compatible content.
- Premium High Speed HDMI Cable with Ethernet that supports 18 Gbps is required for 4K/60p 4:4:4, 4:2:2, and 4K/60p 4:2:0 10 bit, etc.
- All HDMI jacks on the receiver support High-bandwidth Digital Content Protection System Revision 2.2 (HDCP 2.2). Connect these HDMI jacks to jacks that support HDCP 2.2 on the TV and AV device. Refer to the operating instructions of the connected device for details.
- The HDMI IN 1, 2, 3, 4 and 5 jacks support bandwidth up to 18 Gbps, and the HDMI IN 6 (GAME) jack supports bandwidth up to 9 Gbps.
- All HDMI jacks support HDCP 2.2, ITU-R BT.2020 wide color spaces, 3D, Deep Color (Deep Colour) and HDR (High Dynamic Range) contents pass-through.
- The HDMI OUT A jack supports Audio Return Channel (ARC).
- HDCP 2.2 is newly enhanced copyright protection technology that is used to protect content such as 4K movies.
- BT.2020 color space is new wider color standard that is defined for ultra-high definition television systems.
- HDR is an emerging video format that can display a wider range of brightness levels.

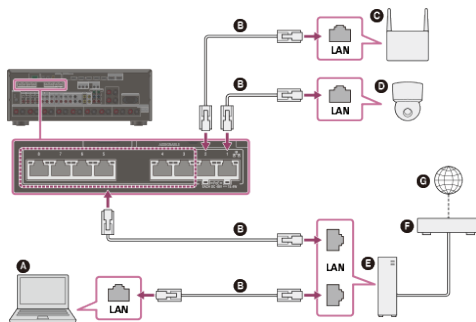
Note

- Depending on the TV or video device, 4K or 3D content may not be displayed. Check the HDMI video formats supported by the receiver.
- Refer to the operating instructions of each connected device for details.

[33] Preparation | 5. Connecting to the network

Connecting the receiver to the network using LAN cables

The following illustration is an example configuration of a home network with the receiver, and a computer.



- A** Computer
- B** LAN cable (not supplied)
- C** Wireless access point, etc.
- D** Network camera, etc.
- E** Router
- F** Modem
- G** Internet

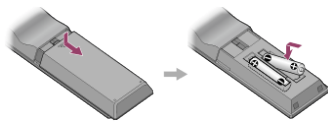
Note

- Connect a router to one among ports 1 to 8 of the receiver using only one LAN cable. Do not connect the same router to the receiver using more than one LAN cable. It may cause a malfunction.
- Ports No. 1 and No. 2 support PoE (Power over Ethernet, Alternative A). If you connect a PoE-compatible device to one of these ports, power will be supplied to the device from the receiver.
- You can also connect a device that does not support PoE to the PoE port.
- The PoE port lights in red while supplying power.
- This receiver supports PoE Class 3.

[34] Preparation | 6. Turning on the receiver/preparing the remote control

Inserting batteries into the remote control

Insert two R03 (size AAA) batteries (supplied) into the remote control. Make sure that the + and - ends are in the correct position when installing batteries.



Note

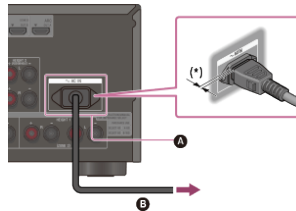
- Do not leave the remote control in an extremely hot or humid place.
- Do not use a new battery with an old one.
- Do not mix manganese batteries with other kinds of batteries.
- Do not expose the remote control sensor to direct sunlight or lights. Doing so may cause a malfunction.
- If you do not intend to use the remote control for an extended period of time, remove the batteries to avoid possible damage from battery leakage and corrosion.
- When the receiver no longer responds to the remote control, replace both of the batteries with new ones.

[35] Preparation | 6. Turning on the receiver/preparing the remote control

Turning on the receiver

Before connecting the AC power cord (mains lead), be sure to make connections with speakers and the other devices.

- 1 **Connect the supplied AC power cord (mains lead) to the AC IN terminal on the receiver firmly, then connect the AC power cord (mains lead) to a wall outlet.**

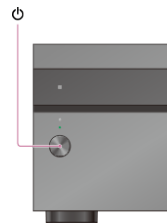


A AC IN terminal

B AC power cord (mains lead) (supplied)

* Space remains between the plug and the rear panel even when the power cord (mains lead) is inserted firmly. The cord is supposed to be connected this way. This is not malfunction.

- 2 **Press  (power) to turn on the receiver.**



You can also turn on the receiver using MAIN  (power) on the remote control. To turn off the receiver, press MAIN  (power) again.

Note

- After you turn off the receiver, [STANDBY] flashes on the display panel. Do not disconnect the AC power cord (mains lead) while [STANDBY] is flashing. This may cause a malfunction.

[36] Preparation | 6. Turning on the receiver/preparing the remote control

Notes on installing the receiver

- Do not install the appliance in a confined space, such as a bookcase.
- Sufficient space around the receiver is needed to release heat. When placing the receiver in a rack, leave more than 44.45 mm (1.75 in) space above the receiver, and more than 44.45 mm (1.75 in) space along the sides of the receiver. The rack behind the receiver should be open. If you place the receiver with its back against the wall, leave more than 88.9 mm (3.5 in) space between the receiver and the wall.
- Make sure to use a "WS-RE1" dedicated rack mount kit for this receiver when mounting the receiver on a rack mount.
- Place the receiver in a location with adequate ventilation to prevent heat buildup and prolong the life of the receiver.
- Do not place the receiver near heat sources, or in a place subject to direct sunlight, excessive dust, or mechanical shock.
- Do not place anything on top of the cabinet that might block the ventilation holes and cause malfunctions.

- Magnets are attached to both the front panel and front cover. Do not place cards with magnetic stripes, such as bank cards or ID passes, near the receiver. These cards may become unusable due to the effects of the magnets on the receiver.

[37] Preparation | 7. Setting up the receiver using Easy Setup

Setting up the receiver using the Easy Setup

When you turn on the receiver for the first time or after the receiver is initialized, the Easy Setup screen appears on the TV screen. You can set up the following settings for the receiver by following the instructions on the Easy Setup screen.

- Auto Calibration
Check your speaker system and perform automatic calibration according to the configuration and arrangement of your speaker system.
- Internet Setup
Configure settings to connect the receiver to the network.

Note

- Switch the input of the TV to the input to which the receiver is connected to use this function.

If the Easy Setup screen does not appear or you want to display the Easy Setup screen manually, you can display it by selecting [Setup] - [Easy Setup] from the home menu.

[38] Preparation | Performing Auto Calibration

1. About Auto Calibration

Auto Calibration allows you to perform automatic calibration as follows.

- Check the connection between each speaker and the receiver.
- Adjust the speaker level.
- Measure the distance of each speaker from your seating position. (*1)
- Measure the speaker size. (*1)
- Measure the frequency characteristics (EQ). (*1)
- Measure the frequency characteristics (Phase). (*1) (*2)

*1 The measurement result is not utilized when [Direct] is being used and an analog input is selected.

*2 The measurement result may be not utilized, depending on the audio formats.

Note

- The D.C.A.C. is designed to achieve proper sound balance for your room. However, you can adjust the speaker levels manually according to your preference using [Test Tone].

[39] Preparation | Performing Auto Calibration

2. Before you perform Auto Calibration

Before you perform Auto Calibration, check the following items:

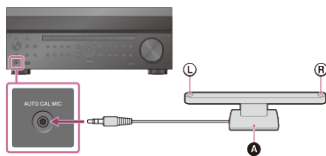
- Set up and connect the speakers.
- Do not connect any microphones other than the supplied optimizer microphone to the AUTO CAL MIC jack.
- If using a bi-amplifier connection or speakers with a front B connection, set the assignment for the SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals properly. For details, see "[Assigning the surround back speaker terminals \(SB Speaker Assign\).](#)"
- Set the speaker output to a setting other than [SPEAKERS OFF]. For details, see "[4. Selecting the front speakers.](#)"
- Remove any obstructions between the optimizer microphone and the speakers.
- For accurate measurement, make sure the environment is quiet and free from noise.

Note

- The speakers emit very loud sound during the calibration and the volume cannot be adjusted. Be considerate of your neighbors and any children who are present.
- If the muting function has been activated before you perform Auto Calibration, the muting function will shut off automatically.
- It may not be possible to take the correct measurements or to perform Auto Calibration at all if special speakers such as dipole speakers are used.

[40] Preparation | Performing Auto Calibration

3. Connecting the optimizer microphone



A Optimizer microphone (supplied)

- 1 Connect the supplied optimizer microphone to the AUTO CAL MIC jack.**

- 2 Set up the optimizer microphone.**

Place the optimizer microphone at your listening position and set it at the same height as your ears.

[41] Preparation | Performing Auto Calibration

4. Selecting the front speakers

You can select the front speakers you want to operate.

Be sure to use the buttons on the receiver to perform this operation.

- 1 Press SPEAKERS on the receiver repeatedly to select the front speaker system you want to operate.**

SPEAKERS



The indicators on the display panel shows which set of terminals are selected.

- **SP A:**
Speakers connected to the SPEAKERS FRONT A terminals.
- **SP B (*):**
Speakers connected to the SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals.
- **SP AB (*):**
Speakers connected to both the SPEAKERS FRONT A and SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals (parallel connection).
- **(None):**
[SPEAKERS OFF] appears on the display panel. No audio signals are output from any speaker terminals, or the PRE OUT jacks.

* To select [SP B] or [SP AB], set the assignment for the SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals to [Front B] by using [SB Speaker Assign] in the [Speaker Setup] menu.

[42] Preparation | Performing Auto Calibration

5. Performing Auto Calibration

You can perform automatic calibration from your listening position.

- 1 Select [Setup] - [Speaker Setup] from the home menu.**
- 2 Select [Auto Calibration].**
- 3 Follow the instructions on the TV screen, then press $\square$ to select [Start].**

The measurement starts in 5 seconds.

The measurement process will take approximately 30 seconds with a test tone.
When the measurement ends, a beep sounds and the screen switches.

- 4 Select the item you want.**

- **Save:** Saves the measurement results and exits the setting process.
- **Retry:** Performs the Auto Calibration again.
- **Discard:** Exits the setting process without saving the measurement results.

For details on the measurement results, see "6. Checking Auto Calibration results."

5 Save the measurement results.

Select [Save] in step 4.

Calibration Matching

When Auto Calibration is executed, this function works automatically, matching the distance and level of the right and left speakers. You can set this function only after the D.C.A.C. measurement process has been completed and the results of the D.C.A.C. measurement are saved. The setting is valid until you change it.

Note

- If an error code or warning message appears on the screen in step 3, see "[List of messages after Auto Calibration measurements.](#)"

Hint

- You can also perform automatic calibration by pressing the AUTO CAL button on the remote control. If you use the AUTO CAL button, the following restrictions apply to the operation:
 - Prior settings relating to the Auto Calibration will be skipped.
 - You can only use the display panel for the operation.
- The Auto Calibration function will be canceled if you perform the following during the measurement process:
 - Turn the receiver on or off.
 - Press the input buttons on the remote control or on the receiver.
 - Press .
 - Press SPEAKERS on the receiver.
 - Press HDMI OUTPUT.
 - Press AMP MENU.
 - Press HOME.
 - Press AUTO CAL.
 - Change the volume level.

[43] Preparation | Performing Auto Calibration

6. Checking Auto Calibration results

To check error codes or warning messages received in [Auto Calibration], proceed with the following steps:

If an error code appears

Check the error and perform Auto Calibration again.

1 Select [Retry].

2 Follow the instructions on the TV screen and then press to select [Start].

The measurement starts in 5 seconds.

The measurement process will take approximately 30 seconds with a test tone.

When the measurement ends, a beep sounds and the screen switches.

3 Select the item you want.

- **Save:** Saves the measurement results and exits the setting process.
- **Retry:** Performs the Auto Calibration again.
- **Discard:** Exits the setting process without saving the measurement results.

4 Save the measurement results.

Select [Save] in step 3.

If a warning message appears

Check the warning message and select [OK]. For details on the warning messages, see "[List of messages after Auto Calibration measurements.](#)"

Hint

- The measurement results may vary depending on the position of the subwoofer. However, continuing to use the receiver with that value does not cause problems.

[44] Enjoying Video and Sound | Playing AV devices

Using the menu on the TV screen

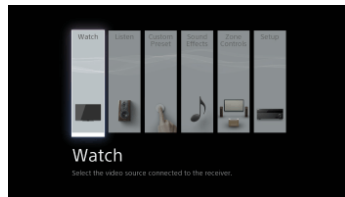
You can display the menu of the receiver on the TV screen (*).

- * When you want to display the menu on the TV screen connected to the HDMI OUT B (ZONE 2) jack, set [HDMI Out B Mode] to [Main].



1 Switch the input of the TV to the input to which the receiver is connected.

2 Press HOME to display the home menu on the TV screen.



3 Press $\leftarrow/\rightarrow$ repeatedly to select the menu you want, then press $\square$ to enter the menu.

Home menu items

Watch: Select to display video from the connected device.

Listen: Select to listen to sound from the connected device.

Custom Preset: Select to save various settings for the receiver and recall those settings.

Sound Effects: Select to enjoy sound effects.

Zone Controls: Select to adjust settings for Zone 2 or Zone 3.

Setup: Select to adjust the various settings for the receiver.

Note

- Sound is not output from the TV speakers while the home menu is displayed.

Hint

- When [OPTIONS] appears in the lower right portion of the TV screen, you can display the function list by pressing OPTIONS and selecting a related function.
- To return to the previous screen, press RETURN.
- To exit the menu, press HOME to display the home menu, then press HOME again.

[45] Enjoying Video and Sound | Playing AV devices

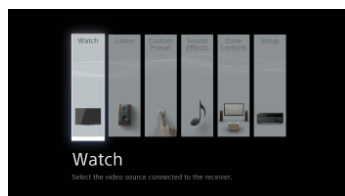
Enjoying video/sound from the connected device

1 Switch the input of the TV to the input to which the receiver is connected.

2 Press HOME.

The home menu is displayed on the TV screen.

Depending on the TV, the home menu may take some time to appear on the TV screen.



3 Select [Watch] or [Listen] from the home menu.

The menu item list appears on the TV screen.

4 Select the device you want.

5 Turn on the device and start playback.

6 Press $\triangleleft/\rightarrow$ to adjust the volume level.

You can also use MASTER VOLUME on the receiver.

7 Press 2CH/DIRECT, A.F.D., MOVIE or MULTI ST. to enjoy the surround sound.

You can also use 2CH/DIRECT, A.F.D., MOVIE or MULTI ST. on the receiver.

Note

- Before you turn off the receiver, be sure to turn down the volume level to avoid damaging your speakers.
- When you turn on the receiver for the first time, it may take up to one minute until sound is output from the receiver.

Hint

- You can select the device you want by pressing the input buttons on the remote control or the receiver.
- You can adjust the volume level differently using the MASTER VOLUME knob on the receiver or the $\triangleleft$ / $\rightarrow$ buttons on the remote control.
To turn the volume up or down quickly
 - Turn the knob quickly.
 - Press and hold one of the buttons.To make fine adjustments
 - Turn the knob slowly.
 - Press one of the buttons and release it immediately.

[46] Enjoying Video and Sound | Playing AV devices

Enjoying sound of an ARC compatible TV (Audio Return Channel)

If your TV supports the Audio Return Channel (ARC) function, set the receiver by the following procedure to output the sound of the TV from the speakers connected to the receiver.

- 1 Select [Setup] - [HDMI Setup] from the home menu.
- 2 Select [Audio Return Channel].
- 3 Select the setting you want.
 - **On:** The sound of the TV connected to the receiver via the HDMI OUT A jack is output from the receiver when TV input is selected.
 - **Off:** The sound of the TV connected to the receiver via the HDMI OUT A jack is not output from the receiver even when TV input is selected.

If you connect to a TV that is not compatible with the Audio Return Channel (ARC) function or you want to select an audio signal using a cable other than an HDMI cable (e.g. via an optical digital cable or an audio cable)

Switch the audio input mode.

Note

- Be sure to turn off the volume of the TV or activate the muting function of the TV.
- If your TV does not support the System Audio Control function, set [Audio Out] to [TV + AMP] in the [HDMI Setup] menu to output the sound of the TV from the TV speaker and the speakers connected to the receiver.

[47] Enjoying Video and Sound | Playing AV devices

If you use a TV compatible with Dolby Digital Plus output

The receiver can receive Dolby Atmos signals in the Dolby Digital Plus format, not only when audio signals are input from the HDMI input jack but also from a TV connected to the receiver by using the Audio Return Channel (ARC) function.

Turn on the ARC function to enable the transmission of Dolby Digital Plus signals. This receiver is designed to activate the ARC function separately even if [Control for HDMI] is set to [Off] in the [HDMI Setup] menu. In this case, set the receiver by the following procedure.

- 1 Turn on the Control for HDMI function of the TV.
- 2 Change the setting for the audio output of the TV so that the TV can output the Dolby Atmos signals.

For details on setting the TV, refer to the operating instructions of the TV.
- 3 Set [Audio Return Channel] to [On] in the [HDMI Setup] menu on the receiver.
- 4 Set [Input Mode] for the TV input to [Auto] in the [Input Setup] menu on the receiver.

- 5 Set the HDMI OUTPUT setting to [HDMI A] on the receiver.
- 6 Turn off the Control for HDMI function for all devices connected to the receiver except the TV.
For details, refer to the operating instructions of the connected devices.
- 7 Turn off any settings for the operation of other devices on the TV's remote control.
For details on setting the TV, refer to the operating instructions of the TV.
- 8 Switch the input of the receiver to [TV].

Note

- The ARC function only works on the TV connected to the HDMI OUT A jack.
- If the Control for HDMI function is activated on the source devices connected to the receiver or the TV, the interlocking functions only work between the TV and the source devices.

[48] Enjoying Video and Sound | Playing AV devices

Watching HDCP 2.2 copyright-protected content

To watch HDCP 2.2 copyright-protected content such as 4K content, connect the receiver and TV via an HDCP 2.2-compatible HDMI jack. You can only view copyright-protected 4K content through the HDCP 2.2-compatible HDMI jack connection. For details on whether the TV and 4K devices are equipped with an HDCP 2.2-compatible HDMI jack, refer to the operating instructions of the TV and 4K devices.

[49] Enjoying Video and Sound | Listening to the radio

Listening to FM/AM radio

You can listen to FM and AM broadcasts through the built-in tuner. Before operation, be sure you have connected the FM and AM antennas (aerials) to the receiver.

- 1 Select [Listen] - [FM TUNER] or [AM TUNER] from the home menu.

The FM/AM screen appears.

To switch the screen mode, press OPTIONS and select [Simple] or [Full] in [FM/AM Display] from the options menu.

FM/AM screen (Simple mode)

The Simple mode screen appears in the default setting.



1. Band indication

You can select [FM] or [AM] by pressing the FM or AM.

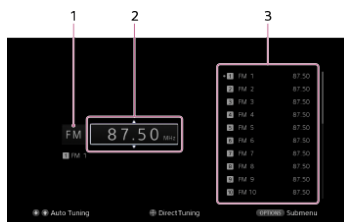
2. Frequency indication

You can tune to a station automatically by pressing TUNING +/- . The receiver stops scanning whenever a station is received.

You can also select a preset station by pressing PRESET +/- .

FM/AM screen (Full mode)

You can select and operate each item on the screen by pressing $\blacktriangle$ / $\blacklozenge$ / $\blacktriangledown$ and $\square$.



1. **Band indication**

You can select [FM] or [AM] by pressing / repeatedly.
2. **Frequency indication**

You can tune to a station automatically by pressing / repeatedly (Auto Tuning).
Press  to scan from lower to higher frequency stations or press  to scan from higher to lower stations.
The receiver stops scanning whenever a station is received.
3. **Preset station list**

You can tune to a station by selecting the preset number from the list.

[50] Enjoying Video and Sound | Listening to the radio

Presetting FM/AM radio stations (Preset Memory)

You can store up to 30 FM and 30 AM stations as your favorite stations.

- 1 **Select [Listen] - [FM TUNER] or [AM TUNER] from the home menu.**

If the Simple mode screen appears, switch to the Full mode screen by pressing **OPTIONS** and selecting [Full] in [FM/AM Display] from the options menu.
- 2 **Tune to the station that you want to preset.**
- 3 **Press **OPTIONS**.**
- 4 **Select [Preset Memory] from the options menu.**
- 5 **Select a preset number.**

The station is stored as the selected preset number.
- 6 **Repeat steps 1 to 5 to store another station.**

You can store stations as follows:

- **AM band:** AM 1 to AM 30
 - **FM band:** FM 1 to FM 30

[51] Enjoying Video and Sound | Listening to the radio

Tuning to a station directly (Direct Tuning)

You can enter the frequency of a station directly.

- 1 **Select [Listen] - [FM TUNER] or [AM TUNER] from the home menu.**

If the Simple mode screen appears, switch to the Full mode screen by pressing **OPTIONS** and selecting [Full] in [FM/AM Display] from the options menu.
- 2 **Press /// to select the Frequency indication and then press .**
- 3 **Enter the frequency using ///.**

1. Press / to select a digit.

2. Press / to change the digit.
- 4 **Press .**

Note

- If the tuned frequency is invalid or out of range, [---.--- MHz] or [---- kHz] appears and then the screen returns to the current frequency.
Make sure you have entered the right frequency. If not, repeat steps 3 and 4. If you still cannot tune to a station, the frequency may not be in use in your area.

Hint

- Adjust the direction of the AM loop antenna (aerial) for optimum reception upon tuning to an AM station.
- The tuning scale for direct tuning is shown below:

- **FM:** 100 kHz
- **AM:** 10 kHz (*)

* The AM tuning scale can be changed. For details, see “[Changing the AM tuning scale](#).”

[52] Enjoying Video and Sound | Listening to the radio

Changing the AM tuning scale

You can change the AM tuning scale to either 9 kHz or 10 kHz using the buttons on the receiver.

Be sure to use the buttons on the receiver to perform this operation.

- 1 **Turn off the receiver.**
- 2 **Hold down TUNING MODE and press  (power) on the receiver.**

The current AM tuning scale is changed to 9 kHz (or 10 kHz). To reset the scale to 10 kHz (or 9 kHz), repeat the procedure above.

Note

- Depending on the settings, the receiver may take some time to change the AM tuning scale.
- All preset stations will be erased when you change the tuning scale.

[53] Enjoying Video and Sound | Enjoying sound effects

Selecting a sound field (Sound Field)

You can select from a variety of sound field modes according to speaker connections or input sources.

