

ONKYO

TX-SR444
AV RECEIVER

Basic Manual

[The Basic Manual](#) includes information needed when starting up and also instructions for frequently used operations. [The Advanced Manual](#) has more detailed information and advanced settings.

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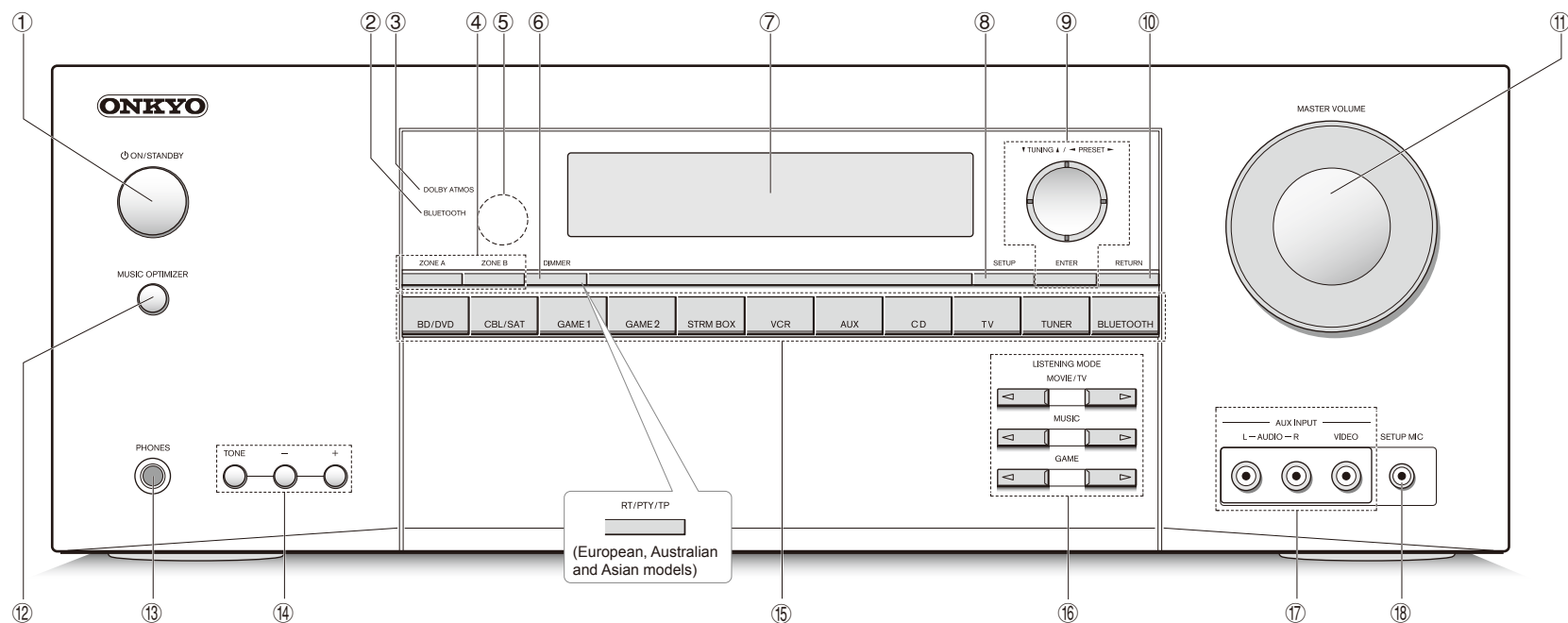


Features

- Equipped with 7 ch amplifier
 - Supports playback in Dolby Atmos format which provides 360-degree placement and movement of sounds including overhead sound
 - Dolby Surround listening mode expands 2 ch, 5.1 ch or 7.1 ch source to available speaker configurations
 - Equipped with 4K compatible HDMI IN/OUT jacks (To play 4K or 1080p video, use a high speed HDMI cable or high speed HDMI with Ethernet cable)
 - Supports the HDMI Standby Through function which allows signal transmission from players to the TV in standby state
 - Supports HDCP2.2, a strict copy-protection for providing high quality content
 - Supports ARC (Audio Return Channel)
 - Supports Bluetooth connection
 - A/V Sync Function to correct deviation of audio and video
 - Multi-zone function which allows you to play the same audio in another room as the main room
 - 32 bit DSP (Digital Signal Processor) with excellent calculation performance
 - Music Optimizer™ for compressed digital music files
 - Phase Matching Bass System
 - Automatic speaker setup available using supplied calibrated microphone (AccuEQ Room Calibration)
 - Supports multi-language on-screen displays
English, German, French, Spanish, Italian, Dutch, Swedish, Russian*1, Chinese*2
- *1 European, Australian and Asian models only
- *2 European, Australian, Taiwanese and Asian models only
- OSD is not displayed when the input selector is "BLUETOOTH". Use the display on the main unit when operating the unit.

Refer to the back cover for supplied accessories.

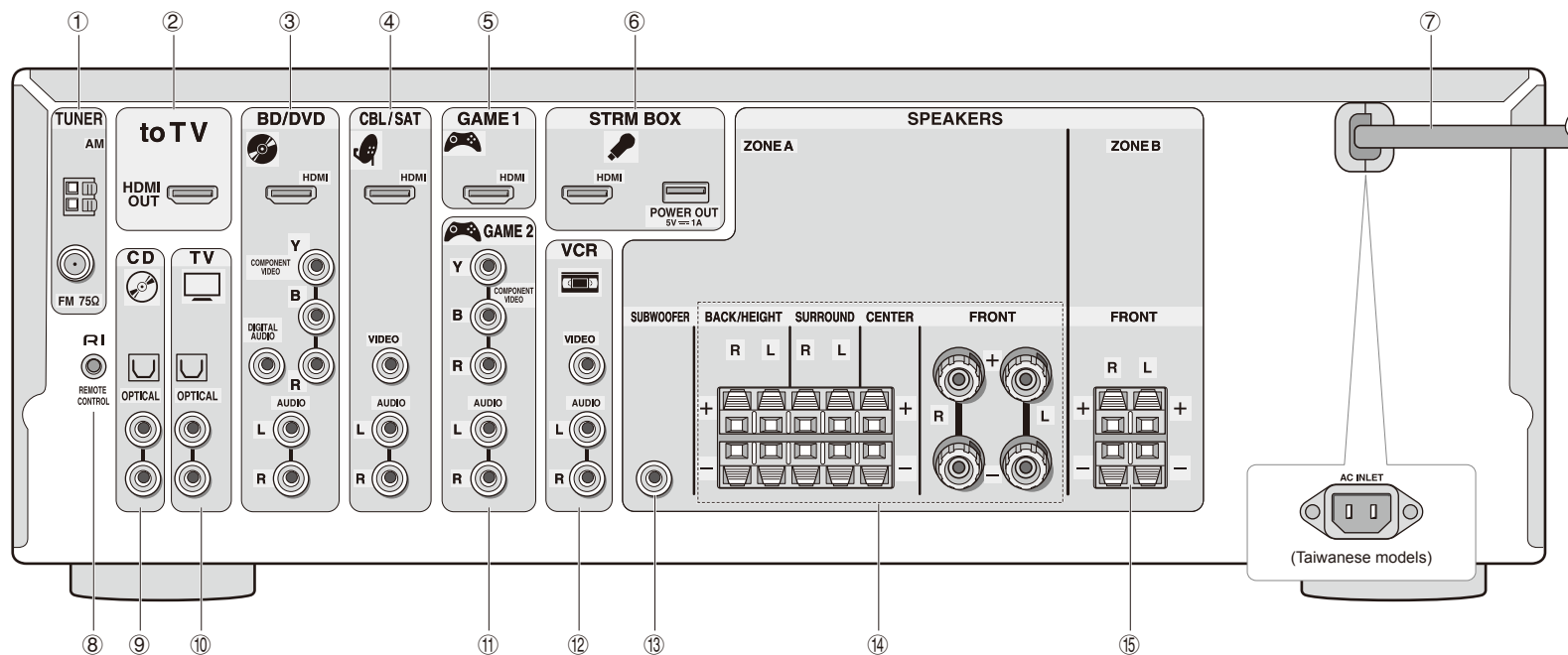




Front Panel

- ① **ON/STANDBY button:** Turns the unit on or into standby mode.
- ② **BLUETOOTH indicator:** Flashes while pairing with a Bluetooth-enabled device is in progress and stays lit when pairing is completed.
- ③ **DOLBY ATMOS indicator:** Lights when playing Dolby Atmos.
- ④ **ZONE A and ZONE B buttons:** Control the multi-zone function.
- ⑤ **Remote control sensor:** Receives signals from the remote controller.
- ⑥ **DIMMER button (North American and Taiwanese models):** Switches the brightness of the display.
RT/PTY/TP button (European, Australian and Asian models): Can be used when receiving the station transmitting text information.
- ⑦ **Display:** Refer to [page 13](#) for details.
- ⑧ **SETUP button:** Used when making settings.
- ⑨ **Cursor buttons, ▼TUNING▲ button, ◀PRESET▶ button and ENTER button:** Move the cursor and confirms the selection. When listening to AM/FM broadcasting, tune in to the station with ▼TUNING▲ or select the registered station with ◀PRESET▶.
- ⑩ **RETURN button:** Returns the display to the previous state.
- ⑪ **MASTER VOLUME:** Allows you to adjust the volume.
- ⑫ **MUSIC OPTIMIZER button:** Turns on/off the MUSIC OPTIMIZER function that improves the quality of the compressed audio.
- ⑬ **PHONES jack:** Stereo headphones with a standard plug are connected.
- ⑭ **TONE and Tone Level buttons:** Adjust the high tone and low tone.
- ⑮ **Input selector buttons:** Switch the input to be played.
- ⑯ **LISTENING MODE buttons:** Allow you to select the listening mode.
- ⑰ **AUX INPUT VIDEO/AUDIO jacks:** A video camera or such other device is connected.
- ⑱ **SETUP MIC jack:** The supplied speaker setup microphone is connected.



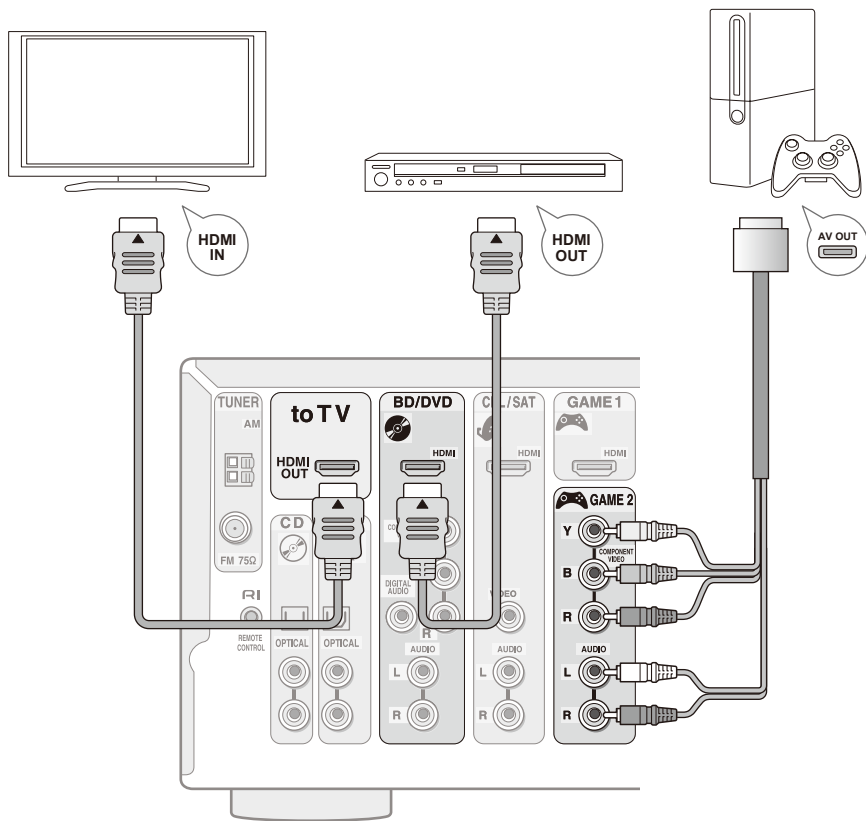


Rear Panel

- ① **TUNER AM/FM (75Ω) terminal:** The supplied antennas are connected.
- ② **to TV jack:** Connect to a TV using a HDMI cable. Change the input selector to "TV" to hear audio from the TV.
* If your TV does not support ARC, you need connection ⑩ in addition to this connection.
- ③ **BD/DVD jacks:** Connect to a Blu-ray Disc Player or DVD Player using a HDMI cable. This corresponds with the "BD/DVD" input selector.
- ④ **CBL/SAT jack:** Connect to a Cable Set-top box using a HDMI cable. This corresponds with the "CBL/SAT" input selector.
- ⑤ **GAME 1 jack:** Connect to a Game console using a HDMI cable. This corresponds with the "GAME 1" input selector.
- ⑥ **STRM BOX jack:** Connect to a Streaming Media Player. When a power supply is required, connect using a USB cable to the POWER OUT port. This corresponds with the "STRM BOX" input selector.
- ⑦ **Power cord (North American, European, Australian and Asian models) AC INLET (Taiwanese models):** The supplied power cord is connected.
- ⑧ **RI REMOTE CONTROL jack:** An Onkyo product with RI jack can be connected and synchronized with this unit.
- ⑨ **CD jack:** Connect to audio equipment such as a CD Player using a digital optical cable. This corresponds with the "CD" input selector.
- ⑩ **TV jack:** If your TV does not support ARC, you need to connect this jack to the audio output jack on the TV, in addition to connection ②. This corresponds with the "TV" input selector.
- ⑪ **GAME 2 jack:** Connect a game console that has component video jacks. This corresponds with the "GAME 2" input selector.
- ⑫ **VCR jacks:** Connect to a Video Cassette Recorder. This corresponds with the "VCR" input selector.
- ⑬ **SUBWOOFER jacks (ZONE A):** A subwoofer with built-in amplifier placed in ZONE A is connected.
- ⑭ **SPEAKERS jacks (ZONE A):** Speakers placed in ZONE A are connected. Up to 7 channels of speakers can be connected.
- ⑮ **SPEAKERS jacks (ZONE B):** Speakers placed in ZONE B are connected. 2 channels of speakers can be connected.



Step 1: Connections



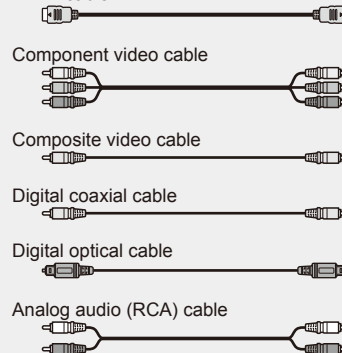
Connection example

1 Connecting the TV and Players

Before Start

- Connect this unit between the TV and player.
 - To select the source to play, select the input selector button with the same name as the jack to which it is connected. Input switches automatically when you have connected equipment that conforms to the CEC (Consumer Electronics Control) standard to this unit using a HDMI cable. (*)
 - This allows audio and video signal transmission from players to the TV even if this unit is in standby. (HDMI Standby Through function) (*)
 - The power cord must be connected only after all other connections are completed.
- * It is necessary to make appropriate settings to enable this function. See "3 HDMI Setup" of "Step 2: Setting Up".

Cable used for connection (sold separately)



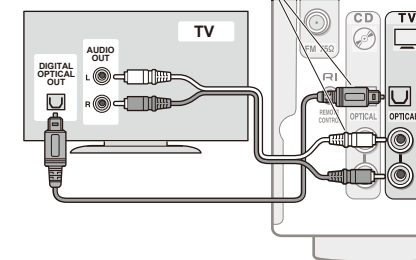
Connection to TV

Connect the "to TV" jack and the HDMI IN jack of the TV with a HDMI cable. This is the only connection necessary with a TV that supports ARC. If your TV does not support ARC, you need to connect the "TV" jack to the audio output jack on the TV with a digital optical cable or an RCA cable, in addition to this connection to the "to TV" jack.

- * This function enables you to play the audio from the TV through the speakers of this unit just by connecting this unit and the TV with a single HDMI cable. To use the ARC function, connect to the ARC compatible HDMI jack of the TV and make appropriate settings on this unit. See "3 HDMI Setup" of "Step 2: Setting Up".

- Audio connection with a TV not supporting ARC

* Select an appropriate connection for your TV.



Connection with a player that has a HDMI jack

Connect to the "BD/DVD", "CBL/SAT", "GAME 1", and "STRM BOX" jacks using a HDMI cable. Connect the equipment to the corresponding jack, for example a Blu-ray Disc Player to "BD/DVD", so that it is easy for you when selecting with the input selector. Connect a Streaming Media Player to the "STRM BOX" jack. When a power supply is required, connect using a USB cable to the POWER OUT port. (✳)

✳ The POWER OUT jack supports a 5V/1A power supply.

Connection with a player that does not have a HDMI jack

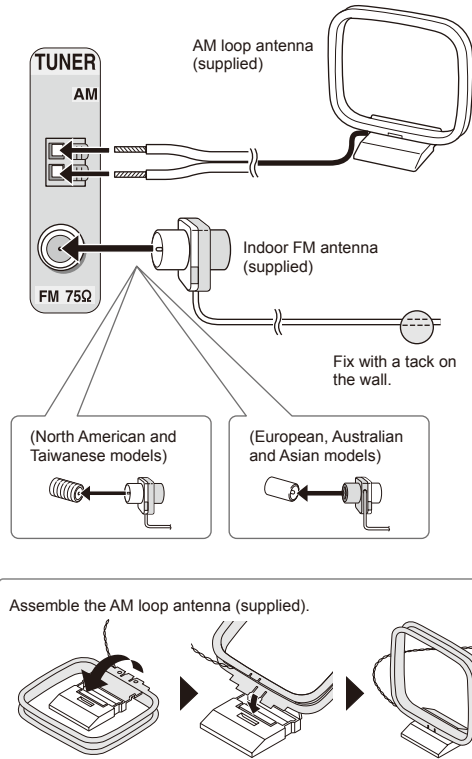
Connect equipment with video output jacks to the "BD/DVD", "CBL/SAT", "GAME 2", and "VCR" jacks. Connect with component video cable or composite video cable for video signals and digital coaxial cable or RCA cable for audio signals.

Connect audio equipment such as a CD Player using a digital optical cable or an RCA cable to the "CD" jack.

- Video signals input to the component video input or the composite video input will be upconverted to HDMI signals and then output from the "to TV" jack. When upconverting video signals input to the component video input for output from the HDMI OUT jack, set the output resolution of the player to 480i or 576i. If the input has 480p/576p or higher resolution, a message prompting you to change the resolution setting will appear. If your player does not support 480i or 576i output, use the composite video jack.
- Connection with a digital coaxial cable or digital optical cable is necessary for playback of digital surround sources such as Dolby Digital. The digital in optical jack of the unit has a cover, push in the cable against the cover as it is turned inside.

2 Connecting the AM/FM Antenna

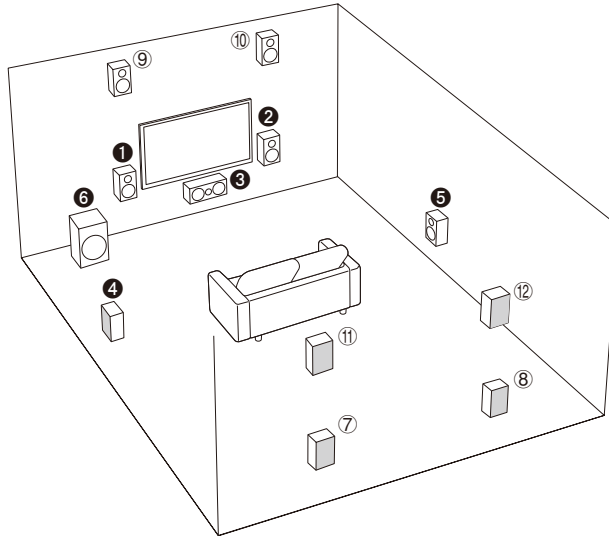
Connect the antennas to listen to AM/FM broadcast. When listening to the broadcast for the first time, adjust the antenna position and orientation to get the best reception.



Step 1: Connections

3 Connecting Speakers

ZONE A Connection



- ① ② Front speakers
- ③ Center speaker
- ④ ⑤ Surround speakers
- ⑥ Subwoofer
- ⑦ ⑧ Back speakers
- ⑨ ⑩ Height speakers (Front High)
- ⑪ ⑫ Height speakers (Rear High)

- 5.1 ch: ①②③④⑤⑥
- 7.1 ch: ①②③④⑤⑥+⑦⑧, or ①②③④⑤⑥+⑨⑩, or ①②③④⑤⑥+⑪⑫
- ⑦⑧, ⑨⑩ speakers and ⑪⑫ speakers share the same speaker terminals. Select one and make the connection.
- To enjoy the Dolby Atmos listening mode, height speakers or back speakers need to be installed. There are a variety of height speakers apart from this type. see the next section for details.

Important:

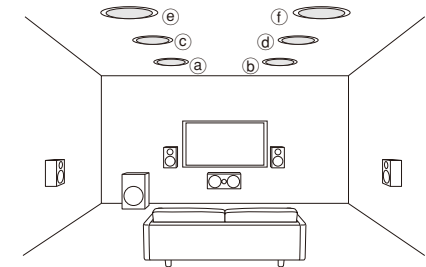
Connect speakers with 6 Ω to 16 Ω impedance. Using a speaker with less impedance than the supported value may result in failure.

Characteristics of speaker types

①② output front stereo sound and ③ outputs center sound such as dialogs and vocals. ④⑤ create back sound field. ⑥ reproduces bass sounds and creates rich sound field. Connecting ⑦⑧ speakers, ⑨⑩, or ⑪⑫ speakers enables playback in 7.1 ch configuration. ⑦⑧ (back) speakers improve sense of envelopment created by back sound field as well as seamlessness of back sounds, providing more natural sound experiences in the sound field. ⑨⑩ and ⑪⑫ (height) speakers produce surround effects on a height plane. Note that this unit can perform optimal sound field processing for the type of height speakers actually installed and registered in automatic speaker settings.

Height speaker types

Installing speakers in ceiling



- ① ② Top Front
- ③ ④ Top Middle
- ⑤ ⑥ Top Rear

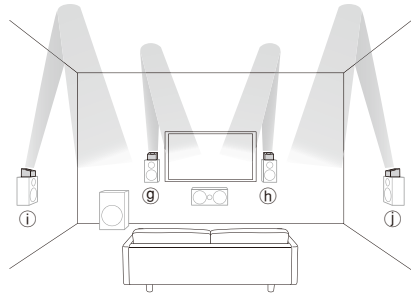
Ceiling speakers, etc. are used for maximizing effects in Dolby Atmos or Dolby Surround listening mode. Install Top Front speakers so that they are positioned at a point between directly above the listening position and directly above the front speakers. Install Top Middle speakers so they are directly above the listening position. Install Top Rear speakers so they are positioned at a point between directly above the listening position and directly above the back speakers. You can select ①②, ③④, or ⑤⑥ on the unit. For connection with the unit, use the SPEAKERS BACK/HEIGHT terminals.

- Dolby Laboratories recommends placing the speakers as described in "Installing speakers in ceiling" to obtain the best Dolby Atmos effect.



Step 1: Connections

Using Dolby Enabled Speakers



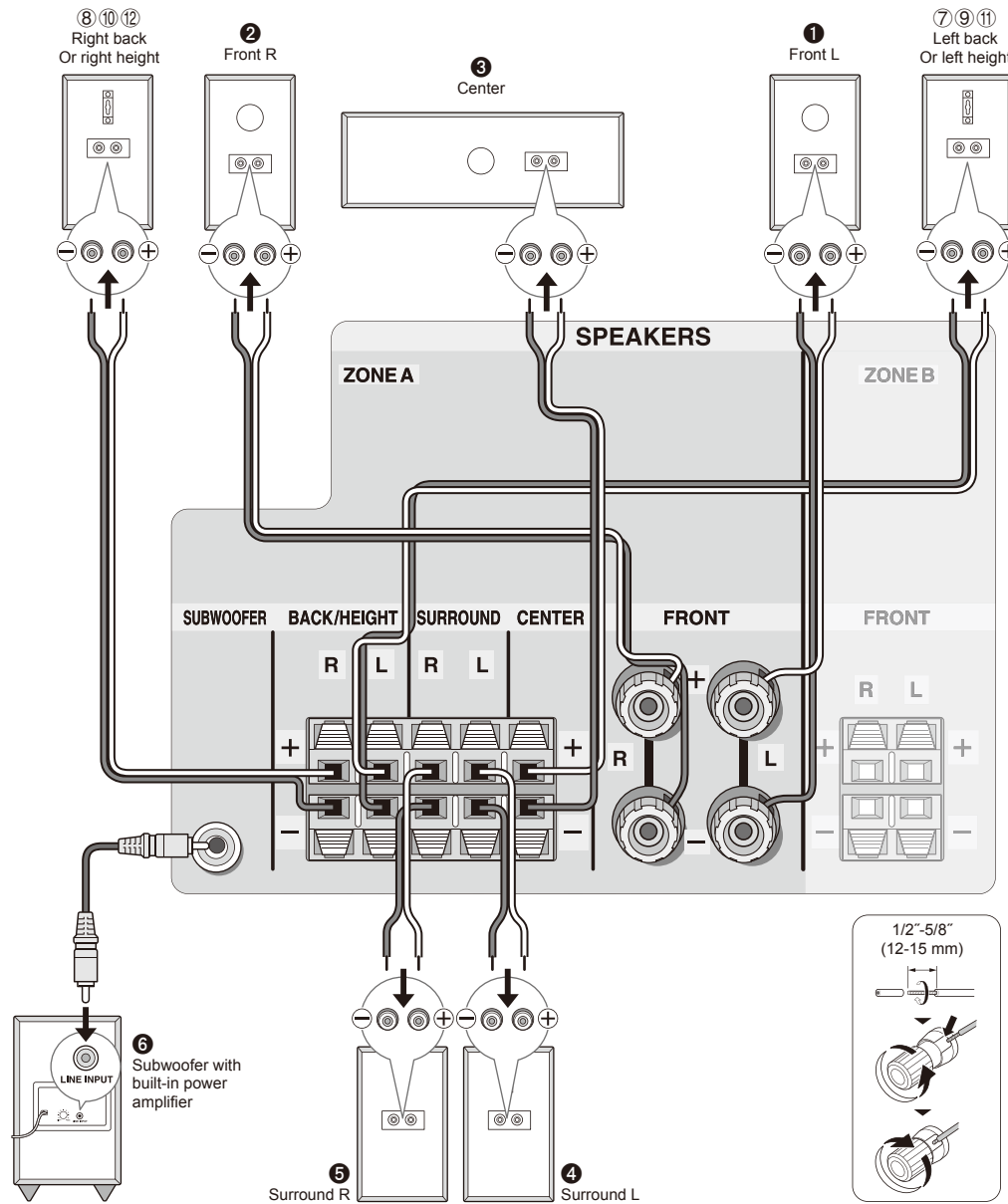
- 9 h Dolby Enabled Speakers (Front)
- i i Dolby Enabled Speakers (Surround)

A Dolby Enabled Speaker is specially designed to be used as a height speaker. There are two types of Dolby Enabled Speakers; one type is designed to be placed on top of other speakers such as front speakers and surround speakers, and the other type is designed to be integrated with normal speakers. Dolby Enabled Speakers placed with their diaphragms facing toward the ceiling create higher effect in the Dolby Atmos and Dolby Surround listening modes by providing sounds echoing off the ceiling. You can select 9 h or i i on the unit. For connection with the unit, use the SPEAKERS BACK/HEIGHT terminals.

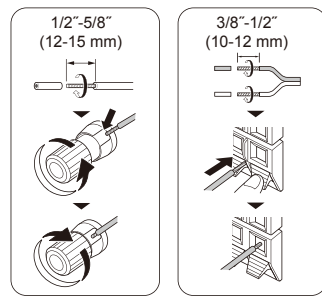
When playing Dolby Atmos, the speakers required depend on how you have setup your back speakers or height speakers. The following shows combinations of speakers.

Connection pattern	Back or Height	Front	Center	Surround
1	Back	⊗	○	⊗
2	Front High	⊗	○	○
3	Rear High	⊗	○	○
4	Top Front	⊗	○	○
5	Top Middle	⊗	○	○
6	Top Rear	⊗	○	○
7	Dolby Enabled Speaker (Front)	⊗	○	○
8	Dolby Enabled Speaker (Surround)	⊗	○	⊗

⊗ Required ○ Optional * Connection of a subwoofer is optional.



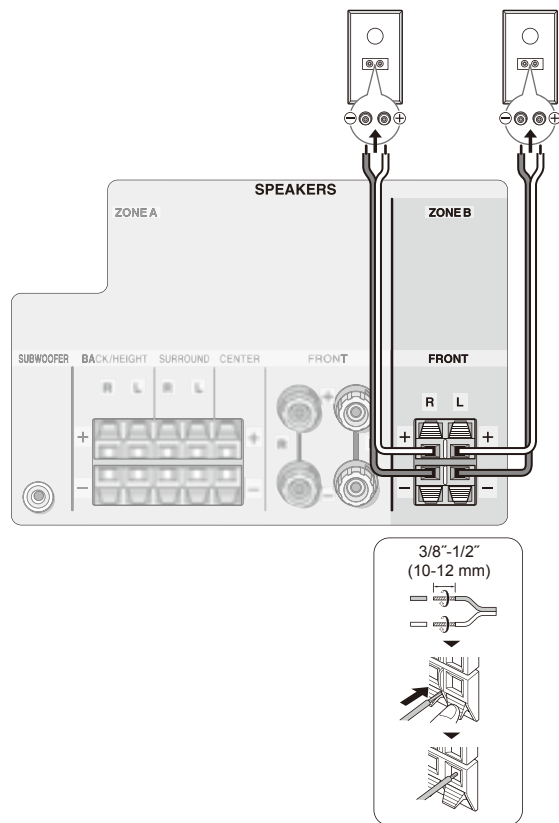
A speaker configuration where only one back speaker is connected is not supported.



Step 1: Connections

ZONE B Connection

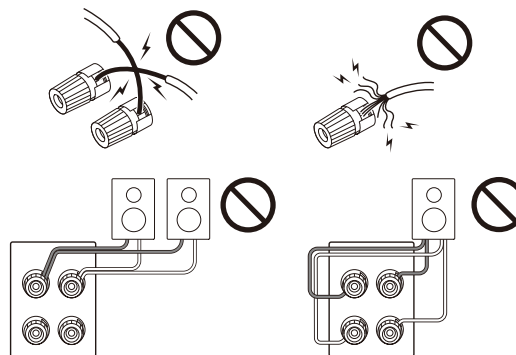
You can listen to audio in a room (called ZONE B) other than ZONE A (the room where this unit is located).



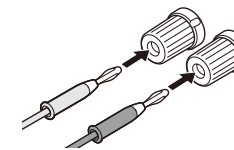
Instructions on how to connect speakers

Cut and remove the plastic coating from the end of the speaker cable, twist the core and connect it to the terminal. Be sure to make correct connection between the unit's jacks and speaker's jacks (+ to + and - to -) for each channel. If connection is wrong, a bass sound may become poor due to reverse phase. The subwoofer jack supports connection of a subwoofer with built-in power amplifier. Set the cut-off filter selection switch of the subwoofer to DIRECT. If the subwoofer does not have a cut-off filter selection switch but has a cut-off frequency adjusting dial, turn it to the maximum frequency. If your subwoofer does not have built-in power amplifier, you can connect a power amplifier between the unit and the subwoofer.

- The speaker setting is 7.1 channels at the time of purchase. You can change it manually or by using automatic speaker setting.
- Short-circuiting the + cable and - cable or contacting the cable core to the rear panel of the unit may cause failure. Also do not connect two or more cables to one speaker terminal or one speaker to several terminals.

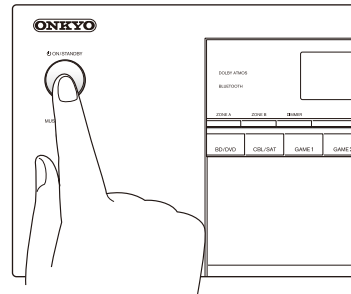
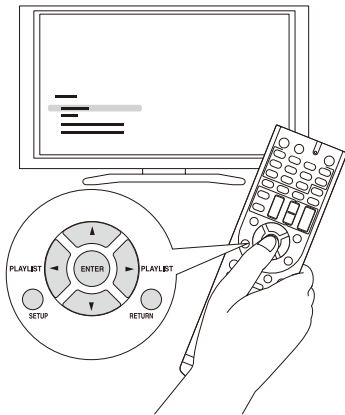


When using commercially available banana plugs: tighten the speaker terminals to the end and then insert the banana plugs. Do not insert the core of speaker cable directly into the hole for banana plug of speaker terminal. (North American models)



Step 2: Setting Up

● **Operation:** Use the remote controller of this unit to operate the menus shown on the TV screen. To display the guidance, you need to make HDMI connection between the unit and TV. Select the item with the cursor buttons of the remote controller and press ENTER to confirm your selection. To return to the previous screen, press RETURN.



- When the unit is turned on, a large instantaneous current may flow affecting functionality of the computer and other devices. It is recommended to use a separate outlet from that for the computer or such other sensitive devices.

* Taiwanese models include removable power cords. Connect the power cord to AC INLET of the unit and then connect to the outlet. Always disconnect the outlet side first when disconnecting the power cord.

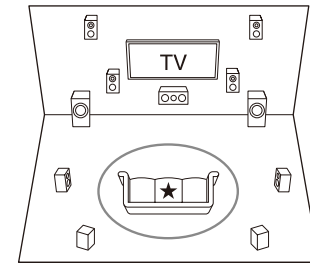
2 Making Automatic Speaker Setting

The AccuEQ Room Calibration function, our proprietary technology, measures the test tone coming from each speaker with the supplied speaker setup microphone, setting of the number of speakers, volume level, each speaker's optimum crossover frequencies, and distance from the primary listening position, and also enables correction of distortion caused by the acoustic environment of the room.

- You cannot return to the previous screen during speaker setup, even if you press RETURN.

1. Place the speaker setup microphone.

Before starting the procedure, refer to the figure and place the supplied speaker setup microphone at the measurement position ★.



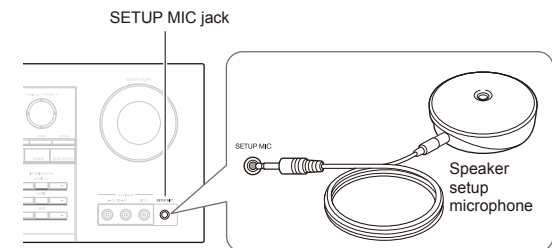
○ : Listening area ★ : Measurement position with microphone

- * Correct measurement will not be possible if the microphone is held by hand. Measurement is not possible if headphones are being used.
- * The subwoofer sound may not be detected since it is extremely low frequencies. Set the subwoofer volume to around the half of its maximum volume and make its frequency to the maximum level.
- * Measurement may be interrupted if there is ambient noise or radio frequency interference. Close the window and turn off the home appliance and fluorescent light.

1 Turning the Power On

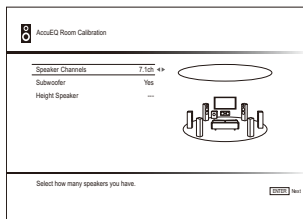
Connect the power cord to the outlet (*). Press **ON/STANDBY** on the main unit or **RECEIVER** on the remote controller to turn the unit on or to standby mode.

2. Connect the speaker setup microphone to the SETUP MIC jack of the unit.



Step 2: Setting Up

3. Select the settings for the connected speakers, the type of the height speakers, and other appropriate settings.



When the screen above is displayed, set the items with the cursor buttons on the remote controller.

Refer to the on-screen diagram for "Speaker Channels", which changes each time a different number of channels is selected. When all the items have been set, press ENTER on the remote controller. After that, follow the guidance displayed on the TV screen to operate the unit.

- Refer to the content of an item, which appears on the lower left of the screen when the cursor is on the item.
4. **The test tones sound from the connected speakers and automatic speaker setting starts.**
Measurement will be made three times or more for each speaker. It takes several minutes to be completed. Keep the room as quiet as possible during measurement. If any of the speakers do not produce the test tone, check for disconnection.
- During measurement, each speaker outputs the test tones at a high volume. Be careful of sound leak that may disturb your neighbors, or be careful not to frighten young children.
 - To cancel measurement on the way, disconnect the microphone plug.
5. **When the measurement is completed, the measurement result is displayed.**
Press ◀/▶ on the remote controller to check the settings. Press ENTER with "Save" selected. Select "On" in the next screen and press ENTER on the remote controller.
- You should normally select "On (All Channels)", and to disable just the front speakers, you should select "On (Except Front Left/Right)".
 - If there is an error message, follow the on-screen instruction to remove the error cause.

6. When "Please unplug setup microphone." is displayed, disconnect the microphone.

3 HDMI Setup

The unit supports the linked system function such as power on/off link when connected via HDMI cable with a CEC (Consumer Electronics Control) compliant TV or player. You need to change the default setting to use the linked system function, HDMI Standby Through function and ARC (Audio Return Channel) function.

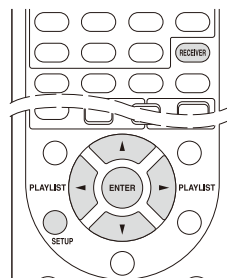
HDMI CEC (RIHD)

The following linked operations are possible with connected equipment when the CEC function is enabled.

- Turning the TV to standby mode will turn the unit to standby mode.
- On the TV side, it is possible to set whether to output audio from the speakers connected to the unit or from the TV's speakers.
- Starting playback of a CEC compliant player/recorder will automatically switch the unit's input to the HDMI input of the player/recorder. If the unit is in standby mode, it will automatically be turned on.

It is also possible to control the connected CEC compliant equipment with the remote controller of the unit. For details, see the Advanced Manual.

* RIHD is a name for the linked system function of Onkyo's CEC compliant products.



1. After pressing **RECEIVER**, press **SETUP** on the remote controller.

2. Select "5. Hardware" with the cursor and press ENTER.
3. Select "HDMI" with the cursor and press ENTER.
4. Select "HDMI CEC (RIHD)" with the cursor and select "On".
- When setting is complete, press SETUP to close the menu screen.

HDMI Standby Through

The function allows transmission from players to the TV even if the unit is in standby. Setting the HDMI CEC (RIHD) setting mentioned above to "On" enables this setting automatically.

- Power consumption in standby mode increases when the HDMI Standby Through function is enabled.

ARC (Audio Return Channel)

Simple connection to the ARC compatible TV using a single HDMI cable allows to listen to the TV audio signals from the speakers connected to the unit. Setting the HDMI CEC (RIHD) setting mentioned above to "On" enables the "Audio Return Channel" setting automatically.

Audio output of connected players

To enjoy digital surround sound including Dolby Digital and DTS, audio output should be set to "Bitstream output" on the connected Blu-ray Disc Player or other device.

Depending on the settings on the Blu-ray Disc Player, there may be cases when Dolby TrueHD, Dolby Atmos, and DTS-HD Master Audio is not output according to the format of the source.

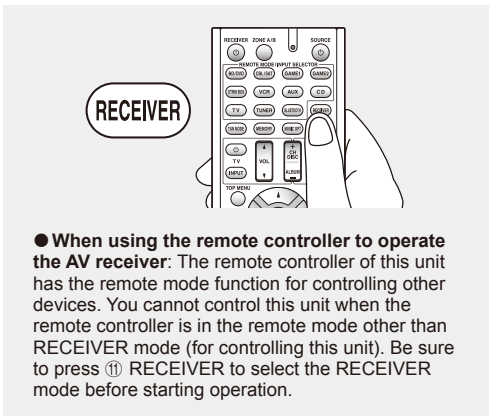
In this case, in the Blu-ray Disc Player settings try setting "BD video supplementary sound" (or secondary sound) to "Off".

Change the listening mode after changing the setting to confirm.

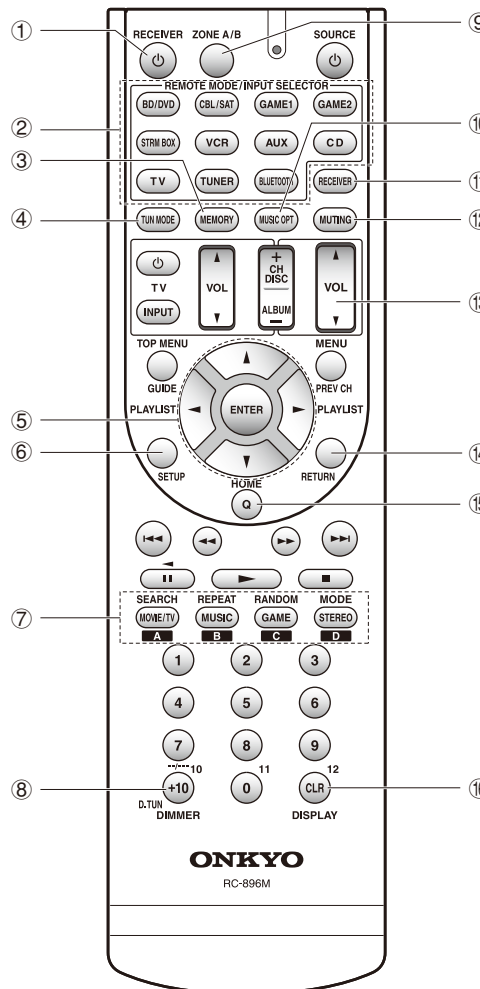


Step 3: Playing Back

1 Basic Operations



Part names and functions of the remote controller



- ① **RECEPTOR button:** Turns the unit on or into standby mode.
- ② **REMOTE MODE/INPUT SELECTOR buttons:** Switch the input to be played. Furthermore, by registering a particular remote control code to a button, you can switch the remote control mode to operate other equipment by pressing that button.
- ③ **MEMORY button:** Registers a radio station.
- ④ **TUN MODE button:** Switches the tuning mode.
- ⑤ **Cursor buttons and ENTER button:** Move the cursor and confirms the selection.
- ⑥ **SETUP button:** Displays the screen for making various settings for this unit.
- ⑦ **Listening mode buttons:** Allow you to select the listening mode.
 - MOVIE/TV button:** You can select a listening mode suitable for movies and TV programs.
 - MUSIC button:** You can select a listening mode suitable for music.
 - GAME button:** You can select a listening mode suitable for games.
 - STEREO button:** You can select a listening mode for stereo and all channel stereo sources.
 - For details on the listening modes, see the Advanced Manual.
- ⑧ **DIMMER button:** Switches the brightness of the display.
- ⑨ **ZONE A/B button:** For use when the unit is connected with speakers in a separate room and sound is played there.
- ⑩ **MUSIC OPT button:** Turns on/off the MUSIC OPTIMIZER function that improves the quality of the compressed audio.
- ⑪ **RECEPTOR button:** Switches the remote controller to the mode for operating this unit.
- ⑫ **MUTING button:** Temporarily mutes audio. Press again to cancel muting.
- ⑬ **VOLUME buttons:** Allow you to adjust the volume. This button also cancels the muting.
- ⑭ **RETURN button:** Returns the display to the previous state.
- ⑮ **Q button:** Displays the Quick Setup menu that allows you to quickly access the frequently used setting items including sound quality adjustment.
- ⑯ **DISPLAY button:** Switches the information on the display.

1. Turning the power on.

Press ① RECEPTOR on the remote controller to turn the power on.

- Switch the input on the TV to that assigned to the unit. Use the TV's remote controller.

2. Select the input on the unit.

Press the ② INPUT SELECTOR for the player you want to listen to. Press TV to listen to the TV's sound. You can also use the input selector buttons on the main unit.

- Input will automatically be selected if the TV or player is CEC compliant and connected to the unit with HDMI cable.

3. Select the desired listening mode.

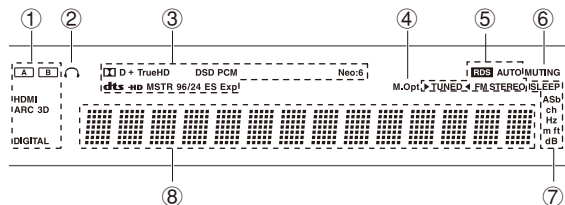
After pressing ⑪ RECEPTOR, press the ⑦ listening mode buttons to switch the mode so that you can enjoy different listening modes.

4. Adjust the volume with ⑬ VOL.



Step 3: Playing Back

Display



- ① Lights in the following conditions. "A": Output to ZONE A / "B": Output to ZONE B / "HDMI": HDMI signals are input and HDMI input selector is selected. This lights faintly when the HDMI Standby Through function is enabled and the unit is in standby. / "ARC": Audio signals are input from ARC compatible TV and TV input selector is selected. / "3D": Input signals are 3D. / "DIGITAL": Digital signals are input and selected.
- ② Stays lit when headphones are connected.
- ③ Lights according to the type of input digital signals and the listening mode.
- ④ Stays lit when Music Optimizer is enabled.
- ⑤ Lights in the following conditions. "AUTO": Tuning mode is auto. / "▶TUNED◀": Receiving AM/FM radio. ▶◀ flashes while tuning is automatically performed. / "FM STEREO": Receiving FM stereo. / "RDS" (European, Australian and Asian models): Receiving RDS broadcasting.
- ⑥ "MUTING": Flashes when muting is on.
- ⑦ Lights in the following conditions. "SLEEP": Sleep timer has been set. This lights faintly when the Power Out at Standby for STRM BOX function is enabled and the unit is in standby. / "ASb" (Auto Standby): Auto Standby is on. / "ch": Channel is being set. / "Hz": Crossover frequencies are being set. / "m/ft": Speaker distances are being set. / "dB": Speaker volume is being set.
- ⑧ Displays various information of the input signals. Pressing DISPLAY displays the type of input digital signals and the listening mode.