- 1 **Select [Setup] - [Audio Setup] from the home menu.**
- 2 **Select [Sound Field].**
- 3 **Select the sound field you want.**

For details on each sound field, see the following topics.

- [2-channel/Direct sound mode](#)
- [Auto Format Decoding \(A.F.D.\)](#)
- [Movie mode](#)
- [Multi Stereo](#)

Note

- The sound fields for movie may not work, depending on the input or the speaker pattern you select, or with audio formats.
- The receiver may play signals at a lower sampling frequency than the actual sampling frequency of the input signals, depending on the audio format.
- Some speakers or the subwoofer may not output sound, depending on the sound field setting.
- If there is any noise present, the noise may be different, depending on the sound field you select.

Hint

- You can also select [Sound Field] in [Sound Effects] from the home menu.
- You can also use 2CH/DIRECT, A.F.D., MOVIE or MULTI ST. on the remote control or the receiver to select a sound field.

[54] Enjoying Video and Sound | Enjoying sound effects

Resetting sound fields to the default settings

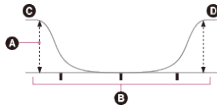
Be sure to use the buttons on the receiver to perform this operation.

- 1 **Turn off the receiver.**
- 2 **Hold down MULTI ST. and press  (power) on the receiver.**

[S.F. INITIALIZED!] appears on the display panel and all sound fields are reset to their default setting.

Adjusting the equalizer (Equalizer)

You can use the following parameters to adjust the tonal quality (bass/treble level) of the front, center, surround/surround back, height1 and height2 speakers.



- A** Level (dB)
- B** Frequency (Hz)
- C** Bass
- D** Treble

- 1** Select [Setup] - [Speaker Setup] from the home menu.
- 2** Select [Equalizer].
- 3** Select [Front Speaker], [Center Speaker], [Surround], [Height1 Speaker] or [Height2 Speaker].
- 4** Select [Bass] or [Treble].
- 5** Adjust the gain.

Note

- This function does not work in the following cases:
 - [Direct] is being used and an analog input is selected.
 - [Pure Direct] is set to [On].
- Frequencies for [Bass] and [Treble] are fixed.
- Depending on the audio format, the receiver may play signals at a lower sampling frequency than the original sampling frequency of the input signals.

Hint

- You can also select [Equalizer] in [Sound Effects] from the home menu.

Enjoying clear and dynamic sound at a low volume (Sound Optimizer)

You can enjoy clear and dynamic sound at low volume levels using the Sound Optimizer function.

After Auto Calibration is performed, the sound level is optimized to suit your environment.

- 1** Select [Sound Effects] - [Sound Optimizer] from the home menu.
- 2** Select the setting you want.
 - **Normal:** Adjusts for the reference level of a movie.
 - **Low:** Adjusts for a CD or other software whose average sound pressure level is processed highly.
 - **Off**

Note

- This function does not work in the following cases:
 - [Direct] is being used and an analog input is selected.
 - [Pure Direct] is set to [On].
- The receiver may play signals at a lower sampling frequency than the actual sampling frequency of the input signals, depending on the audio format.

Hint

- You can also select [Sound Optimizer] in the [Audio Setup] menu.

Enjoying more natural sound with speakers installed in the ceiling (In-Ceiling Speaker Mode)

Set whether or not to use In-Ceiling Speaker Mode with the current input.

In a setup where the front and center speakers are installed in the ceiling, lowering the audio output position to the screen height allows you to enjoy a more natural experience.

- 1 Select [Setup] - [Audio Setup] from the home menu.
- 2 Select [In-Ceiling Speaker Mode].
- 3 Select the setting you want.
 - **Front & Center:** Lowers the audio output position for both the front and center speakers installed in ceiling to the screen height.
 - **Front:** Lowers the audio output position for the front speakers installed in ceiling to the screen height.
 - **Off:** Does not activate this function.

Note

- This function does not work in the following cases:
 - [Direct] is being used and an analog input is selected.
 - Dolby Atmos enabled speakers are used.
 - Dolby Atmos is being decoded.
 - [Pure Direct] is set to [On].
- This function may not work depending on the audio format.
- The receiver may play signals at a lower sampling frequency than the actual sampling frequency of the input signals depending on the audio format.

Hint

- You can also switch this function on/off for each input on the Input Setup screen.
- You can also select [In-Ceiling Speaker Mode] in [Sound Effects] from the home menu.
- You can also switch the function on/off by pressing IN-CEILING SP on the remote control or the receiver.
- To obtain optimal effects in the listening environment, configure the [Ceiling Height] setting and perform Auto Calibration.

Enjoying high-fidelity sound (Pure Direct)

You can enjoy higher-fidelity sound from all inputs using the Pure Direct function. When the Pure Direct function is on, the display panel lights off to suppress noise that affects sound quality.

- 1 Select [Sound Effects] - [Pure Direct] from the home menu.
- 2 Select [On].

Canceling Pure Direct

The Pure Direct function will be canceled when you perform the following:

- Select [Off] in step 2.
- Press PURE DIRECT.
- Change the sound field.
- Change the scene setting on the TV (Scene Select).
- Change the setting of [Equalizer], [Sound Optimizer], [Dynamic Range Compressor] or [In-Ceiling Speaker Mode].

Note

- [Equalizer], [Sound Optimizer], [Dynamic Range Compressor] and [In-Ceiling Speaker Mode] do not work when the Pure Direct function is selected.

Hint

- You can also use PURE DIRECT to turn the Pure Direct function on or off.
- You can also select [Pure Direct] in the [Audio Setup] menu.

Using the DTS:X Dialog Control function

The DTS:X Dialog Control function is a function which adjusts the dialog levels during playback of the DTS:X stream. This function enables you to increase the dialog levels in contrast with the background sound and hear dialog easily even under noisy circumstances.

- 1 **Press OPTIONS.**
The options menu appears.
- 2 **Select [Dialog Control].**
- 3 **Press $\uparrow/\downarrow$ to adjust the dialog level.**

Note

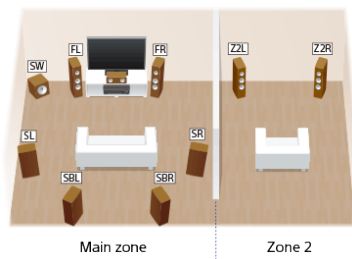
- This function may not work depending on the audio signals.

What you can do with multi-zone features

Enjoying sound in two locations via an analog connection - Zone 2

You can enjoy sound at the same time in another room by connecting the speakers that are located in another room to the SPEAKERS HEIGHT 1 (ZONE 2) or SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals. For example, you can listen to the same music from an AV device located in the living room in both the living room and kitchen, or watch a movie in the living room while music from a different device is played in the kitchen. The volume can be adjusted separately for each room.

E.g. When the Zone 2 speakers are connected the SPEAKERS HEIGHT 1 (ZONE 2) terminals



Note

- When you have made the Zone 2 speaker connection as illustrated above, set [Height1 SP Assign] to [Zone2] in the [Speaker Setup] menu.
- When you have made the Zone 2 speaker connection using the SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals, set [SB Speaker Assign] to [Zone2] in the [Speaker Setup] menu. In this case, you cannot use the surround back speakers.

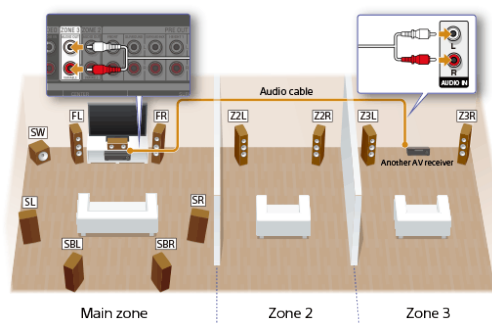
Hint

- Connect one more receiver or amplifier in Zone 2 to the ZONE 2 AUDIO OUT jacks to enjoy more powerful sound in Zone 2.
- If connecting a TV to the ZONE2 VIDEO OUT jack, you can also view composite video images in Zone 2.

Enjoying sound in three locations via an analog connection - Zone 2 + Zone 3

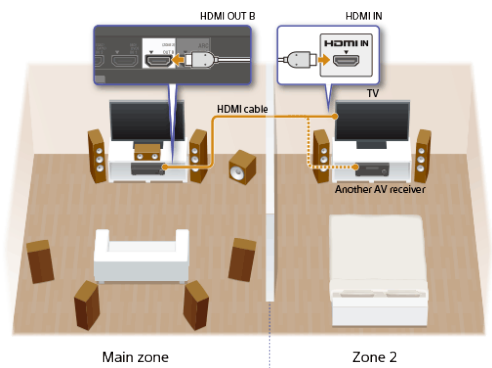
In addition to Zone 2, you can enjoy music at the same time in a third room by connecting a receiver or amplifier located in the third room to the ZONE 3 AUDIO OUT jacks. For example, audio from an AV device placed in a living room can be played in the kitchen and a terrace at the same time, or different content can be played in each of the three rooms. The volume can be adjusted separately for each room.

E.g. When the Zone 2 speakers are connected to the SPEAKERS HEIGHT 1 (ZONE 2) terminals



Enjoying video and sound in two locations via an HDMI connection - Zone 2

You can enjoy movies and music in another room by connecting a TV or different AV receiver located in another room to the HDMI OUT B (ZONE 2) jack. For example, movies or music from an AV device located in the living room can be played at high quality in a bedroom.



Note

- There are restrictions on the audio sources that can be used in Zone 2/3. For details, see ["Available input sources for each zone."](#)

[61] Using the Multi-Zone Features | Overview of multi-zone features

Available input sources for each zone

Available input sources vary depending on the zone you have selected.

Available input sources for main zone

You can select all input sources from every device connected to the receiver in the main zone.

Input name	Input source
BD/DVD	- Source signal from the HDMI IN 1 (BD/DVD) jack - Source signal from the COMPONENT VIDEO IN 1 (BD/DVD) jacks - Source signal from the DIGITAL COAXIAL IN (BD/DVD) jack
SAT/CATV	Source signal from the HDMI IN 2 (SAT/CATV) jack
GAME	Source signal from the HDMI IN 6 (GAME) jack on the front panel
STB	Source signal from the HDMI IN 3 (STB) jack
VIDEO	- Source signal from the HDMI IN 4 (VIDEO) jack - Source signal from the COMPONENT VIDEO IN 2 (VIDEO) jacks - Source signal from the VIDEO/AUDIO IN VIDEO jacks
AUX	- Source signal from the VIDEO/AUDIO IN AUX jacks - Source signal from the DIGITAL OPTICAL IN 1 (AUX) jack
TV	- TV sound from the DIGITAL OPTICAL IN 2 (TV) jack - Source signal from the AUDIO IN TV jacks
SA-CD/CD	- Source signal from the HDMI IN 5 (SA-CD/CD) jack - Source signal from the AUDIO IN SA-CD/CD jacks
FM TUNER	FM broadcast received through the built-in tuner
AM TUNER	AM broadcast received through the built-in tuner

Input sources which can be output to Zone 2 (analog connection)

The following input sources can be output to Zone 2.

Input name	Input source
SOURCE	• Signals from the current input in main zone
BD/DVD	• Source signal from the HDMI IN 1 (BD/DVD) jack (*1) • Source signal from the DIGITAL COAXIAL IN (BD/DVD) jack (*1)
SAT/CATV	• Source signal from the HDMI IN 2 (SAT/CATV) jack (*1)
GAME	• Source signal from the HDMI IN 6 (GAME) jack on the front panel (*1)
STB	• Source signal from the HDMI IN 3 (STB) jack
VIDEO	• Source signal from the HDMI IN 4 (VIDEO) jack (*1) • Source signal from the VIDEO IN VIDEO jack • Source signal from the AUDIO IN VIDEO jacks
AUX	• Source signal from the VIDEO IN AUX jack • Source signal from the DIGITAL OPTICAL IN 1 (AUX) jack (*1) • Source signal from the AUDIO IN AUX jacks
TV	• TV sound from the DIGITAL OPTICAL IN 2 (TV) jack (*1) • Source signal from the AUDIO IN TV jacks
SA-CD/CD	• Source signal from the HDMI IN 5 (SA-CD/CD) jack (*1) • Source signal from the AUDIO IN SA-CD/CD jacks
FM TUNER	• FM broadcast received through the built-in tuner
AM TUNER	• AM broadcast received through the built-in tuner

*1 The following restrictions are set on the digital audio signals input from the HDMI, coaxial and optical input jacks on the receiver:

- Only 2ch PCM signals are output to Zone 2.
- Digital audio stream signals such as DSD and Dolby Digital are not output to Zone 2.
- Multi-channel stream signals are automatically converted to 2 channels signals, and then output to Zone 2 if the same source signals as the main zone are selected in Zone 2.

If the digital audio signals input from the HDMI, coaxial and optical input jacks on the receiver are not output to Zone 2, set the audio output to 2ch PCM on the connected device. For details, refer to the operating instructions of the connected device.

Note

- When [FM TUNER] or [AM TUNER] is selected at the same time in the main zone and Zone 2 or Zone 3, the item most recently selected will be set.
- If you change the sound field or speaker settings in the main zone while the input for Zone 2 is set to [SOURCE] or the same input is selected in the main zone and Zone 2, the sound may also be momentarily interrupted in Zone 2.

Input sources which can be output to Zone 2 (HDMI connection)

The following input sources can be output to Zone 2 when Zone 2 speakers are connected to another receiver or amplifier connected to the HDMI OUT B (ZONE 2) jack.

Input name	Input source
SOURCE	• Signals from the current input in main zone
BD/DVD	• Source signal from the HDMI IN 1 (BD/DVD) jack • Source signal from the COMPONENT VIDEO IN 1 (BD/DVD) jacks (*2) • Source signal from the DIGITAL COAXIAL IN (BD/DVD) jack (*3)
SAT/CATV	• Source signal from the HDMI IN 2 (SAT/CATV) jack
GAME	• Source signal from the HDMI IN 6 (GAME) jack on the front panel
STB	• Source signal from the HDMI IN 3 (STB) jack
VIDEO	• Source signal from the HDMI IN 4 (VIDEO) jack • Source signal from the COMPONENT VIDEO IN 2 (VIDEO) jacks (*2) • Source signal from the VIDEO IN VIDEO jack (*2) • Source signal from the AUDIO IN VIDEO jacks
	• Source signal from the VIDEO IN AUX jack (*2) •

AUX	Source signal from the DIGITAL OPTICAL IN 1 (AUX) jack (*3) Source signal from the AUDIO IN AUX jacks
TV	- TV sound from the DIGITAL OPTICAL IN 2 (TV) jack (*3) - Source signal from the AUDIO IN TV jacks
SA-CD/CD	- Source signal from the HDMI IN 5 (SA-CD/CD) jack - Source signal from the AUDIO IN SA-CD/CD jacks
FM TUNER	FM broadcast received through the built-in tuner
AM TUNER	AM broadcast received through the built-in tuner

*2 The receiver cannot output a different analog signal to the HDMI OUT B (ZONE 2) jack while an analog signal of the main zone is being output from the HDMI OUT A jack.

*3 The following restrictions are set on the digital audio signals input from the coaxial and optical input jacks on the receiver.

- Only 2ch PCM signals are output to Zone 2.
- Digital audio stream signals such as DSD and Dolby Digital are not output to Zone 2.
- Multi-channel stream signals are automatically converted to 2 channels signals, and then output to Zone 2 if the same source signals as the main zone are selected in Zone 2.

If the digital audio signals input from the coaxial and optical input jacks on the receiver are not output to Zone 2, set the audio output to 2ch PCM on the connected device. For details, refer to the operating instructions of the connected device.

Note

- When [FM TUNER] or [AM TUNER] is selected at the same time in the main zone and Zone 2 or Zone 3, the item most recently selected will be set.
- If you change the sound field or speaker settings in the main zone while the input for Zone 2 is set to [SOURCE] or the same input is selected in the main zone and Zone 2, the sound may also be momentarily interrupted in Zone 2.

Input sources which can be output to Zone 3

The following input sources can be output to Zone 3.
You cannot watch video in Zone 3.

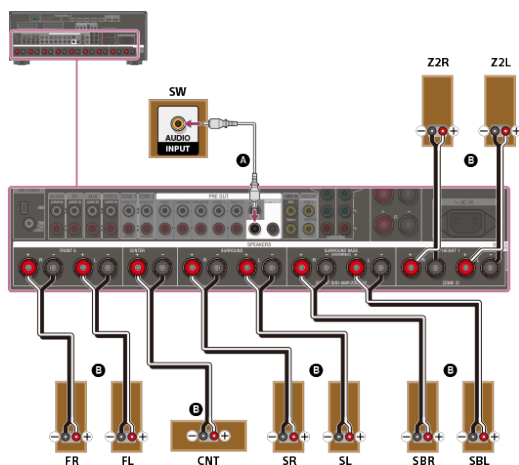
Input name	Input source
SOURCE	Analog audio signals from the current input in main zone
VIDEO	Source signal from the AUDIO IN VIDEO jacks
AUX	Source signal from the AUDIO IN AUX jacks
TV	Source signal from the AUDIO IN TV jacks
SA-CD/CD	Source signal from the AUDIO IN SA-CD/CD jacks
FM TUNER	FM broadcast received through the built-in tuner
AM TUNER	AM broadcast received through the built-in tuner

Note

- When [FM TUNER] or [AM TUNER] is selected at the same time in the main zone and Zone 3, the item most recently selected will be set.

Connecting 7.1-channel speaker system with Zone 2 connection

Connect each speaker as illustrated below.
Before connecting cables, be sure to disconnect the AC power cord (mains lead).
For details on how to connect speaker cables to the receiver, see "[How to connect speaker cables.](#)"



A Monaural audio cable (not supplied)

B Speaker cable (not supplied)

After you have made the Zone 2 speaker connection, set [Height1 SP Assign] to [Zone2] in the [Speaker Setup] menu.

Note

- After you have installed and connected your speakers, set the speaker pattern to [7.1] using [Speaker Pattern] in the [Speaker Setup] menu.

[63] Using the Multi-Zone Features | Enjoying sound from speakers located in other rooms

Assigning the speakers for Zone 2

You can assign the speakers installed in Zone 2 as Zone 2 speakers. Follow the procedure below after connecting the speakers installed in Zone 2 to the SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) or HEIGHT 1 (ZONE 2) terminals of the receiver.

- 1 Select [Setup] - [Speaker Setup] from the home menu.
- 2 Select [Speaker Pattern].
- 3 Set a speaker pattern without surround back speakers, or a speaker pattern without height and overhead (top) speakers.
- 4 Assign the speaker terminals for Zone 2 in either of the following ways:
 - Assigning the surround back speaker terminals (SB Speaker Assign)
 - Assigning the height1 speaker terminals (Height1 SP Assign)

Note

- If a speaker pattern with surround back speakers is set, you cannot set the SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals for a bi-amplifier connection or a Zone 2 connection.
- If a speaker pattern with height or overhead speakers (top front, top middle, top rear or Dolby Atmos enabled speakers) is set, you cannot set [Height1 SP Assign] to [Zone2].

[64] Using the Multi-Zone Features | Enjoying sound from speakers located in other rooms

Enjoying sound in Zone 2

You can enjoy sound from the receiver in Zone 2 by the following procedure.

- 1 Select [Zone Controls] - [Zone2 Power] from the home menu.
- 2 Select [On].
Zone 2 is activated.
- 3 Select [Zone Controls] - [Zone2 Input] from the home menu.
- 4 Select the source signals you want to output.
Select [SOURCE] if you want to listen to the same sound as main zone in Zone 2.

5 Select [Zone Controls] - [Zone2 Volume] from the home menu.

6 Adjust to a suitable volume level.

Hint

- You can also activate Zone 2 by pressing ZONE2  (power) on the remote control.
- You can also select source signals you want to output using the input buttons while [ZONE2 INPUT - xxxx (input name)] is shown on the display panel.
- You can also adjust volume level using MASTER VOLUME on the receiver while [ZONE2 INPUT - xxxx (input name)] is shown on the display panel.

To exit Zone 2 operation

Select [Zone Controls] - [Zone2 Power] from the home menu, then select [Off].

Available input for Zone 2 operations

See "[Available input sources for each zone.](#)"

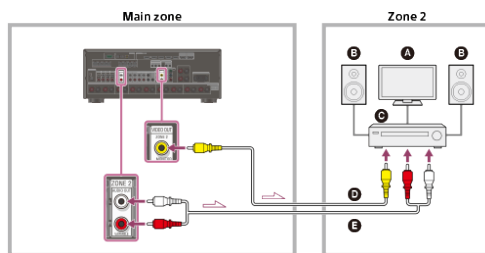
[65] Using the Multi-Zone Features | Enjoying sound from speakers located in other rooms using another amplifier

Connecting another amplifier in Zone 2/3

You can enjoy image (*) and sound from a device connected to the receiver in a zone other than the main zone. For example, you can watch a DVD in the main zone and listen to a CD in Zone 2.

* For a connection using the HDMI OUT B (ZONE 2) jack only

Connecting another amplifier using the ZONE 2 VIDEO/AUDIO OUT jack



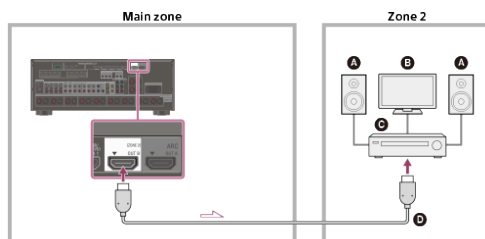
- Ⓐ TV monitor
- Ⓑ Speakers
- Ⓒ Other amplifier/receiver
- Ⓓ Video cable (not supplied)
- Ⓔ Audio cable (not supplied)

Note

- The ZONE2 VIDEO OUT jack can output video signal input from the VIDEO IN jacks.
- When outputting optical/coaxial audio signals, set the audio output to PCM on the connected device. For details, refer to the operating instructions of the connected device.

Connecting another amplifier or TV in Zone 2 (with HDMI connection)

HDMI video/audio input signals, optical/coaxial audio input signals are output to Zone 2 using the HDMI OUT B (ZONE 2) jack on the receiver.