2 Bluetooth

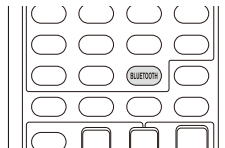
You can wirelessly enjoy music files stored in a smartphone or other Bluetooth-enabled device. The coverage area is 48 feet (15 meters).

- The Bluetooth-enabled device needs to support the A2DP profile.
- Note that connection is not always guaranteed with all Bluetooth-enabled devices.

■ Pairing

Pairing is necessary when connecting the Bluetooth-enabled device for the first time. Before starting the procedure, learn how to enable the Bluetooth setting function and to connect with other devices on the Bluetooth-enabled device.

1. Press **BLUETOOTH** on the remote controller.
The unit begins pairing and "Now Pairing..." is displayed.



2. While "Now Pairing..." is on the display, complete connection on the Bluetooth-enabled device in the nearby area within about 1 minute.
If the name of this unit is displayed on the Bluetooth-enabled device's display, select this unit. Pairing will end after a short time.
 - If a password is requested, enter "0000".
 - You can pair with another Bluetooth-enabled device by pressing and holding the BLUETOOTH button until "Now Pairing..." is on the display. This unit can store the data of up to 8 paired devices.

■ Playing Bluetooth-enabled devices

If the unit is on and the Bluetooth-enabled device is connected, the input will be automatically switched to BLUETOOTH. Play music in this state. For details on using the remote controller for these operations, see the Advanced Manual.

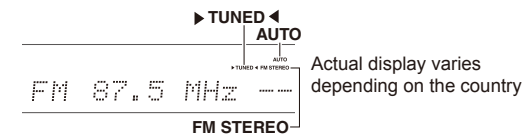
- If the volume setting on the Bluetooth-enabled device is low, the sound will not be output from this unit.

- Due to the characteristics of Bluetooth wireless technology, the sound produced on this unit may slightly be behind the sound played on the Bluetooth-enabled device.
- The on-screen displays are not displayed when the OSD language is set to Chinese. Operate by confirming the display on the main unit. (European, Australian, Taiwanese and Asian models)

3 AM/FM Radio

The Basic Manual explains the method using automatic tuning. For manual tuning, see the Advanced Manual.

1. Press **TUNER** on the remote controller several times to select either "AM" or "FM".
2. Press **TUN MODE** so that the "AUTO" indicator on the display lights.
3. Press the **▲/▼** cursor buttons.
The automatic tuning to a radio station starts. Searching stops when one is tuned. When tuned into a radio station, the "▶TUNED◀" indicator on the display lights. The "FM STEREO" indicator lights if the radio station is an FM radio station.
 - Alternatively you can press ▼TUNING▲ on the main unit.



Registering a radio station: You can register up to 40 of your favorite AM/FM radio stations.

1. Tune into the AM/FM radio station you want to register.
2. Press **MEMORY** on the remote controller so that the preset number on the display flashes.
3. Press **CH +/-** several times to select a number between 1 and 40 while the preset number is flashing (about 8 seconds).
 - Alternatively you can press ◀PRESET▶ on the main unit.
4. Press **MEMORY** again to register the station. When registered, the preset number stops flashing. To




Step 3: Playing Back

select a preset radio station, press ◀PRESET▶ on the main unit or CH +/- on the remote controller.

- To delete a preset station, after selecting the preset station you want to delete, press MEMORY on the remote controller, and with the preset number flashing on the display, press CLR on the remote controller.

AM/FM frequency step setting

It may be necessary for you to change the frequency step to tune the radio in your area. Change the step with the following procedure. Note that when this setting is changed, all radio presets are deleted.

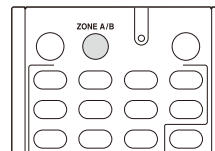
- 1 After pressing RECEIVER on the remote controller, press SETUP.
2. Select "5. Hardware" with the cursor and press ENTER.
3. Select "Tuner" with the cursor and press ENTER.
4. Select "AM / FM Frequency Step" (North American and Taiwanese models) or "AM Frequency Step" (European, Australian and Asian models) with the cursor and select the frequency step for your area.
(For Taiwanese models only)
The setting is "10 kHz / 0.2 MHz" at the time of purchase. Please change it to "9 kHz / 0.05 MHz".

4 Multi-zone

You can listen to audio in a room (called ZONE B) other than ZONE A (the room where this unit is located). You can play in both ZONE A and ZONE B or just in ZONE B.

Press ZONE A/B on the remote controller several times to select the zone.

Either "A" or "B" lights on the display of the main unit to indicate which zone is currently selected.



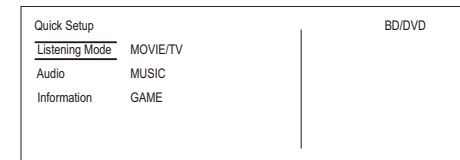
- Alternatively you can press ZONE A or ZONE B on the main unit.
- The volume of ZONE B is the same as the volume set for ZONE A.
- It is not possible to listen to different sources in ZONE A and ZONE B.
- The listening mode is fixed to All Ch Stereo when playing in ZONE B. Furthermore, no sound will be output from the back speakers and height speakers in ZONE A.

5 Quick Setup Menu

You can perform common settings on the TV screen while playing.

1. Press Q on the remote controller.

The Quick Setup menu is displayed on the connected TV's screen.

**2. Select the item with the cursors on the remote controller and then press ENTER.**

- To return to the previous screen, press RETURN.

3. Select the setting with the cursors of the remote controller.

■ **Listening Mode:** Select the listening mode from the categories of "MOVIE/TV", "MUSIC" and "GAME". After selecting the Listening Mode, press ENTER button to confirm.

- It cannot be set when audio is played from the TV's speakers.

■ **Audio:** You can perform various audio settings including audio quality and speaker level adjustment.

- You cannot select this item when audio is output from the TV's speakers.

Bass, Treble: Adjust volume of the front speaker.

- It cannot be set if the listening mode is Direct.

Phase Matching Bass: Suppress phase shift in the midrange to enhance bass sound. Thus smooth and powerful bass sound can be obtained.

- It cannot be set if the listening mode is Direct.

Center Level, Subwoofer Level: Adjust the speaker level while listening to the sound. The adjustment you made will be reset to the previous status when you turn the unit to standby mode.

- Changes may not be possible depending on the speaker settings.



Step 3: Playing Back

- This setting is not possible during MUTING or when using headphones.

A/V Sync: If the video is behind the audio, you can delay the audio to offset the gap. Different settings can be set for each input selector.

- It cannot be set if the listening mode is Direct.

AccuEQ Room Calibration: Enable or disable the settings made by automatic speaker setting. To enable them, you should normally select "On (All Ch)", and to disable just the front speakers, you should select "On (ex. L/R)". The setting can be separately set to each input selector.

- This setting cannot be selected if the automatic speaker setting has not been performed.
- It cannot be set if headphones are connected or the listening mode is Direct.

Music Optimizer: Improve the quality of the compressed audio. Playback sound of lossy compressed files such as MP3 will be improved. The setting can be separately set to each input selector.

- The setting is effective in the signals of 48 kHz or less. The setting is not effective in the bitstream signals.
- It cannot be set if the listening mode is Direct.

Late Night: Make small sounds to be easily heard. It is useful when you need to reduce the volume while watching a movie late night. You can enjoy the effect only with Dolby Digital, Dolby Digital Plus, and Dolby TrueHD input sources.

- Turning the unit to standby mode will set the setting to "Off". In case of Dolby TrueHD, the setting will be set to "Auto".
- If "Loudness Management" is set to "Off", this function is not available when playing Dolby Digital Plus or Dolby TrueHD.

Cinema Filter: Adjust the soundtrack that was processed to enhance its treble, in order to make it suitable for home theater.

- This function can be used in the following listening modes: Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Multichannel, DSD, DTS, DTS-ES, DTS Neo:6 Cinema, DTS 96/24, DTS-HD High Resolution Audio, DTS-HD Master Audio, DTS Express.

Center Spread: Adjust the width of the sound field of the front channel when playing in the Dolby Surround listening mode.

To spread the width of the sound field to the left and right, set to "On". To concentrate sound in the center, set to "Off".

- Depending on the speaker settings, this becomes "Off".

Information:

Audio: Displays the audio input source, format, number of channels, sampling frequency, listening mode, and number of output channels.

Video: Displays information such as the video input source, resolution, color space, color depth, 3D information, Aspect and output.

Tuner: Displays information such as the band, frequency, and preset number. This is displayed only when "TUNER" is selected as the input source.

6 Other useful functions

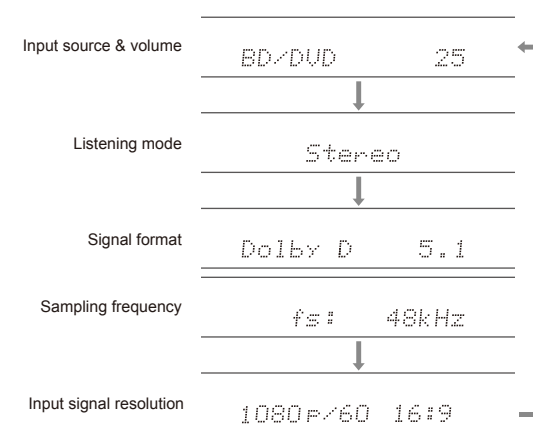
To adjust the sound quality

It is possible to enhance or moderate the bass and treble of front speakers. Press TONE on the main unit several times to select the desired setting from "Bass", "Treble" and "Phase Matching Bass", and adjust with +/-.

- It cannot be set if the listening mode is Direct.
- "Bass":** Allows you to enhance or moderate the bass.
- "Treble":** Allows you to enhance or moderate the treble.
- "Phase Matching Bass":** Allows you to keep the clear midrange and effectively enhance the bass.

Checking the Input Format

Press DISPLAY on the remote controller several times to switch the display of the main unit in order of:



- If "Dolby D 5.1" is displayed in Signal format, the Dolby Digital 5.1 ch signals are being input. When listening to AM/FM radio, the band, frequency and preset number are displayed.

Playing Audio and Video from Separate Sources

It is possible to play audio and video from different sources. For example, you can play audio from the CD player and video from the BD/DVD player. In this case, press BD/DVD and then CD. Then start playback on the BD/DVD player and CD player. This function is effective when an input with audio only has been selected (CD, TUNER or BLUETOOTH). (*)

* When BLUETOOTH is selected, press MODE on the remote controller.



Others

Troubleshooting

Before starting the procedure

Problems may be solved by simply turning the power on/off or disconnecting/connecting the power cord, which is easier than working on the connection, setting and operating procedure. Try the simple measures on both the unit and the connected device. If the problem is that the video or audio is not output or the HDMI linked operation does not work, disconnecting/connecting the HDMI cable may solve it. When reconnecting, be careful not to wind the HDMI cable since if wound the HDMI cable may not fit well. After reconnecting, turn off and on the unit and the connected device.

The AV receiver turns off unexpectedly.

- The AV receiver will automatically enter standby mode when Auto Standby or Sleep Timer is set and launched.
- The protection circuit may have been activated. If this is the case, when you turn the unit on again, "AMP Diag Mode" will appear on the main unit's display. The unit will then enter a mode that detects abnormal conditions. If no problems are detected, "AMP Diag Mode" will disappear and the unit will return to a normal state. If "CHECK SP WIRE" appears on the display, the speaker cables may be short-circuited. Turn the unit off, and check to see if the cable core of any of the speaker cables is in contact with that of another speaker cable or with the rear panel. After that, turn the unit on again. If "NG" appears, unplug the power cord immediately and contact your Onkyo dealer.

There's no sound, or it's very quiet.

- A wrong input selector button has been selected. Select a correct input for the player. Also check that muting is not on.
- Not all listening modes use all speakers.

There's no picture.

- A wrong input selector button has been selected.
- To display video from the connected player on the TV screen while the unit is in standby, you need to enable HDMI Standby Through function.
- When the TV image is blurry or unclear, power cord or connection cables of the unit may have interfered. In that case, keep distance between TV antenna cable and cables of the unit.

Video and audio are out of synch.

- Video may be delayed relative to audio depending on the settings and connections with your TV. Adjust in "Step 3: Playing Back", "5 Quick Setup Menu", "A/V Sync".

Cannot play digital surround.

- To enjoy digital surround sound including Dolby Digital and DTS, audio output should be set to "Bitstream output" on the connected Blu-ray Disc Player or other device.

Cannot output audio such as Dolby Atmos according to the format of the source.

- If you cannot output audio according to the format of the source (Dolby TrueHD, Dolby Atmos, DTS-HD Master Audio, etc.), in the Blu-ray Disc Player settings try setting "BD video supplementary sound" (or secondary sound) to "Off". Change the listening mode for each source after changing the setting to confirm.

HDMI control does not function correctly.

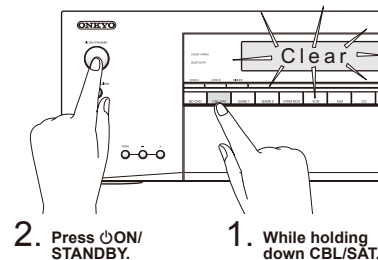
- Set the CEC link function of the unit to on. It is also necessary to make the HDMI linked system setting on the TV. See the TV's instruction manual for details.

Resetting the unit

Resetting the unit to the status at the time of shipment may solve the problem. If the measures above do not solve the problem, reset the unit with the following procedure. If you reset the unit status, your preferences will be reset to the defaults. Note them down before starting reset.

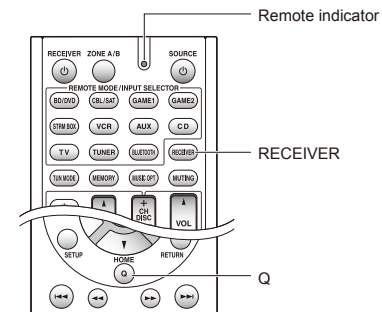
How to reset:

1. While holding down CBL/SAT on the main unit (note that step 2 must be performed with this button pressed down)
2. Press \odot ON/STANDBY on the main unit. ("Clear" appears on the display and the unit returns to standby.)
 - Do not unplug the power cord until "Clear" disappears from the display.



How to reset the remote controller:

1. While holding down RECEIVER on the remote controller, press Q until the remote indicator stays lit (about 3 seconds).
2. Within 30 seconds, press RECEIVER again.



Specifications

Amplifier Section

Rated Output Power (North American)

With 8 ohm loads, both channels driven, from 20-20,000 Hz; rated 65 watts per channel minimum RMS power, with no more than 0.7% total harmonic distortion from 250 milliwatts to rated output.

Surround Mode Output Power (*)

(6 ohms, 1 kHz THD 0.9%) 115 W per channel

* Reference output for each speakers.

Depending on the source and the listening mode settings, there may be no sound output.

Rated Output Power (Others)

7 ch x 100 W at 6 ohms, 1 kHz, 1 ch driven of 1% (IEC)

Maximum Effective Output Power

7 ch x 120 W at 6 ohms, 1 kHz, 1 ch driven (JEITA) (Asian)

Dynamic Power (*)

* IEC60268-Short-term maximum output power

160 W (3 Ω, Front)

125 W (4 Ω, Front)

85 W (8 Ω, Front)

THD+N (Total Harmonic Distortion+Noise)

0.08% (20 Hz - 20 kHz, half power)

Input Sensitivity and Impedance (Unbalance)

200 mV/47 kΩ (LINE, 1 kHz 100 W/8 Ω)

Rated RCA Output Level and Impedance

1 V/470 Ω (SUBWOOFER PRE OUT)

Frequency Response

10 Hz - 100 kHz/+1 dB, -3 dB (Direct mode)

Tone Control Characteristics

±10 dB, 20 Hz (BASS)

±10 dB, 20 kHz (TREBLE)

Signal to Noise Ratio

100 dB (LINE, IHF-A)

Speaker Impedance

6 Ω - 16 Ω

Video Section

Signal level

1.0 Vp-p/75 Ω (Component Y)

0.7 Vp-p/75 Ω (Component Pb/Cb, Pr/Cr)

1.0 Vp-p/75 Ω (Composite)

Maximum resolution supported by component video

480i/576i

Tuner Section

FM Tuning Frequency Range

87.5 MHz - 107.9 MHz (North American and Taiwanese)

87.5 MHz - 108.0 MHz, RDS (Others)

AM Tuning Frequency Range

522/530 kHz - 1611/1710 kHz

Preset Channel

40

Bluetooth Section

Communication system

Bluetooth Specification version 2.1 +EDR (Enhanced Data Rate)

Maximum communication range

Line of sight approx. 15 m (*)

Frequency band

2.4 GHz band

Modulation method

FHSS (Freq Hopping Spread Spectrum)

Compatible Bluetooth profiles

A2DP 1.3 (Advanced Audio Distribution Profile)

AVRCP 1.5 (Audio Video Remote Control Profile)

Supported Codecs

SBC

Transmission range (A2DP)

20 Hz - 20,000 Hz (Sampling frequency 44.1 kHz)

* The actual range will vary depending on factors such as obstacles between devices, magnetic fields around a microwave oven, static electricity, cordless phone, reception sensitivity, antenna's performance, operating system, software application, etc.

General

Power Supply

AC 120 V, 60 Hz (North American and Taiwanese)

AC 220 - 240 V, 50/60 Hz (Others)

Power Consumption

4.3 A (North American and Taiwanese)

420 W (Others)

0.15 W (Stand-by, North American and Taiwanese)

0.3 W (Stand-by, Others)

55 W (No-sound)

Dimensions (W x H x D)

435 mm x 160 mm x 328 mm

17-1/8" x 6-5/16" x 12-15/16"

Weight

7.8 kg (17.2 lbs.) (North American and Taiwanese)

8.0 kg (17.6 lbs.) (Others)

● HDMI

Input

BD/DVD, CBL/SAT, GAME 1, STRM BOX

Output

HDMI OUT (to TV)

Video Resolution

4K 60 Hz (RGB/YCbCr 4:4:4/YCbCr 4:2:2, 24 bit)

Audio Format

Dolby Atmos, Dolby TrueHD, Dolby Digital Plus, Dolby Digital, DTS-HD Master Audio, DTS-HD High Resolution Audio, DTS 96/24,

DTS-ES, DTS, DTS Express, DSD, Multichannel PCM (up to 8ch)

Supported

3D, Audio Return Channel, Deep Color, x.v.Color™, LipSync, CEC, 4K, Extended Colorimetry (sYCC601, Adobe RGB, Adobe YCC601), Content Type, 3D Dual View, 21:9 Aspect Ratio Video Format

● Video Inputs

Component

COMPONENT VIDEO (BD/DVD, GAME 2)

Composite

VIDEO (CBL/SAT, VCR), AUX INPUT VIDEO (front)

● Audio Inputs

Digital

OPTICAL (CD, TV)

DIGITAL AUDIO (BD/DVD)

Analog

AUDIO (BD/DVD, CBL/SAT, GAME 2, VCR, CD, TV)

AUX INPUT (front)

● Audio Outputs

Analog

Pre Out (ZONE A SUBWOOFER)

Speaker Outputs

ZONE A (FRONT L/R, CENTER, SURROUND L/R, BACK/HEIGHT L/R),

ZONE B (FRONT L/R)

Phones

PHONES (Front, ø 6.3)

● Others

Setup Mic 1 (Front)

RI REMOTE CONTROL 1

STRM BOX POWER OUT 1 (5 V/1 A)

Specifications and features are subject to change without notice.



Table of display resolutions

Refer to the following table for information about the image formats and resolutions output by this unit in response to input signals.

Input	Output	HDMI						
		4K	1080p/24	1080p	1080i	720p	480p/576p	480i/576i
HDMI	4K	○						
	1080p/24		○					
	1080p			○				
	1080i				○			
	720p					○		
	480p/576p						○	
Component	480i/576i							○
	1080p							
	1080i							
	720p							
	480p/576p							
Composite	480i/576i							○

Resolutions supported by HDMI

Input support	Content protection technology	Display resolution	Frame rate	Color space	Color Depth	Remarks
HDMI input (BD/DVD, CBL/SAT, GAME1, STRM BOX)	HDCP1.4 HDCP2.2	720×480i	60Hz	RGB/YCbCr4:4:4/ YCbCr4:2:2	8/10/12/16bit	With YCbCr4:2:2, Color Depth supported is up to 8/10/12bit.
		720×576i	50Hz			
		720×480p	60Hz			
		720×576p	50Hz			
		1920×1080i	50/60Hz			
		1280×720p	24/25/30/50/60Hz			
		1680×720p	24/25/30/50/60Hz			
		1920×1080p	24/25/30/50/60Hz			
		2560×1080p	24/25/30/50/60Hz			
		4K (3840×2160p)	24/25/30Hz			
	50/60Hz			YCbCr4:2:2	8/10/12bit	
			YCbCr4:2:0			8/10/12/16bit
	4K SMPTE (4096×2160p)			24/25/30Hz	RGB/YCbCr4:4:4/ YCbCr4:2:2	
		50/60Hz	YCbCr4:2:2			8/10/12bit
YCbCr4:2:0	8/10/12/16bit					



Precautions

For European Models

Declaration of Conformity

We declare, under our sole responsibility, that this product complies with the standards:

- Safety
 - Limits and methods of measurement of radio disturbance characteristics
 - Limits for harmonic current emissions
 - Limitation of voltage changes, voltage fluctuations and flicker
 - RoHS Directive, 2011/65/EU
- Hereby, Onkyo Corporation, declares that this TX-SR444 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
- С настоящето, Onkyo Corporation, декларира, че TX-SR444 е в съответствие със съществените изисквания и другитеприложими разпоредби на Директива 1999/5/EC.
- Onkyo Corporation tímto prohlašuje, že TX-SR444 splňuje základní požadavky a všechna příslušná ustanovení Směrnice 1999/5/ES.
- Undertegnede Onkyo Corporation erklærer herved, at følgende udstyr TX-SR444 overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
- Hiermit erklärt Onkyo Corporation, dass sich das Gerät TX-SR444 in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
- Käesolevaga kinnitab Onkyo Corporation seadme TX-SR444 vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
- ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Ο ΚΑΤΑΣΚΕΥΑΣΤΗΣ Onkyo Corporation ΔΗΛΩΝΕΙ ΟΤΙ ΤΑ TX-SR444 ΣΥΜΜΟΡΦΟΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ
- Por la presente, Onkyo Corporation, declara que este TX-SR444 cumple con los requisitos esenciales y otras exigencias relevantes de la Directiva 1999/5/EC.
- Par la présente, Onkyo Corporation déclare que l'appareil TX-SR444 est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
- Con la presente Onkyo Corporation dichiara che questo TX-SR444 è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
- Ar šo Onkyo Corporation deklarē, ka TX-SR444 atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
- Šiuo Onkyo Corporation deklaruoja, kad šis TX-SR444 atitinka esminius reikalavimus ir kitas 1999/5/EB Direktivos nuostatas.
- A Onkyo Corporation ezzenel kijelenti, hogy a TX-SR444 típusú berendezés teljesíti az alapvető követelményeket és más 1999/5/EK irányelvben meghatározott vonatkozó rendelkezéseket.
- Hierbij verklaart Onkyo Corporation dat het toestel I TX-SR444 in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
- Niniejszym Onkyo Corporation deklaruje że TX-SR444 jest zgodny z zasadniczymi wymaganiami i innymi właściwymi postanowieniami Dyrektywy 1999/5/EC.
- Eu, Onkyo Corporation, declaro que o TX-SR444 cumpre os requisitos essenciais e outras provisões relevantes da Directiva 1999/5/EC.



- Prin prezenta, Onkyo Corporation, declară că aparatul TX-SR444 este în conformitate cu cerințele esențiale și cu alte prevederi pertinente ale Directivei 1999/5/CE.
- Onkyo Corporation tímto vyhlasuje, že TX-SR444 a splňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
- Onkyo Corporation izjavlja, da je ta TX-SR444 v skladu z bistvenimi zahtevami in drugimi relevantnimi določili direktive 1999/5/ES.
- Onkyo Corporation vakuuttaa täten että TX-SR444 tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
- Härmed förklarar Onkyo Corporation att denna TX-SR444 följer de väsentliga kraven och andra relevanta stadgar i Direktiv 1999/5/EC.
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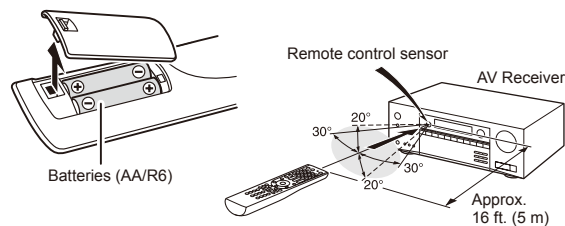


Supplied Accessories

-  Indoor FM antenna --- (1)
-  AM loop antenna --- (1)
-  Remote controller (RC-896M) --- (1)
Batteries (AA/R6) --- (2)
-  Power cord (Taiwanese models) --- (1)
-  Speaker setup microphone --- (1)

* The number in parenthesis indicates the quantity. On packaging, the letter at the end of the product name indicates the color.

How to use the remote controller



- * If you do not use the remote controller for a long time, remove the batteries to prevent leakage.
- * Note that keeping consumed batteries inside may cause corrosion resulting in damage of the remote controller.

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Please contact an Onkyo distributor referring to Onkyo
SUPPORT site.

<http://www.intl.onkyo.com/support/>

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F1504-1



ONKYO

TX-SR444
AV RECEIVER

Advanced Manual

[The Basic Manual](#) includes information needed when starting up and also instructions for frequently used operations. [The Advanced Manual](#) has more detailed information and advanced settings.

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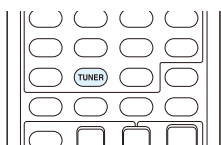
Details on AM/FM reception

Details on AM/FM reception

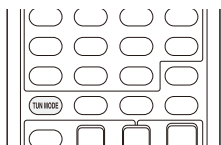
Tuning into a Radio Station

■ Tuning Automatically

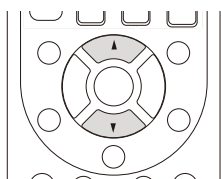
1. Press TUNER on the remote controller several times to select either "AM" or "FM".



2. Press TUN MODE so that the "AUTO" indicator on the display lights.



3. Press the cursors ▲/▼ to start automatic tuning.
 - Alternatively you can press ▼TUNING▲ on the main unit to start tuning automatically.
 - Searching automatically stops when a station is found. When tuned into a radio station, the "▶TUNED◀" indicator on the display lights. When tuned into an FM radio station, the "FM STEREO" indicator lights.
 - No sound is output while the "▶TUNED◀" indicator is off.

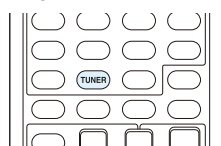


When the signal from an FM radio station is weak:

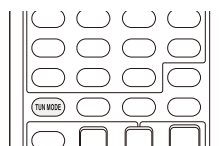
Radio wave may be weak depending on the building structure and environmental conditions. In that case, perform the procedure as explained below in "Tuning Manually" to manually select the desired station.

■ Tuning Manually

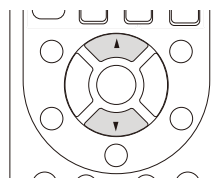
1. Press TUNER on the remote controller several times to select either "AM" or "FM".



2. Press TUN MODE so that the "AUTO" indicator on the display goes off.



3. While pressing the cursors ▲/▼, select the desired radio station.
 - Alternatively you can press ▼TUNING▲ on the main unit.
 - The frequency changes by 1 step each time you press the button. The frequency changes continuously if the button is held down and stops when the button is released. Tune by looking at the display.

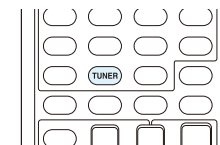


To return to automatic tuning: Press TUN MODE on the remote controller again. The unit tunes automatically into a radio station. Normally "AUTO" should be displayed.

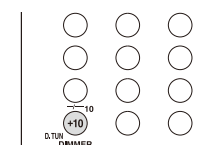
■ Directly inputting the frequency

It allows you to directly enter the frequency of the radio station you want to listen to.

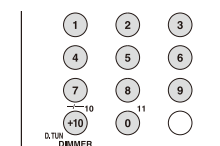
1. Press TUNER on the remote controller several times to select either "AM" or "FM".



2. Press D.TUN.



3. Using the number buttons, enter the frequency of the radio station within 8 seconds.
 - To enter 87.5 (FM), for example, press 8, 7, 5, or 8, 7, 5, 0. If you entered a wrong number, press D.TUN and enter a correct one.



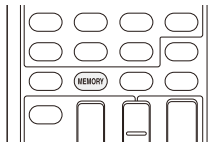
Details on AM/FM reception

Presetting a Radio Station

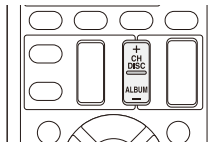
It allows you to register up to 40 of your favorite AM/FM radio stations. Registering radio stations in advance allows you to tune into your radio station of choice directly.

Registration Procedure

1. Tune into the AM/FM radio station you want to register.
2. Press MEMORY on the remote controller so that the preset number on the display flashes.



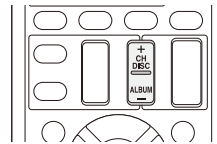
3. Press CH +/- several times to select a number between 1 and 40 while the preset number is flashing (about 8 seconds).
 - Alternatively you can press ◀PRESET▶ on the main unit.



4. Press MEMORY again to register the station.
 - When the station is registered, the preset number stops flashing.
 - Repeat this procedure for all of your favorite AM/FM radio stations.

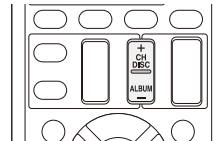
Selecting a Preset Radio Station

1. Press CH +/- on the remote controller to select a preset number.
 - Alternatively you can press ◀PRESET▶ on the main unit. You can also select by directly entering the preset number with the number buttons on the remote controller.

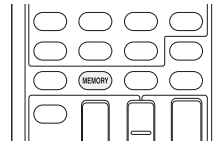


Deleting a Preset Radio Station

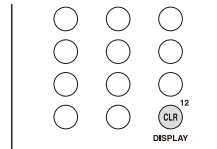
1. Press CH +/- on the remote controller to select the preset number to delete.



2. Press MEMORY so that the preset number on the display flashes.



3. Press CLR while the preset number is flashing (about 8 seconds) to delete the preset number.
 - When deleted, the number on the display goes off.



Using RDS (European, Australian and Asian models)

RDS stands for Radio Data System and is a method of transmitting data in FM radio signals.

- RDS works only in areas where RDS broadcasts are available.
- In some cases, the text information appeared on the display is not identical to the content transmitted by the RDS station. Furthermore, unexpected characters may be displayed when the unit receives unsupported characters. However, this is not a malfunction.
- If the signal from an RDS station is weak, the RDS data may be displayed continuously or not at all.

PS (Program Service): Tuning into a radio station distributing Program Service information displays the radio station name. Pressing DISPLAY displays the frequency for 3 seconds.

RT (Radio Text): Tuning into a radio station transmitting Radio Text information displays text on the display of the unit.

PTY (Program Type): Allows you to search for RDS stations by program type.

TP (Traffic Program): Allows you to search for radio stations transmitting traffic information.

Displaying Radio Text (RT)

1. Press RT/PTY/TP on the main unit once.
 - The Radio Text (RT) is displayed scrolling across the display. "No Text Data" is displayed when no text information is available.



Searching by Type (PTY)

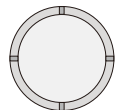
1. Press RT/PTY/TP on the main unit twice.
 - The current program type appears on the display.



2. Press ◀PRESET▶ to select the type of program to search for.



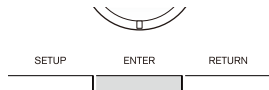
TUNING ▲ / PRESET ▼



- The following RDS station types are displayed:

None
 News (News reports)
 Affairs (Current affairs)
 Info (Information)
 Sport
 Educate (Education)
 Drama
 Culture
 Science (Science and technology)
 Varied
 Pop M (Pop music)
 Rock M (Rock music)
 Easy M (Middle of the road music)
 Light M (Light classics)
 Classics (Serious classics)
 Other M (Other music)
 Weather
 Finance
 Children (Children's programmes)
 Social (Social affairs)
 Religion
 Phone In
 Travel
 Leisure
 Jazz (Jazz music)
 Country (Country music)
 Nation M (National music)
 Oldies (Oldies music)
 Folk M (Folk music)
 Document (Documentary)

- Press ENTER to search the radio stations of the selected type.



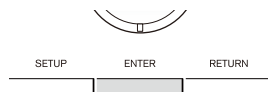
- When such a radio station is found, the indication on the display flashes. Then, press ENTER again.
 - If no stations are found, the message "Not Found" is displayed.

■ Listening to Traffic Information (TP)

- Press RT/PTY/TP on the main unit three times.
 - "[TP]" will be displayed if traffic information is transmitted by the radio station you are tuned in. "TP" only is displayed if no traffic information is available.



- Press ENTER to search a radio station distributing traffic information.



- When a radio station is found, searching stops and traffic information starts.
 - "Not Found" is displayed if no radio station distributing traffic information is found.



Operating Music Files with the Remote Controller

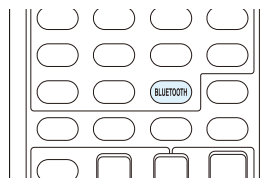
About the Remote Controller

Use the remote controller of this unit to play music files stored on a Bluetooth-enabled device.

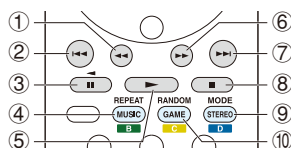
- The Bluetooth-enabled devices must support the AVRCP profile. Some devices may not be operated, even when they support AVRCP profile.

Remote Controller Buttons

1. Press BLUETOOTH on the remote controller.



2. Operate the remote controller by referring to the name and function of each of the buttons.



- ① ◀◀: This button fast-reverses the current track.
- ② ◀◀◀: This button plays the current track from the beginning. Pressing this button twice plays the previous track.
- ③ ||: This button pauses the playback.
- ④ REPEAT: This button replays the track (or tracks). Pressing this button repeatedly cycles through the repeat modes.
- ⑤ ▶: This button starts the playback.
- ⑥ ▶▶: This button fast-forwards the current track.

- ⑦ ▶▶|: This button plays the next track.
- ⑧ ■: This button stops the playback.
- ⑨ MODE: This button displays the video from the input selected in "Video Select". Each press of the button displays or turns off the video. You can change the display position of the OSD by pressing ENTER while the video is displayed on the screen.
 - These buttons are disabled when the OSD language is set to Chinese. (European, Australian, Taiwanese and Asian models)
- ⑩ RANDOM: This button performs random playback.

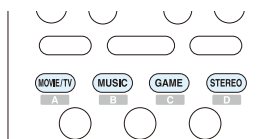


Using the Listening Modes

Selecting Listening Mode

The listening modes allow you to select the best sound effect for your input source.

1. After pressing RECEIVER on the remote controller, press one of the following four buttons.



2. Press the selected button repeatedly to switch the modes displayed on the display of the unit.
 - Set the listening mode of your choice by listening to the actual sound.

Dolby D

For details on the listening modes see "Listening Mode Types". For listening modes selectable with each button, refer to "Selectable Listening Modes".

Listening Mode Types

In alphabetical order

■ AllCh Stereo

Ideal for background music, this mode fills the entire listening area with stereo sound.

■ Direct

In this mode, audio from the input source is output as-is. For example, if a 2 ch source from a music CD is input, the output will be stereo, or if Dolby Digital signal is input, the sound field will be controlled in accordance with the number of channels present.

■ Dolby Atmos

Introduced first in the cinema, Dolby Atmos brings a revolutionary sense of dimension and immersion to the Home Theater experience. Dolby Atmos is an adaptable and scalable object based format that reproduces audio as independent sounds (or objects) that can be accurately positioned and move dynamically throughout the 3 dimensional listening space during playback. A key ingredient of Dolby Atmos is the introduction of a height plane of sound above the listener.

■ Dolby D (Dolby Digital)

Mode suitable for playing sources recorded in Dolby Digital.

- This listening mode can be selected only if your Blu-ray Disc/DVD player is digitally connected to the unit or the player's output setting is bitstream.

■ Dolby D+ (Dolby Digital Plus)

Mode suitable for playing sources recorded in Dolby Digital Plus.

- This listening mode can be selected only if your Blu-ray Disc/DVD player is digitally connected to the unit or the player's output setting is bitstream.

■ Dolby Surround

Dolby surround is a next generation surround technology that intelligently up mixes stereo; 5.1 and 7.1 content for playback through your surround speaker system. Dolby surround is compatible with traditional speaker layouts, as well as Dolby Atmos enabled playback systems that employ in-ceiling speakers or products with Dolby speaker technology.

■ Dolby TrueHD

Mode suitable for playing sources recorded in Dolby TrueHD.

- This listening mode can be selected only if your Blu-ray Disc/DVD player is digitally connected to the unit or the player's output setting is bitstream.

■ DSD

Mode suitable for playing sources recorded in DSD.

- This unit supports DSD signals input through HDMI input jack. However, depending on the connected player, better sound is possible when output from the PCM output of the player.
- This listening mode cannot be selected if the output setting on your Blu-ray Disc/DVD player is not set to DSD.

■ DTS

Mode suitable for playing sources recorded in DTS.

- This listening mode can be selected only if your Blu-ray Disc/DVD player is digitally connected to the unit or the player's output setting is bitstream.

■ DTS 96/24

Mode suitable for playing sources recorded in DTS 96/24. With 96 kHz sampling rate and 24-bit resolution, it provides superior fidelity.

- Depending on the settings, this listening mode becomes DTS.
- This listening mode can be selected only if your Blu-ray Disc/DVD player is digitally connected to the unit or the player's output setting is bitstream.

■ DTS Express

Mode suitable for playing sources recorded in DTS Express.

- This listening mode can be selected only if your Blu-ray Disc/DVD player is digitally connected to the unit or the player's output setting is bitstream.

■ DTS-HD HR (DTS-HD High Resolution Audio)

Mode suitable for playing sources recorded in DTS-HD High Resolution Audio.

- This listening mode can be selected only if your Blu-ray Disc/DVD player is digitally connected to the unit or the player's output setting is bitstream.



Using the Listening Modes

■ DTS-HD MSTR (DTS-HD Master Audio)

Mode suitable for playing sources recorded in DTS-HD Master Audio.

- This listening mode can be selected only if your Blu-ray Disc/DVD player is digitally connected to the unit or the player's output setting is bitstream.

■ DTS Neo:6

This mode expands any 2 ch source for 5.1 ch multichannel surround playback. It offers full-bandwidth on all channels, with great independence between the channels. There are two variants for this mode: one ideal for movies and another ideal for music.

- **Neo:6 Cinema:** Use this mode with any 2 ch movie.
- **Neo:6 Music:** Use this mode with any 2 ch music source.

■ ES Discrete (DTS-ES Discrete)

This mode is for use with DTS-ES Discrete sources and enables 6.1 ch or 7.1 ch playback using back channel. Completely discrete seven channels will improve spatial imaging and enable 360-degree sound localization producing a sound crossing between the surround channels.

- This listening mode can be selected only if your Blu-ray Disc/DVD player is digitally connected to the unit or the player's output setting is bitstream.
- Use on the DVD with DTS ES logo, particularly on the software containing DTS-ES Matrix soundtrack.

■ ES Matrix (DTS-ES Matrix)

This mode is for use with DTS-ES Matrix soundtrack and enables 6.1 ch or 7.1 ch playback using matrix-encoded back channel.

- This listening mode can be selected only if your Blu-ray Disc/DVD player is digitally connected to the unit or the player's output setting is bitstream.
- Use on the CD, DVD or LD with DTS ES logo, particularly on the software containing DTS-ES Matrix soundtrack.

■ Full Mono

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

■ Game-Action

In this mode, sound localization is distinct with emphasis on bass.

■ Game-Rock

In this mode, sound pressure is emphasized to heighten live feel.

■ Game-RPG

In this mode, the sound has a dramatic feel with a similar atmosphere to Orchestra mode.

■ Game-Sports

Suitable for audio source with much reverberation.

■ Mono

Use this mode when watching an old movie with a mono soundtrack, or use it to separately reproduce soundtracks in two different languages recorded in the left and right channels of some movies. It is also suitable for DVDs or other sources containing multiplexed audio.

■ Multich (Multichannel)

Mode suitable for playing sources recorded in PCM multichannel.

■ Orchestra

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

■ Stereo

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

■ Studio-Mix

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

■ T-D (Theater-Dimensional)

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

listener's left and right ears.

■ TV Logic

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

■ Unplugged

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



Using the Listening Modes

Selectable Listening Modes

Listening modes that can be selected with the listening mode buttons will differ depending on the input signal format and actual speaker configuration. Also note that depending on the player settings and content, some listening modes may not be available for selecting.

- Listening modes available when headphones are connected are: Mono, Direct, and Stereo.

■ **MOVIE/TV button**

You can select a mode suitable for movies and TV programs.

Input Format	Listening Mode
Analog	Direct
	Mono
	Dolby Surround
	Neo:6 Cinema*1
	TV Logic*2
	AllCh Stereo*3
	Full Mono*3
T-D	

*1 Center speaker or surround speakers need to be installed.

*2 Surround speakers or height speakers need to be installed.

*3 Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
PCM	Direct
	Mono
	Dolby Surround
	Neo:6 Cinema*1
	TV Logic*2
	AllCh Stereo*3
	Full Mono*3
T-D	

*1 Center speaker or surround speakers need to be installed.

*2 Surround speakers or height speakers need to be installed.

*3 Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
Multich PCM	Direct
	Mono
	Multich*1
	Dolby Surround
	TV Logic*2
	AllCh Stereo*3
	Full Mono*3
T-D	

*1 Center speaker or surround speakers need to be installed.

*2 Surround speakers or height speakers need to be installed.

*3 Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
DSD	Direct
	Mono
	DSD*1 *2
	Dolby Surround
	Neo:6 Cinema*3
	TV Logic*4
	AllCh Stereo*5
	Full Mono*5
	T-D

*1 Cannot be selected when the input format is monaural or 2 ch.

*2 Center speaker or surround speakers need to be installed.

*3 Can only be selected when the input format is 2 ch and a center speaker or surround speakers are installed.

*4 Surround speakers or height speakers need to be installed.

*5 Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
Dolby Atmos	Direct
	Mono
	Dolby Atmos
	TV Logic
	AllCh Stereo
	Full Mono
T-D	

- The listening mode of Dolby Digital Plus or Dolby TrueHD can be selected if back speakers or height speakers are not connected.

Input Format	Listening Mode
Dolby D	Direct
	Mono
	Dolby D*1 *2
	Dolby Surround
	Neo:6 Cinema*3
	TV Logic*4
	AllCh Stereo*5
	Full Mono*5
	T-D

*1 Cannot be selected when the input format is monaural or 2 ch.

*2 Center speaker or surround speakers need to be installed.

*3 Can only be selected when the input format is 2 ch and a center speaker or surround speakers are installed.

*4 Surround speakers or height speakers need to be installed.

*5 Center speaker, surround speakers or height speakers need to be installed.



Using the Listening Modes

Input Format	Listening Mode
Dolby D+	Direct
	Mono
	Dolby D+*1 *2
	Dolby Surround
	Neo:6 Cinema*3
	TV Logic*4
	AllCh Stereo*5
	Full Mono*5
	T-D

*1 Cannot be selected when the input format is monaural or 2 ch.

*2 Center speaker or surround speakers need to be installed.

*3 Can only be selected when the input format is 2 ch and a center speaker or surround speakers are installed.

*4 Surround speakers or height speakers need to be installed.

*5 Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
Dolby TrueHD	Direct
	Mono
	Dolby TrueHD*1 *2
	Dolby Surround
	Neo:6 Cinema*3
	TV Logic*4
	AllCh Stereo*5
	Full Mono*5
	T-D

*1 Cannot be selected when the input format is monaural or 2 ch.

*2 Center speaker or surround speakers need to be installed.

*3 Can only be selected when the input format is 2 ch and a center speaker or surround speakers are installed.

*4 Surround speakers or height speakers need to be installed.

*5 Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
DTS	Direct
	Mono
	DTS*1 *2
	Dolby Surround
	Neo:6 Cinema*3
	TV Logic*4
	AllCh Stereo*5
	Full Mono*5
	T-D

*1 Cannot be selected when the input format is monaural or 2 ch.

*2 Center speaker or surround speakers need to be installed.

*3 Can only be selected when the input format is 2 ch and a center speaker or surround speakers are installed.

*4 Surround speakers or height speakers need to be installed.