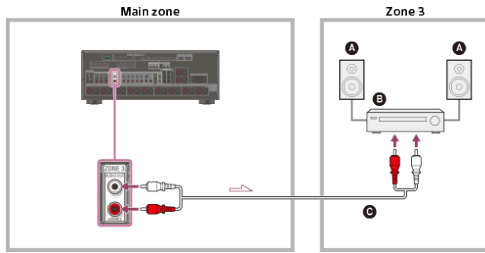


- Ⓐ Speakers
- Ⓑ TV
- Ⓒ Other amplifier/receiver
- Ⓓ HDMI cable (not supplied)

Note

- The following settings are required for this connection.
 - Set [HDMI Out B Mode] in the [HDMI Setup] menu to [Zone2]
 - Set [Zone2 Audio Out] in the [HDMI Setup] menu to [Zone2 AMP]
- When outputting optical/coaxial audio signals, set the audio output to PCM on the connected device. For details, refer to the operating instructions of the connected device.

Connecting another amplifier using the ZONE 3 AUDIO OUT jack



- Ⓐ Speakers
- Ⓑ Other amplifier/receiver
- Ⓒ Audio cable (not supplied)

Note

- Only devices connected to the analog audio input jacks and the built-in tuner (FM/AM) can output signals to Zone 3. No signals are output from devices connected to only the digital input jacks.

[66] Using the Multi-Zone Features | Enjoying sound from speakers located in other rooms using another amplifier

Setting the volume control for Zone 2/3 (Zone2/3 Line Out)

You can set variable or fixed volume control for the ZONE 2 AUDIO OUT/ZONE 3 AUDIO OUT jacks.

- 1 Select [Setup] - [Zone Setup] from the home menu.
- 2 Select [Zone2 Line Out] or [Zone3 Line Out].
- 3 Select the setting you want.
 - **Variable:** Select when you cannot adjust the volume level on the amplifier in Zone 2 or Zone 3. The volume level of the receiver output in Zone 2 or Zone 3 will become adjustable.
 - **Fixed:** Select to adjust the volume on the amplifier in Zone 2 or Zone 3. The volume level of the receiver output in Zone 2 or Zone 3 on the receiver will be fixed.

Note

- When [Variable] is set, the volume level is turned down by default. Turn up the volume while listening to the sound after completing setup.

[67] Using the Multi-Zone Features | Enjoying sound from speakers located in other rooms using another amplifier

Setting the Zone 2 HDMI audio output of connected devices (Zone2 Audio Out)

You can set the Zone 2 HDMI audio signal output for playback devices connected to the receiver via an HDMI connection.

- 1 Select [Setup] - [HDMI Setup] from the home menu.
- 2 Select [Zone2 Audio Out].
- 3 Select the setting you want.
 - **AMP:** Recommended setting when a TV is connected directly to the HDMI OUT B (ZONE 2) jack. Sound is output from the speakers connected to the receiver. Sound is not output from the TV speakers.
 - **Zone2 TV + AMP:** Recommended setting when a TV is connected directly to the HDMI OUT B (ZONE 2) jack. Sound is output from the TV speakers and the speakers connected to the receiver.
 - **Zone2 AMP:** Recommended setting when another amplifier is connected to the HDMI OUT B (ZONE 2) jack. Sound is output from the another amplifier connected to the HDMI OUT B (ZONE 2) jack. Sound is not output from the SPEAKERS SURROUND BACK (FRONT B/BI-

AMP/ZONE 2) or SPEAKERS HEIGHT 1 (ZONE 2) terminals and the ZONE 2 AUDIO OUT jacks.

Note

- You can only configure this setting only when [HDMI Out B Mode] is set to [Zone2].
- When a video device (projector, etc.) is connected to the HDMI OUT B (ZONE 2) jack, sound may not be output from the receiver. In this case, set [Zone2 Audio Out] to [AMP].
- When a TV which does not support audio content protection is connected to the HDMI OUT B (ZONE 2) jack, specific audio may not be output from the receiver. In this case, set [Zone2 Audio Out] to [AMP].
- When [Zone2 Audio Out] is set to [Zone2 TV + AMP] or [AMP], audio signals will be downmixed. The following restrictions apply to downmixing.
 - If you change the sound field or speaker settings in the main zone while the input for Zone 2 is set to SOURCE or the same input is selected in the main zone and Zone 2, the sound may also be momentarily interrupted in Zone 2.
 - The D.L.L. function does not work in the main zone.
 - The volume level of sound from the SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) or SPEAKERS HEIGHT 1 (ZONE 2) terminals and the HDMI OUT B (ZONE 2) jack may be different from sound that is not downmixed.
- No sound will be output to Zone 2 if you play a DTS-CD with different HDMI inputs selected in the main zone and Zone 2.
- You cannot remedy the time gap between video output on the TV connected to the HDMI OUT B (ZONE 2) jack and audio output from the speaker connected to the SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) or SPEAKERS HEIGHT 1 (ZONE 2) terminals using the A/V Sync function.

[68] Using the Multi-Zone Features | Enjoying sound from speakers located in other rooms using another amplifier

Setting the priority for the main zone (Priority)

Lets you set the priority when you select the same input for both the main zone and Zone 2.

- 1 Select [Setup] - [HDMI Setup] from the home menu.
- 2 Set [Priority].
 - **Main & Zone2:** You can enjoy the same input in the main zone and Zone 2. However, there may be some interference in the audio and video signals in the main zone and Zone 2.
 - **Main Only:** You can enjoy good audio and video quality in the main zone. There is no output in Zone 2.

Note

- This function is enabled only when [HDMI Out B Mode] is set to [Zone2].

[69] Using the Multi-Zone Features | Enjoying sound from speakers located in other rooms using another amplifier

Enjoying sound using another amplifier in Zone 2 and/or Zone 3

You can enjoy sound from the amplifier in Zone 2 and/or Zone 3 by the following procedure.

- 1 Select [Zone Controls] - [Zone2 Power] or [Zone3 Power] from the home menu.
- 2 Select [On].

The selected zone is activated.
- 3 Turn on the amplifier in Zone 2 or Zone 3.
- 4 Select [Zone Controls] - [Zone2 Input] or [Zone3 Input] from the home menu.
- 5 Select the source signals you want to output.
- 6 Adjust to a suitable volume level.

Adjust the volume level using the amplifier in Zone 2 or Zone 3. If you set [Zone2 Line Out] or [Zone3 Line Out] to [Variable], you can also adjust the volume level in Zone 2 or Zone 3

using [Zone Controls] - [Zone2 Volume] or [Zone3 Volume] from the home menu.

Hint

- You can also activate Zone 2 or Zone 3 by pressing ZONE2  (power) or ZONE3  (power) on the remote control.
- You can also select source signals you want to output using the input buttons while [ZONE2 INPUT - xxxx (input name)] or [ZONE3 INPUT - xxxx (input name)] is shown on the display panel.
- You can also adjust volume using MASTER VOLUME on the receiver while [ZONE2 INPUT - xxxx (input name)] or [ZONE3 INPUT - xxxx (input name)] is shown on the display panel.

To exit Zone 2/3 operation

Select [Zone Controls] - [Zone2 Power] or [Zone3 Power] from the home menu, then select [Off].

Available input for Zone 2/3 operations

See “[Available input sources for each zone.](#)”

[70] Using Other Features | Interlocking with BRAVIA TV and other devices (“BRAVIA” Sync)

What is “BRAVIA” Sync?

“BRAVIA” Sync is an extended function developed by Sony based on the Control for HDMI (*1) function. By connecting “BRAVIA” Sync-compatible devices, such as a TV or a Blu-ray Disc player, using an HDMI cable (*2) (not supplied) you can control the devices with the TV remote control. The following functions can be used with “BRAVIA” Sync.

- [Turning off the receiver and connected devices simultaneously with the TV \(System Power Off function\) \(Standby Linked to TV\)](#)
- [Enjoying TV sound from the speakers connected to the receiver \(System Audio Control function\)](#)
- [Enjoying sound of an ARC compatible TV \(Audio Return Channel\)](#)
- [Enjoying an input source from a connected device immediately \(One-Touch Play function\)](#)
- [Operating the receiver menu using the TV remote control \(Remote Easy Control function\)](#)
- [Enjoying content of a connected device without turning on the receiver \(Pass Through\)](#)
- [Selecting the optimum picture quality and sound field automatically \(Scene Select function\)](#)
- [About Home Theatre Control function](#)
- [Echo Canceling function](#)
- [About Language Follow function](#)

*1 Control for HDMI is a standard used by CEC (Consumer Electronics Control) specification that enables interoperability of connected devices for HDMI (High-Definition Multimedia Interface) connections.

*2 Sony recommends a Premium High Speed HDMI Cable with Ethernet that supports 18 Gbps.

Note

- Functions such as System Power Off, System Audio Control, One-Touch Play, and Remote Easy Control may be used with other devices than those manufactured by Sony that support the Control for HDMI function. However, compatibility with other devices than those manufactured by Sony is not guaranteed.

[71] Using Other Features | Interlocking with BRAVIA TV and other devices (“BRAVIA” Sync)

Preparing for “BRAVIA” Sync

Turn the Control for HDMI function on to use the “BRAVIA” Sync function. The Control for HDMI function needs to be turned on separately for the receiver and the connected device.

- 1 Select [Setup] - [HDMI Setup] from the home menu.
- 2 Select [Control for HDMI].
- 3 Select [On].
The Control for HDMI function of the receiver is turned on.
- 4 Press HOME to return to the home menu.
- 5 Press HOME to exit the home menu.
- 6 Select the HDMI input of the receiver to match the HDMI input of the connected device, so that the image from the connected device is displayed.

7 Turn on the Control for HDMI function of the connected device.

For details on setting the connected device, refer to the operating instructions of the respective devices.

8 Repeat steps 6 and 7 for other devices for which you want to use the Control for HDMI function.

Note

- Perform the steps above again if you unplug the HDMI cable or change the connection.
- This function is enabled only when [HDMI Out B Mode] is set to [Main].

[72] Using Other Features | Interlocking with BRAVIA TV and other devices ("BRAVIA" Sync)

Turning off the receiver and connected devices simultaneously with the TV (System Power Off function) (Standby Linked to TV)

You can turn off the receiver and the connected device automatically when you turn off the TV.

1 Select [Setup] - [HDMI Setup] from the home menu.

2 Select [Standby Linked to TV].

3 Select the setting you want.

- **Auto:** If either of the following inputs is selected on the receiver, the receiver will turn off when the TV is turned off:
 - [TV]
 - An input assigned with either [HDMI], [COMPONENT] or [COMPOSITE] for video using [Input Assign]
 - An input assigned with [HDMI] for audio using [Input Assign]
- **On:** The receiver will turn off when the TV is turned off regardless of the input of the receiver.
- **Off:** The power of the receiver does not turn off when the TV is turned off, regardless of the input of the receiver.

Note

- This setting is valid when [Control for HDMI] is set to [On].
- The connected device may not turn off depending on the status of the device.
- System Power Off function may work with devices other than those manufactured by Sony, but operation is not guaranteed.

[73] Using Other Features | Interlocking with BRAVIA TV and other devices ("BRAVIA" Sync)

Enjoying TV sound from the speakers connected to the receiver (System Audio Control function)

If you turn on the receiver while you are watching the TV, the TV sound will be output from the speakers connected to the receiver. The volume of the receiver can be adjusted using the TV remote control.

If the TV sound was output from the speakers connected to the receiver last time you watched the TV, the receiver will be turned on automatically when you turn on the TV again.

Operations can also be made using the TV menu. For details, refer to the operating instructions of the TV.

Note

- Depending on the TV, the number of the receiver volume level is displayed on the TV screen. The volume number displayed on the TV may differ from the number on the front panel display of the receiver.
 - System Audio Control function may work with other devices than those manufactured by Sony, but operation is not guaranteed.
 - Depending on the settings of the TV, the System Audio Control function may not be available. For details, refer to the operating instructions of the TV.
 - When [Control for HDMI] is set to [On], the [Audio Out] settings in the [HDMI Setup] menu will be set automatically according to the setting of the System Audio Control function.
-

Enjoying an input source from a connected device immediately (One-Touch Play function)

When you play content on a device (Blu-ray Disc player, PlayStation®4, etc.) connected to the receiver, the receiver and the TV are turned on automatically, the input of the receiver is switched to the input of the device being played, and sound is output from the speakers connected to the receiver.

Note

- If [Pass Through] is set to [Auto] or [On], and the TV sound was output from the speakers of the TV last time you watched the TV, the receiver does not turn on and the sound and picture are output from the TV even if you play content on the device.
- Depending on the TV, the beginning part of content being played may not play correctly.
- One-Touch Play function may work with other devices than those manufactured by Sony, but operation is not guaranteed.

Selecting the optimum picture quality and sound field automatically (Scene Select function)

The sound field are selected automatically according to the Scene Select setting on your TV. For details on this operation, refer to the operating instructions of the TV.

The Scene Select/Sound Mode setting and the sound field setting of the receiver will change as follows.

- **Cinema:** Dolby Surround
- **Sports:** Dolby Surround
- **Music:** Dolby Surround
- **Animation:** Dolby Surround
- **Photo:** Multi Stereo
- **Game:** Dolby Surround
- **Graphics:** Multi Stereo

Note

- The Scene Select function is a function developed by Sony, and cannot be used on other devices than those manufactured by Sony.

About Home Theatre Control function

Setting the receiver, the sound field settings, input switching, etc., can be done by selecting the Home Theatre Control application on the TV.

This function can be used when the TV is compatible with the Home Theatre Control application and connected to the Internet. For details, refer to the operating instructions of the TV.

Note

- The Home Theatre Control application is a function developed by Sony, and cannot be used on other devices than those manufactured by Sony.

Operating the receiver menu using the TV remote control (Remote Easy Control function)

You can select the receiver by the SYNC MENU of the TV and operate the receiver. This function can be used if the TV supports the SYNC MENU. For details, refer to the operating instructions of the TV.

Note

- The receiver is recognized as [Tuner] by the TV.
- Some of the operations may not be available depending on the type of TV.
- Remote Easy Control function may work with other devices than those manufactured by Sony, but operation is not guaranteed.

Echo Canceling function

The Echo Canceling function reduces reverberation that may occur when using the Social Viewing functions such as Skype while watching TV programs. This function can be used if the TV supports the Social Viewing functions. For details, refer to the operating instructions of the TV.

Note

- The Echo Canceling function works when you select [TV] or an HDMI input jack to which the device is connected as the input on the receiver.
- When you use the Social Viewing function, the input of the receiver is switched automatically to the input to which the TV is connected, even if another HDMI input jack has been selected. The sound from the Social Viewing function and the TV will be output from the speakers connected to the receiver.
- This function cannot be used when the sound is output from the TV.
- The Echo Canceling function is a function developed by Sony, and cannot be used on other devices than those manufactured by Sony.

[79] Using Other Features | Interlocking with BRAVIA TV and other devices ("BRAVIA" Sync)

About Language Follow function

While the receiver is turned on, the on-screen display language of the receiver may be changed simultaneously when you change the language for the on-screen display of the TV.

[80] Using Other Features | Enjoying video and sound with your desired way of use

Switching the monitors that output the HDMI video signals

If you have connected two monitors to the HDMI OUT A and HDMI OUT B (ZONE 2) jacks, you can switch the output for these two monitors using the HDMI OUTPUT button on the remote control.

1 Turn on the receiver and the two monitors.

2 Press HDMI OUTPUT.

Each time you press the button, the output will be switched as follows:

HDMI A - HDMI B (*) - HDMI A+B (*) - HDMI OFF

* Unavailable when [HDMI Out B Mode] is set to [Zone2].

Note

- [HDMI A+B] may not work if the compatible video formats of the monitors connected to the HDMI OUT A jack and the HDMI OUT B (ZONE 2) jack of the receiver are different.
- [HDMI A+B] may not work depending on the playback device you connect.

Hint

- You can also use HDMI OUT on the receiver to switch the monitor.

[81] Using Other Features | Enjoying video and sound with your desired way of use

Switching between digital and analog audio (Input Mode)

When you connect devices to both digital and analog audio input jacks on the receiver, you can fix the audio input mode to either device, or switch from one to the other, depending on the type of material you intend to watch.

1 Select [Setup] - [Input Setup] from the home menu.

2 Select the [Input Mode] setting for the input you want.

- **Auto:** Gives priority to digital audio signals. If there is more than one digital connection, HDMI audio signals have priority.
If there is no digital audio signals, analog audio signals are selected. When TV input is selected, priority is given to Audio Return Channel (ARC) signals. If your TV does not support the ARC function, digital optical audio signals are selected.
- **Optical:** Specifies input of digital audio signals to the OPTICAL jack.
- **Coaxial:** Specifies input of digital audio signals to the COAXIAL jack.
- **Analog:** Specifies input of analog audio signals to the AUDIO IN (L/R) jacks.

Using other video/audio input jacks (Input Assign)

You can reassign video and/or audio signals to other input jacks if the default settings of the jacks do not correspond to your connected device.

E.g. When connecting a DVD player to the OPTICAL IN 1 (AUX) and COMPONENT VIDEO IN 2 (VIDEO) jacks of the receiver:

- Assign [BD/DVD] to the OPTICAL IN 1 (AUX) jack.
- Assign [BD/DVD] to the COMPONENT VIDEO IN 2 (VIDEO) jack.

- 1 Select **[Setup] - [Input Setup]** from the home menu.
- 2 Select **[BD/DVD]**.
- 3 Press **↗** repeatedly to select **[COAX]** under **[OPTICAL / COAXIAL]** and **↕/↘** repeatedly to select **[OPT 1]**.
- 4 Press **↗** repeatedly to select **[IN 1]** under **[COMPONENT]** and **↕/↘** repeatedly to select **[IN 2]**.

Assignable HDMI input jacks

IN 1:

BD/DVD (*), SAT/CATV, GAME, STB, VIDEO, AUX, TV, SA-CD/CD

IN 2:

BD/DVD, SAT/CATV (*), GAME, STB, VIDEO, AUX, TV, SA-CD/CD

IN 3:

BD/DVD, SAT/CATV, GAME, STB (*), VIDEO, AUX, TV, SA-CD/CD

IN 4:

BD/DVD, SAT/CATV, GAME, STB, VIDEO (*), AUX, TV, SA-CD/CD

IN 5:

BD/DVD, SAT/CATV, GAME, STB, VIDEO, AUX, TV, SA-CD/CD (*)

IN 6:

BD/DVD, SAT/CATV, GAME (*), STB, VIDEO, AUX, TV, SA-CD/CD

None:

BD/DVD, SAT/CATV, GAME, STB, VIDEO, AUX (*), TV (*), SA-CD/CD

Assignable OPTICAL / COAXIAL input jacks

OPT 1:

BD/DVD, SAT/CATV, GAME, STB, VIDEO, AUX (*), TV, SA-CD/CD

OPT 2:

BD/DVD, SAT/CATV, GAME, STB, VIDEO, AUX, TV (*), SA-CD/CD

COAX:

BD/DVD (*), SAT/CATV, GAME, STB, VIDEO, AUX, TV, SA-CD/CD

None:

BD/DVD, SAT/CATV (*), GAME (*), STB (*), VIDEO (*), AUX, TV, SA-CD/CD (*)

* Default setting

Note

- When you assign the digital audio input, the Input Mode setting may change automatically.
- One reassignment is allowed for each input.
- If no sound is output from the assigned jacks, also check the Input Mode settings.

About Custom Preset

You can save various settings with the player, monitor, etc., according to your listening and viewing style. You can register those settings for "one-touch" operation, and then recall the environment created with the settings easily.

For example, by saving the settings in the [1: Movie] preset as follows, you can switch the settings of the receiver all at one time without switching each setting for [Input], [Calibration Type], and [Sound Field] individually.

- Input: BD/DVD
- Sound Field: Dolby Surround
- Calibration Type: No change

Saving the settings to a preset

- 1 Select [Custom Preset] from the home menu.
- 2 Press **OPTIONS** with a preset for which you want to edit settings among from [1: Movie], [2: Music], [3: Party] or [4: Night] selected.
- 3 Select the menu you want from the options menu.
 - **Edit:** Allows you to customize and save the settings to suit your preferences.
 - **Import:** Loads the present settings of the receiver and saves those settings with the preset. [Input] and [Volume] are not changed.

Note

- Settings for which the box is unchecked are not changed from the present settings even when you recall the preset settings. Select [Edit], then uncheck the box for a setting item on the edit screen.

Hint

- You can overwrite [1: Movie], [2: Music], [3: Party] or [4: Night] with the present settings by holding down CUSTOM PRESET 1, CUSTOM PRESET 2, CUSTOM PRESET 3 or CUSTOM PRESET 4 for 3 seconds in the same way as you do when you select [Import] from the menu.
- When you select [3: Party], Zone 2 and Zone 3 are turned on automatically and you can simultaneously enjoy the same music as the main zone in these zones.

[85] Using Other Features | Saving and recalling various settings for the receiver (Custom Preset)

Recalling the settings saved to the scene

- 1 Select [Custom Preset] from the home menu.
- 2 Select a preset you want.

Hint

- You can recall the setting(s) saved for [1: Movie], [2: Music], [3: Party] or [4: Night] directly by pressing CUSTOM PRESET 1, CUSTOM PRESET 2, CUSTOM PRESET 3 or CUSTOM PRESET 4 on the remote control.

[86] Using Other Features | Saving and recalling various settings for the receiver (Custom Preset)

Items for which you can save settings and the default values for each item

1: Movie

- Preset Name: Movie
- Input: BD/DVD
- Tuner Preset: No change
- Volume: No change
- HDMI OUT: No change
- Party Mode: No change
- Sleep: No change
- Sound Field: Multi Stereo
- Sound Optimizer: No change
- In-Ceiling Speaker Mode: No change
- Pure Direct: No change
- Calibration Type: No change
- Front Bass: No change
- Front Treble: No change
- Center Bass: No change
- Center Treble: No change
- Surround Bass: No change
- Surround Treble: No change
- Height1 Bass: No change
- Height1 Treble: No change
- Height2 Bass: No change
- Height2 Treble: No change

2: Music

- Preset Name: Music
- Input: SA-CD/CD
- Tuner Preset: No change
- Volume: No change
- HDMI OUT: No change

- Party Mode: No change
- Sleep: No change
- Sound Field: Multi Stereo
- Sound Optimizer: No change
- In-Ceiling Speaker Mode: No change
- Pure Direct: No change
- Calibration Type: No change
- Front Bass: No change
- Front Treble: No change
- Center Bass: No change
- Center Treble: No change
- Surround Bass: No change
- Surround Treble: No change
- Height1 Bass: No change
- Height1 Treble: No change
- Height2 Bass: No change
- Height2 Treble: No change

3: Party

- Preset Name: Party
- Input: No change
- Tuner Preset: No change
- Volume: -23.0 dB
- HDMI OUT: No change
- Party Mode: On
- Sleep: Off
- Sound Field: Multi Stereo
- Sound Optimizer: Off
- In-Ceiling Speaker Mode: No change
- Pure Direct: No change
- Calibration Type: No change
- Front Bass: No change
- Front Treble: No change
- Center Bass: No change
- Center Treble: No change
- Surround Bass: No change
- Surround Treble: No change
- Height1 Bass: No change
- Height1 Treble: No change
- Height2 Bass: No change
- Height2 Treble: No change

4: Night

- Preset Name: Night
- Input: No change
- Tuner Preset: No change
- Volume: -44.5 dB
- HDMI OUT: No change
- Party Mode: No change
- Sleep: 0:30:00
- Sound Field: No change
- Sound Optimizer: Normal
- In-Ceiling Speaker Mode: No change
- Pure Direct: No change
- Calibration Type: No change
- Front Bass: No change
- Front Treble: No change
- Center Bass: No change
- Center Treble: No change
- Surround Bass: No change
- Surround Treble: No change
- Height1 Bass: No change
- Height1 Treble: No change
- Height2 Bass: No change
- Height2 Treble: No change

[87] Using Other Features | Using the sleep timer

Using the sleep timer (Sleep)

You can set the receiver to turn off automatically after a specified period of time.

1 Select [Setup] - [System Setup] from the home menu.

2 Select [Sleep].

3 Set specified time.

- 2:00:00
- 1:30:00
- 1:00:00
- 0:30:00
- Off

[SLEEP] lights up on the display panel of the receiver when sleep timer is being used.

Hint

- You can check the remaining time before the receiver turns off on the System Setup screen. Also, the remaining time appears on the bottom right of the TV screen when it becomes 1 minute or less.
- The sleep timer will be canceled if you perform the following:
 - Update the software of the receiver.
 - Turn the receiver on or off.

[88] Using Other Features | Checking information on the receiver

Viewing information on the display panel

The display panel provides various information on the status of the receiver, such as the sound field.

1 Select the input for which you want to check information.

2 Press DISPLAY repeatedly.

Each time you press DISPLAY, the display will change cyclically as follows:

Input name you entered (*1) or default input name, Sound field currently applied (*2) →

Input name you entered (*1) or default input name, Stream information (*3) → Input name you entered, default input name (*1)

When listening to FM and AM radio

Band, Preset number, Preset station name (*1), Sound field currently applied (*2) → Band, Preset number, Frequency, Sound field currently applied (*2)

*1 Index name appears only when you have assigned one to the input or preset station. Index name does not appear if only blank spaces have been entered or it is same as the input name.

*2 [PURE DIRECT] appears on the display panel when the Pure Direct function is activated.

*3 Stream Information is not displayed when analog signals are input. This may happen even when digital signals are input.

Note

- Characters or marks in some languages may not be displayed.

[89] Adjusting Settings | Easy Setup

Setting up the receiver using the Easy Setup

When you turn on the receiver for the first time or after the receiver is initialized, the Easy Setup screen appears on the TV screen. You can set up the following settings for the receiver by following the instructions on the Easy Setup screen.

- Auto Calibration
Check your speaker system and perform automatic calibration according to the configuration and arrangement of your speaker system.
- Internet Setup
Configure settings to connect the receiver to the network.

Note

- Switch the input of the TV to the input to which the receiver is connected to use this function.

If the Easy Setup screen does not appear or you want to display the Easy Setup screen manually, you can display it by selecting [Setup] - [Easy Setup] from the home menu.

[90] Adjusting Settings | Input Setup

Changing the assignment and display for the input jacks

You can customize the settings for each input according to your preferences and usage. Select [Setup] - [Input Setup] from the home menu, then set each item shown below.

Input

You can change the settings of [Icon], [Name], [Watch/Listen], [Show/Hide], [HDMI], [OPTICAL / COAXIAL], [COMPONENT], [VIDEO IN], [AUDIO IN], [Input Mode], [Preset Sound Field], [In-Ceiling Speaker Mode], [A/V Sync], [Subwoofer Low Pass Filter], [Subwoofer Level], [Preset Gain Level], [Trigger 1], [Trigger 2] and [Trigger 3] for the desired input.

Note

- The settings of [AUDIO IN] on the Input Setup screen are fixed.

Icon

You can set the icon displayed on the Watch/Listen menu.

Name

You can change the name displayed on the Watch/Listen menu.

Watch/Listen

You can set whether an input is displayed on the Watch menu or the Listen menu.

- **Watch:** Displays an input to the Watch menu.
- **Listen:** Displays an input to the Listen menu.
- **Watch/Listen:** Displays an input to both the Watch and Listen menus.

Show/Hide

You can set whether or not an input is displayed.

- **Show:** Shows the input.
- **Hide:** Hides the input.

HDMI

You can assign HDMI input jacks for each input.

OPTICAL / COAXIAL

You can set the digital audio input jack(s) assigned to each input.

- **OPT 1**
- **OPT 2**
- **COAX**
- **None**

COMPONENT

You can set the video input jack(s) assigned to each input.

- **IN 1**
- **IN 2**
- **None**

VIDEO IN

You can set the composite video input jack(s) assigned to VIDEO IN (VIDEO) or VIDEO IN (AUX) input signal.

AUDIO IN

Indicates an analog signal is being input.

Input Mode

You can set the input mode for each input.

Preset Sound Field

You can assign a default "Sound Field" to each input source that will be selected automatically when you select the input source.

In-Ceiling Speaker Mode

You can select whether or not to use the In-Ceiling Speaker Mode with the current input.

A/V Sync

You can delay the output of audio to minimize the time gap between audio output and visual display.

Subwoofer Low Pass Filter

You can turn on or off the low-pass filter for the subwoofer output. The low-pass filter works when PCM signals are input via an HDMI connection. You can set the function for each input to which an HDMI input jack is assigned independently. Turn the function on if you connect a subwoofer without the crossover frequency function.

Subwoofer Level

You can set the level of the subwoofer to 0 dB or +10 dB when PCM signals are input via an HDMI connection. You can set the level for each input to which an HDMI input jack is assigned independently.

Preset Gain Level

You can preset the gain level for each input.

Trigger 1 to 3

You can select input options for use of the 12V Trigger function.

[91] Adjusting Settings | Input Setup

Changing the name for each input (Name)

You can enter up to 8 characters for each input name.

- 1 Select [Setup] - [Input Setup] from the home menu.
- 2 Select the input name you want to change.
- 3 Select [Name].

An on-screen keyboard appears on the TV screen.

4 Press **▲/◆/▶/◆/▼** and **□** to select characters one by one to enter the name.

5 Select **[Enter]**.

The name you entered is registered.

[92] Adjusting Settings | Speaker Setup

1. About Auto Calibration

Auto Calibration allows you to perform automatic calibration as follows.

- Check the connection between each speaker and the receiver.
- Adjust the speaker level.
- Measure the distance of each speaker from your seating position. (*1)
- Measure the speaker size. (*1)
- Measure the frequency characteristics (EQ). (*1)
- Measure the frequency characteristics (Phase). (*1) (*2)

*1 The measurement result is not utilized when [Direct] is being used and an analog input is selected.

*2 The measurement result may be not utilized, depending on the audio formats.

Note

- The D.C.A.C. is designed to achieve proper sound balance for your room. However, you can adjust the speaker levels manually according to your preference using [Test Tone].

[93] Adjusting Settings | Speaker Setup

2. Before you perform Auto Calibration

Before you perform Auto Calibration, check the following items:

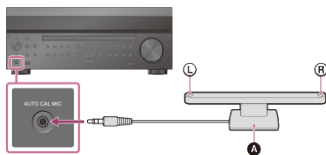
- Set up and connect the speakers.
- Do not connect any microphones other than the supplied optimizer microphone to the AUTO CAL MIC jack.
- If using a bi-amplifier connection or speakers with a front B connection, set the assignment for the SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals properly. For details, see [“Assigning the surround back speaker terminals \(SB Speaker Assign\).”](#)
- Set the speaker output to a setting other than [SPEAKERS OFF]. For details, see [“4. Selecting the front speakers.”](#)
- Remove any obstructions between the optimizer microphone and the speakers.
- For accurate measurement, make sure the environment is quiet and free from noise.

Note

- The speakers emit very loud sound during the calibration and the volume cannot be adjusted. Be considerate of your neighbors and any children who are present.
- If the muting function has been activated before you perform Auto Calibration, the muting function will shut off automatically.
- It may not be possible to take the correct measurements or to perform Auto Calibration at all if special speakers such as dipole speakers are used.

[94] Adjusting Settings | Speaker Setup

3. Connecting the optimizer microphone



A Optimizer microphone (supplied)

1 Connect the supplied optimizer microphone to the AUTO CAL MIC jack.

2 Set up the optimizer microphone.

Place the optimizer microphone at your listening position and set it at the same height as your ears.

4. Selecting the front speakers

You can select the front speakers you want to operate.
Be sure to use the buttons on the receiver to perform this operation.

- 1 Press **SPEAKERS** on the receiver repeatedly to select the front speaker system you want to operate.

SPEAKERS



The indicators on the display panel shows which set of terminals are selected.

- **SP A:**
Speakers connected to the SPEAKERS FRONT A terminals.
- **SP B (*):**
Speakers connected to the SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals.
- **SP AB (*):**
Speakers connected to both the SPEAKERS FRONT A and SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals (parallel connection).
- **(None):**
[SPEAKERS OFF] appears on the display panel. No audio signals are output from any speaker terminals, or the PRE OUT jacks.

* To select [SP B] or [SP AB], set the assignment for the SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals to [Front B] by using [SB Speaker Assign] in the [Speaker Setup] menu.

5. Performing Auto Calibration

You can perform automatic calibration from your listening position.

- 1 Select [Setup] - [Speaker Setup] from the home menu.
- 2 Select [Auto Calibration].
- 3 Follow the instructions on the TV screen, then press **[+]** to select [Start].

The measurement starts in 5 seconds.
The measurement process will take approximately 30 seconds with a test tone.
When the measurement ends, a beep sounds and the screen switches.

- 4 Select the item you want.
 - **Save:** Saves the measurement results and exits the setting process.
 - **Retry:** Performs the Auto Calibration again.
 - **Discard:** Exits the setting process without saving the measurement results.

For details on the measurement results, see "6. Checking Auto Calibration results."

- 5 Save the measurement results.
Select [Save] in step 4.

Calibration Matching

When Auto Calibration is executed, this function works automatically, matching the distance and level of the right and left speakers. You can set this function only after the D.C.A.C. measurement process has been completed and the results of the D.C.A.C. measurement are saved. The setting is valid until you change it.

Note

- If an error code or warning message appears on the screen in step 3, see "List of messages after Auto Calibration measurements."

Hint

-

You can also perform automatic calibration by pressing the AUTO CAL button on the remote control. If you use the AUTO CAL button, the following restrictions apply to the operation:

- Prior settings relating to the Auto Calibration will be skipped.
- You can only use the display panel for the operation.

- The Auto Calibration function will be canceled if you perform the following during the measurement process:
 - Turn the receiver on or off.
 - Press the input buttons on the remote control or on the receiver.
 - Press .
 - Press SPEAKERS on the receiver.
 - Press HDMI OUTPUT.
 - Press AMP MENU.
 - Press HOME.
 - Press AUTO CAL.
 - Change the volume level.

[97] Adjusting Settings | Speaker Setup

6. Checking Auto Calibration results

To check error codes or warning messages received in [Auto Calibration], proceed with the following steps:

If an error code appears

Check the error and perform Auto Calibration again.

- 1 **Select [Retry].**
- 2 **Follow the instructions on the TV screen and then press  to select [Start].**

The measurement starts in 5 seconds.
The measurement process will take approximately 30 seconds with a test tone.
When the measurement ends, a beep sounds and the screen switches.
- 3 **Select the item you want.**
 - **Save:** Saves the measurement results and exits the setting process.
 - **Retry:** Performs the Auto Calibration again.
 - **Discard:** Exits the setting process without saving the measurement results.
- 4 **Save the measurement results.**

Select [Save] in step 3.

If a warning message appears

Check the warning message and select [OK]. For details on the warning messages, see "[List of messages after Auto Calibration measurements.](#)"

Hint

- The measurement results may vary depending on the position of the subwoofer. However, continuing to use the receiver with that value does not cause problems.

[98] Adjusting Settings | Speaker Setup

Calibrating the phase characteristics of the speakers (Automatic Phase Matching)

You can set the A.P.M. (Automatic Phase Matching) function in the D.C.A.C. (Digital Cinema Auto Calibration). This calibrates the phase characteristics of the speakers for well-coordinated surround sound.

- 1 **Select [Setup] - [Speaker Setup] from the home menu.**
- 2 **Select [Automatic Phase Matching].**
- 3 **Select the setting you want.**
 - **Auto:** Switches the A.P.M. function on or off automatically.
 - **Off**

Note

- This function does not work in the following cases:
 - [Direct] is being used and an analog input is selected.

– [Auto Calibration] has not been performed.

- The receiver may play signals at a lower sampling frequency than the actual sampling frequency of the input signals, depending on the audio format.

[99] Adjusting Settings | Speaker Setup

Selecting the Auto Calibration type (Calibration Type)

You can select a calibration type after you have performed the Auto Calibration and saved the settings.

- 1 Select [Setup] - [Speaker Setup] from the home menu.
- 2 Select [Calibration Type].
- 3 Select the setting you want.
 - **Full Flat:** Makes the measurement of frequency from each speaker flat.
 - **Engineer:** Sets to "the Sony listening room standard" frequency characteristics.
 - **Front Reference:** Adjusts the characteristics of all of the speakers to match the characteristics of the front speaker.
 - **Off**

Note

- This function does not work when [Direct] is being used and an analog input is selected.
- The receiver may play signals at a lower sampling frequency than the actual sampling frequency of the input signals, depending on the audio format.

[100] Adjusting Settings | Speaker Setup

Checking the speaker position and the corresponding speaker terminals (Speaker Connections)

This function lets you know the position of the speaker you select and the corresponding speaker terminals on the receiver to which the speaker should be connected.

- 1 Select [Setup] - [Speaker Setup] from the home menu.
- 2 Select [Speaker Connections].
- 3 Select the speaker you want from the list on the right side of the screen

The position of the speaker and the corresponding terminals on the receiver to which the speaker should be connected are shown on the screen.

[101] Adjusting Settings | Speaker Setup

Selecting the speaker pattern (Speaker Pattern)

You can select the speaker pattern according to the speaker system which you are using.

- 1 Select [Setup] - [Speaker Setup] from the home menu.
- 2 Select [Speaker Pattern].
- 3 Select the speaker pattern you want.

[102] Adjusting Settings | Speaker Setup

Assigning the surround back speaker terminals (SB Speaker Assign)

You can set the assignment for the SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE

2) terminals.

1 Select [Setup] - [Speaker Setup] from the home menu.

2 Select [SB Speaker Assign].

3 Select any of the following settings.

- **Zone2:** When using Zone 2 connection.
- **Bi-Amp:** When using the bi-amplifier connection.
- **Front B:** When using the front B speaker connection.
- **Off:** When none of the connections above are used.

Note

- When you change the connection from a bi-amplifier or speakers front B to surround back speakers connection, set the [SB Speaker Assign] to [Off], then set up the speakers again.
- You can only set the assignment for the SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) terminals if the speaker pattern is set to 2.0, 2.0.2, 2.1, 2.1.2, 3.0, 3.0.2, 3.1, 3.1.2, 4.0, 4.0.2, 4.0.4, 4.1, 4.1.2, 4.1.4, 5.0, 5.0.2, 5.0.4, 5.1, 5.1.2 or 5.1.4.
- If the speaker pattern is set to 4.0.4, 4.1.4, 5.0.4 or 5.1.4, the sound is not output from the SPEAKERS HEIGHT 2 terminals when [SB Speaker Assign] is set to the setting other than [Off].

[103] Adjusting Settings | Speaker Setup

Assigning the height1 speaker terminals (Height1 SP Assign)

You can set the assignment for the SPEAKERS HEIGHT 1 (ZONE 2) terminals.

1 Select [Setup] - [Speaker Setup] from the home menu.

2 Select [Height1 SP Assign].

3 Select either of the following settings.

- **Zone2:** When using Zone 2 connection.
- **Off:** When none of the connections above are used.

Note

- You can only set the assignment for the SPEAKERS HEIGHT 1 (ZONE 2) terminals if the speaker pattern is set to 2.0, 2.1, 3.0, 3.1, 4.0, 4.1, 5.0, 5.1, 5.0 (SB), 5.1 (SB), 6.0, 6.1, 6.0 (SB), 6.1 (SB), 7.0 or 7.1.

[104] Adjusting Settings | Speaker Setup

Adjusting the speaker size (Size)

You can adjust the size of each speaker (front left/right, center, surround left/right, surround back left/right, height1 left/right, height2 left/right).

1 Select [Setup] - [Speaker Setup] from the home menu.

2 Select [Size].

3 Select the speaker on the screen for which you want to adjust the size.

4 Select the size you want.

- **Large:** If you connect large speakers that will effectively reproduce bass frequencies, select [Large]. Select [Large] usually.
- **Small:** If the sound is distorted, or you hear a lack of surround effects when using multi channel surround sound, select [Small]. You can activate the bass redirection circuitry and output the bass frequencies of each channel from the subwoofer or other [Large] speakers.

Hint

- The surround back speakers will be set to the same setting as that of the surround speakers.

- When the front speakers are set to [Small], the center, surround, surround back, height1 and height2 speakers are also automatically set to [Small].
- If you do not use the subwoofer, the front speakers are automatically set to [Large].

[105] Adjusting Settings | Speaker Setup

Adjusting the speaker distance (Distance)

You can adjust the distance from where you are sitting to each speaker (front left/right, center, surround left/right, surround back left/right, height1 left/right, height2 left/right, subwoofer).

- 1 Select [Setup] - [Speaker Setup] from the home menu.
- 2 Select [Distance].
- 3 Select the speaker on the screen for which you want to adjust the distance from where you are sitting.
- 4 Adjust the distance.

[106] Adjusting Settings | Speaker Setup

Adjusting the speaker level (Level)

You can adjust the level of each speaker (front left/right, center, surround left/right, surround back left/right, height1 left/right, height2 left/right, subwoofer).

- 1 Select [Setup] - [Speaker Setup] from the home menu.
- 2 Select [Level].
- 3 Select the speaker on the screen for which you want to adjust the speaker level.
- 4 Adjust the level.

[107] Adjusting Settings | Speaker Setup

Outputting a test tone from each speaker (Test Tone)

You can output a test tone from each speaker in sequence.

- 1 Select [Setup] - [Speaker Setup] from the home menu.
- 2 Select [Test Tone].
- 3 Select the setting you want.
 - **Off**
 - **Auto:** The test tone is output from each speaker in sequence.
 - **Front L, Center, Front R, Surround R, Surround L, Sur Back (*), Sur Back L, Sur Back R, Height1 L, Height1 R, Height2 L, Height2 R, Subwoofer:** You can select which speakers will output the test tone.
 - * [Sur Back] appears when only one surround back speaker is connected.
- 4 Adjust the speaker level.

Hint

- You can set a test tone by pressing the TEST TONE button on the remote control. In this case, you can only use the display panel for the operation.
- To adjust the level of all speakers at the same time, press $\triangleleft$ +/- . You can also use MASTER VOLUME on the receiver.
- The adjusted value is shown on the TV screen during adjustment.

Setting the crossover frequency of the speakers (Crossover Frequency)

You can set the bass crossover frequency of speakers for which the speaker size has been set to [Small] in the [Speaker Setup] menu. A measured speaker crossover frequency is set for each speaker after the Auto Calibration is performed.

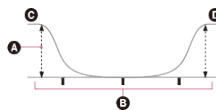
- 1 Select [Setup] - [Speaker Setup] from the home menu.
- 2 Select [Crossover Frequency].
- 3 Select the speaker for which you want to adjust the crossover frequency on the screen.
- 4 Set the crossover frequency of the selected speaker.

Note

- The surround back speakers will be set to the same setting as that of the surround speakers.

Adjusting the equalizer (Equalizer)

You can use the following parameters to adjust the tonal quality (bass/treble level) of the front, center, surround/surround back, height1 and height2 speakers.



- A Level (dB)
- B Frequency (Hz)
- C Bass
- D Treble

- 1 Select [Setup] - [Speaker Setup] from the home menu.
- 2 Select [Equalizer].
- 3 Select [Front Speaker], [Center Speaker], [Surround], [Height1 Speaker] or [Height2 Speaker].
- 4 Select [Bass] or [Treble].
- 5 Adjust the gain.

Note

- This function does not work in the following cases:
 - [Direct] is being used and an analog input is selected.
 - [Pure Direct] is set to [On].
- Frequencies for [Bass] and [Treble] are fixed.
- Depending on the audio format, the receiver may play signals at a lower sampling frequency than the original sampling frequency of the input signals.

Hint

- You can also select [Equalizer] in [Sound Effects] from the home menu.

Lifting up the sound of the center speaker (Center Speaker Lift Up)

By using the front high speakers, you can lift up the sounds of the center speaker to an appropriate height on the screen, allowing you to enjoy natural sound without discomfort.

1 Select [Setup] - [Speaker Setup] from the home menu.

2 Select [Center Speaker Lift Up].

3 Select the setting you want.

- 1 - 10
- Off

Hint

- This function does not work in the following cases:
 - There is no center speaker.
 - Front high speakers are not assigned to the SPEAKERS HEIGHT 1 (ZONE 2) terminals.
 - The [2ch Stereo] and [Multi Stereo] sound fields are being used.

[111] Adjusting Settings | Speaker Setup

Setting the correct angles of the surround speakers (Surround Speaker Position)

You can set the correct angles of the surround speakers for the Speaker Relocation function.

1 Select [Setup] - [Speaker Setup] from the home menu.

2 Select [Surround Speaker Position].

3 Select the setting according to the angle of the surround speaker positions.

- **Front:** When the surround speakers are placed at less than 90° (forward from your listening position).
- **Back:** When the surround speakers are placed at more than 90° (backward from your listening position).

Note

- This function does not work when there are no surround speakers.

[112] Adjusting Settings | Speaker Setup

Calibrating speaker positioning (Speaker Relocation)

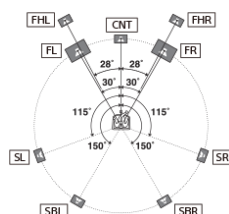
You can calibrate speaker positioning (configuration angle of each speaker from the measurement position) to improve the surround effect.