*5 Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
DTS 96/24	Direct
	Mono
	DTS 96/24*1 *2
	Dolby Surround
	Neo:6 Cinema*3
	TV Logic*4
	AllCh Stereo*5
	Full Mono*5
	T-D

*1 Cannot be selected when the input format is monaural or 2 ch.

*2 Center speaker or surround speakers need to be installed.

*3 Can only be selected when the input format is 2 ch and a center speaker or surround speakers are installed.

*4 Surround speakers or height speakers need to be installed.

*5 Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
DTS Express	Direct
	Mono
	DTS Express*1 *2
	Dolby Surround
	Neo:6 Cinema*3
	TV Logic*4
	AllCh Stereo*5
	Full Mono*5
	T-D

*1 Cannot be selected when the input format is monaural or 2 ch.

*2 Center speaker or surround speakers need to be installed.

*3 Can only be selected when the input format is 2 ch and a center speaker or surround speakers are installed.

*4 Surround speakers or height speakers need to be installed.

*5 Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
DTS-HD HR	Direct
	Mono
	DTS-HD HR*1 *2
	Dolby Surround
	Neo:6 Cinema*3
	TV Logic*4
	AllCh Stereo*5
	Full Mono*5
	T-D

*1 Cannot be selected when the input format is monaural or 2 ch.

*2 Center speaker or surround speakers need to be installed.

*3 Can only be selected when the input format is 2 ch and a center speaker or surround speakers are installed.

*4 Surround speakers or height speakers need to be installed.

*5 Center speaker, surround speakers or height speakers need to be installed.



Using the Listening Modes

Input Format	Listening Mode
DTS-HD MSTR	Direct
	Mono
	DTS-HD MSTR*1 *2
	Dolby Surround
	Neo:6 Cinema*3
	TV Logic*4
	AllCh Stereo*5
	Full Mono*5
	T-D

*1 Cannot be selected when the input format is monaural or 2 ch.

*2 Center speaker or surround speakers need to be installed.

*3 Can only be selected when the input format is 2 ch and a center speaker or surround speakers are installed.

*4 Surround speakers or height speakers need to be installed.

*5 Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
DTS-ES	Direct
	Mono
	DTS*1
	ES Matrix*2
	ES Discrete*2
	Dolby Surround*3
	TV Logic*4
	AllCh Stereo*5
	Full Mono*5
	T-D

*1 Can only be selected when the back speakers are not installed.

*2 Back speakers need to be installed.

*3 Height speakers need to be installed.

*4 Surround speakers or height speakers need to be installed.

*5 Center speaker, surround speakers or height speakers need to be installed.

■ MUSIC button

You can select a mode suitable for music.

Input Format	Listening Mode
Analog	Direct
	Stereo
	Dolby Surround
	Neo:6 Music*1
	Orchestra*2
	Unplugged*2
	Studio-Mix*2
	AllCh Stereo*3
	Full Mono*3

*1 Center speaker or surround speakers need to be installed.

*2 Surround speakers or height speakers need to be installed.

*3 Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
PCM	Direct
	Stereo
	Dolby Surround
	Neo:6 Music*1
	Orchestra*2
	Unplugged*2
	Studio-Mix*2
	AllCh Stereo*3
	Full Mono*3

*1 Center speaker or surround speakers need to be installed.

*2 Surround speakers or height speakers need to be installed.

*3 Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
Multich PCM	Direct
	Stereo
	Multich*1
	Dolby Surround
	Orchestra*2
	Unplugged*2
	Studio-Mix*2
	AllCh Stereo*3
	Full Mono*3

*1 Center speaker or surround speakers need to be installed.

*2 Surround speakers or height speakers need to be installed.

*3 Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
DSD	Direct
	Stereo
	DSD*1 *2
	Dolby Surround
	Neo:6 Music*3
	Orchestra*4
	Unplugged*4
	Studio-Mix*4
	AllCh Stereo*5
	Full Mono*5

*1 Cannot be selected when the input format is monaural or 2 ch.

*2 Center speaker or surround speakers need to be installed.

*3 Can only be selected when the input format is 2 ch and a center speaker or surround speakers are installed.

*4 Surround speakers or height speakers need to be installed.

*5 Center speaker, surround speakers or height speakers need to be installed.



Using the Listening Modes

Input Format	Listening Mode
Dolby Atmos • The listening mode of Dolby Digital Plus or Dolby TrueHD can be selected if back speakers or height speakers are not connected.	Direct
	Stereo
	Dolby Atmos
	Orchestra
	Unplugged
	Studio-Mix
	AllCh Stereo
	Full Mono

Input Format	Listening Mode
Dolby D	Direct
	Stereo
	Dolby D ^{*1 *2}
	Dolby Surround
	Neo:6 Music ^{*3}
	Orchestra ^{*4}
	Unplugged ^{*4}
	Studio-Mix ^{*4}
	AllCh Stereo ^{*5}
Full Mono ^{*5}	

^{*1} Cannot be selected when the input format is monaural or 2 ch.

^{*2} Center speaker or surround speakers need to be installed.

^{*3} Can only be selected when the input format is 2 ch and a center speaker or surround speakers are installed.

^{*4} Surround speakers or height speakers need to be installed.

^{*5} Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
Dolby D+	Direct
	Stereo
	Dolby D+ ^{*1 *2}
	Dolby Surround
	Neo:6 Music ^{*3}
	Orchestra ^{*4}
	Unplugged ^{*4}
	Studio-Mix ^{*4}
	AllCh Stereo ^{*5}
	Full Mono ^{*5}

^{*1} Cannot be selected when the input format is monaural or 2 ch.

^{*2} Center speaker or surround speakers need to be installed.

^{*3} Can only be selected when the input format is 2 ch and a center speaker or surround speakers are installed.

^{*4} Surround speakers or height speakers need to be installed.

^{*5} Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
Dolby TrueHD	Direct
	Stereo
	Dolby TrueHD ^{*1 *2}
	Dolby Surround
	Neo:6 Music ^{*3}
	Orchestra ^{*4}
	Unplugged ^{*4}
	Studio-Mix ^{*4}
	AllCh Stereo ^{*5}
	Full Mono ^{*5}

^{*1} Cannot be selected when the input format is monaural or 2 ch.

^{*2} Center speaker or surround speakers need to be installed.

^{*3} Can only be selected when the input format is 2 ch and a center speaker or surround speakers are installed.

^{*4} Surround speakers or height speakers need to be installed.

^{*5} Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
DTS	Direct
	Stereo
	DTS ^{*1 *2}
	Dolby Surround
	Neo:6 Music ^{*3}
	Orchestra ^{*4}
	Unplugged ^{*4}
	Studio-Mix ^{*4}
AllCh Stereo ^{*5}	
Full Mono ^{*5}	

^{*1} Cannot be selected when the input format is monaural or 2 ch.

^{*2} Center speaker or surround speakers need to be installed.

^{*3} Can only be selected when the input format is 2 ch and a center speaker or surround speakers are installed.

^{*4} Surround speakers or height speakers need to be installed.

^{*5} Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
DTS 96/24	Direct
	Stereo
	DTS 96/24 ^{*1 *2}
	Dolby Surround
	Neo:6 Music ^{*3}
	Orchestra ^{*4}
	Unplugged ^{*4}
	Studio-Mix ^{*4}
AllCh Stereo ^{*5}	
Full Mono ^{*5}	

^{*1} Cannot be selected when the input format is monaural or 2 ch.

^{*2} Center speaker or surround speakers need to be installed.

^{*3} Can only be selected when the input format is 2 ch and a center speaker or surround speakers are installed.

^{*4} Surround speakers or height speakers need to be installed.

^{*5} Center speaker, surround speakers or height speakers need to be installed.



Using the Listening Modes

Input Format	Listening Mode
DTS Express	Direct
	Stereo
	DTS Express* ¹ * ²
	Dolby Surround
	Neo:6 Music* ³
	Orchestra* ⁴
	Unplugged* ⁴
	Studio-Mix* ⁴
	AllCh Stereo* ⁵
	Full Mono* ⁵

*¹ Cannot be selected when the input format is monaural or 2 ch.

*² Center speaker or surround speakers need to be installed.

*³ Can only be selected when the input format is 2 ch and a center speaker or surround speakers are installed.

*⁴ Surround speakers or height speakers need to be installed.

*⁵ Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
DTS-HD HR	Direct
	Stereo
	DTS-HD HR* ¹ * ²
	Dolby Surround
	Neo:6 Music* ³
	Orchestra* ⁴
	Unplugged* ⁴
	Studio-Mix* ⁴
	AllCh Stereo* ⁵
	Full Mono* ⁵

*¹ Cannot be selected when the input format is monaural or 2 ch.

*² Center speaker or surround speakers need to be installed.

*³ Can only be selected when the input format is 2 ch and a center speaker or surround speakers are installed.

*⁴ Surround speakers or height speakers need to be installed.

*⁵ Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
DTS-HD MSTR	Direct
	Stereo
	DTS-HD MSTR* ¹ * ²
	Dolby Surround
	Neo:6 Music* ³
	Orchestra* ⁴
	Unplugged* ⁴
	Studio-Mix* ⁴
	AllCh Stereo* ⁵
	Full Mono* ⁵

*¹ Cannot be selected when the input format is monaural or 2 ch.

*² Center speaker or surround speakers need to be installed.

*³ Can only be selected when the input format is 2 ch and a center speaker or surround speakers are installed.

*⁴ Surround speakers or height speakers need to be installed.

*⁵ Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
DTS-ES	Direct
	Stereo
	DTS* ¹
	ES Matrix* ²
	ES Discrete* ²
	Dolby Surround* ³
	Orchestra* ⁴
	Unplugged* ⁴
	Studio-Mix* ⁴
	AllCh Stereo* ⁵
Full Mono* ⁵	

*¹ Can only be selected when the back speakers are not installed.

*² Back speakers need to be installed.

*³ Height speakers need to be installed.

*⁴ Surround speakers or height speakers need to be installed.

*⁵ Center speaker, surround speakers or height speakers need to be installed.

■ GAME button

You can select a mode suitable for games.

Input Format	Listening Mode
Analog	Direct
	Dolby Surround
	Game-RPG* ¹
	Game-Action* ¹
	Game-Rock* ¹
	Game-Sports* ¹
	AllCh Stereo* ²
	Full Mono* ²
T-D	

*¹ Surround speakers or height speakers need to be installed.

*² Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
PCM	Direct
	Dolby Surround
	Game-RPG* ¹
	Game-Action* ¹
	Game-Rock* ¹
	Game-Sports* ¹
	AllCh Stereo* ²
	Full Mono* ²
	T-D

*¹ Surround speakers or height speakers need to be installed.

*² Center speaker, surround speakers or height speakers need to be installed.



Using the Listening Modes

Input Format	Listening Mode
Multich PCM	Direct
	Multich* ¹
	Dolby Surround
	Game-RPG* ²
	Game-Action* ²
	Game-Rock* ²
	Game-Sports* ²
	AllCh Stereo* ³
	Full Mono* ³
	T-D

*¹ Center speaker or surround speakers need to be installed.

*² Surround speakers or height speakers need to be installed.

*³ Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
DSD	Direct
	DSD* ¹ * ²
	Dolby Surround
	Game-RPG* ³
	Game-Action* ³
	Game-Rock* ³
	Game-Sports* ³
	AllCh Stereo* ⁴
	Full Mono* ⁴
	T-D

*¹ Cannot be selected when the input format is monaural or 2 ch.

*² Center speaker or surround speakers need to be installed.

*³ Surround speakers or height speakers need to be installed.

*⁴ Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
Dolby Atmos • The listening mode of Dolby Digital Plus or Dolby TrueHD can be selected if back speakers or height speakers are not connected.	Direct
	Dolby Atmos
	Game-RPG
	Game-Action
	Game-Rock
	Game-Sports
	AllCh Stereo
	Full Mono
	T-D

Input Format	Listening Mode
Dolby D	Direct
	Dolby D* ¹ * ²
	Dolby Surround
	Game-RPG* ³
	Game-Action* ³
	Game-Rock* ³
	Game-Sports* ³
	AllCh Stereo* ⁴
	Full Mono* ⁴
	T-D

*¹ Cannot be selected when the input format is monaural or 2 ch.

*² Center speaker or surround speakers need to be installed.

*³ Surround speakers or height speakers need to be installed.

*⁴ Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
Dolby D+	Direct
	Dolby D+* ¹ * ²
	Dolby Surround
	Game-RPG* ³
	Game-Action* ³
	Game-Rock* ³
	Game-Sports* ³
	AllCh Stereo* ⁴
	Full Mono* ⁴
	T-D

*¹ Cannot be selected when the input format is monaural or 2 ch.

*² Center speaker or surround speakers need to be installed.

*³ Surround speakers or height speakers need to be installed.

*⁴ Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
Dolby TrueHD	Direct
	Dolby TrueHD* ¹ * ²
	Dolby Surround
	Game-RPG* ³
	Game-Action* ³
	Game-Rock* ³
	Game-Sports* ³
	AllCh Stereo* ⁴
	Full Mono* ⁴
	T-D

*¹ Cannot be selected when the input format is monaural or 2 ch.

*² Center speaker or surround speakers need to be installed.

*³ Surround speakers or height speakers need to be installed.

*⁴ Center speaker, surround speakers or height speakers need to be installed.



Using the Listening Modes

Input Format	Listening Mode
DTS	Direct
	DTS*1 *2
	Dolby Surround
	Game-RPG*3
	Game-Action*3
	Game-Rock*3
	Game-Sports*3
	AllCh Stereo*4
	Full Mono*4
	T-D

*1 Cannot be selected when the input format is monaural or 2 ch.

*2 Center speaker or surround speakers need to be installed.

*3 Surround speakers or height speakers need to be installed.

*4 Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
DTS Express	Direct
	DTS Express*1 *2
	Dolby Surround
	Game-RPG*3
	Game-Action*3
	Game-Rock*3
	Game-Sports*3
	AllCh Stereo*4
	Full Mono*4
	T-D

*1 Cannot be selected when the input format is monaural or 2 ch.

*2 Center speaker or surround speakers need to be installed.

*3 Surround speakers or height speakers need to be installed.

*4 Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
DTS-HD MSTR	Direct
	DTS-HD MSTR*1 *2
	Dolby Surround
	Game-RPG*3
	Game-Action*3
	Game-Rock*3
	Game-Sports*3
	AllCh Stereo*4
	Full Mono*4
	T-D

*1 Cannot be selected when the input format is monaural or 2 ch.

*2 Center speaker or surround speakers need to be installed.

*3 Surround speakers or height speakers need to be installed.

*4 Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
DTS 96/24	Direct
	DTS 96/24*1 *2
	Dolby Surround
	Game-RPG*3
	Game-Action*3
	Game-Rock*3
	Game-Sports*3
	AllCh Stereo*4
	Full Mono*4
	T-D

*1 Cannot be selected when the input format is monaural or 2 ch.

*2 Center speaker or surround speakers need to be installed.

*3 Surround speakers or height speakers need to be installed.

*4 Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
DTS-HD HR	Direct
	DTS-HD HR*1 *2
	Dolby Surround
	Game-RPG*3
	Game-Action*3
	Game-Rock*3
	Game-Sports*3
	AllCh Stereo*4
	Full Mono*4
	T-D

*1 Cannot be selected when the input format is monaural or 2 ch.

*2 Center speaker or surround speakers need to be installed.

*3 Surround speakers or height speakers need to be installed.

*4 Center speaker, surround speakers or height speakers need to be installed.

Input Format	Listening Mode
DTS-ES	Direct
	DTS*1
	ES Matrix*2
	ES Discrete*2
	Dolby Surround*3
	Game-RPG*4
	Game-Action*4
	Game-Rock*4
	Game-Sports*4
	AllCh Stereo*5
Full Mono*5	
T-D	

*1 Can only be selected when the back speakers are not installed.

*2 Back speakers need to be installed.

*3 Height speakers need to be installed.

*4 Surround speakers or height speakers need to be installed.

*5 Center speaker, surround speakers or height speakers need to be installed.



■ **STEREO button**

You can select a listening mode for stereo and all channel stereo sources.

Input Format	Listening Mode
All format	Stereo
	AllCh Stereo*1

*1 Center speaker, surround speakers or height speakers need to be installed.

Checking the Input Format

While audio from the player is being input, press DISPLAY on the remote controller several times to switch the information shown on the main unit display. For example, if "Dolby D 5.1" is displayed, the Dolby Digital 5.1 ch signals are being input.

- The number of channels is not displayed when the input signal format is "Dolby Atmos".

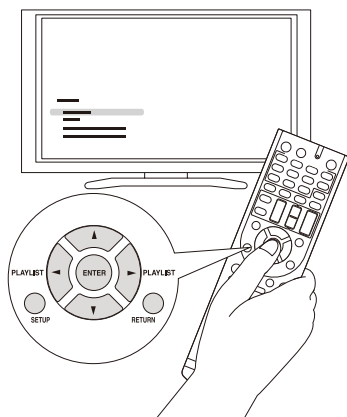


Advanced Settings (Setup Menu)

How to Set

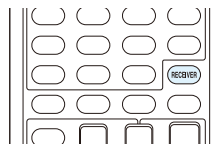
The unit allows you to configure advanced settings in order to provide even better experience.

● **Operation:** You can set up by viewing the guidance displayed on the TV screen. Select the item with the cursor buttons of the remote controller and press ENTER to confirm your selection. To return to the previous screen, press RETURN.

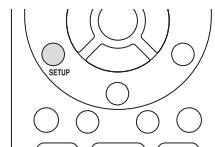


■ Operation

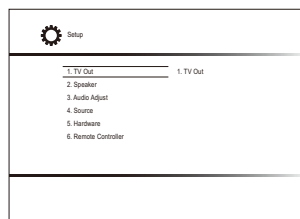
1. Press RECEIVER on the remote controller.
 - Always press RECEIVER first to change the remote controller to RECEIVER mode (the mode to operate this unit) since its mode may be changed to operate another component.



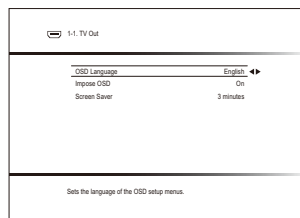
2. Press SETUP to display the Setup menu.



3. Press ▲/▼ to select the desired menu, and then press ENTER.



4. Press ▲/▼ to select the item, and then press ENTER.
5. With the ▲/▼/◀/▶ cursors, select the item to configure the settings.



To exit setup: Press SETUP.

Overview of the Setup menu

1. TV Out

Make settings for the on-screen display function on the TV when you use the setting menu, for example.

2. Speaker

Make advanced settings for the speakers.

3. Audio Adjust

Make a variety of settings for sound.

4. Source

Make settings for input sources, such as volume difference adjustments for each input selector for the connected equipment.

5. Hardware

Make a variety of settings such as for linked operation with connected HDMI equipment and the standby mode for this unit.

6. Remote Controller

Make settings related to the remote controller.



1. TV Out

TV Out

Make settings for the on-screen display function on the TV when you use the setting menu, for example.

Setting Item	Default Value	Setting Details
OSD Language	English	Select the on-screen display language. Select from English, German, French, Spanish, Italian, Dutch, Swedish, Russian (European, Australian and Asian models), or Chinese (European, Australian, Taiwanese and Asian models).
Impose OSD	On	Set whether or not to display the information on the TV when the volume is adjusted or input is changed, for example. "On": OSD displayed on the TV. "Off": OSD not displayed on the TV. <ul style="list-style-type: none"> OSD may not be displayed depending on the input signal even if "On" is selected. If the operation screen is not displayed, change the resolution of the connected device.
Screen Saver	3 minutes	Set the time to start the screen saver. Select a value from "3 minutes", "5 minutes", "10 minutes" and "Off".

2. Speaker

Allows you to change the speaker configuration such as presence or not of subwoofer, crossover frequency, and so on. Settings are automatically configured if you use the Automatic Speaker Setup.
This setting cannot be selected if headphones are connected or audio is output from the speakers of the TV.

Configuration

Change speaker settings such as the number of channels connected, and the type of height speakers connected.

Setting Item	Default Value	Setting Details
Speaker Channels	7.1 ch	Select "2.1 ch", "3.1 ch", "4.1 ch", "5.1 ch", "6.1 ch", "7.1 ch", "2.1.2 ch", "3.1.2 ch", "4.1.2 ch", or "5.1.2 ch" to suit the number of speaker channels connected.
Subwoofer	Yes	Set whether a subwoofer is connected or not. "Yes": When subwoofer is connected "No": When subwoofer is not connected
Height Speaker	Front High	Set the speaker type if height speakers are connected to the BACK/HEIGHT terminals. Select "Front High", "Top Front", "Top Middle", "Top Rear", "Rear High", "Dolby Speaker (Front)", or "Dolby Speaker (Surr)" according to the type and layout of the connected speakers. <ul style="list-style-type: none"> If an item cannot be selected even though connection is correct, check that the settings in "Speaker Channels" matches the number of connected channels.



Advanced Settings (Setup Menu)

Crossover

Change speaker settings such as the crossover frequency of the speakers. Settings are automatically configured if you use the Automatic Speaker Setup. Audio will not be output while you are making this setting.

Setting Item	Default Value	Setting Details
Front	Small	Set the size for each of the speakers. Use the diameter of the cone as a guide. "Small": When the cone diameter is less than 6-1/2 inches (16 cm) "Large": When the cone diameter is greater than 6-1/2 inches (16 cm) • The setting is fixed to "Large" if "Configuration" - "Subwoofer" is set to "No".
Center	Small	Set the size for each of the speakers. Use the diameter of the cone as a guide. "Small": When the cone diameter is less than 6-1/2 inches (16 cm) "Large": When the cone diameter is greater than 6-1/2 inches (16 cm) • "Large" can be selected only when "Front" is set to "Large". • If an item cannot be selected even though connection is correct, check that the settings in "Configuration" - "Speaker Channels" matches the number of connected channels.
Height	Small	Set the size for each of the speakers. Use the diameter of the cone as a guide. "Small": When the cone diameter is less than 6-1/2 inches (16 cm) "Large": When the cone diameter is greater than 6-1/2 inches (16 cm) • "Large" can be selected only when "Front" is set to "Large". • If an item cannot be selected even though connection is correct, check that the settings in "Configuration" - "Speaker Channels" matches the number of connected channels.

Setting Item	Default Value	Setting Details
Surround	Small	Set the size for each of the speakers. Use the diameter of the cone as a guide. "Small": When the cone diameter is less than 6-1/2 inches (16 cm) "Large": When the cone diameter is greater than 6-1/2 inches (16 cm) • "Large" can be selected only when "Front" is set to "Large". • If an item cannot be selected even though connection is correct, check that the settings in "Configuration" - "Speaker Channels" matches the number of connected channels.
Back	Small	Set the size for each of the speakers. Use the diameter of the cone as a guide. "Small": When the cone diameter is less than 6-1/2 inches (16 cm) "Large": When the cone diameter is greater than 6-1/2 inches (16 cm) • "Large" can be selected only when "Surround" is set to "Large". • If an item cannot be selected even though connection is correct, check that the settings in "Configuration" - "Speaker Channels" matches the number of connected channels.
Crossover	100Hz	Set the lowest frequency that each the speakers can output so that frequencies lower than this are output from the subwoofer. Set using the diameter of the speaker with the smallest cone as a guide. "40Hz", "50Hz", "60Hz": For cone diameters greater than 8 inches (20 cm) "70Hz", "80Hz", "90Hz": For cone diameters between 6-1/2 inches to 8 inches (16 to 20 cm) "100Hz": For cone diameters 5-1/4 to 6-1/2 inches (13 to 16 cm) "120Hz": For cone diameters 3-1/2 to 5-1/4 inches (9 to 13 cm) "150Hz", "180Hz", "200Hz": For cone diameters less than 3-1/2 inches (9 cm)



Advanced Settings (Setup Menu)

Setting Item	Default Value	Setting Details
Double Bass	On	This can be selected only when "Configuration" - "Subwoofer" is set to "Yes" and "Front" is set to "Large". Boost bass output by feeding bass sounds from the front left and right, and center speakers to the subwoofer. "On": Bass output will be boosted. "Off": Bass output will not be boosted. <ul style="list-style-type: none"> The setting will not automatically be configured even if you performed the automatic speaker setup.

Distance

Set the distance from each speaker to the listening position. Settings are automatically configured if you use the automatic speaker setup.

Setting Item	Default Value	Setting Details
Unit	feet/meters	Specify the unit of distance for configuring settings. "feet": When setting in feet (0.1ft to 30.0ft, in increments of 0.1ft) "meters": When setting in meters (0.03m to 9.00m, in increments of 0.03m)
Front Left	12.0ft/3.60m	Specify the distance between each speaker and the listening position.
Center	12.0ft/3.60m	Specify the distance between each speaker and the listening position.
Front Right	12.0ft/3.60m	Specify the distance between each speaker and the listening position.
Height Left	9.0ft/2.70m	Specify the distance between each speaker and the listening position. <ul style="list-style-type: none"> The setting cannot be changed during ZONE B playback.
Height Right	9.0ft/2.70m	Specify the distance between each speaker and the listening position. <ul style="list-style-type: none"> The setting cannot be changed during ZONE B playback.
Surround Right	7.0ft/2.10m	Specify the distance between each speaker and the listening position.

Setting Item	Default Value	Setting Details
Back Right	7.0ft/2.10m	Specify the distance between each speaker and the listening position. <ul style="list-style-type: none"> The setting cannot be changed during ZONE B playback.
Back Left	7.0ft/2.10m	Specify the distance between each speaker and the listening position. <ul style="list-style-type: none"> The setting cannot be changed during ZONE B playback.
Surround Left	7.0ft/2.10m	Specify the distance between each speaker and the listening position.
Subwoofer	12.0ft/3.60m	Specify the distance between each speaker and the listening position.

- Default values vary depending on the regions.
- The speaker "Distance" may be unable to be changed depending on the settings in "Configuration" - "Speaker Channels" / "Subwoofer".

Level Calibration

Adjust the level of each speaker with the built-in test tone. Settings are automatically configured if you use the Automatic Speaker Setup.

Setting Item	Default Value	Setting Details
Front Left	0dB	Select a value between "-12dB" and "+12dB". A test tone will be output each time you change the value. Select the desired level.
Center	0dB	Select a value between "-12dB" and "+12dB". A test tone will be output each time you change the value. Select the desired level.
Front Right	0dB	Select a value between "-12dB" and "+12dB". A test tone will be output each time you change the value. Select the desired level.
Height Left	0dB	Select a value between "-12dB" and "+12dB". A test tone will be output each time you change the value. Select the desired level. <ul style="list-style-type: none"> The setting cannot be changed during ZONE B playback.
Height Right	0dB	Select a value between "-12dB" and "+12dB". A test tone will be output each time you change the value. Select the desired level. <ul style="list-style-type: none"> The setting cannot be changed during ZONE B playback.



Setting Item	Default Value	Setting Details
Surround Right	0dB	Select a value between "-12dB" and "+12dB". A test tone will be output each time you change the value. Select the desired level.
Back Right	0dB	Select a value between "-12dB" and "+12dB". A test tone will be output each time you change the value. Select the desired level. <ul style="list-style-type: none"> The setting cannot be changed during ZONE B playback.
Back Left	0dB	Select a value between "-12dB" and "+12dB". A test tone will be output each time you change the value. Select the desired level. <ul style="list-style-type: none"> The setting cannot be changed during ZONE B playback.
Surround Left	0dB	Select a value between "-12dB" and "+12dB". A test tone will be output each time you change the value. Select the desired level.
Subwoofer	0dB	Select a value between "-15dB" and "+12dB". A test tone will be output each time you change the value. Select the desired level.

- The speaker "Level Calibration" may be unable to be changed depending on the settings in "Configuration" - "Speaker Channels" / "Subwoofer".
- In the following cases, the settings for "Level Calibration" cannot be changed:
 - While MUTING is on
 - While audio is not being output from ZONE A

3. Audio Adjust

Configure various settings related to sound, such as settings for listening to multiplex audio or multilingual TV broadcasts and sound field settings for listening modes.

Multiplex/Mono

Setting Item	Default Value	Setting Details
Multiplex Input Channel	Main	Set the audio channel or language to be output when playing multiplex audio or multilingual TV broadcasts etc. "Main": Main channel only "Sub": Sub channel only "Main / Sub": Main and sub channels will be output at the same time. <ul style="list-style-type: none"> If multiplex audio is being played, "1+1" will be displayed when DISPLAY is pressed.
Mono Input Channel	Left + Right	Set the input channel to use for playing any 2 ch digital source such as Dolby Digital, or 2-ch analog/PCM source in the Mono listening mode. "Left": Left channel only "Right": Right channel only "Left + Right" : Left and right channels

Dolby

Make the settings for Dolby listening mode.

Setting Item	Default Value	Setting Details
Loudness Management	On	Enable the Late Night function that allows you to enjoy surround sound of Dolby TrueHD playback even in low volume. "On": Use this function "Off": Do not use this function



DTS

Make the settings for DTS Neo:6 Music listening mode.

Setting Item	Default Value	Setting Details
Neo:6 Music Center Image	2	Adjust the width of the sound field of the front channel when playing in the DTS Neo:6 Music listening mode. "0" to "5": Selecting a smaller value brings the sound field of the front channel to the center while selecting a larger value spreads the sound field of the front channel to left and right.

Theater-Dimensional

Make the settings for Theater-Dimensional listening mode.

Setting Item	Default Value	Setting Details
Listening Angle	Wide	To enhance the effect of Theater-Dimensional, select the actual angle of the left and right front speakers as it appears from the listening position. "Narrow": Less than 30° "Wide": Greater than 30°

- Position the front speakers 20° to the listening position if you have selected "Narrow" in "Listening Angle" and 40° if you have selected "Wide".

4. Source

Make settings for input sources, such as volume difference adjustments for each input selector for the connected equipment. When you select a desired input to check the audio, start playback of the connected device.

IntelliVolume

Setting Item	Default Value	Setting Details
IntelliVolume	0dB	Adjust the volume level difference between the devices connected to the unit. Select a value between "-12dB" and "+12dB". Set a negative value if the volume of the target device is larger than the others and a positive value if smaller.

Name Edit

Set an easy name to each input. The set name will be shown on the main unit display. Select the input selector to configure.

Setting Item	Default Value	Setting Details
Name	---	Select a name registered in the unit and replace the currently selected input selector name with it. <ul style="list-style-type: none"> • The same name cannot be used for more than one input selector.

- This cannot be set if the "TUNER" or "BLUETOOTH" input is selected.



Audio Select

Make the audio input setting. The setting can be separately set to each input selector button. Select the input selector to configure.

Setting Item	Default Value	Setting Details
Audio Select	-	<p>Select the priority for input selection when multiple audio sources are connected to one input selector, such as connections to both the BD/DVD HDMI jack and AUDIO jack. You cannot select a jack that is not associated with the currently selected input.</p> <ul style="list-style-type: none"> The priority is HDMI → DIGITAL AUDIO/ OPTICAL → Analog if this setting is not changed. <p>"ARC": When giving priority to input signal from ARC compatible TV.</p> <ul style="list-style-type: none"> The setting can be selected only when "HDMI" - "Audio Return Channel" is set to "Auto" and also the "TV" input is selected. <p>"HDMI": When giving priority to input signal from HDMI jacks.</p> <p>"DIGITAL AUDIO": When giving priority to input signal from DIGITAL AUDIO (COAXIAL) jack.</p> <p>"OPTICAL": When giving priority to input signal from OPTICAL jacks.</p> <p>"Analog": When giving priority to input signal from AUDIO jacks.</p> <ul style="list-style-type: none"> The setting cannot be changed when "GAME 1" or "STRM BOX" input is selected.
PCM Fixed Mode	Off	<p>Select whether to fix input signals to PCM (except multi-channel PCM) when you have selected "HDMI", "DIGITAL AUDIO", or "OPTICAL" in the "Audio Select" setting. Set this item to "On" if noise is produced or truncation occurs at the beginning of a track when playing PCM sources. Select "Off" normally.</p> <ul style="list-style-type: none"> Changing "Audio Select" changes the setting to "Off".

- The setting cannot be changed when "GAME 2", "VCR", "AUX", "TUNER", or "BLUETOOTH" input is selected.

Video Select

Setting Item	Default Value	Setting Details
Video Select	Last	<p>Select the video input played along with audio output when either "TUNER" or "BLUETOOTH" is selected.</p> <p>"Last": Select the video input played immediately prior.</p> <p>"BD/DVD", "CBL/SAT", "GAME 1", "GAME 2", "STRM BOX", "VCR", "AUX": Play the video from the selected input.</p>

- The setting cannot be changed when input other than "TUNER" or "BLUETOOTH" is selected.
- Switch between displaying and not displaying video by pressing MODE on the remote controller during Bluetooth playback.

5. Hardware

Tuner

Setting Item	Default Value	Setting Details
AM / FM Frequency Step (North American and Taiwanese models)	10 kHz / 0.2 MHz	<p>Select a frequency step depending on your area of residence.</p> <p>Select "10 kHz / 0.2 MHz" or "9 kHz / 0.05 MHz".</p> <ul style="list-style-type: none"> When this setting is changed, all radio presets are deleted.
AM Frequency Step (European, Australian and Asian models)	9 kHz	<p>Select a frequency step depending on your area of residence.</p> <p>Select "10 kHz" or "9 kHz".</p> <ul style="list-style-type: none"> When this setting is changed, all radio presets are deleted.



Advanced Settings (Setup Menu)

HDMI

Setting Item	Default Value	Setting Details
HDMI CEC (RIHD)	Off	<p>Setting to "On" enables the input selection link and other link functions with HDMI connected CEC compliant device.</p> <p>"On": Use this function "Off": Do not use this function</p> <p>When changing this setting, turn off and then on again the power of all connected components.</p> <ul style="list-style-type: none"> Depending on the TV set, a link may need to be configured on the TV. Setting to "On" and closing the on-screen menu displays the name of the CEC-compatible components and "CEC On" on the display. Power consumption in standby mode may increase if "On" is set. (Depending on the TV status, the unit will enter the normal standby mode.) If you operate the MASTER VOLUME control on the main unit when this setting is "On" and audio is output from the TV speakers, audio will be output also from the speakers connected to the unit. If you want to output from only either of them, change the unit or TV settings, or reduce the volume of the unit. If abnormal operation occurs when you set the setting to "On", set it to "Off". When connecting a non-CEC compatible component, or when you are not sure whether it is compatible, set the setting to "Off".

Setting Item	Default Value	Setting Details
HDMI Standby Through	Off	<p>When this is set to anything other than "Off", you can play the video and audio of an HDMI connected player on the TV even if the unit is in standby mode. Only "Auto" and "Auto(Eco)" can be selected if "HDMI CEC (RIHD)" is set to "On". If you select anything else, set "HDMI CEC (RIHD)" to "Off."</p> <ul style="list-style-type: none"> Power consumption in standby mode increases if set to anything other than "Off". <p>"BD/DVD", "CBL/SAT", "GAME 1", "STRM BOX": For example, if you select "BD/DVD", you can play the equipment connected to the "BD/DVD" terminal on the TV even if the unit is in standby mode. Select this setting if you have decided which player to use with this function.</p> <p>"Last": You can play the video and audio of the input selected immediately prior to the unit being switched to standby on the TV. When "Last" is selected, you can switch the input of the unit even in the standby mode with the remote controller.</p> <p>"Auto", "Auto (Eco)": Select one of these settings when you have connected equipment that conforms to the CEC standard. You can play the video and audio of the input selected on the TV, irrespective of what input was selected immediately prior to the unit being switched to standby, using the CEC link function.</p> <ul style="list-style-type: none"> To play players on the TV that do not conform to the CEC standard, you will need to turn the unit on and switch to the relevant input. When using a TV that conforms to the CEC standard, you can reduce the power consumption in standby mode by selecting "Auto (Eco)".



Advanced Settings (Setup Menu)

Setting Item	Default Value	Setting Details
Audio TV Out	Off	You can enjoy audio through the speakers of the HDMI connected TV while this unit is on. "On": Use this function "Off": Do not use this function <ul style="list-style-type: none"> • If you select "On", set "HDMI CEC (RIHD)" to "Off." • The setting is fixed to "Auto" if "HDMI CEC (RIHD)" is set to "On". • Listening mode cannot be changed while "Audio TV Out" is set to "On" and audio is being output through the speakers of the TV. • Depending on your TV set or input signal of the component, audio may not output through the speakers of the TV even if this setting is set to "On". In such case, audio is output from the speakers of the unit. • If you operate the MASTER VOLUME control on the main unit when "Audio TV Out" or "HDMI CEC (RIHD)" is "On" and audio is output from the TV speakers, audio will be output from the unit. If you do not want to output audio from the unit, change the unit or TV settings, or reduce the volume of the unit.
Audio Return Channel	Auto	You can enjoy sound of the HDMI connected ARC compatible TV through the speakers connected to the unit. To use this function, set "HDMI CEC (RIHD)" to "On" in advance. "Auto": When enjoying the TV sound through the speakers connected to the unit "Off": When not using the ARC function
Auto LipSync	On	This setting automatically corrects any desynchronization between the video and audio signals based on data from the HDMI LipSync compatible TV. "On": Automatic correction will be enabled. "Off": Automatic correction will be disabled.

Power Management

Setting Item	Default Value	Setting Details
Sleep Timer	Off	Allows the unit to enter standby automatically when the specified time elapses. Select a value between "10 min" to "90 min". "Off": Does not turn the unit to standby automatically.
Auto Standby	On/Off	This setting places the unit on standby automatically after 20 minutes of inactivity without any video or audio input. "On": The unit will automatically enter standby mode ("ASb" will light). "Off": The unit will not automatically enter standby mode. <ul style="list-style-type: none"> • "Auto Standby" is appeared on the display and TV screen 30 seconds before the Auto Standby comes on. • Default values vary depending on the regions.
Auto Standby in HDMI Standby Through	Off	Enable or disable "Auto Standby" while "HDMI Standby Through" is on. "On": The setting will be enabled. "Off": The setting will be disabled. <ul style="list-style-type: none"> • This setting cannot be set to "On" if "Auto Standby" is set to "Off".
Power Out at Standby for STRM BOX	Off	Devices connected to the USB port are supplied with electricity even when this unit is in standby mode when this function is "On". <ul style="list-style-type: none"> • Power consumption in standby mode may increase when this function is being used.

Bluetooth

Setting Item	Default Value	Setting Details
Bluetooth	On	Select whether or not to use the Bluetooth function. "On": Enables connection with a Bluetooth-enabled device by using the Bluetooth function. Select "On" also when making various Bluetooth settings. "Off": When not using the Bluetooth function



Setting Item	Default Value	Setting Details
Auto Input Change	On	The input of the unit will automatically be switched to "BLUETOOTH" when connection is made from a Bluetooth-enabled device to the unit. "On": The input will automatically become "BLUETOOTH" when a Bluetooth-enabled device is connected. "Off": The function is disabled. • If the input is not switched automatically, set to "Off" and change the input manually.
Auto Reconnect	On	This function automatically reconnects to the Bluetooth-enabled device connected last when you change the input to "BLUETOOTH". "On": Use this function "Off": Do not use this function • This may not work with some Bluetooth-enabled devices.
Pairing Information	-	The information of the previous pairing stored in this unit will be initialized. Pressing ENTER when "Clear" is displayed initializes the pairing information stored in this unit. • This function does not initialize the pairing information on the Bluetooth-enabled device. When pairing the unit again with the device, be sure to clear the pairing information on the Bluetooth-enabled device in advance. For information on how to clear the pairing information, refer to the Bluetooth-enabled device's instruction manual.
Device	-	Displays the name of the Bluetooth-enabled device connected to the unit. • The name is not displayed when "Status" is "Ready" or "Pairing".
Status	-	Displays the status of the Bluetooth-enabled device connected to the unit. "Ready": Not paired "Pairing": Pairing "Connected": Successfully connected

6. Remote Controller

Remote ID

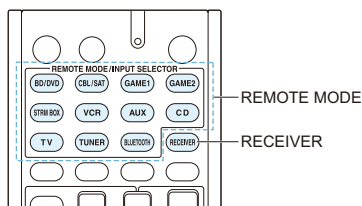
Setting Item	Default Value	Setting Details
Remote ID	1	Select an ID for the unit's remote controller from "1", "2", and "3" to prevent interference between the unit and other Onkyo components that are installed in the same room. After changing the ID on the main unit, change the ID on the remote controller accordingly with the following procedure. 1. While holding down RECEIVER, press and hold SETUP for about 3 seconds until the remote indicator lights. 2. With the number buttons, press one of 1, 2, and 3. The remote indicator flashes twice.



Operating Other Components with the Remote Controller

Functions of REMOTE MODE Buttons

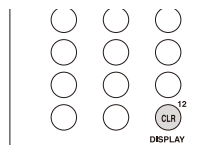
You can control any other device than this unit by programming a specified remote control code to a REMOTE MODE button of the remote controller. Register a remote control code to a desired REMOTE MODE button and press it to enter the remote mode that allows you to operate the corresponding device.



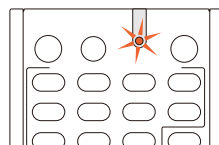
Programming Remote Control Codes

■ Consulting the Remote Control Code List

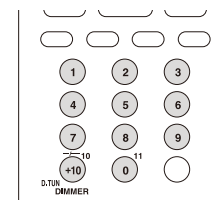
- Look up the [Remote Control Codes](#) for the corresponding remote control code.
 - The codes in the Remote Control Code List are those known as of the date of publication and may be changed.
 - The following REMOTE MODE buttons are preprogrammed with remote control codes.
 - BD/DVD: Onkyo Blu-ray Disc/DVD player
 - CD: Onkyo CD player
 - STRM BOX: Apple TV
 - Only TV remote control codes can be entered for TV.
 - Program a remote control code in accordance with the input since each button also works as the input selector. (For example, when the CD player is connected to the CD jack, program the remote control code for the CD player to CD)
- Press and hold DISPLAY for 3 or more seconds while holding down the REMOTE MODE button to which you want to program the remote control code.



- The remote indicator lights in the input mode.



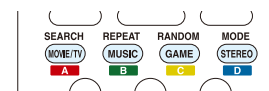
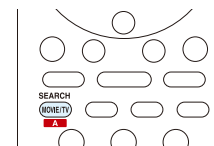
- With the number buttons, enter the 5-digit remote control code within 30 seconds.
 - Programming is complete when the remote indicator flashes twice. The remote indicator flashes once slowly when programming the remote control code fails. Try programming again.



■ Remapping the Colored Buttons

The colored button assignment on the AV receiver's remote controller can be remapped to match that on the remote controller of the component whose remote control code you programmed to REMOTE MODE.

- Hold down the REMOTE MODE button to map and A (Red) simultaneously until the remote indicator lights (about 3 seconds).
 - Remapping is possible only for codes included in the categories of the Remote Control Code List (such as DVD player and TV)
- Within 30 seconds, press the colored buttons from left to right, in the order you want to remap.
 - For example, if the colored buttons on the remote controller of the other component are yellow, green, blue, and red from left to right, press the buttons on the AV receiver's remote controller in that order.
 - Programming is complete when the remote indicator flashes twice. The remote indicator flashes once slowly when programming the remote control code fails. Try programming again.
 - Pressing any other button than a colored button cancels the remap operation.

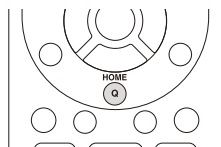


Operating Other Components with the Remote Controller

■ **Resetting the REMOTE MODE Buttons**

You can reset the remote control code registered in the REMOTE MODE button to its default status. This operation can be executed on a single REMOTE MODE button.

1. Press and hold Q for 3 or more seconds while holding down the REMOTE MODE button you want to reset.
 - The remote indicator will light.



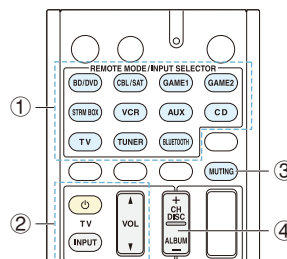
2. Within 30 seconds, press the REMOTE MODE button again.
 - Resetting is complete when the remote indicator flashes twice.

• Resetting is complete when the remote indicator flashes twice.

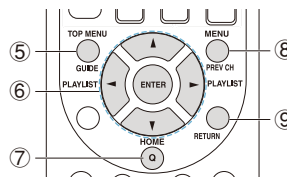
To reset all the remote controller settings: While holding down RECEIVER, press and hold Q for 3 or more seconds until the remote indicator stays lit. Within 30 seconds, press RECEIVER again. Resetting is complete when the remote indicator flashes twice.

TV operation

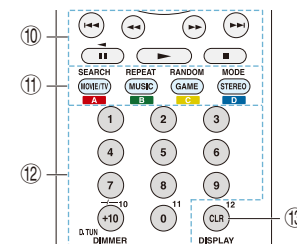
Press the REMOTE MODE button programmed with the remote control code for the relevant AV component to switch the remote controller mode to that for the AV component. Then, operate by using the corresponding buttons. Available buttons vary depending on the product category of the component. Operation may be incorrect or impossible depending on the product.