1 Select [Setup] - [Speaker Setup] from the home menu.

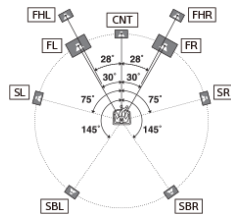
2 Select [Speaker Relocation].

3 Select the setting you want.

- **Type A:** Places surround back speakers on the back wall in addition to those speakers in Recommendation ITU-R for 5.1 channel speaker placement.



- **Type B:** Places four surround speakers at virtually identical angles, according to Recommendation ITU-R for 7.1 channel speaker placement.



- **Off:** Speaker positioning is not relocated.

Note

- This function does not work in the following cases.
 - [Direct] is being used and an analog input is selected.
 - There are no surround back speakers and [Surround Speaker Position] is set to [Front].
 - When [In-Ceiling Speaker Mode] is set to [Front & Center] or [Front].

[113] Adjusting Settings | Speaker Setup

Setting the height from the floor to the ceiling speakers (Ceiling Height)

You can set the height from the floor to the ceiling speakers. The In-Ceiling Speaker Mode function works better by configuring this setting and performing Auto Calibration.

- 1 Select [Setup] - [Speaker Setup] from the home menu.
- 2 Select [Ceiling Height].
- 3 Adjust the height.

[114] Adjusting Settings | Speaker Setup

Selecting the speaker impedance (Speaker Impedance)

You can set the speaker impedance.

- 1 Select [Setup] - [Speaker Setup] from the home menu.
- 2 Select [Speaker Impedance].
- 3 Select the setting according to the speakers you are using.
 - 8 Ω
 - 4 Ω

Note

- If you are not sure of the impedances of the speakers, refer to the operating instructions supplied with your speakers. (This information is often on the back of the speaker.)
- When you connect speakers all with a nominal impedance of 8 ohms or higher, set this function to [8 Ω]. When connecting other types of speakers, set it to [4 Ω].

[115] Adjusting Settings | Speaker Setup

Selecting the unit of measurement (Distance Unit)

You can select the unit of measurement for setting distances.

- 1 Select [Setup] - [Speaker Setup] from the home menu.
- 2 Select [Distance Unit].
- 3 Select the setting you want.

- **meter:** The distance is displayed in meters.
- **feet:** The distance is displayed in feet.

[116] Adjusting Settings | Speaker Setup

Playing back WAV files stored on a USB flash drive

You can play back WAV files on a USB flash drive connected to the receiver.
This operation is only available using the display panel on the front of the receiver.

- 1 **Save wav files which meet the following in "/test_wav" folder on a USB flash drive.**
 - Number of channels: 2
 - Sample rates (bit depth): 44.1/48 kHz (24 bit) or 44.1/48/88.2/96 kHz (16 bit)
- 2 **Connect the USB flash drive to the SETTING Ψ (USB) port on the front of the receiver.**
- 3 **Press AMP MENU.**
- 4 **Select [4. AUDIO SETUP] - [4.11. PLAY TEST WAV].**
Playback starts.

Operating the USB flash drive

You can use the following knob and buttons on the front of the receiver to operate the USB flash drive:

- **MASTER VOLUME:** Adjusts the volume.
- **ENTER:** Starts or pauses playback.
- **$\blacktriangleleft/\blacktriangleright$:** Press and hold to perform fast forward or fast reverse the current track.
- **$\blacktriangleleft/\blacktriangleright$:** Moves to the start of the previous/current or next track.

Note

- Some audio files may not be played back properly even if they are in the specified format.

[117] Adjusting Settings | Network Setup

Setting up a network (Internet Setup)

You can set up a wired LAN connection by the following procedure.

- 1 **Select [Setup] - [Network Setup] from the home menu.**
- 2 **Select [Internet Setup].**
- 3 **Select [Auto].**
- 4 **Select [OK].**
The receiver starts connecting to the network. For details, refer to the messages that appear on the TV screen.

If using a fixed IP address

Select [Manual] in step 3. The IP address input display appears on the TV screen.

Enter the value for [IP Address] using the on-screen keyboard. Press $\blacktriangleleft/\blacktriangleright/\blacktriangleleft/\blacktriangleright$ and $\square$ to select the characters one by one, then select [Enter] to confirm the values.

Enter the values for [Subnet Mask], [Default Gateway], [Primary DNS] and [Secondary DNS], then select [Next].

Hint

- See [Information] when checking the network settings.

[118] Adjusting Settings | Network Setup

Checking the network information (Information)

You can check the various settings on the network.

1 Select **[Setup]** - **[Network Setup]** from the home menu.

2 Select **[Information]**.

You can check the settings (*) for [Connection Status], [Internet Access], [IP Address Setting], [IP Address], [Subnet Mask], [Default Gateway], [DNS Settings], [Primary DNS], [Secondary DNS] and [MAC Address].

* The setting items during setup differ depending on the network environment and connection type.

[119] Adjusting Settings | Network Setup

Enabling the network function even when this receiver is in standby mode (Network Standby)

1 Select **[Setup]** - **[Network Setup]** from the home menu.

2 Select **[Network Standby]**.

3 Set to **[On]** or **[Off]**.

- **On:** The network function works even when the receiver is in standby mode, and the receiver resumes operation when controlled over the network.
- **Off:** The network function turns off when the receiver is in standby mode. The receiver takes more time to resumes operation when powered on again.

Note

- When the receiver is in standby mode, the ⏻ (power) indicator on the front panel lights up in amber if [Network Standby] is set to [On].
- The top of the cabinet may become hot. This is because part of the circuit(s) inside the receiver is(are) still turned on, and is not a malfunction.

[120] Adjusting Settings | Network Setup

Enjoying Hi-Fi System sound (Music Connect)

You can configure settings to enable the receiver to link with a Hi-Fi System device.

1 Select **[Setup]** - **[Network Setup]** from the home menu.

2 Select **[Music Connect]**.

3 Select the setting you want.

- **Connected Device:** Select the connected device to enable the function. Select [Remove Connected Device] to disable the function.
- **Input for Music Connect1:** Select the input to link with.
- **Preset Volume:** Preset the volume level.
- **Output Zone:** Select the zone to which you want to output sound.
- **Connected Device:** Select the connected device to enable the function. Select [Remove Connected Device] to disable the function.
- **Input for Music Connect2:** Select the input to link with.
- **Preset Volume:** Preset the volume level.
- **Output Zone:** Select the zone to which you want to output sound.

Note

- For details on how to configure settings for this function, consult your nearest Sony dealer.

[121] Adjusting Settings | Audio Setup

Playing audio signals with high-quality sound (Digital Legato Linear (D.L.L.))

The D.L.L. function is a technology developed by Sony that allows low-quality digital and analog

audio signals to be played with high-quality sound.

- 1 Select [Setup] - [Audio Setup] from the home menu.
- 2 Select [Digital Legato Linear].
- 3 Select the setting you want.
 - **Auto 1:** This function is available for lossy compression audio formats and analog audio signals.
 - **Auto 2:** This function is available for Linear PCM signals, as well as lossy compression audio formats and analog audio signals.
 - **Off**

Note

- This function works when [2ch Stereo], [Direct], [A.F.D.] or [Multi Stereo] is selected. However, this function does not work in the following cases:
 - The [In-Ceiling Speaker Mode] function is being used.
 - [FM TUNER] or [AM TUNER] is selected as the input.
 - Linear PCM signals with a sampling frequency other than 44.1 kHz are being received.
 - Dolby Digital Plus, Dolby Digital EX, Dolby TrueHD, Dolby Atmos, DTS 96/24, DTS-ES Matrix 6.1, DTS-HD Master Audio, DTS-HD High Resolution Audio, DTS:X, or DTS:X Master Audio signals are being received.
 - When [Zone2 Power] is set to [On] (depending on the Zone 2 or HDMI settings).

[122] Adjusting Settings | Audio Setup

Enjoying clear and dynamic sound at a low volume (Sound Optimizer)

You can enjoy clear and dynamic sound at low volume levels using the Sound Optimizer function.

After Auto Calibration is performed, the sound level is optimized to suit your environment.

- 1 Select [Sound Effects] - [Sound Optimizer] from the home menu.
- 2 Select the setting you want.
 - **Normal:** Adjusts for the reference level of a movie.
 - **Low:** Adjusts for a CD or other software whose average sound pressure level is processed highly.
 - **Off**

Note

- This function does not work in the following cases:
 - [Direct] is being used and an analog input is selected.
 - [Pure Direct] is set to [On].
- The receiver may play signals at a lower sampling frequency than the actual sampling frequency of the input signals, depending on the audio format.

Hint

- You can also select [Sound Optimizer] in the [Audio Setup] menu.

[123] Adjusting Settings | Audio Setup

Selecting a sound field (Sound Field)

You can select from a variety of sound field modes according to speaker connections or input sources.

- 1 Select [Setup] - [Audio Setup] from the home menu.
- 2 Select [Sound Field].
- 3 Select the sound field you want.

For details on each sound field, see the following topics.

 - [2-channel/Direct sound mode](#)
 - [Auto Format Decoding \(A.F.D.\)](#)
 - [Movie mode](#)
 - [Multi Stereo](#)

Note

- The sound fields for movie may not work, depending on the input or the speaker pattern you select, or with audio formats.
- The receiver may play signals at a lower sampling frequency than the actual sampling frequency of the input signals, depending on the audio format.
- Some speakers or the subwoofer may not output sound, depending on the sound field setting.
- If there is any noise present, the noise may be different, depending on the sound field you select.

Hint

- You can also select [Sound Field] in [Sound Effects] from the home menu.
- You can also use 2CH/DIRECT, A.F.D., MOVIE or MULTI ST. on the remote control or the receiver to select a sound field.

[124] Adjusting Settings | Audio Setup

Enjoying more natural sound with speakers installed in the ceiling (In-Ceiling Speaker Mode)

Set whether or not to use In-Ceiling Speaker Mode with the current input.

In a setup where the front and center speakers are installed in the ceiling, lowering the audio output position to the screen height allows you to enjoy a more natural experience.

- 1 Select **[Setup]** - **[Audio Setup]** from the home menu.
- 2 Select **[In-Ceiling Speaker Mode]**.
- 3 Select the setting you want.
 - **Front & Center**: Lowers the audio output position for both the front and center speakers installed in ceiling to the screen height.
 - **Front**: Lowers the audio output position for the front speakers installed in ceiling to the screen height.
 - **Off**: Does not activate this function.

Note

- This function does not work in the following cases:
 - [Direct] is being used and an analog input is selected.
 - Dolby Atmos enabled speakers are used.
 - Dolby Atmos is being decoded.
 - [Pure Direct] is set to [On].
- This function may not work depending on the audio format.
- The receiver may play signals at a lower sampling frequency than the actual sampling frequency of the input signals depending on the audio format.

Hint

- You can also switch this function on/off for each input on the Input Setup screen.
- You can also select [In-Ceiling Speaker Mode] in [Sound Effects] from the home menu.
- You can also switch the function on/off by pressing IN-CEILING SP on the remote control or the receiver.
- To obtain optimal effects in the listening environment, configure the [Ceiling Height] setting and perform Auto Calibration.

[125] Adjusting Settings | Audio Setup

Enjoying high-fidelity sound (Pure Direct)

You can enjoy higher-fidelity sound from all inputs using the Pure Direct function. When the Pure Direct function is on, the display panel lights off to suppress noise that affects sound quality.

- 1 Select **[Sound Effects]** - **[Pure Direct]** from the home menu.
- 2 Select **[On]**.

Canceling Pure Direct

The Pure Direct function will be canceled when you perform the following:

- Select [Off] in step 2.
- Press PURE DIRECT.
- Change the sound field.
-

- Change the scene setting on the TV (Scene Select).
- Change the setting of [Equalizer], [Sound Optimizer], [Dynamic Range Compressor] or [In-Ceiling Speaker Mode].

Note

- [Equalizer], [Sound Optimizer], [Dynamic Range Compressor] and [In-Ceiling Speaker Mode] do not work when the Pure Direct function is selected.

Hint

- You can also use PURE DIRECT to turn the Pure Direct function on or off.
- You can also select [Pure Direct] in the [Audio Setup] menu.

[126] Adjusting Settings | Audio Setup

Setting the low-pass filter for the subwoofer output (Subwoofer Low Pass Filter)

You can turn the low-pass filter for the subwoofer output on or off. You can set the function for each input to which an audio input jack is assigned independently. Turn the function on if you connect a subwoofer without the crossover frequency function.

- 1 Select [Setup] - [Audio Setup] from the home menu.
- 2 Select [Subwoofer Low Pass Filter].
- 3 Select the setting you want.
 - **On:** Always activates the low-pass filter with a cutoff frequency of 120 Hz.
 - **Off:** Does not activate the low-pass filter.

Note

- This function does not work when [Direct] is being used and an analog input is selected.

[127] Adjusting Settings | Audio Setup

Synchronizing audio with video output (A/V Sync)

You can delay the output of audio to minimize the time gap between audio output and a visual display.

This function is useful when using a large LCD or plasma monitor or a projector. You can set the function for each input independently.

- 1 Select [Setup] - [Audio Setup] from the home menu.
- 2 Select [A/V Sync].
- 3 Select the setting you want.
 - **HDMI Auto:** The time gap between the audio output and visual display of a monitor connected via an HDMI connection will be adjusted automatically. This function is available only when the monitor supports the A/V Sync function.
 - **0 ms – 300 ms:** You can adjust the delay from 0 ms to 300 ms in 10 ms intervals.

Note

- The receiver may play signals at a lower sampling frequency than the actual sampling frequency of the input signals, depending on the audio format.

[128] Adjusting Settings | Audio Setup

Selecting the language of digital broadcasts (Dual Mono)

You can select the language you want when listening to a digital broadcast with dual audio. This function only works for Dolby Digital sources.

- 1 Select [Setup] - [Audio Setup] from the home menu.

2 Select [Dual Mono].

3 Select the setting you want.

- **Main:** Sound in the main language will be output.
- **Sub:** Sound in the sub language will be output.
- **Main/Sub:** Sound in the main language will be output through the front left speaker and sound in the sub language will be output through the front right speaker simultaneously.

[129] Adjusting Settings | Audio Setup

Compressing the dynamic range (Dynamic Range Compressor)

You can compress the dynamic range of the soundtrack. This may be useful when you want to watch movies at a low volume late at night, etc.

This function only works for Dolby Digital and Dolby TrueHD sources.

1 Select [Setup] - [Audio Setup] from the home menu.

2 Select [Dynamic Range Compressor].

3 Select the setting you want.

- **Auto:** The dynamic range is compressed automatically when there is a flag in the sound source that recommends using the Dynamic Range Compressor function.
- **On:** The dynamic range is compressed as intended by the recording engineer.
- **Off**

Note

- This function does not work when [Pure Direct] is set to [On].

[130] Adjusting Settings | Audio Setup

Switching the mode of the DTS decoder (Neural:X)

You can switch the DTS decoder to "Direct Mode" or "Non-Direct Mode."

When in "Direct Mode," the audio is extracted and reproduced as closely as possible to what the content creator intended. When in "Non-Direct Mode," the audio is extracted and adapted to fit as closely as possible to the speaker layout of the playback system (regardless of the source configuration). This function only works when the DTS stream is input.

1 Select [Setup] - [Audio Setup] from the home menu.

2 Select [Neural:X].

3 Select the setting you want.

- **On:** The DTS decoder is switched to "Non-Direct Mode."
- **Off:** The DTS decoder is switched to "Direct Mode."

Note

- You cannot set this function to [Off] when [Neural:X] is selected.
- You cannot set this function to [On] in the following cases:
 - [2ch Stereo], [Direct] or [Dolby Surround] is selected.
 - [Pure Direct] is set to [On].

[131] Adjusting Settings | HDMI Setup

Up-converting video signals to 4K (4K Scaling)

You can up-convert video signals to 4K and output them through the HDMI OUT A jack of the receiver.

1 Select [Setup] - [HDMI Setup] from the home menu.

2 Select [4K Scaling].

3 Select the setting you want.

- **Auto:** Enables video scaling control of 4K HDMI output automatically if you connect a 4K-compatible TV.
- **Off:** Only upscales video signals from VIDEO IN, COMPONENT VIDEO IN jacks up to 1080p.

Note

- This function works only when video signals from the VIDEO IN, COMPONENT VIDEO IN, or HDMI IN jacks are being received. HDMI video input signals must be 1080p@23.98/24 Hz.
- The HDMI OUT B (ZONE 2) jack does not support 4K Scaling.
- When [4K Scaling] is set to [Auto] and the HDMI OUTPUT setting is set to [HDMI A+B], the options menus, the current volume and the input name are not displayed on the screen of the TV connected to the HDMI OUT B (ZONE 2) jack.

[132] Adjusting Settings | HDMI Setup

Controlling HDMI devices (Control for HDMI)

You can turn the Control for HDMI function on or off. For details, see "[Preparing for "BRAVIA Sync."](#)"

1 Select [Setup] - [HDMI Setup] from the home menu.

2 Select [Control for HDMI].

3 Select the setting you want.

- **On**
- **Off**

Note

- When you set [Control for HDMI] to [On], [Audio Out] may be changed automatically.
- When the receiver is in standby mode, the  (power) indicator on the front panel lights up in amber if [Control for HDMI] is set to [On].
- This function is enabled only when [HDMI Out B Mode] is set to [Main].

[133] Adjusting Settings | HDMI Setup

Turning off the receiver and connected devices simultaneously with the TV (System Power Off function) (Standby Linked to TV)

You can turn off the receiver and the connected device automatically when you turn off the TV.

1 Select [Setup] - [HDMI Setup] from the home menu.

2 Select [Standby Linked to TV].

3 Select the setting you want.

- **Auto:** If either of the following inputs is selected on the receiver, the receiver will turn off when the TV is turned off:
 - [TV]
 - An input assigned with either [HDMI], [COMPONENT] or [COMPOSITE] for video using [Input Assign]
 - An input assigned with [HDMI] for audio using [Input Assign]
- **On:** The receiver will turn off when the TV is turned off regardless of the input of the receiver.
- **Off:** The power of the receiver does not turn off when the TV is turned off, regardless of the input of the receiver.

Note

- This setting is valid when [Control for HDMI] is set to [On].

- The connected device may not turn off depending on the status of the device.
- System Power Off function may work with devices other than those manufactured by Sony, but operation is not guaranteed.

[134] Adjusting Settings | HDMI Setup

Enjoying sound of an ARC compatible TV (Audio Return Channel)

If your TV supports the Audio Return Channel (ARC) function, set the receiver by the following procedure to output the sound of the TV from the speakers connected to the receiver.

- 1 Select [Setup] - [HDMI Setup] from the home menu.
- 2 Select [Audio Return Channel].
- 3 Select the setting you want.
 - **On:** The sound of the TV connected to the receiver via the HDMI OUT A jack is output from the receiver when TV input is selected.
 - **Off:** The sound of the TV connected to the receiver via the HDMI OUT A jack is not output from the receiver even when TV input is selected.

If you connect to a TV that is not compatible with the Audio Return Channel (ARC) function or you want to select an audio signal using a cable other than an HDMI cable (e.g. via an optical digital cable or an audio cable)

Switch the audio input mode.

Note

- Be sure to turn off the volume of the TV or activate the muting function of the TV.
- If your TV does not support the System Audio Control function, set [Audio Out] to [TV + AMP] in the [HDMI Setup] menu to output the sound of the TV from the TV speaker and the speakers connected to the receiver.

[135] Adjusting Settings | HDMI Setup

Enjoying content of a connected device without turning on the receiver (Pass Through)

You can output HDMI signals to the TV even when the receiver is in standby mode.

- 1 Select [Setup] - [HDMI Setup] from the home menu.
- 2 Select [Pass Through].
- 3 Select the setting you want.
 - **Auto:** The receiver outputs HDMI signals to the TV from the HDMI OUT A jack when the TV is turned on while the receiver is in the standby mode. Sony recommends this setting if you are using a "BRAVIA" Sync-compatible TV manufactured by Sony. This setting saves power in the standby mode compared to the [On] setting.
 - **On:** The receiver continuously outputs HDMI signals from the HDMI OUT A jack when in standby mode.
 - **Off:** The receiver does not output HDMI signals when in standby mode. This setting saves power in the standby mode compared to the [On] setting.

Note

- When the receiver is in standby mode, the ⏻ (power) indicator on the front panel lights up in amber if [Pass Through] is set to [On] or [Auto].
- The top of the cabinet may become hot. This is because part of the circuit(s) inside the receiver is(are) still turned on, and is not a malfunction.
- When [Auto] is selected, it may take a little more time for the image and sound to be output to the TV than when [On] is selected.
- This function does not work for the HDMI OUT B (ZONE 2) jack.

[136] Adjusting Settings | HDMI Setup

Setting the HDMI audio signal output of connected

devices (Audio Out)

You can set the HDMI audio signal output of playback devices connected to the receiver via an HDMI connection.

1 Select [Setup] - [HDMI Setup] from the home menu.

2 Select [Audio Out].

3 Select the setting you want.

- **AMP:** HDMI audio signals from playback devices are only output to the speakers connected to the receiver. Multi-channel sound can be played back as it is.
- **TV + AMP:** The sound is output from the speaker of the TV and the speakers connected to the receiver.

Note

- Audio signals are not output from the speaker of the TV when [Audio Out] is set to [AMP].
- When [TV + AMP] is selected, the sound quality of the playback device depends on the sound quality of the TV, such as the number of channels and the sampling frequency, etc. If the TV has stereo speakers, the sound output from the receiver is in the same stereo as the TV, even when playing back multi-channel source.
- When you connect the receiver to a video device (projector, etc.), sound may not be output from the receiver. In this case, select [AMP].

[137] Adjusting Settings | HDMI Setup

Setting the Zone 2 HDMI audio output of connected devices (Zone2 Audio Out)

You can set the Zone 2 HDMI audio signal output for playback devices connected to the receiver via an HDMI connection.

1 Select [Setup] - [HDMI Setup] from the home menu.

2 Select [Zone2 Audio Out].

3 Select the setting you want.

- **AMP:** Recommended setting when a TV is connected directly to the HDMI OUT B (ZONE 2) jack. Sound is output from the speakers connected to the receiver. Sound is not output from the TV speakers.
- **Zone2 TV + AMP:** Recommended setting when a TV is connected directly to the HDMI OUT B (ZONE 2) jack. Sound is output from the TV speakers and the speakers connected to the receiver.
- **Zone2 AMP:** Recommended setting when another amplifier is connected to the HDMI OUT B (ZONE 2) jack. Sound is output from the another amplifier connected to the HDMI OUT B (ZONE 2) jack. Sound is not output from the SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) or SPEAKERS HEIGHT 1 (ZONE 2) terminals and the ZONE 2 AUDIO OUT jacks.

Note

- You can only configure this setting only when [HDMI Out B Mode] is set to [Zone2].
- When a video device (projector, etc.) is connected to the HDMI OUT B (ZONE 2) jack, sound may not be output from the receiver. In this case, set [Zone2 Audio Out] to [AMP].
- When a TV which does not support audio content protection is connected to the HDMI OUT B (ZONE 2) jack, specific audio may not be output from the receiver. In this case, set [Zone2 Audio Out] to [AMP].
- When [Zone2 Audio Out] is set to [Zone2 TV + AMP] or [AMP], audio signals will be downmixed. The following restrictions apply to downmixing.
 - If you change the sound field or speaker settings in the main zone while the input for Zone 2 is set to SOURCE or the same input is selected in the main zone and Zone 2, the sound may also be momentarily interrupted in Zone 2.
 - The D.L.L. function does not work in the main zone.
 - The volume level of sound from the SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) or SPEAKERS HEIGHT 1 (ZONE 2) terminals and the HDMI OUT B (ZONE 2) jack may be different from sound that is not downmixed.
- No sound will be output to Zone 2 if you play a DTS-CD with different HDMI inputs selected in the main zone and Zone 2.
- You cannot remedy the time gap between video output on the TV connected to the HDMI OUT B (ZONE 2) jack and audio output from the speaker connected to the SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) or SPEAKERS HEIGHT 1 (ZONE 2) terminals using the AV Sync function.

Setting the level of the subwoofer (Subwoofer Level)

You can set the level of the subwoofer to 0 dB or +10 dB when multi-channel PCM signals are input via an HDMI connection. The level for each input to which an HDMI input jack is assigned can be set independently.

- 1 Select [Setup] - [HDMI Setup] from the home menu.
- 2 Select [Subwoofer Level].
- 3 Select the setting you want.
 - **Auto:** Automatically sets the level to 0 dB or +10 dB, depending on the audio stream.
 - **+10 dB**
 - **0 dB**

Selecting the method to use the HDMI OUT B (ZONE 2) jack (HDMI Out B Mode)

You can use the HDMI OUT B (ZONE 2) jack can be used for the Zone 2 output.

- 1 Select [Setup] - [HDMI Setup] from the home menu.
- 2 Select [HDMI Out B Mode].
- 3 Select the setting you want.
 - **Main:** Uses the jack for the main zone output. Recommended when you enjoy TV or projector content in only one room (main zone).
 - **Zone2:** Uses the jack for the Zone 2 output. Recommended when you enjoy video and sound from a device connected to the receiver in a zone other than the main zone (Zone 2).

Note

- When [Zone2] is selected, the Control for HDMI function and Fast View function do not work.
- When [Main] is selected, HDMI IN audio signals cannot be output to Zone 2 speakers and the PRE OUT jacks unless the input for Zone 2 is SOURCE or the same input is selected in the main zone and Zone 2.

Setting the priority for the main zone (Priority)

Lets you set the priority when you select the same input for both the main zone and Zone 2.

- 1 Select [Setup] - [HDMI Setup] from the home menu.
- 2 Set [Priority].
 - **Main & Zone2:** You can enjoy the same input in the main zone and Zone 2. However, there may be some interference in the audio and video signals in the main zone and Zone 2.
 - **Main Only:** You can enjoy good audio and video quality in the main zone. There is no output in Zone 2.

Note

- This function is enabled only when [HDMI Out B Mode] is set to [Zone2].

Speeding up the display when switching the HDMI input (Fast View)

You can set the Fast View function for the HDMI inputs.

- 1 Select [Setup] - [HDMI Setup] from the home menu.
- 2 Select [Fast View].
- 3 Select the setting you want.
 - **Auto:** You can select HDMI input faster than normal selection.
 - **Off:** The Fast View function is not available.

Note

- This function is enabled only when [HDMI Out B Mode] is set to [Main].
- If you select [Off], it takes more time for images to appear after switching the input. However, the sound quality is improved because the receiver receives signals only from the selected HDMI input jack.

Setting HDMI signal formats (HDMI Signal Format)

You can select the signal format so that the receiver can receive high resolution 4K signals.

- 1 Select [Setup] - [HDMI Setup] from the home menu.
- 2 Select [HDMI Signal Format].
- 3 Select the HDMI input you want to apply the setting from the HDMI IN 1, 2, 3, 4 or 5 jack.
- 4 Select the setting you want.
 - **Standard format:** If you do not receive high resolution 4K signals, select [Standard format] usually.
 - **Enhanced format:** If you want to receive high resolution 4K signals, such as 4K/60p 4:4:4, 4:2:2, and 4K/60p 4:2:0 10 bit, etc., select [Enhanced format].

Note

- When [Enhanced format] is selected, we recommend using a Premium High Speed HDMI Cable with Ethernet that supports 18 Gbps.
- When [Enhanced format] is selected, some devices (cable box or satellite box, Blu-ray Disc player, and DVD player) does not work properly. In this case, select [Standard format].
- If your TV has similar menu for high bandwidth video format, check the setting on the TV menu when you select [Enhanced format] on this receiver. For details on the setting of the TV menu, refer to the operating instructions of the TV.
- You cannot apply the setting to the HDMI IN 6 (GAME) jack.

Setting up the receiver to enjoy sound in Zone 2/3 (Zone Controls)

You can set the power, input source, and volume level for Zone 2/3.

- 1 Select [Setup] - [Zone Setup] from the home menu.
- 2 Select [Zone Controls].
- 3 Select the item you want, then set the item.
 - **Zone2 Power:** Turns on/off the power for Zone 2.
 - **Zone2 Input:** Selects the input source for Zone 2.
 - **Zone2 Volume:** Adjusts the volume level for Zone 2.
 -

- **Zone3 Power:** Turns on/off the power for Zone 3.
- **Zone3 Input:** Selects the input source for Zone 3.
- **Zone3 Volume:** Adjusts the volume level for Zone 3.

[144] Adjusting Settings | Zone Setup

Presetting the volume in the main zone (Main Preset Volume)

You can set the volume level to be used when the receiver is turned on.

- 1 Select [Setup] - [Zone Setup] from the home menu.
- 2 Select [Main Preset Volume].
- 3 Adjust the volume level.

[145] Adjusting Settings | Zone Setup

Limiting the volume for the main zone (Main Max Volume)

You can limit the maximum volume level output to the main zone.

- 1 Select [Setup] - [Zone Setup] from the home menu.
- 2 Select [Main Max Volume].
- 3 Adjust the volume level.

[146] Adjusting Settings | Zone Setup

Presetting the volume in Zone 2/3 (Zone2/3 Preset Volume)

You can set the volume level in Zone 2 or Zone 3 when turning on the receiver.

- 1 Select [Setup] - [Zone Setup] from the home menu.
- 2 Select [Zone2 Preset Volume] or [Zone3 Preset Volume].
- 3 Adjust the volume level.

[147] Adjusting Settings | Zone Setup

Limiting the volume for Zone 2/3 (Zone2/3 Max Volume)

You can limit the maximum volume level output to Zone 2 and/or Zone 3.

- 1 Select [Setup] - [Zone Setup] from the home menu.
- 2 Select [Zone2 Max Volume] or [Zone3 Max Volume].
- 3 Adjust the volume level.

[148] Adjusting Settings | Zone Setup

Setting the volume control for Zone 2/3 (Zone2/3 Line Out)

You can set variable or fixed volume control for the ZONE 2 AUDIO OUT/ZONE 3 AUDIO OUT jacks.

- 1 Select [Setup] - [Zone Setup] from the home menu.
- 2 Select [Zone2 Line Out] or [Zone3 Line Out].
- 3 Select the setting you want.
 - **Variable:** Select when you cannot adjust the volume level on the amplifier in Zone 2 or Zone 3. The volume level of the receiver output in Zone 2 or Zone 3 will become adjustable.
 - **Fixed:** Select to adjust the volume on the amplifier in Zone 2 or Zone 3. The volume level of the receiver output in Zone 2 or Zone 3 on the receiver will be fixed.

Note

- When [Variable] is set, the volume level is turned down by default. Turn up the volume while listening to the sound after completing setup.

[149] Adjusting Settings | System Setup

Selecting the language (Language)

You can select the language of messages on the screen.

- 1 Select [Setup] - [System Setup] from the home menu.
- 2 Select [Language].
- 3 Select the language you want.

Note

- When the Control for HDMI function on both the receiver and the TV (BRAVIA TV) is turned on, the on-screen display language of the receiver is changed simultaneously when you change the language for the on-screen display of the TV.

[150] Adjusting Settings | System Setup

Tuning on/off the display for the volume level or sound field (Auto Display)

You can turn on or off the information display which appears on the TV screen when the volume level or sound field, etc., of the receiver is changed.

- 1 Select [Setup] - [System Setup] from the home menu.
- 2 Select [Auto Display].
- 3 Select the setting you want.
 - On
 - Off

[151] Adjusting Settings | System Setup

Setting standby mode (Auto Standby)

You can set the receiver to switch to standby mode automatically when you do not operate the receiver or when no signals are input to the receiver.

- 1 Select [Setup] - [System Setup] from the home menu.

2 Select [Auto Standby].

3 Select the setting you want.

- **On:** The receiver switches to standby mode after approximately 20 minutes.
- **Off**

Note

- This function does not work in the following cases:
 - [FM TUNER] or [AM TUNER] is selected as the input.
 - The software of the receiver is being updated.
- If you use the Auto Standby mode and the sleep timer at the same time, the sleep timer has priority.

[152] Adjusting Settings | System Setup

Changing the volume display (Volume Display)

You can set the volume display on the TV screen and display panel.

1 Select [Setup] - [System Setup] from the home menu.

2 Select [Volume Display].

3 Select the setting you want.

- **Relative:** Indicates the volume in dB.
- **Absolute:** Indicates the number of steps.

[153] Adjusting Settings | System Setup

Switching the brightness of the display panel (Dimmer)

You can switch the brightness of the display panel between 3 levels.

1 Select [Setup] - [System Setup] from the home menu.

2 Select [Dimmer].

3 Select the setting you want.

- **Bright**
- **Dark**
- **Off**

[154] Adjusting Settings | System Setup

Using the sleep timer (Sleep)

You can set the receiver to turn off automatically after a specified period of time.

1 Select [Setup] - [System Setup] from the home menu.

2 Select [Sleep].

3 Set specified time.

- 2:00:00
- 1:30:00
- 1:00:00
- 0:30:00
- Off

[SLEEP] lights up on the display panel of the receiver when sleep timer is being used.

Hint

- You can check the remaining time before the receiver turns off on the System Setup screen. Also, the remaining time appears on the bottom right of the TV screen when it becomes 1 minute or less.
- The sleep timer will be canceled if you perform the following:
 - Update the software of the receiver.
 - Turn the receiver on or off.

[155] Adjusting Settings | System Setup

Checking the software version (Software Version)

You can check the current software version of the receiver.

- 1 Select [Setup] - [System Setup] from the home menu.
- 2 Check [Software Version].

[156] Adjusting Settings | System Setup

Updating the software via the network (Network Update)

You can update the receiver software via the network.
Connect the receiver to the Internet beforehand, and then make sure [Internet Connection] is displayed as [OK] in the [Network Information] menu.

- 1 Select [Setup] - [System Setup] from the home menu.
- 2 Select [Network Update].
- 3 Follow the instructions on the TV screen.

[157] Adjusting Settings | System Setup

Updating the software using the USB flash drive (USB Update)

You can update the receiver software using the USB flash drive.

- 1 Copy the file for updating to the top level directory (just under the root directory) of the USB flash drive.
- 2 Connect the USB flash drive to the SETTING ⇅ (USB) port of the receiver.
- 3 Select [Setup] - [System Setup] from the home menu.
- 4 Select [USB Update].

[UPDATING...XXX%] appears on the display panel while updating. When the update completes, receiver will restart automatically.

[158] Adjusting Settings | System Setup

Setting the tuner (Tuner Setup)

You can configure the FM receiving mode (*), Name Input and Preset Gain Level settings.

* This function only works while the [FM TUNER] input is selected.

[159] Adjusting Settings | Install Setup

Turning on control mode for maintenance (External

Control)

You can set whether or not to control the receiver from external devices.

- 1 Select [Setup] - [Install Setup] from the home menu.
- 2 Select [External Control].
- 3 Select the setting you want.
 - On
 - Off

[160] Adjusting Settings | Install Setup

Switching on/off the 12V trigger output (Trigger Out 1/2/3)

You can select various options for using the 12V Trigger output function.

- 1 Select [Setup] - [Install Setup] from the home menu.
- 2 Select [Trigger 1], [Trigger 2], or [Trigger 3].
- 3 Select the item you want to set.
 - **Main Zone:** Turns on/off the 12V trigger output according to the power status in the main zone.
 - **Zone 2:** Turns on/off the 12V trigger output according to the power status in Zone 2.
 - **Zone 3:** Turns on/off the 12V trigger output according to the power status in Zone 3.
 - **BD/DVD:** Turns on the 12V trigger output when the BD/DVD input is selected.
 - **SAT/CATV:** Turns on the 12V trigger output when the SAT/CATV input is selected.
 - **GAME:** Turns on the 12V trigger output when the GAME input is selected.
 - **STB:** Turns on the 12V trigger output when the STB input is selected.
 - **VIDEO:** Turns on the 12V trigger output when the VIDEO input is selected.
 - **AUX:** Turns on the 12V trigger output when the AUX input is selected.
 - **TV:** Turns on the 12V trigger output when the TV input is selected.
 - **SA-CD/CD:** Turns on the 12V trigger output when the SA-CD/CD input is selected.
 - **FM TUNER:** Turns on the 12V trigger output when the FM TUNER input is selected.
 - **AM TUNER:** Turns on the 12V trigger output when the AM TUNER input is selected.
 - **HDMI OUT A:** Turns on 12V trigger output when HDMI OUT is set to HDMI A or HDMI A+B.
 - **HDMI OUT B:** Turns on 12V trigger output when HDMI OUT is set to HDMI B or HDMI A+B.
 - **HDMI OUT OFF:** Turns on 12V trigger output when HDMI OUT is set to HDMI OFF.

Note

- When all of [Main Zone], [Zone 2] and [Zone 3] are deselected, all other items will be unavailable.
- If you set 12V trigger output as unavailable for all inputs, switching input will have no affect on 12V trigger outputs.
- If you set 12V trigger output as unavailable for all of HDMI OUT A, HDMI OUT B (ZONE 2) and HDMI OUT OFF, the HDMI OUT settings will have no affect on 12V trigger outputs.
- Settings for HDMI OUT A, HDMI OUT B (ZONE 2) and HDMI OUT OFF are available only when they work in sync with the power in the main zone.

[161] Adjusting Settings | Install Setup

Displaying a test screen (Test Picture for HDMI Out A/B)

You can display a test screen with specific resolution and frame rate for HDMI OUT A and HDMI OUT B (ZONE 2) jacks.

- 1 Select [Setup] - [Install Setup] from the home menu.
- 2 Select [Test Picture for HDMI Out A] or [Test Picture for HDMI Out B].
- 3 Select the setting you want.
 - 4K/60Hz/4:4:4 (*)
 - 4K/24Hz/4:4:4
 -

- 1080p/60Hz
- 480p/60Hz
- Off

* When [HDMI Out B Mode] is set to [Zone2], this setting does not appear in [Test Picture for HDMI Out B].

Hint

- You can also display a test screen with 480p/60 Hz for HDMI OUT A and HDMI OUT B jacks by pressing TEST PICTURE on the remote control.
- HDMI audio signals are not output while the test screen is displayed.

[162] Adjusting Settings | Install Setup

Locking settings of the receiver (Settings Lock)

You can lock the receiver settings to prevent setting values from being accidentally erased.

- 1 Select [Setup] - [Install Setup] from the home menu.
- 2 Select [Settings Lock].
- 3 Select [On].

Hint

- To set this function to [Off], press PING, AMP MENU and ENTER on the receiver at the same time.

[163] Adjusting Settings | Using the menu on the display panel

Operating the receiver with the menu on the display panel

You can operate this receiver using the display panel even if the TV is not connected to the receiver or the TV is turned off.

- 1 Press AMP MENU.
The menu is displayed on the display panel of the receiver.
- 2 Press ▲/▼ repeatedly to select the menu you want, then press [↵].
- 3 Press ▲/▼ repeatedly to select the parameter you want to adjust, then press [↵].
- 4 Press ▲/▼ repeatedly to select the setting you want, then press [↵].

To return to the previous display

Press ◀ or RETURN.

To exit the menu

Press AMP MENU.

Note

- Some parameters and settings may appear dimmed on the display panel. This means that they are either unavailable or fixed and unchangeable.

[164] Adjusting Settings | Using the menu on the display panel

Viewing information on the display panel

The display panel provides various information on the status of the receiver, such as the sound field.

- 1 Select the input for which you want to check information.
- 2 Press DISPLAY repeatedly.

Each time you press DISPLAY, the display will change cyclically as follows:
Input name you entered (*1) or default input name, Sound field currently applied (*2) →
Input name you entered (*1) or default input name, Stream information (*3) → Input name
you entered, default input name (*1)

When listening to FM and AM radio

Band, Preset number, Preset station name (*1), Sound field currently applied (*2) → Band,
Preset number, Frequency, Sound field currently applied (*2)

- *1 Index name appears only when you have assigned one to the input or preset station. Index name does not appear if only blank spaces have been entered or it is same as the input name.
*2 [PURE DIRECT] appears on the display panel when the Pure Direct function is activated.
*3 Stream Information is not displayed when analog signals are input. This may happen even when digital signals are input.

Note

- Characters or marks in some languages may not be displayed.

[165] Adjusting Settings | Reverting to the factory default settings

Reverting to the factory default settings

You can clear all memorized settings and restore the receiver to the factory default settings by the following procedure. This procedure can also be used to initialize the receiver before you use it for the first time.

Be sure to use the buttons on the receiver to perform this operation.

1 Turn off the receiver.

2 Hold down (power) on the receiver for 5 seconds.

[MEMORY CLEARING] appears on the display panel for a while, then changes to
[MEMORY CLEARED!].

Note

- Do not turn the receiver off until [MEMORY CLEARED!] appears on the display panel.

[166] Troubleshooting | Error messages

PROTECTOR

The receiver will automatically turn off after a few seconds. Check the following:

- There may be an electrical surge or power failure. Unplug the AC power cord (mains lead) and then plug in the cord again after 30 minutes.
- The receiver is covered and the ventilation holes are blocked. Remove the object covering the ventilation holes of the receiver.
- The impedance of the connected speakers is below the rated impedance range indicated on the back panel of the receiver. Reduce the volume level.
- Unplug the AC power cord (mains lead) and let the receiver cool down for 30 minutes while performing the following troubleshooting:
 - Disconnect all of the speakers and subwoofer.
 - Check that the speaker wires are tightly twisted on both ends.
 - Connect the front speaker first, increase the volume level and operate the receiver for at least 30 minutes until it completely warms up. Then, connect each additional speaker one by one and test each additional speaker until you detect which speaker is causing the protection error.

After checking the above items and fixing any problems, plug in the AC power cord (mains lead) and turn on the receiver. If the problem persists, consult your nearest Sony dealer.

[167] Troubleshooting | Error messages

UPDATE FAILED

- While USB Update is performed, insert a USB flash drive on which the package file for updating the receiver is saved, and then turn the receiver off and turn it on again.
- While Network Update is performed, press  (power). If the problem persists, insert a USB flash drive on which the package file for updating the receiver is saved, and then press  (power) again.

[168] Troubleshooting | Error messages

FAN STOPPED

Check that the ventilation holes on the top of the receiver are not blocked.

[169] Troubleshooting | Error messages

List of messages after Auto Calibration measurements

- **Code 31:**
Front speakers are not selected properly. Select the front speakers using SPEAKERS and perform the Auto Calibration again. For details on selecting the front speakers, see "[4. Selecting the front speakers.](#)"
- **Code 32, Code 33:**
 - Speakers were not detected or not connected properly.
 - None of the front speakers are connected or only one front speaker is connected.
 - Either the surround left or surround right speaker is not connected.
 - A surround back speaker is connected only to the SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) R terminal. If connecting only one surround back speaker, connect it to the SPEAKERS SURROUND BACK (FRONT B/BI-AMP/ZONE 2) L terminal.
 - Either the HEIGHT 1 left or HEIGHT 1 right speaker is not connected.
 - Either the HEIGHT 2 left or HEIGHT 2 right speaker is not connected.
 - The optimizer microphone is not connected. Make sure that the optimizer microphone is connected properly and perform the Auto Calibration again.
 - If the optimizer microphone is connected properly but the error code still appears, the optimizer microphone cable may be damaged.
- **Code 34:**
Speakers are not placed in the proper position. Speakers or the optimizer microphone on the right or left may be placed wrongly.
- **Code 35:**
The measurement result is not match to the speaker pattern you set.
- **Warning 40:**
The measurement process has been completed and a high noise level has been detected. You may be able to achieve better results if you try the process again in a quiet environment.
- **Warning 41, Warning 42:**
 - The input from the optimizer microphone is too large.
 - The distance between the speaker and the optimizer microphone may be too small. Set them further apart and perform the measurement again.
- **Warning 43:**
The distance and position of a subwoofer cannot be detected. This may be caused by noise. Try performing the measurement in a quiet environment.
- **Warning 44:**
Measurement has been completed. However the speakers are not placed in the proper position with respect to each other.
- **NO WARNING:**
There is no warning information.

[170] Troubleshooting | Error messages

Network features message list

- **Invalid XXX (*):**
The entered value is incorrect or invalid.
- * XXX represents an IP Address, Subnet Mask or Default Gateway.

[171] Troubleshooting | General

The receiver is turned off automatically.

- [Auto Standby] is set to [On].
- The sleep timer function was activated.
- [PROTECTOR] was activated.
- [FAN STOPPED] was activated.

[172] Troubleshooting | General

The receiver does not turn on after performing USB Update or Network Update.

- The USB Update or Network Update procedure may not have been completed.
While a USB flash drive containing the package file for updating the receiver is inserted, disconnect the AC power cord (mains lead) and connect it again.

If the problem persists, consult your nearest Sony dealer.

[173] Troubleshooting | General

The receiver does not turn on even when the TV is turned on.