- ① REMOTE MODE
- ② \odot , INPUT, VOL $\blacktriangle/\blacktriangledown$
- ③ MUTING
- ④ CH +/-



- ⑤ GUIDE
- ⑥ $\blacktriangle/\blacktriangledown/\blacktriangleleft/\blacktriangleright$, ENTER
- ⑦ HOME
- ⑧ PREV CH
- ⑨ RETURN



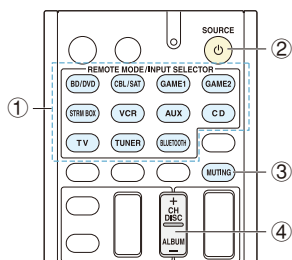
- ⑩ \blacktriangleright , \blacksquare , \blacksquare , \blacktriangleleft , \blacktriangleright , \blacktriangleleft , \blacktriangleright (*)
- ⑪ A (Red), B (Green), C (Yellow), D (Blue)
- ⑫ Number 1 to 9, 0, +10
- ⑬ CLR, DISPLAY

* Not CEC compatible.

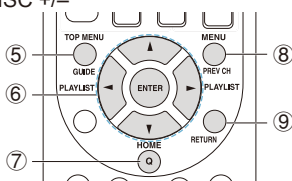


Blu-ray Disc player/DVD player/DVD recorder operation

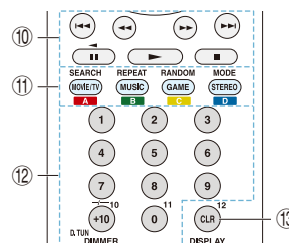
Press the REMOTE MODE button programmed with the remote control code for the relevant AV component to switch the remote controller mode to that for the AV component. Then, operate by using the corresponding buttons. Available buttons vary depending on the product category of the component. Operation may be incorrect or impossible depending on the product.



- ① REMOTE MODE
- ② SOURCE
- ③ MUTING
- ④ CH +/-, DISC +/-



- ⑤ TOP MENU
- ⑥ ▲/▼/◀/▶, ENTER
- ⑦ HOME
- ⑧ MENU
- ⑨ RETURN



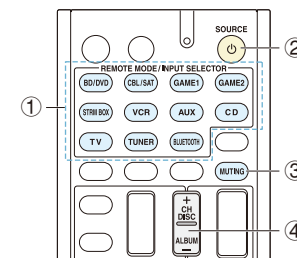
- ⑩ ►, ⏸, ■, ◀, ▶, ◀◀, ▶▶
- ⑪ A (Red), B (Green), C (Yellow), D (Blue)
- ⑫ Number 1 to 9, 0, +10 (*)
- ⑬ CLR, DISPLAY

* Not CEC compatible.

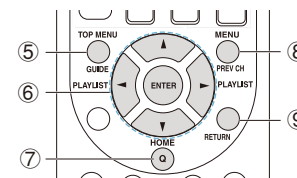
Operating Other Components with the Remote Controller

VCR/PVR operation

Press the REMOTE MODE button programmed with the remote control code for the relevant AV component to switch the remote controller mode to that for the AV component. Then, operate by using the corresponding buttons. Available buttons vary depending on the product category of the component. Operation may be incorrect or impossible depending on the product.



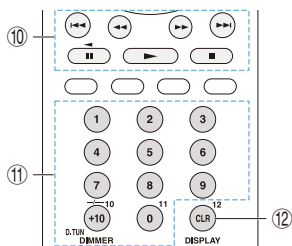
- ① REMOTE MODE
- ② SOURCE
- ③ MUTING
- ④ CH +/-



- ⑤ GUIDE
- ⑥ ▲/▼/◀/▶, ENTER
- ⑦ HOME
- ⑧ PREV CH
- ⑨ RETURN



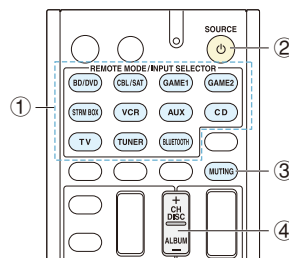
Operating Other Components with the Remote Controller



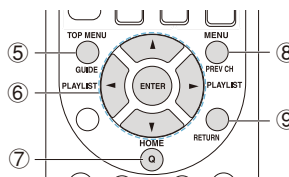
- ⑩ ►, ||, ■, ◀, ▶, ◀◀, ▶▶
- ⑪ Number 1 to 9, 0, +10
- ⑫ CLR, DISPLAY

Satellite receiver / Cable receiver operation

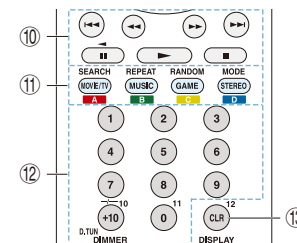
Press the REMOTE MODE button programmed with the remote control code for the relevant AV component to switch the remote controller mode to that for the AV component. Then, operate by using the corresponding buttons. Available buttons vary depending on the product category of the component. Operation may be incorrect or impossible depending on the product.



- ① REMOTE MODE
- ② SOURCE
- ③ MUTING
- ④ CH +/-



- ⑤ GUIDE
- ⑥ ▲▼/◀▶, ENTER
- ⑦ HOME
- ⑧ PREV CH
- ⑨ RETURN



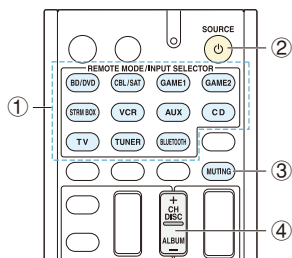
- ⑩ ►, ||, ■, ◀, ▶, ◀◀, ▶▶
- ⑪ A (Red), B (Green), C (Yellow), D (Blue)
- ⑫ Number 1 to 9, 0, +10
- ⑬ CLR, DISPLAY



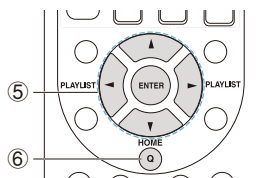
Operating Other Components with the Remote Controller

CD player operation

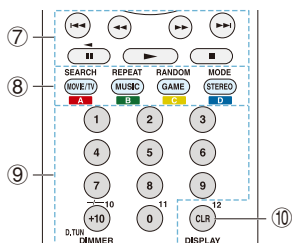
Press the REMOTE MODE button programmed with the remote control code for the relevant AV component to switch the remote controller mode to that for the AV component. Then, operate by using the corresponding buttons. Available buttons vary depending on the product category of the component. Operation may be incorrect or impossible depending on the product.



- ① REMOTE MODE
- ② SOURCE
- ③ MUTING
- ④ DISC +/-



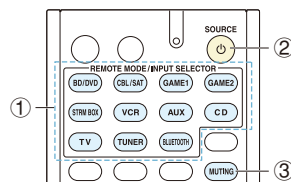
- ⑤ ▲/▼/◀/▶, ENTER
- ⑥ HOME



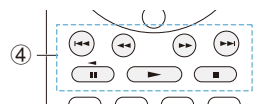
- ⑦ ▶, II, ■, ◀, ▶▶, I◀◀, ▶▶▶
- ⑧ SEARCH, REPEAT, RANDOM, MODE
- ⑨ Number 1 to 9, 0, +10
- ⑩ CLR, DISPLAY

Cassette tape deck operation

Press the REMOTE MODE button programmed with the remote control code for the relevant AV component to switch the remote controller mode to that for the AV component. Then, operate by using the corresponding buttons. Available buttons vary depending on the product category of the component. Operation may be incorrect or impossible depending on the product.



- ① REMOTE MODE
- ② SOURCE
- ③ MUTING



- ④ ▶, ◀ (Reverse Playback), ■, ◀◀, ▶▶, I◀◀, ▶▶▶

To operate CEC-compatible components

If this unit is connected via HDMI to a TV or BD/DVD player, you may be able to control the devices using the remote controller of this unit with CEC (Consumer Electronics Control) linked operation.

TV: The TV button on the remote controller is preprogrammed with remote control codes for linked operation of some CEC-compatible TV sets.

- If you cannot operate your CEC-compatible TV, program one of the following remote control codes (11807/13100/13500) to the TV button.

BD/DVD player: By registering a remote control code (32910/33101/33501/31612) in the BD/DVD button, your remote controller will be able to take advantage of linked operation with CEC-compatible BD/DVD players.



Connecting and Operating Onkyo RI Components

About RI Function

Connecting an Onkyo component with RI jack such as the separately sold RI Dock to the unit by using an RI cable and an analog audio cable enables the following RI functions:

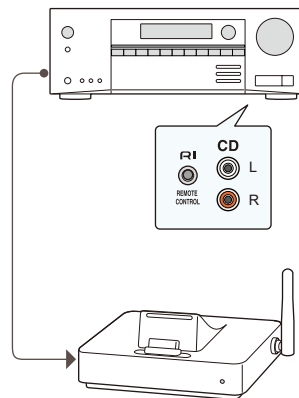
System On / Auto Power On: Starting playback on a component connected via RI when the unit is on standby mode, automatically turns on the unit to select the relevant component as its input source.

Direct Change: When playback is started on a component connected via RI, the unit selects that component as the input source.

Remote Controller Operation: Allows you to operate RI-compatible Onkyo components using the AV receiver's remote controller. Point the remote controller at remote control sensor of the unit. This operation is possible only when the RI remote control code is programmed.

- Some components may not support all RI functions.
- For information on the RI functions, also refer to each component's instruction manual.

RI Connection and Setting



Connect an Onkyo component with RI jack to this unit using an RI cable and an analog audio cable. For details, refer to the instruction manual of the component with RI jack. The RI cable can be connected in any order. When there are two RI jacks, both jacks work in the same way and are interchangeable.

The following settings are necessary to connect the RI Dock or cassette tape deck via RI.

■ To rename the input selector

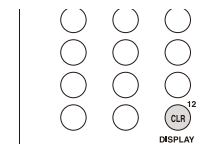
To make the RI functions work, you must rename the input selectors on the unit. After pressing RECEIVER to switch to RECEIVER mode, press SETUP on the remote controller. Use the cursors in the Setup menu to select "4. Source" - "Name Edit" - "Name" and rename the input selector to "DOCK" or "TAPE".

■ To program the RI remote control code

Program the remote control code to any REMOTE MODE button on the remote controller. This will allow you to operate the component by pointing the remote controller at the unit instead of the component.

1. Press and hold DISPLAY for 3 or more seconds while holding down the REMOTE MODE button to which you want to program the remote control code.
 - The remote indicator will light.

Connecting and Operating Onkyo RI Components

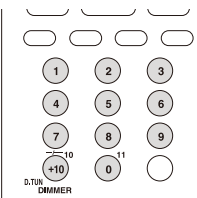


2. With the number buttons, enter the following 5-digit remote control code within 30 seconds.

RI Dock: 81993

Cassette tape deck with RI jack: 42157

- Programming is complete when the remote indicator flashes twice. The remote indicator flashes once slowly when programming the remote control code fails. Try programming again.



Input selector on the RI Dock: Select "DOCK" or "TAPE". For details, refer to the RI Dock's instruction manual.

To operate Onkyo components directly or Onkyo components that are not connected via RI, use the following remote control codes:

Onkyo DVD player: 30627

Onkyo CD player: 71817

RI Dock: 82990

- With some models, operation may be not possible in part or not possible at all.

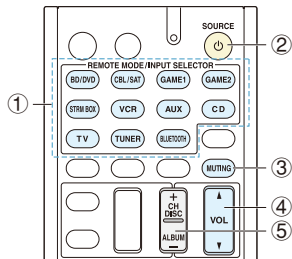


iPod®/iPhone® Operation

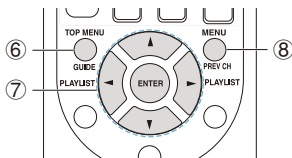
The RI Dock allows you to use the AV receiver's remote controller to operate and play music on your iPod/iPhone. Moreover, it also allows you to view videos on your iPod/iPhone on the screen of your TV, as well as perform RI operations if connected via RI. This operation is possible only when the RI remote control code is programmed.

Before performing any operation: Update the OS on your iPod/iPhone to the latest version. Certain buttons may not work for some iPod/iPhone models and generations, or RI Dock. For details on the operation, refer to the RI Dock's instruction manual.

Switch the remote controller mode by pressing the REMOTE MODE button programmed with the remote control code for the iPod/iPhone, and operate by using the corresponding buttons. Point the remote controller at the unit.

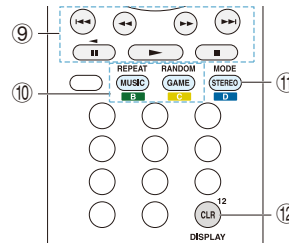


- ① REMOTE MODE
- ② SOURCE
- ③ MUTING
- ④ VOL ▲/▼
- ⑤ ALBUM +/-



- ⑥ TOP MENU
- ⑦ ▲/▼/◀/▶, ENTER, PLAYLIST ◀/▶
- ⑧ MENU

En-32



- ⑨ ◀, ||, ■, ▶▶, ▶▶▶, ▶▶▶▶
- ⑩ REPEAT, RANDOM
- ⑪ MODE
- ⑫ DISPLAY

- Pressing DISPLAY turns on the backlight for a few seconds.
- MODE allows you to use the Resume function.



Troubleshooting

Before starting the procedure

Problems may be solved by simply turning the power on/off or disconnecting/connecting the power cord, which is easier than working on the connection, setting and operating procedure. Try the simple measures on both the unit and the connected device. If the problem is that the video or audio is not output or the HDMI linked operation does not work, disconnecting/connecting the HDMI cable may solve it. When reconnecting, be careful not to wind the HDMI cable since if wound the HDMI cable may not fit well. After reconnecting, turn off and on the unit and the connected device.

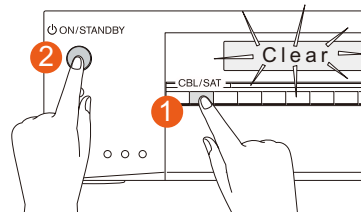
- The AV receiver contains a microPC for signal processing and control functions. In very rare situations, severe interference, noise from an external source, or static electricity may cause it to lockup. In the unlikely event that this happens, unplug the power cord from the wall outlet, wait at least 5 seconds, and then plug it back in.
- Onkyo is not responsible for damages (such as CD rental fees) due to unsuccessful recordings caused by the unit's malfunction. Before you record important data, make sure that the material will be recorded correctly.

Resetting the unit

Resetting the unit to the status at the time of shipment may solve the problem. If the measures mentioned in the troubleshooting do not solve the problem, reset the unit with the following procedure. If you reset the unit status, your preferences will be reset to the defaults. Note them down before starting reset.

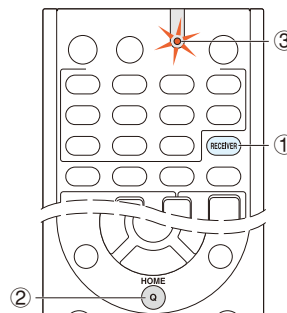
■ How to reset

1. While holding down CBL/SAT on the main unit (note that step 2 must be performed with this button pressed down)
2. Press ϕ ON/STANDBY on the main unit. "Clear" is appeared on the display and the unit will enter standby mode.



■ How to reset the remote controller

1. While holding down ① RECEIVER on the remote controller (note that step 2 must be performed with this button pressed down)
2. Press and hold ② Q for 3 or more seconds until the ③ remote indicator stays lit. Within 30 seconds, press ① RECEIVER again to reset.



Power

■ Cannot turn on the unit

- Make sure that the power cord is properly plugged into the wall outlet.
- Unplug the power cord from the wall outlet, wait 5 seconds or more, then plug it in again.

■ The unit turns off unexpectedly

- The AV receiver will automatically enter standby mode when Auto Standby or Sleep Timer is set and launched.
- The protection circuit may have been activated. If this is the case, when you turn the unit on again, "AMP Diag Mode" will appear on the main unit's display. The unit will then enter a mode that detects abnormal conditions. If no problems are detected, "AMP Diag Mode" will disappear and the unit will return to a normal state. If "CHECK SP WIRE" appears on the display, the speaker cables may be short-circuited. Turn the unit off, and check to see if the cable core of any of the speaker cables is in contact with that of another speaker cable or with the rear panel. After that, turn the unit on again. If "NG" appears, unplug the power cord immediately and contact your Onkyo dealer.

WARNING: If smoke, smell or abnormal noise is produced by the unit, unplug the power cord from the wall outlet immediately and contact the dealer or Onkyo Support.



Audio

- Make sure that the speaker setup microphone is not still connected.
- Confirm that the connection between the output jack on the device and the input jack on this unit is correct.
- Make sure that none of the connecting cables are bent, twisted, or damaged.
- If the MUTING indicator on the display flashes, press MUTING on the remote controller to unmute the unit.
- While headphones are connected to the PHONES jack, no sound is output from the speakers.
- Set to "Off" if "Audio Select" - "PCM Fixed Mode" is set to "On".

Check the following if the above does not fix the problem:

■ There is no sound from the TV

- The input selector on this unit needs to be switched to TV.
- If your TV does not support ARC, you need, in addition to the HDMI OUT jack connection, a digital optical cable connection between the digital audio out optical jack of the TV and the TV OPTICAL input jack of the unit, or an analog audio cable connection between the audio output jack of the TV and the analog audio input jack for TV of the unit.

■ No sound from a connected player

- Change the input selector on this unit to the position of the terminal to which the player is connected.
- Check the digital audio output setting on the connected component. On some game consoles, such as those that support DVD, the default setting is off.
- With some DVD-Video discs, you need to select an audio output format from a menu.

■ A speaker produces no sound

- Make sure that the polarity of the speaker cables (+/-) is correct, and that no bare wires are in contact with the metal part of speaker terminals.
- Make sure that the speaker cables are not shorting.
- Make sure the speakers are configured correctly.

■ Only the front speakers produce sound

- When the Stereo or Mono listening mode is selected, only the front speakers and subwoofer produce sound.

■ Only the center speaker produces sound

- If you use the Dolby Surround listening mode with a mono source, such as an AM radio station or mono TV program, the sound is concentrated in the center

speaker.

■ The surround speakers produce no sound

- When the T-D (Theater-Dimensional), Stereo or Mono listening mode is selected, the surround speakers produce no sound.
- Depending on the source and current listening mode, not much sound may be produced by the surround speakers. Try selecting another listening mode.

■ The center speaker produces no sound

- When the Stereo or Mono listening mode is selected, the center speaker produces no sound.

■ No sound from the back speakers or height speakers

- Depending on the source and current listening mode, not much sound may be produced by the speakers. Try selecting another listening mode.

■ The subwoofer produces no sound

- When you play source material that contains no information in the LFE channel, the subwoofer produces no sound.

■ Volume is low

- Check the volume. The volume level is adjustable between Min, 1 to 79, Max (80). It is normal that the unit volume level is set up to 40 or around.

■ Noise can be heard

- Using cable ties to bundle audio cables with power cords, speaker cables, etc. may degrade the audio performance, so refrain from doing it.
- An audio cable may be picking up interference. Try repositioning your cables.

■ The sound changes when I connect my headphones

- When a listening mode other than Direct or Mono is selected, connecting a headphone automatically selects Stereo.

■ About DTS signals

- When DTS program material ends and the DTS bitstream stops, the unit remains in DTS listening mode and the dts indicator remains on. This is to prevent noise when you use the pause, fast forward, or fast reverse function on your player. If you switch your player from DTS to PCM, you may not hear any sound because the unit does not switch formats immediately. In such case, you should stop your player for about 3 or more seconds and then resume playback.
- With some CD and LD players, you will not be able

to playback DTS material properly even though your player is connected to a digital input on the unit. This is usually because the DTS bitstream has been processed (e.g., output level, sampling rate, or frequency response changed) and the unit does not recognize it as a genuine DTS signal. In such cases, you may hear noise.

- Playing DTS program material, using the pause, fast forward, or fast reverse function on your player may produce a short audible noise. This is not a malfunction.

■ The beginning of audio received by an HDMI input jack cannot be heard

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



Listening Mode

- When listening to Dolby Digital and/or DTS sound, digital connection is necessary.
- Check the digital audio output setting on the connected component. On some game consoles, such as those that support DVD, the default setting is off.
- After pressing RECEIVER on the remote controller, repeatedly press DISPLAY to switch the display on the main unit. You can see the input format.

Check the following if the above does not fix the problem:

■ Cannot select a desired listening mode

- Depending on the connecting status of the speaker, some listening modes may not be selected. Check the details in "Selectable Listening Modes" section.

■ There is no sound with Dolby Atmos

- Back speakers or height speakers need to be installed. After connecting the speakers, check that the connection settings in "Configuration" - "Speaker Channels" are made correctly.
- Dolby Atmos signals need to be input for Dolby Atmos playback to be possible.

Video

- Confirm that the connection between the output jack on the device and the input jack on this unit is correct.
- Make sure that none of the connecting cables are bent, twisted, or damaged.
- Make sure the switching of input screens is proper at the monitor side such as a TV.

Check the following if the above does not fix the problem:

■ There is no picture from a source connected to an HDMI input terminal

- Change the input selector on this unit to the position of the terminal to which the player is connected.
- Check if "Resolution Error" is displayed on the main unit display when video input via HDMI input jack is not displayed. In this case, the TV does not support the resolution of the video input from the player. Change the setting on the player.
- Reliable operation with an HDMI-to-DVI adapter is not guaranteed. In addition, video signals from a PC are not supported.
- Turn the Deep Color function off. To turn off the Deep Color function, simultaneously press the STRM BOX and ⏻ON/STANDBY buttons on the main unit. While holding down STRM BOX, press ⏻ON/STANDBY repeatedly until "Deep Color:Off" appears on the display. To reactivate the Deep Color function, repeat the above described step until "Deep Color:On" appears on the display.

■ Images flicker

- It is possible that the resolution of the player is not compatible with the TV's resolution. If you have connected the player to this unit with an HDMI cable, try changing the output resolution on the player. There also may be an improvement if you change the screen mode on the TV.

Linked operation

■ There is no linked operation with CEC compliant devices, such as a TV

- Set the HDMI CEC (RIHD) setting of the unit to "On". After pressing RECEIVER on the remote controller, press the SETUP button, select "5. Hardware" - "HDMI" - "HDMI CEC (RIHD)" and turn it on.
- It is also necessary to set HDMI linking on the CEC compliant device. Check the instruction manual.

■ The RI functions do not work

- To use RI, you must make an RI connection and an analog audio connection (RCA) between the component and AV receiver.

Tuner

■ Reception is noisy, FM stereo reception is noisy, or the "FM STEREO" indicator does not stay lit

- Re-check the antenna connection.
- Relocate your antenna.
- Move the unit away from your TV or PC.
- Passing cars and airplanes can cause interference.
- Concrete walls weaken radio signals.
- Listen to the station in mono.
- When listening to an AM station, operating the remote controller may cause noise.



Bluetooth

- Try plugging/unplugging the power of the unit and try turning on/off the Bluetooth-enabled device. Re-startup of the Bluetooth-enabled device may be effective.
- The Bluetooth-enabled devices must support the A2DP profile.
- Near components such as microwave oven or cordless phone, which use the radio wave in the 2.4 GHz range, a radio wave interference may occur, which disables the use of this unit.
- If there is a metallic object near the unit, Bluetooth connection may not be possible as the metal can effect on the radio wave.