- Set [Control for HDMI] to [On] in the [HDMI Setup] menu. The TV must support the Control for HDMI function. For details, refer to the operating instructions of your TV.
- Check the speaker settings of the TV. The receiver power syncs with the speaker settings of the TV. For details, refer to the operating instructions of the TV.
- If sound was output from the speakers of the TV last time, the receiver does not turn on even when the TV is turned on.

[174] Troubleshooting | General

The receiver turns off when the TV is turned off.

- Check [Standby Linked to TV] in the [HDMI Setup] menu. When the function is set to [On], the receiver automatically turns off interlocked with the TV-power off operation, regardless of the input of the receiver.

[175] Troubleshooting | General

The receiver does not turn off even when the TV is turned off.

- Check [Standby Linked to TV] in the [HDMI Setup] menu.
If you want the receiver to turn off when the TV is turned off regardless of the input of the receiver, set [Standby Linked to TV] to [On]. The TV must support the Control for HDMI function. For details, refer to the operating instructions of your TV.
- Set [Control for HDMI] to [On] in the [HDMI Setup] menu. The TV must support the Control for HDMI function. For details, refer to the operating instructions of your TV.

[176] Troubleshooting | Image

No image appears on the TV screen.

- Select the appropriate input using the input buttons.
- Set your TV to the appropriate input mode.
- Move your audio device away from the TV.
- Assign the video input (HDMI, COMPONENT or VIDEO IN) correctly.
- When you are upconverting input signals using the receiver, use the same type of output signals as input signals.
- Make sure that cables are correctly and securely connected to devices.
- Set [HDMI Signal Format] for the selected HDMI IN jack except HDMI IN 6 (GAME) jack to [Standard format] in the [HDMI Setup] menu.
- Some playback devices need to be set up. Refer to the operating instructions supplied with each device.
- Be sure to use a High Speed HDMI Cable with Ethernet when you view images or listen to sound, especially for 1080p, Deep Color (Deep Colour), 4K or 3D transmission. Premium High Speed HDMI Cable with Ethernet that supports 18 Gbps is required for 4K/60p 4:4:4, 4:2:2 and 4K/60p 4:2:0 10 bit etc.
- The output of the HDMI video signals of the receiver may be set to [HDMI OFF]. In this case, set to [HDMI A], [HDMI B], or [HDMI A + B]. You can only select [HDMI B] or [HDMI A+B] when [HDMI Out B Mode] is set to [Main].
- If you want to play HDCP 2.2 content, connect the receiver to an HDMI input jack of a TV that supports HDCP 2.2.

[177] Troubleshooting | Image

No 3D content appears on the TV screen.

- Depending on the TV or the video device, 3D content may not be displayed. Check the HDMI video formats supported by the receiver.
- Be sure to use a High Speed HDMI Cable with Ethernet.

[178] Troubleshooting | Image

No 4K content appears on the TV screen.

- Depending on the TV or the video device, 4K content may not be displayed. Check the video capability and settings of your TV and video device.
- Be sure to use a High Speed HDMI Cable with Ethernet.
- When you use high bandwidth video formats such as 4K/60p 4:4:4, 4:2:2 and 4K/60p 4:2:0 10 bit, we recommend you to use a Premium High Speed HDMI Cable with Ethernet that supports 18 Gbps.
- If your TV has similar menu for high bandwidth video format, check the setting on the TV menu when you set [HDMI Signal Format] to [Enhanced format] on this receiver. For details on the setting of the TV menu, refer to the operating instructions of the TV.
- Be sure to connect the receiver to an HDMI input jack of a TV or video device that supports 4K. You have to connect an HDMI cable to an HDMI jack that supports HDCP 2.2 when you use a playback device for 4K resolution video content, etc.

[179] Troubleshooting | Image

No image is output to the TV screen when the receiver is in standby mode.

- When the receiver enters standby mode, the image from the last HDMI device selected before you turned off the receiver is displayed. If you are enjoying content from another device, play the content on the device and perform the One-Touch Play operation, or turn on the receiver to select the HDMI device from which you want to enjoy content.
- Make sure [Pass Through] is set to [Auto] or [On] in the [HDMI Setup] menu.

[180] Troubleshooting | Image

The home menu does not appear on the TV screen.

- If you connect the TV to the HDMI OUT B (ZONE 2) jack and [HDMI Out B Mode] is set to [Zone2] in the [HDMI Setup] menu, the home menu does not appear on the TV screen. In this case, set [HDMI Out B Mode] to [Main].
- Press HOME to display the home menu.
- Check that the TV is connected correctly.
- The home menu may take some time to appear on the TV screen depending on the TV.

[181] Troubleshooting | Image

The display panel is turned off.

- Make sure [Pure Direct] is set to [Off] in the [Sound Effects] menu. When the function is set to [On], the display panel is turned off.
- Adjust the brightness of the display panel using [Dimmer] in the [System Setup] menu.

[182] Troubleshooting | Image

Image does not appear on the TV screen when the receiver is not turned on.

- Set [Control for HDMI] to [On], and then set [Pass Through] to [Auto] or [On] in the [HDMI Setup] menu.
- Turn on the receiver, then select the input to which the playing device is connected.
- If connected to other devices than those manufactured by Sony that support the Control for HDMI function, set [Control for HDMI] to [On] in the [HDMI Setup] menu.

[183] Troubleshooting | Image

When the language for the on-screen display of the TV is changed, the on-screen display language of the receiver is changed simultaneously.

- Check [Control for HDMI] in the [HDMI Setup] menu. If [Control for HDMI] is set to [On], the on-screen display language of the receiver may be changed simultaneously when you change the language for the on-screen display of the TV. Select the language on the receiver again to return to the previous setting.
-

No sound or only a very low level of sound is heard, no matter which device is selected.

- Check that all connecting cables are inserted to their input/output jacks on the receiver, speakers and the devices.
 - Check that the receiver and all devices are turned on.
 - Check that MASTER VOLUME on the receiver is not set to [VOLUME MIN] or [VOLUME -∞dB].
 - Check that SPEAKERS on the receiver is not set to [SPEAKERS OFF].
 - Press ⏻ to cancel the muting function.
 - Try pressing the input button on the remote control or on the receiver to select the device of your choice.
 - If you want to listen to sound from the TV speaker in the main zone, set [Audio Out] to [TV + AMP] in the [HDMI Setup] menu. If you cannot play multi-channel audio source, set [AMP]. However, the sound will not be output through the TV speaker.
 - If you want to listen to sound from the TV speaker in Zone 2, set [Zone2 Audio Out] to [Zone2 TV + AMP] in the [HDMI Setup] menu.
 - Sound may be interrupted when the sampling frequency, number of channels or audio format of audio output signals from the playback device is switched.
-

There is severe humming or noise.

- Check that the speakers and device are connected securely.
 - Check that the connecting cables are not near a transformer or motor, and are at least 3 meters (10 feet) away from a TV set or fluorescent light.
 - Move your audio device away from the TV.
 - The plugs and jacks are dirty. Wipe them with a cloth slightly moistened with alcohol.
-

No sound or only a very low level of sound is heard from specific speakers.

- Make sure you have connected to both the L and R jacks of an analog device, as analog devices require both L and R jack connections. Use an audio cable (not supplied).
 - Adjust the speaker level.
 - Check that the speaker settings are appropriate for the setup using [Auto Calibration] or [Speaker Pattern] in the [Speaker Setup] menu. Then check that sound is output from each speaker correctly using [Test Tone] in the [Speaker Setup] menu.
 - Some discs have no Dolby Digital Surround EX information. In this case, sound may not be output from some speakers.
 - Check that the subwoofer is connected correctly and securely.
 - Make sure you have turned on your subwoofer.
 - Depending on the selected sound field, sound may not be available from the subwoofer.
-

There is no sound from a specific device.

- Check that the device is correctly connected to the corresponding audio input jacks.
- Check that the cable(s) used for the connection is (are) fully inserted into the jacks on both the receiver and the device.
- Check the Input Mode setting.
- Check that the device is correctly connected to the corresponding HDMI jack.
- The HDMI settings of some playback devices need to be configured. Refer to the operating instructions supplied with each device.
- Be sure to use a High Speed HDMI Cable with Ethernet when you view images or listen to sound, especially for 1080p, Deep Color (Deep Colour), 4K or 3D transmission. Premium High Speed HDMI Cable with Ethernet that supports 18 Gbps is required for 4K/60p 4:4:4, 4:2:2 and 4K/60p 4:2:0 10 bit etc.
- Audio signals (format, sampling frequency, bit length, etc.) transmitted from an HDMI jack may be suppressed by the connected device. Check the setup of a device connected via an HDMI cable if the image is poor or the sound does not come out of the device.
- When a connected device does not support the copyright protection technology (HDCP), the image and/or the sound from the HDMI OUT A and HDMI OUT B (ZONE 2) jacks may be distorted or may not be output. If this is the case, check the specifications of the connected device.
- Set the image resolution of the playback device to more than 720p/1080i to enjoy High Bitrate Audio (DTS-HD Master Audio, Dolby TrueHD, DTS:X Master Audio, Dolby Atmos).
- The image resolution of the playback device may need to be configured to certain settings before you can enjoy DSD and Multi Channel Linear PCM. Refer to the operating instructions of the playback device.
- Make sure the TV supports the System Audio Control function.
- If the TV does not have a System Audio Control function, set [Audio Out] in the [HDMI Setup] menu to:
 - [TV + AMP] if you want to listen to the sound from the TV speaker and receiver.
 -

[AMP] if you want to listen to the sound from the receiver only.

- If the receiver is connected to a video device such as a projector and operated in the main zone, sound may not be output from the receiver. In this case, set [Audio Out] to [AMP] in the [HDMI Setup] menu.
- If a video device such as a projector is connected to the HDMI OUT B (ZONE 2) jack and [HDMI Out B Mode] is set to [Zone2], sound may not be output from the receiver. In this case, set [Zone2 Audio Out] to [AMP] in the [HDMI Setup] menu.
- You cannot listen to the sound of a device connected to the receiver while TV input is selected on the receiver.
 - Be sure to change the input of the receiver to HDMI if you want to watch a program on a device connected via HDMI connection to the receiver.
 - Change the TV channel if you want to watch a TV broadcast.
 - Be sure to select the correct device or input when watching a program from a device connected to the TV. Refer to the section on this operation in the operating instructions of the TV.
- When using the Control for HDMI function, you cannot control connected devices using the remote control of the TV.
 - Some devices and TVs need to be set up. Refer to the operating instructions supplied with each device and TV.
 - Change the input of the receiver to the HDMI input connected to the device.
- Check that the selected digital audio input jack is not assigned to another input.

[188] Troubleshooting | Sound

There is no sound from the TV via the HDMI OUT A jack when using the Audio Return Channel function.

-
- Make sure [Audio Return Channel] is set to [On] in the [HDMI Setup] menu.
 - Make sure [Input Mode] for the TV input is set to [Auto].
 - Make sure your TV supports the Audio Return Channel (ARC) function.
 - If your TV has multiple HDMI input jacks, make sure the receiver is connected to the one that supports the Audio Return Channel (ARC) function.
 - Make sure your TV is connected to the HDMI OUT A jack of the receiver.
 - Make sure the HDMI OUTPUT setting is set to [HDMI A] or [HDMI A+B].

[189] Troubleshooting | Sound

The Dolby Atmos-compatible sound played back on the TV is not output from the receiver.

-
- Connect the receiver to an HDMI input jack of the TV which supports the Audio Return Channel (ARC) function, and then perform the operation described in "[If you use a TV compatible with Dolby Digital Plus output.](#)"

[190] Troubleshooting | Sound

The left and right sound is unbalanced or reversed.

-
- Check that the speakers and device are connected correctly and securely.
 - Adjust the sound level parameters using the [Speaker Setup] menu.

[191] Troubleshooting | Sound

Dolby Digital or DTS multi-channel sound is not reproduced.

-
- Check that the DVD, etc. you are playing is recorded in Dolby Digital or DTS format.
 - When connecting the DVD player, etc., to the digital input jacks of this receiver, make sure the digital audio output setting of the connected device is available.
 - Set [Audio Out] to [AMP] in the [HDMI Setup] menu.
 - You can only enjoy High Bitrate Audio (DTS-HD Master Audio, Dolby TrueHD, DTS:X Master Audio, Dolby Atmos), DSD and Multi Channel Linear PCM with an HDMI connection.

[192] Troubleshooting | Sound

No sound is heard from specific speakers when the receiver decodes the DTS audio signals or performs

Neural:X processing.

- The DTS decoder and Neural:X support the following speaker patterns. If other speaker patterns are set, no sound is output from specific speakers when the receiver decodes the DTS audio signals or performs Neural:X processing.
 - 2.0, 2.1
 - 3.0, 3.1
 - 4.0, 4.1, 4.0.4 (FH+RH), 4.1.4 (FH+RH)
 - 5.0, 5.1, 5.0.2 (FH), 5.1.2 (FH), 5.0.4 (FH+TR), 5.1.4 (FH+TR), 5.0.4 (FH+RH), 5.1.4 (FH+RH), 5.0.4 (TF+TR), 5.1.4 (TF+TR), 5.0.4 (TF+RH), 5.1.4 (TF+RH), 5.0.4 (FD+SRD), 5.1.4 (FD+SRD)
 - 6.0 (SB), 6.1 (SB)
 - 7.0, 7.1, 7.0.2 (FH), 7.1.2 (FH), 7.0.4 (FH+TR), 7.1.4 (FH+TR), 7.0.4 (FH+RH), 7.1.4 (FH+RH), 7.0.4 (TF+TR), 7.1.4 (TF+TR), 7.0.4 (TF+RH), 7.1.4 (TF+RH), 7.0.4 (FD+SBD), 7.1.4 (FD+SBD)

[193] Troubleshooting | Sound

The surround effect cannot be obtained.

- Make sure you have selected a sound field for movies.
- [Dolby Surround] and [Neural:X] do not work when the speaker pattern is set to 2.0 or 2.1.
- [Dolby Surround] does not work with DTS audio signals, such as DTS or DTS-HD. Select [Neural:X] for DTS audio signals.
- [Neural:X] does not work with Dolby audio signals, such as Dolby Digital or Dolby TrueHD. Select [Dolby Surround] for Dolby audio signals.
- [Neural:X] does not work with DTS audio signals that have a sampling frequency of 88.2 kHz or higher.
- If you connect your TV via an HDMI connection and enable the Control for HDMI function, the sound field automatically switches to [Multi Stereo] when you start using the Social Viewing function on your TV.

[194] Troubleshooting | Sound

A test tone is not output from the speakers.

- The speaker cables may not be connected securely. Check that they are connected securely and cannot be disconnected by pulling on them slightly.
- The speaker cables may have short-circuited.

[195] Troubleshooting | Sound

A test tone is output from a different speaker than the speaker displayed on the TV screen.

- The speaker pattern setup is incorrect. Make sure that the speaker connections and the speaker pattern match correctly.

[196] Troubleshooting | Sound

No sound is output from the TV when the receiver is in standby mode.

- When the receiver enters standby mode, the image from the last HDMI device selected before you turned off the receiver is displayed. If you are enjoying content from another device, play the content on the device and perform the One-Touch Play operation, or turn on the receiver to select the HDMI device from which you want to enjoy content.
- Make sure [Pass Through] is set to [Auto] or [On] in the [HDMI Setup] menu.

[197] Troubleshooting | Tuner

The FM reception is poor.

- Extend and adjust the position of the FM wire antenna (aerial) to a place where the reception conditions are good.
 - Place the FM wire antenna (aerial) near a window.
-

The FM stereo reception is poor.

- Set the FM station receiving mode to the monaural mode.
-

You cannot tune to radio stations.

- Check that the antennas (aerials) are connected securely. Adjust the antennas (aerials) and connect an external antenna (aerial) if necessary.
 - The signal of the stations is too weak with automatic tuning. Use direct tuning.
 - Make sure you set the tuning scale correctly (when tuning to AM stations with direct tuning).
 - No stations have been preset or the preset stations have been cleared (when tuning by scanning preset stations is used). Preset the stations.
 - Press DISPLAY repeatedly on the receiver so that the frequency appears on the display panel.
-

A USB device is not recognized.

- Turn off the receiver, then disconnect the USB device. Turn on the receiver again and reconnect the USB device.
 - Connect a compatible USB device. USB devices are only supported when formatted with the FAT16 or FAT32 file systems.
 - The USB device does not work properly. Refer to the section on how to deal with this problem in the operating instructions of the USB device.
-

A USB device cannot be connected to the USB port.

- The USB plug is being inserted upside down. Connect the plug in the correct orientation.
-

An error message appears.

- Check the nature of the error. See "[Network features message list](#)."
-

Cannot connect to the network.

- Check that the LAN cable is connected to the receiver when you want to connect the receiver to the network via a wired LAN connection.
 - Check the network information. If [Not Connected] appears, set up the network connection again.
-

The Control for HDMI function does not work.

- Check the HDMI connection with the receiver (refer to the supplied Startup Guide).
- Enable the Control for HDMI function on the TV. For details, refer to the operating instructions of the TV.
- Wait for a while, and then try again. If you unplug the receiver, it will take a while before the operation is completed. Wait for 15 seconds or longer, and then try again.
- Check the Control for HDMI settings on the connected device. Refer to the operating instructions of the connected device.
- If you unplug the HDMI cable or change the connection, repeat the procedures of "[Preparing for "BRAVIA" Sync](#)."
- Make sure your TV is connected to the HDMI OUT A jack of the receiver.
- Make sure the HDMI OUTPUT setting is set to [HDMI A] or [HDMI A+B].
- When [Control for HDMI] is set to [Off], "BRAVIA" Sync does not work properly, even if the device is connected to the HDMI IN jack.
- Make sure the connected device supports the Control for HDMI function.
- Enable the Control for HDMI function on the connected device. For details, refer to the

- operating instructions of the connected device.
- The types and number of devices that can be controlled by the "BRAVIA" Sync feature are restricted by the HDMI CEC standard as follows:
 - Recording devices (Blu-ray Disc recorders, DVD recorders, etc.): up to 3 devices
 - Playback devices (Blu-ray Disc Player, DVD players, etc.): up to 3 devices
 - Tuner-related devices: up to 4 devices (the receiver uses one of them for its GUI operations.)
 - Audio system (receivers): up to 1 device (used by this receiver)
- Set [Control for HDMI] to [On] in the [HDMI Setup] menu.

[205] Troubleshooting | "BRAVIA" Sync (Control for HDMI)

TV sound cannot be heard from the speakers connected to the receiver.

- Make sure [Control for HDMI] is set to [On] in the [HDMI Setup] menu.
- Make sure [Input Mode] for the TV input is set to [Auto] in the [Input Setup] menu.
- Make sure your TV supports the ARC function. Make sure that the HDMI input of your TV is labeled "ARC."
- If your TV has multiple HDMI input jacks, make sure the receiver is connected to the one supports the ARC function.
- Make sure your TV is connected to the HDMI OUT A jack of the receiver.
- Make sure the HDMI OUTPUT setting is set to [HDMI A] or [HDMI A + B].
- Make sure that the optical output or audio output jack(s) of the TV is correctly connected to the TV AUDIO IN jack(s) of the receiver.

[206] Troubleshooting | Remote control

The remote control does not function.

- Point the remote control at the remote control sensor on the receiver.
- Remove any obstructions between the remote control and the receiver.
- Replace both of the batteries in the remote control with new ones if they are weak.

[207] Troubleshooting | If the problem is not solved

Reverting to the factory default settings

You can clear all memorized settings and restore the receiver to the factory default settings by the following procedure. This procedure can also be used to initialize the receiver before you use it for the first time.

Be sure to use the buttons on the receiver to perform this operation.

- 1 Turn off the receiver.**
- 2 Hold down  (power) on the receiver for 5 seconds.**

[MEMORY CLEARING] appears on the display panel for a while, then changes to [MEMORY CLEARED!].

Note

- Do not turn the receiver off until [MEMORY CLEARED!] appears on the display panel.

[208] Troubleshooting | If the problem is not solved

Resetting sound fields to the default settings

Be sure to use the buttons on the receiver to perform this operation.

- 1 Turn off the receiver.**
 - 2 Hold down MULTI ST. and press  (power) on the receiver.**

[S.F. INITIALIZED!] appears on the display panel and all sound fields are reset to their default setting.
-

Customer support websites

Refer to the following websites for the latest information on the receiver.

For customers in the USA:

<http://esupport.sony.com/>

For customers in Canada:

<http://esupport.sony.com/CA/>

For customers in Latin America:

<http://esupport.sony.com/LA>

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uri.c uri.h

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trarcfor.c

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trbignu2.c trbignum.c

Modified from OPENSSL crypto/bn/bn_*.c and crypto/dh/dh_*.c

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trblwfs.c

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\$KAME: crypto_openssl.c, eaytest.c v 1.70 2001/09/11 14:21:12 sakane Exp \$

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trdsa.c

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trespcor.c

\$KAME: esp_core.c,v 1.50 2000/11/02 12:27:38 itojun Exp \$

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trmd2.c

crypto/md2/md2_dgst.c

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A.3 md4c.c

MD4C.C - RSA Data Security, Inc., MD4 message-digest algorithm

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trrmd160.c

\$OpenBSD: rmd160.c,v 1.3 2001/09/26 21:40:13 markus Exp \$

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Preneel, Bosselaers, Dobbertin, "The Cryptographic Hash Function RIPEMD-160", RSA Laboratories, CryptoBytes, Volume 3, Number 2, Autumn 1997, <ftp://ftp.rsasecurity.com/pub/cryptobytes/crypto3n2.pdf>

trrsa.c

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trsha1.c

\$KAME: sha1.c,v 1.5 2000/11/08 06:13:08 itojun Exp \$

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FIPS pub 180-1: Secure Hash Algorithm (SHA-1) based on: <http://csrc.nist.gov/fips/fip180-1.txt> implemented by Jun-ichiro itojun Itoh <itojun@itojun.org>

sha1.c : Implementation of the Secure Hash Algorithm

SHA: NIST's Secure Hash Algorithm

This version written November 2000 by David Ireland of DI Management Services Pty Limited <code@di-mgt.com.au>

Adapted from code in the Python Cryptography Toolkit, version 1.0.0 by A.M. Kuchling 1995.

AM Kuchling's posting:-

Based on SHA code originally posted to sci.crypt by Peter Gutmann in message

<30ajo5\$oe8@ccu2.auckland.ac.nz>.

The original specification of SHA was found to have a weakness by NSA/NIST.

This code implements the fixed version of SHA.

Here's the first paragraph of Peter Gutmann's posting:

The following is my SHA (FIPS 180) code updated to allow use of the "fixed" SHA, thanks to Jim Gillogly and an anonymous contributor for the information on what's changed in the new version.

The fix is a simple change which involves adding a single rotate in the initial expansion function.

It is unknown whether this is an optimal solution to the problem which was discovered in the SHA or whether it's simply a bandaid which fixes the problem with a minimum of effort (for example the reengineering of a great many Capstone chips).

trsha2.c

\$KAME: sha1.c,v 1.5 2000/11/08 06:13:08 itojun Exp \$

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FIPS pub 180-2: Secure Hash Standard based on: <http://csrc.nist.gov/publications/fips/fips180-2/fips180-2.pdf>

trsha5.c

sha512.c - implementation of SHA256, SHA384 and SHA512

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FIPS pub 180-2: Secure Hash Standard based on: <http://csrc.nist.gov/publications/fips/fips180-2/fips180-2.pdf>

trtwofsh.c

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trdeflate.c

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ALGORITHM

The "deflation" process depends on being able to identify portions of the input text which are identical to earlier input (within a sliding window trailing behind the input currently being processed).

The most straightforward technique turns out to be the fastest for most input files: try all possible matches and select the longest.

The key feature of this algorithm is that insertions into the string dictionary are very simple and thus fast, and deletions are avoided completely. Insertions are performed at each input character, whereas string matches are performed only when the previous match ends. So it is preferable to spend more time in matches to allow very fast string insertions and avoid deletions. The matching algorithm for small strings is inspired from that of Rabin & Karp. A brute force approach is used to find longer strings when a small match has been found.

A similar algorithm is used in comic (by Jan-Mark Wams) and freeze (by Leonid Broukhis).

A previous version of this file used a more sophisticated algorithm (by Fiala and Greene) which is guaranteed to run in linear amortized time, but has a larger average cost, uses more memory and is patented.

However the F&G algorithm may be faster for some highly redundant files if the parameter `maxChainLength` (described below) is too large.

ACKNOWLEDGEMENTS

The idea of lazy evaluation of matches is due to Jan-Mark Wams, and I found it in 'freeze' written by Leonid Broukhis.

Thanks to many people for bug reports and testing.

REFERENCES

Deutsch, L.P., "DEFLATE Compressed Data Format Specification".

Available in <http://www.ietf.org/rfc/rfc1951.txt>

A description of the Rabin and Karp algorithm is given in the book "Algorithms" by R. Sedgewick, Addison-Wesley, p252.

Fiala, E.R., and Greene, D.H.

Data Compression with Finite Windows, Comm.ACM, 32,4 (1989) 490-595

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trinfback.c

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This code is largely copied from inflate.c.

Normally either `infbac.o` or `inflat.o` would be linked into an application--not both.

The interface with `inffast.c` is retained so that optimized assembler-coded versions of `inflate_fast()` can be used with either `inflate.c` or `infbac.c`.

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trinflfast.c

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trinflate.c

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trinfrees.c

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trees.c

Copyright (C) 1995-2010 Jean-loup Gailly detect_data_type() function provided freely by Cosmin Truta, 2006
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ALGORITHM
The "deflation" process uses several Huffman trees. The more common source values are represented by shorter bit sequences.
Each code tree is stored in a compressed form which is itself a Huffman encoding of the lengths of all the code strings (in ascending order by source values).
The actual code strings are reconstructed from the lengths in the inflate process, as described in the deflate specification.
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Sedgewick, R.
Algorithms, p290.
Addison-Wesley, 1983. ISBN 0-201-06672-6.
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trzutil.c

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trcymap.h

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tropnssl.h

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wrap_clibf.c

A C-program for MT19937, with initialization improved 2002/1/26.
 Coded by Takuji Nishimura and Makoto Matsumoto.
 Before using, initialize the state by using init_genrand(seed) or init_by_array(init_key, key_length).
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jsmn

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Curl

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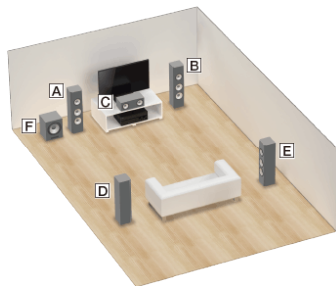
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5.1-channel speaker system

To fully enjoy theater-like multi-channel surround sound, you need five speakers (two front speakers, a center speaker, and two surround speakers) and a subwoofer.



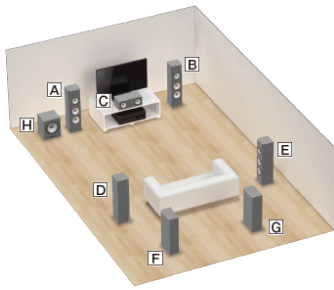
- A Front speaker (Left)**
- B Front speaker (Right)**
- C Center speaker**
- D Surround speaker (Left)**
- E Surround speaker (Right)**
- F Subwoofer**

Hint

- As the subwoofer does not emit highly directional signals, you can place it wherever you want.

7.1-channel speaker system using surround back speakers

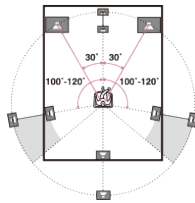
You can enjoy high-fidelity reproduction of recorded sound from DVD or Blu-ray Disc software in 6.1-channel or 7.1-channel format.



- A Front speaker (Left)
- B Front speaker (Right)
- C Center speaker
- D Surround speaker (Left)
- E Surround speaker (Right)
- F Surround back speaker (Left)
- G Surround back speaker (Right)
- H Subwoofer

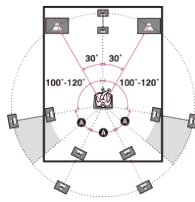
6.1-channel speaker placement

Place the surround back speaker behind the listening position.



7.1-channel speaker placement

Place the surround back speakers as shown in the illustration below. The angles shown by **A** should be the same.

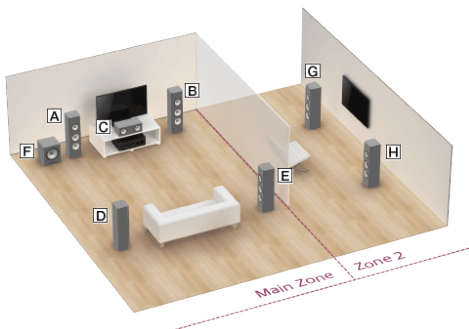


Hint

- As the subwoofer does not emit highly directional signals, you can place it wherever you want.

5.1 -channel speaker system and zone 2

If you make a 5.1ch connection in the main zone, you can also enjoy the sound in another location ("Zone 2") by connecting additional zone 2 speakers.



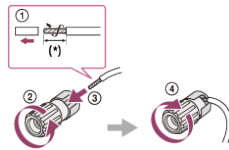
- A Front speaker (Left)
- B Front speaker (Right)
- C Center speaker
- D Surround speaker (Left)
- E Surround speaker (Right)
- F Subwoofer
- G Zone 2 speaker (Left)
- H Zone 2 speaker (Right)

Hint

- As the subwoofer does not emit highly directional signals, you can place it wherever you want.

How to connect speaker cables

Connect speaker cables as illustrated below.



* Strip the jacket to 10 mm (13/32 in) at each end of the speaker cables.

Auto Format Decoding (A.F.D.)

This mode allows you to listen to higher-fidelity sound.

Auto Format Decoding (A.F.D.):

The input audio stream is decoded using the optimal processing method according to the audio format.

However, this receiver will generate a low-frequency signal for output to the subwoofer when there is no LFE signals.

2-channel/Direct sound mode

You can switch the output sound to 2-channel sound regardless of the recording formats of the software you are using, the playback device connected, or the sound field settings of the receiver.

2ch Stereo (2CH STEREO):

The receiver outputs the sound from the front left/right speakers only. There is no sound from the subwoofer.

Standard 2-channel stereo sources completely bypass the sound field processing and multi-channel surround formats are downmixed to 2-channels.

Direct (DIRECT):

Presents the sound as it was recorded/encoded without adding any surround effects. However, this receiver will generate a low-frequency signal for output to the subwoofer when there is no LFE signals.

When an analog input is selected, this function enables you to enjoy high-quality analog sources.

Only the volume and front speaker level can be adjusted when an analog input is selected.

Note

- Dolby Atmos is decoded as Dolby TrueHD or Dolby Digital Plus when [Direct] or [2ch Stereo] is being used.

Multi Stereo

This mode allows you to select the decoding mode for listening to 2-channel stereo or monaural audio as multi-channel audio.

Multi Stereo (MULTI STEREO):

Outputs 2-channel left/right or monaural signals from all speakers. The signals are decoded using the optimal processing method according to the audio format when multi-channel audio signals are input.

However, sound may not be output from certain speakers depending on the speaker settings.

Movie mode

You can take advantage of surround sound simply by selecting one of the receiver's pre-programmed sound fields. They bring the exciting and powerful sound of movie theaters into your home.

Dolby Surround (DOLBY SUR):

Dolby Surround upmixer expands traditional audio content for playback through any multi-channel speaker configuration, including height speakers.

This upmixer is a new and enhanced replacement for the popular Dolby Pro Logic II technology.

Neural:X (NEURAL:X):

Neural:X remaps stereo, 5.1, and 7.1 movies and music to match your speaker layout.

Note

- Dolby Atmos is decoded as Dolby TrueHD or Dolby Digital Plus when [Neural:X] is being used.

Naming preset stations (Name Input)

- 1 Select [Listen] - [FM TUNER] or [AM TUNER] from the home menu.**
If the Simple mode screen appears, switch to the Full mode screen by pressing **OPTIONS** and selecting **[Full]** in **[FM/AM Display]** from the options menu.
- 2 Select the preset number to which you want to assign a name.**
- 3 Press **OPTIONS**.**
The options menu appears.
- 4 Select [Name Input].**
An on-screen keyboard appears on the TV screen.
- 5 Press **▲**/**◆**/**▶**/**▼** and **[+]** to select characters one by one to enter the name.**
- 6 Select [Enter].**
The name you entered is registered.

Canceling naming input

Press **RETURN**.

Note

- Some letters that can be displayed on the TV screen cannot be displayed on the display panel.

Hint

- You can also select **[Name Input]** from **[Tuner Setup]** in the **[System Setup]** menu instead of performing steps 1 to 4.

Menu list (on the display panel)

The following options are available in each menu.

1. Input Setup [1. INPUT SETUP]

- **BD/DVD [1.1. BD/DVD]**
- **SAT/CATV [1.2. SAT/CATV]**
- **GAME [1.3. GAME]**
- **STB [1.4. STB]**
- **VIDEO [1.5. VIDEO]**
- **AUX [1.6. AUX]**
- **TV [1.7. TV]**
- **SA-CD/CD [1.8. SA-CD/CD]**

2. Speaker Setup [2. SPEAKER SETUP]

- **Auto Calibration [2.1. AUTO CALIBRATION]**
- **Automatic Phase Matching [2.2. AUTOMATIC PHASE MATCHING] (*1)**
AUTO, OFF
- **Calibration type [2.3. CALIBRATION TYPE] (*1)**
FULL FLAT, ENGINEER, FRONT REF., OFF
- **Speaker pattern [2.4. SPEAKER PATTERN]**
7.1.4 (FH+RH) to 2.0 (184 patterns)
- **Surround back speaker assign [2.6. SB SPEAKER ASSIGN] (*2)**
ZONE2, BI-AMP, FRONT B, OFF
- **Height1 speaker assign [2.7. HEIGHT1 SPEAKER ASSIGN] (*3)**
ZONE2, OFF
- **Size [2.8. SIZE]**
XXX LARGE or XXX SMALL (*4)
- **Distance [2.9. DISTANCE]**
XXX 1.00 m to XXX 10.00 m (XXX 3'3" to XXX 32'9") (0.01 m (1 inch) interval) (*5)
- **Level [2.10. LEVEL]**
XXX -10.0 dB to XXX +10.0 dB (0.5 dB interval) (*5)
- **Test Tone [2.11. TEST TONE] (*6)**

- OFF, AUTO XXX -10.0 dB to XXX +10.0 dB (1 dB interval), FIX XXX -10.0 dB to XXX +10.0 dB (1 dB interval) (*5)
- **Crossover Frequency [2.12. CROSSOVER FREQUENCY]**
XXX 40 Hz to XXX 200 Hz (10 Hz interval) (*4) (*7)
- **Equalizer [2.13. EQUALIZER]**
XXX TREBLE -10.0 dB to XXX TREBLE +10.0 dB (1 dB interval), XXX BASS -10.0 dB to XXX BASS +10.0 dB (1 dB interval) (*4)
- **Center Speaker Lift Up [2.14. CENTER SPEAKER LIFT UP]**
1 to 10, OFF
- **Surround Speaker Position [2.15. SURROUND SPEAKER POSITION]**
FRONT, BACK
- **Speaker Relocation [2.16. SPEAKER RELOCATION]**
TYPE A, TYPE B, OFF
- **Ceiling Height [2.17. CEILING HEIGHT]**
2.00 m to 10.00 m (6'6" to 32'9") (0.01 m (1 inch) interval)
- **Speaker Impedance [2.18. SPEAKER IMPEDANCE]**
8 ohm, 4 ohm
- **Distance Unit [2.19. DISTANCE UNIT]**
METER, FEET

3. Network Setup [3. NETWORK SETUP]

- **Internet Setup [3.1. INTERNET SETUP]**
- **Information [3.2. INFORMATION]**
- **Network Standby [3.3. NETWORK STANDBY]**
ON, OFF
- **Music Connect [3.4. MUSIC CONNECT]**

4. Audio Setup [4. AUDIO SETUP]

- **Digital Legato Linear [4.1. DIGITAL LEGATO LINEAR]**
AUTO1, AUTO2, OFF
- **Sound Optimizer [4.2. SOUND OPTIMIZER]**
NORMAL, LOW, OFF
- **Sound Field [4.3. SOUND FIELD]**
2CH STEREO, DIRECT, A.F.D., DOLBY SUR, NEURAL:X, MULTI STEREO
- **In-Ceiling Speaker Mode [4.4. IN-CEILING SPEAKER MODE]**
FRONT&CENTER, FRONT, OFF
- **Pure Direct [4.5. PURE DIRECT]**
ON, OFF
- **Subwoofer Low Pass Filter [4.6. SUBWOOFER LOW PASS FILTER]**
ON, OFF
- **Synchronizes audio with video output [4.7. A/V SYNC]**
HDMI AUTO, 0 ms to 300 ms (10 ms interval)
- **Digital broadcast language selection [4.8. DUAL MONO]**
MAIN, SUB, MAIN/SUB
- **Dynamic Range Compressor [4.9. DYNAMIC RANGE COMPRESSOR]**
AUTO, ON, OFF
- **Neural:X [4.10. NEURAL:X]**
ON, OFF
- **WAV playback [4.11. PLAY TEST WAV]**

5. HDMI Setup [5. HDMI SETUP]

- **4K Scaling [5.1. 4K SCALING]**
AUTO, OFF
- **Control for HDMI [5.2. CONTROL FOR HDMI]**
ON, OFF
- **Standby Linked to TV [5.3. STANDBY LINKED TO TV]**
ON, AUTO
- **Audio Return Channel [5.4. AUDIO RETURN CHANNEL]**
ON, OFF
- **Pass Through [5.5. PASS THROUGH]**
AUTO, ON, OFF
- **HDMI Audio Out [5.6. AUDIO OUT]**
AMP, TV+AMP
- **HDMI Zone2 Audio Out [5.7. ZONE2 AUDIO OUT]**
AMP, ZONE2 TV+AMP, ZONE2 AMP
- **HDMI Subwoofer Level [5.8. SUBWOOFER LEVEL]**
AUTO, +10 dB, 0 dB
- **HDMI OUTB Mode [5.9. HDMI OUTB MODE]**
MAIN, ZONE2
- **Priority [5.10. PRIORITY]**
MAIN&ZONE2, MAIN ONLY
- **Fast View [5.11. FAST VIEW]**
AUTO, OFF
- **HDMI Signal Format [5.12. HDMI SIGNAL FORMAT]**
STANDARD, ENHANCED

6. Zone Setup [6. ZONE SETUP]

- **Zone Controls [6.1.ZONE CONTROLS]**
 - **Zone2 Power [6.1.1 ZONE2 POWER]**
ON, OFF
 - **Zone2 Input [6.1.2 ZONE2 INPUT]**
SOURCE, BD/DVD, SAT/CATV, GAME, STB, VIDEO, AUX, TV, SA-CD/CD, FM TUNER, AM TUNER
 - **Zone2 Volume [6.1.3 ZONE2 VOLUME]**
-∞dB, -92.0dB to +23.0dB
 - **Zone3 Power [6.1.4 ZONE3 POWER]**
ON, OFF
 - **Zone3 Input [6.1.5 ZONE3 INPUT]**
SOURCE, VIDEO, AUX, TV, SA-CD/CD, FM TUNER, AM TUNER
 - **Zone3 Volume [6.1.6 ZONE3 VOLUME]**
-∞dB, -92.0dB to +23.0dB
- **Main Preset Volume [6.2. MAIN PRESET VOLUME]**
OFF, -∞dB, -92.0dB to +23.0dB
- **Main Max Volume [6.3. MAIN MAX VOLUME]**

- OFF, -40.0dB to +23.0dB
- **Zone2 Preset Volume [6.4. ZONE2 PRESET VOLUME]**
OFF, -∞dB, -92.0dB to +23.0dB
- **Zone2 Max Volume [6.5. ZONE2 MAX VOLUME]**
OFF, -40.0dB to +23.0dB
- **Zone2 Line Out [6.6. ZONE2 LINE OUT]**
VARIABLE, FIXED
- **Zone3 Preset Volume [6.7. ZONE3 PRESET VOLUME]**
OFF, -∞dB, -92.0dB to +23.0dB
- **Zone3 Max Volume [6.8. ZONE3 MAX VOLUME]**
OFF, -40.0dB to +23.0dB
- **Zone3 Line Out [6.9. ZONE3 LINE OUT]**
VARIABLE, FIXED

7. System Setup [7. SYSTEM SETUP]

- **Language [7.1. LANGUAGE]**
ENGLISH, SPANISH, FRENCH
- **Auto Display [7.2. AUTO DISPLAY]**
ON, OFF
- **Auto standby mode [7.3. AUTO STANDBY]**
ON, OFF
- **Volume Display [7.4. VOLUME DISPLAY]**
RELATIVE, ABSOLUTE
- **Dimmer [7.5. DIMMER]**
BRIGHT, DARK, OFF
- **Sleep timer [7.6. SLEEP]**
OFF - 0:30:00 - 1:00:00 - 1:30:00 - 2:00:00
- **Software Version [7.7. SOFTWARE VERSION]**
x.xxx (*8)
- **Network Update [7.8. NETWORK UPDATE]**
- **USB Update [7.9. USB UPDATE]**
- **Tuner Setup [7.10. TUNER SETUP]**

8. Install Setup [8. INSTALL SETUP]

- **External Control [8.1. EXTERNAL CONTROL]**
ON, OFF
- **Trigger 1 [8.2. TRIGGER 1]**
- **Trigger 2 [8.3. TRIGGER 2]**
- **Trigger 3 [8.4. TRIGGER 3]**
- **Test Picture for HDMI Out A [8.5. TEST OUT A]**
4K/60Hz/4:4:4, 4K/24Hz/4:4:4, 1080p/60Hz, 480p/60Hz, OFF
- **Test Picture for HDMI Out B [8.6. TEST OUT B]**
4K/60Hz/4:4:4, 4K/24Hz/4:4:4, 1080p/60Hz, 480p/60Hz, OFF
- **Save/Load [8.7. SAVE/LOAD]**
- **Settings Lock [8.8. SETTINGS LOCK]**
ON, OFF

9. Easy Setup [9. EASY SETUP]

- **Auto Calibration [9.1. AUTO CALIBRATION]**
- **Internet Setup [9.2. INTERNET SETUP]**

- *1 You can select this setting only when you have performed Auto Calibration and saved the settings.
- *2 You can only select this parameter if [SP PATTERN] is not set to a pattern with surround back speakers.
- *3 You can only select this parameter if [SP PATTERN] is not set to a pattern with height or overhead speakers (top front, top middle, top rear or Dolby Atmos enabled speakers).
- *4 XXX represents a speaker channel (FRONT, CENTER, SURROUND, HEIGHT1, HEIGHT2).
- *5 XXX represents a speaker channel (FRONT L, FRONT R, CENTER, SURROUND L, SURROUND R, SUR BACK L, SUR BACK R, SUR BACK, HEIGHT1 L, HEIGHT1 R, HEIGHT2 L, HEIGHT2 R, SUBWOOFER).
- *6 Some parameters or settings may not be available depending on the speaker pattern setting.
- *7 You can only select this parameter if the speaker is set to [SMALL].
- *8 x.xxx represents the version number.

Attaching the front cover onto the front panel

Attach the front cover to prevent misoperations.



Removing the front cover from the front panel

Remove the front cover from the bottom side.

Note

- Do not forcibly remove the front cover from the top side since it is firmly attached. Doing so may cause injury or damage the front cover or the receiver.

Setting the FM station receiving mode (FM Mode)

You can set the FM station receiving mode to the stereo mode or monaural mode.

- 1 **Select [Listen] - [FM TUNER] from the home menu.**

If the Simple mode screen appears, switch to the Full mode screen by pressing **OPTIONS** and selecting **[Full]** in **[FM/AM Display]** from the options menu.

- 2 Select a station on the FM band.
- 3 Press **OPTIONS**.
- 4 Select **[FM Mode]** from the options menu.
- 5 Select the setting you want.
 - **Stereo**: The FM station is received in stereo.
 - **Monaural**: The FM station is received in monaural.

Note

- You can set FM mode in the options menu if the frequency indication is selected in step 3.

Hint

- You can also set FM mode with **[Tuner Setup]** in the **[System Setup]** menu.

Confirming active subwoofer setup

- When a subwoofer is connected, turn on the subwoofer and turn up the volume prior to activating the subwoofer. Turn the **LEVEL** to just before the mid-point.



- If you connect a subwoofer with a crossover frequency function, set the value to maximum.



- If you connect a subwoofer with an auto standby function, set it to off (deactivated). For details, refer to the operating instructions of the subwoofer.

Note

- Depending on the characteristics of the subwoofer you are using, the setup distance value may be different from the actual position.

Presetting the gain level of the FM/AM tuner

You can preset the gain level of the FM/AM tuner.

- 1 Select **[Setup]** - **[System Setup]** from the home menu.
- 2 Select **[Tuner Setup]**.
- 3 Select **[Preset Gain Level]**.
- 4 Press **▲/▼** to adjust the gain level.