Check the following if the above does not fix the problem:

■ Cannot connect with this unit

- The Bluetooth function of the Bluetooth-enabled device is not enabled. Refer to the user manual of the Bluetooth-enabled device for how to enable the Bluetooth function.
- When Bluetooth connection fails the first time, select "5.Hardware" - "Bluetooth" - "Pairing Information", select "Clear". Turn your Bluetooth-enabled device off and then on again to clear the device name, and try to connect again.

■ Music playback is unavailable on the unit even after successful Bluetooth connection

- When the audio volume of your Bluetooth-enabled device is set low, the playback of audio may be unavailable. Increase the volume of the Bluetooth-enabled device.
- Depending on the Bluetooth-enabled device, Send/Receive selector switch may be provided. Select Send mode.
- Depending on the characteristics or specifications of your Bluetooth-enabled device, playback on the unit is not guaranteed.

■ Sound is interrupted

- Problem may be occurring at the Bluetooth-enabled device. Check the information on a web page.

■ The audio quality is poor after connection with a Bluetooth-enabled device

- The Bluetooth reception is poor. Move the Bluetooth-enabled device closer to the unit or remove any obstacle between the Bluetooth-enabled device and this unit.

■ The Auto Reconnect function of Bluetooth does not

work

- This may not work with some Bluetooth-enabled devices. In that case, pair the unit and the Bluetooth-enabled device and then play again.

Remote Controller

- Make sure that the batteries are installed with the correct polarity.
- Install new batteries. Do not mix different types of batteries, or old and new batteries.
- Make sure that the remote controller is not too far away from the unit, and that there is no obstruction between the remote controller and the remote control sensor of the unit.
- Make sure that the unit is not subjected to direct sunshine or inverter-type fluorescent lights. Relocate if necessary.
- If the unit is installed in a rack or cabinet with colored-glass doors or if the doors are closed, the remote controller may not work reliably.

Check the following if the above does not fix the problem:

■ The remote controller does not work

- Before operating this unit with the remote controller, be sure to first press RECEIVER.

■ Operating other Onkyo component by using a RI remote control code is not available

- Make sure that the Onkyo component is properly connected with RI cable. When RI cable is used for connection, make sure to connect analog audio cable as well. (Connecting only an RI cable will not be enough.)
- Make sure you have selected the correct remote controller mode.
- When the RI remote control code is input, point the remote controller at remote control sensor of the unit.
- Make sure that the input display is correctly set.
- Input the RI remote control code again.

■ Cannot operate Onkyo components (ones without RI connection) and components of other makers

- Operate the remote controller by setting toward the light receiving section of each component.
- When using the remote controller to control other manufacturers' AV components, some buttons may not work as expected. Some components may not start the operation.
- Make sure you have selected the correct remote

controller mode.

- Make sure you have entered the correct remote control code.
- Make sure to set the same ID on both the unit and remote controller.
- Input a correct remote control code again. If there are several codes, try each code.

Display, OSD

■ The display does not light

- Make sure that Dimmer function is not working. Press DIMMER button and change the brightness level of the display.

■ The on-screen menus do not appear

- On your TV, make sure that the video input to which this unit is connected is selected.
- Set "TV Out" - "Impose OSD" to "On".
- The on-screen display are not displayed when the OSD language is set to Chinese if the input selector is "BLUETOOTH". Operate by confirming the display on the main unit. (European, Australian, Taiwanese and Asian models)



RI Dock

- Make sure the unit is turned on, the correct input source is selected, and the volume is turned up.
- Make sure the plugs are pushed in all the way.
- Make sure your iPod/iPhone is properly inserted in the Dock. If your iPod/iPhone is in a case, it may not connect properly to the Dock. Always remove your iPod/iPhone from the case before inserting it into the Dock. Try reconnecting your iPod/iPhone.
- Make sure your iPod/iPhone is actually playing.

Check the following if the above does not fix the problem:

■ There is no sound

- Try resetting your iPod/iPhone.

■ There is no video

- Make sure the correct input is selected on your TV or the unit.
- Make sure that your iPod/iPhone model's TV OUT setting is set to On.
- Some versions of the iPod/iPhone do not output video.

■ The AV receiver's remote controller does not control your iPod/iPhone

- The iPod/iPhone cannot be operated while it is displaying the Apple logo.
- Make sure you have selected the correct remote controller mode.
- When you use the AV receiver's remote controller, point it toward this unit.
- Before operating with the remote controller, you may need to play on your iPod/iPhone to make the input selector be recognized.
- Depending on your iPod/iPhone model and generation, some buttons may not work as expected.
- Try resetting your iPod/iPhone.

■ The unit unexpectedly selects your iPod/iPhone as the input source

- Always pause iPod/iPhone playback before selecting a different input source. If playback is not paused, the Direct Change function may select your iPod/iPhone as the input source by mistake during the transition between tracks.

Others

■ Strange noises can be heard from the unit

- If you have connected another unit to the same wall outlet as this unit, this noise may be an effect from the other unit. If the symptoms improve by unplugging the power cord of the other unit, use different wall outlets for this unit and the other unit.

■ When performing Automatic Speaker Setup, the measurement fails and the message "Ambient noise is too high." is displayed

- This can be caused by a malfunction in your speaker unit. Check if the unit produces normal sounds.

■ The Late Night function does not work

- Make sure the source material is Dolby Digital, Dolby Digital Plus or Dolby TrueHD.

■ The Cinema Filter function does not work

- This function can be used in the following listening modes: Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Multichannel, DSD, DTS, DTS-ES, DTS Neo:6 Cinema, DTS 96/24, DTS-HD High Resolution Audio, DTS-HD Master Audio, DTS Express.

■ How do I change the language of a multiplex source

- Select "Main" or "Sub" for "Multiplex Input Channel" in "3. Audio Adjust" - "Multiplex/Mono".

■ Power consumption in standby mode

- In the following cases, the power consumption in standby mode may reach up to a maximum of 33 W:
 - When "HDMI CEC (RIHD)" is set to "On". (Depending on the TV status, the AV receiver will enter normal standby mode.)
 - The "HDMI Standby Through" setting is set to other than "Off".
 - The "Power Out at Standby for STRM BOX" setting is "On".

Reference Information

Linked Operation with CEC-compatible Components

Link operation with a product conforming to the CEC of the HDMI standard.

Note that linked operation is not always guaranteed with all CEC devices.

Operation has been confirmed on the following devices (as of February 2015).

TV (Random order):

- Toshiba TV sets
- Sharp TV sets

Players/Recorders (Random order):

- Onkyo and Integra RIHD-compatible players
- Toshiba players and recorders
- Sharp players and recorders (only when used together with Sharp TV sets)

Caution: For linking functions to work properly, do not connect more RIHD-compatible components than the quantities specified below, to the HDMI jacks. Linking functions are not guaranteed when more RIHD-compatible components than the below mentioned quantities are connected. Furthermore, do not connect the AV receiver to another AV receiver/AV amplifier via HDMI.

- Blu-ray Disc/DVD players: up to 3.
- Blu-ray Disc/DVD recorders: up to 3.
- Cable TV tuner, terrestrial digital tuner, and satellite broadcasting tuner: up to 4 units.

Checking whether the HDMI Linked Operation Settings Are Enabled

1. Turn on the power of all connected components.
2. Turn off the power of the TV, and confirm that the power of the connected components is turned off automatically with the link operation.
3. Turn on the power of the Blu-ray Disc/DVD player/recorder.
4. Start playback on the Blu-ray Disc/DVD player/recorder, and verify the following:
 - The AV receiver automatically turns on, and selects the input to which the Blu-ray Disc/DVD player/recorder is connected.
 - The TV automatically turns on, and selects the input to which the AV receiver is connected.
5. Following the operating instructions of the TV, select "Use the TV speakers" from the menu screen of the TV, and confirm that the audio is output from the speakers of the TV, and not from the speakers connected to the AV receiver.
6. Select "Use the speakers connected from the AV receiver" from the menu screen of the TV, and confirm that the audio is output from the speakers connected to the AV receiver, and not from the TV speakers.

Caution:

- Even if you set to output audio on the TV speakers, audio will be output from the speakers connected to the AV receiver when you adjust the volume or switch the input on the AV receiver. To output audio from the TV speakers, redo the corresponding operations on the TV.
- In case of an RIHD connection with RI and RI EX audio control compatible components, do not connect the RI cable at the same time.
- On the TV, when you select anything other than the HDMI jack to which the AV receiver is connected, the input on the AV receiver will be switched to "TV".
- The AV receiver will automatically power on in conjunction when it determines it to be necessary. Even if the AV receiver is connected to an RIHD compatible TV or player/recorder, it will not power on if it is not necessary. It may not power on in conjunction when the TV is set to output audio from the TV.
- Linked system functions with the AV receiver may not work depending on the component model connected. In such cases, operate the AV receiver directly.

- When the player/recorder cannot be operated with the remote controller of the AV receiver, the corresponding component may not be programmed to support the remote controller operation of CEC. Program the remote control code of the component maker to the remote controller for using.



About HDMI

HDMI (High-Definition Multimedia Interface) is a digital interface standard for connecting TVs, projectors, Blu-ray Disc/DVD players, set-top boxes, and other video components. Until now, several separate video and audio cables have been required to connect AV components. With HDMI, a single cable can carry control signals, digital video and digital audio (2-channel PCM, multichannel digital audio, and multichannel PCM).

The HDMI video stream (i.e., video signal) is compatible with DVI (Digital Visual Interface) (*1), so TVs and displays with a DVI input can be connected by using an HDMI-to-DVI adapter cable. (This may not work with some TVs and displays, resulting in no picture.)

This unit supports HDCP (High-bandwidth Digital Content Protection) (*2), so it can display picture only on HDCP-compatible components.

HDMI of the unit supports the following functions.

Audio Return Channel, 3D, x.v.Color, Deep Color, LipSync, 4K (Passthrough)

Audio Formats Supported by The Unit:

- 2-channel linear PCM (32 - 192 kHz, 16/20/24 bit)
- Multichannel linear PCM (up to 7.1 ch, 32 - 192 kHz, 16/20/24 bit)
- Bitstream (Dolby Atmos, Dolby Digital, Dolby Digital Plus, Dolby TrueHD, DTS, DTS-HD High Resolution Audio, DTS-HD Master Audio)
- DSD

Your Blu-ray Disc/DVD player must also support HDMI output of the above audio formats.

About Copyright Protection:

The HDMI jacks on this unit support Revision 1.4 and Revision 2.2 of the HDCP (High-bandwidth Digital Content Protection) (*2), a copy-protection system for digital video signals. Other devices connected to the unit must also support HDCP.

*1 DVI (Digital Visual Interface): The digital display interface standard set by the DDWG (*3) in 1999.

*2 HDCP (High-bandwidth Digital Content Protection): The video encryption technology developed by Intel for HDMI/DVI. It is designed to protect video content and requires a HDCP-compatible HDMI/DVI receiver to display the encrypted video.

*3 DDWG (Digital Display Working Group): Lead by Intel, Compaq, Fujitsu, Hewlett Packard, IBM, NEC, and Silicon Image, this open industry group's objective is to address the industry's requirements for a digital connectivity specification for high-performance PC and digital displays.

Caution:

- There are some content that can be played only with HDCP Rev. 2.2 compatible devices. To play such content, connect an HDCP Rev.2.2 compatible TV or player to a HDMI jack of the unit.
- The HDMI video stream (i.e., video signal) is compatible with DVI (Digital Visual Interface), so TVs and displays with a DVI input can be connected by using an HDMI-to-DVI adapter cable. (Note that DVI connections only carry video, so you will need to make a separate connection for audio.) However, reliable operation with such an adapter is not guaranteed. In addition, video signals from a PC are not supported.
- The HDMI audio signal (sampling rate, bit length, etc.) may be restricted by the connected source component. If the picture is poor or there is no sound from a component connected via HDMI, check its setup. Refer to the connected component's instruction manual for details.



Reference Information

Remote Control Codes

■ Television (A to E)

A.R. Systems	10037, 10556
ACCENT	10037
Acoustic Solutions	11667, 11585, 11523, 11037
Action	10650
Adcom	10625
Addison	10653, 11150
Admiral	10093
AEG	12197, 11037, 12239
Affinity	13717, 13870, 13577
Aftron	13478
Aiko	10037
Aim	10037
Akai	12676, 10812, 10037, 10672, 10208, 10714, 11523, 13067, 12414, 13183, 10178, 10556, 12197
Akiba	10037
Akito	10037
Akura	12289, 10037, 11667, 10714, 10668, 11585, 10171, 11037, 11498, 11687, 11983, 12239
Alba	12676, 11037, 10037, 10668, 10714, 11585, 13005, 13067, 13790, 11667, 12104, 12561
Alfide	10672
Alien	11037
Allstar	10037

Amstrad	10037, 10171, 11037
Anam	10037, 10650
Andersson	12676, 11585
Anitech	10037
Ansonic	10668, 10037
AOC	11589, 12769, 11365, 13720, 12014, 12087, 13790, 10093, 10178, 10625, 11150
Apex Digital	12397
Apollo	12239
Ardem	10714, 10037
Arena	10037
Ario	12397
Aristona	10556, 10037
ART	11037
Art Mito	11585, 11667
AS	11667, 11585, 11523, 11037
Asberg	10037
Astra	10037
ATD	10698
Atlantic	10037
Atvio	13636
Audiosonic	10714, 12104, 10037, 13067, 11983
Audio-Technica	10000, 10093, 10150, 11150
Audiovox	11769
Audioworld	10698
Auria	12087, 12014
Autovox	12676
Aventura	10171
Axxon	10714
Azuki	12239
B & O	10620
Baier	12239
Baird	10208

Bang & Olufsen	10620
Barco	10556
Base	10698
Basic Line	10037, 10668, 11037, 10556
Bauer	12197
Baur	10037, 10512, 10195
BBK	12098, 11523
Beaumark	10178
Beijing	10208, 10812
Beko	10714, 12125, 10037, 12239
Bell & Howell	10017
Belson	10698, 11667
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BenQ	12563, 11562, 11523
Beon	10037
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Bestar	10037
Bexa	12493
BGH	14070, 14029, 10898, 12414, 12098
Black Diamond	11037
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Blue Sky	10714, 10037, 11037, 10668, 10556, 10625
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bogo	12561
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Brandt	10625, 11585, 10714
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Cameron	11523
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Carrefour	10037
Cascade	10037
Casio	10037
Cathay	10037
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Celcus	12676, 11585
Celebrity	10000
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Centrum	11037
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Chiawin	10810
Chimei	12769
CHL	13067
Chung Hsin	11150
Chunyun	10000, 11150, 11687
Cinema	10672
Clarivox	10037
Clatronic	10037, 10714
Clayton	11037
CME	10037, 10512
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Coby	13478, 12315, 13627
Commercial Solutions	11447
Condor	10037
Conia	11498, 11523, 11687
Conrowa	10698
Contec	10037
Cosmel	10037
CPTEC	10625
Crosley	10000
Crown	10037, 10714, 10208, 10672, 11037, 10668
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Crypton	11667
Currys Essentials	12486
Curtis	12855, 13577, 12466, 12352, 13895, 12397, 13636, 13382, 14035
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Cyberpix	11667
Daenyx	10672
Daewoo	10634, 10037, 10672, 10556, 12098, 10178, 11150, 12125
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De Graaf	10208
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Dick Smith Electronics	10698
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Durabrand	10171, 10178, 10714, 11037
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Electrolux	11585
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Element	13559, 11687, 12183, 12964, 13907, 11886, 12256
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ELG	10037
Elin	10037
Elite	13867, 10037
Emerson	11864, 11394, 10171, 11886, 10178, 10037, 13623, 12183, 10668, 10714, 13559
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FairTec	11585
Favi	13382
Fedders Lloyd	13639
Ferguson	10625, 11037, 13005, 10037, 12426, 10195, 11585, 12676
Fidelity	10037, 10512, 10171
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Finlux	11667, 12676, 10714, 10037, 10556
Firstline	10714, 10037, 10668, 11037, 10208, 10556
Fisher	11585, 10208
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Galaxis	10037
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GE	11447, 10178, 10735, 10625, 10093, 11454
GEC	10037
General Electric	11447, 10178, 10735, 10625, 10093, 11454
Genesis	10037
Genexxa	10037
GFM	10171, 11864, 11886
Gibraltar	10017
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Goodmans	10037, 11037, 10634, 11667, 10668, 11523, 11585, 11687, 11983, 10714, 10556, 10625, 12426, 12676
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Hitachi	11643, 12676, 11576, 11585, 11037, 11691, 13317, 11667, 10634, 13639, 10037, 10679, 12170, 12846, 10150, 10178, 10508, 11150
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Mivar	10609
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New Acoustic Dimension	10037, 10178
New Sonic	11826
New Tech	10037, 10556
Newave	10093, 10178, 11150
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Nexus Electronics	12183
Nikkai	10037
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Norcent	11365, 11589
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Nortek	10668
Novatronic	10037
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OK Line	11037
OK.	13434, 12676, 13047
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OKI	11667, 12676, 12125, 13434, 11585
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Otto Versand	10037, 10512, 10093, 10556, 10195
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Palladium	10037, 10714, 10556
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Panasonic	11636, 11480, 11291, 10650, 11650, 13825, 12170, 10037, 10093, 10150, 10178, 10208, 10508
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Prosonic	10714, 12676, 12125, 10668, 12197, 10037, 11523, 11585, 11667
Protech	10037, 10668, 11037
Proton	10178
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Radiomarelli	10037
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Cablevision	01877, 01376, 03336, 00476
Cabovisao	02436, 02493
Caiway	02015, 03607, 02762, 00660, 02447
Caiyun Digital	03961
CalTel Connections	02254, 02586
Canal Digital	02030
Canby Telcom	01481, 02302
Cass Cable	00476, 01376
CC9	02703, 02752, 03474
CCAP	01877
CCS	03322
Celrun	03442, 02682
CenturyLink	01998
Channel Master	03118
Charter	01877, 01376, 00476, 02187, 03560
Chengde Guangtong	03936
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Chengdu Telecom	04196



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China Telecom	04196, 02913, 03937
China Unicom	04366, 04196
Chongqing Cable	03954
Chongqing Cable Networks	03954
CHT	03647, 01917
Chunghwa	03647, 01917
Cincinnati Bell	01877, 01376
Cisco	01877, 00858, 03028, 01982, 02132, 02345, 02589, 01883, 01998, 01582, 02047, 02378, 02563, 02401, 02742, 03265, 02271, 02947, 03452
Citycable	03451, 03477
CJ	03322, 02897, 02979, 03340, 03407, 03849
CJ Digital	02979, 02897, 03322, 03340, 03407, 03849
CJ HelloVision	03322, 02897, 02979, 03340, 03407, 03849
Claro	01376, 00476
ClubInternet	02132
CMA Communications	01376
CMB	03389, 02979, 03498
CMBTV	03498
CNS	02980, 02350
Cogeco	01376, 01982, 00476
Com Hem	00660, 02447, 02832, 02015
Comcast	01982, 01376, 00476, 01877, 03560, 02187

Comporium	01877, 03560, 02187
Consolidated Communications	01877, 01376, 01998, 02302, 03048
Coship	01991, 02950, 03278, 04162, 04408, 04196
Cosmic	02897
Cox	01877, 01376, 00476
CTS	02703, 03474
Daeryung	01877
Darty Box	02436
DASAN	02683
Delta	03607, 02015, 00660, 02447, 02762
DEN	02726
Deutsche Telekom	02132
Digeo	02187
Digi	02762, 03479
Digicable	03382, 02479
DigitAlb	02493
Director	00476
Dmg	03835
DNA	02832, 00660, 02030
Dom.ru TV	02493
Dream Satellite TV	02493
DSD	03340
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Eagle Communications	01376, 02187
EastLink	01376, 00476
Echostar	02955, 03452
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Evolution	02479, 02746, 04079
Extra TV	02132
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Fastway	03382
FCTV	01782, 02703
Fidelity Communications	01376
Finnet	02030, 02832
First Media	03783
Freebox	01976
Frontier Communications	02378
Fujian Broadcast & TV Network Group	04195
Fujian Broadcast and TV	04195
Gangwon Broadcasting Network	03407
Gansu Cable	04236
GCI	01376
GCS	03322
GDCATV	02980, 03131, 03132
Gehua	03278, 00476
General Communications	01376
General Instrument	00276, 00476
Google	03666
Gospell	04205
Grande Communications	01877, 03560, 01376
Great Plains Communications	01376
Guangdong Cable	02980, 03131, 03132
Guangxi Broadcasting	02897, 03407, 03961
Guangxi Broadcasting Network	02897, 03407, 03961
Guangzhou Cable	02945

Guizhou Broadcasting Network	03946
Hana TV	02681, 03442
Hathwa@y	02043, 02726
Hawaiian Telcom	03028
HBC	01376, 01877, 01982, 02979, 03322, 03340, 03849
HCN	02979, 03340
HD+	03607
HDT	03465
Hebei Broadcasting	04026, 03967
Hebei Broadcasting Network	04026, 03967
Hebei Digital TV	04205
Hello TV	03322
HelloD	02979
Henan Cable	04034
HickoryTech	01898, 02302
Hikari TV	03237
Himawari TV	01760
Homecast	02977, 02979, 03389
Hong Kong Cable	01374
Hrvatski Telekom	02132
HSKONG	03965, 03937, 04026
Huashu	04034
Huawei	02994, 03278, 03937, 01991, 02913, 04281, 01982
Humax	03607, 02762, 02043, 02447, 00660, 01981, 01983, 02620, 02832, 03560, 02165, 02683, 02701, 02889, 02715, 02962, 03051, 03053, 03075, 03319, 03849



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Hunan Cable Net	04205
HYA	02989
Hyroad	02979
HyTV	02979, 03340
Hyundai Digital Technology	03465
HZRTV	02960
I-Cable	01374
i-CAN	01585, 02437
I-Digital	03319, 02979
IMBTVN	04106
INESA	03865
Innovative Systems	01898
Inotel	02437
Inter Mountain Cable	01877, 02479, 04079
Invitel	02437
InviTV	02437
iTSCOM	02703
ITV	02979, 03389, 04196, 03498
J:COM	01760, 02703, 03925, 01782, 02701, 02700, 02715, 02752, 03051, 03053
Jambox	02030
JBC	02979, 03322, 03340, 03849
JCN North	02703, 01760, 03474
Jerrold	00276, 00476
Jiangsu Cable Network	04022
Jilin Broadcasting	04009
Jilin Cable	04009
Jinan Radio and Television Network	04206
Jishi Media	04009
Jiuzhou	01991
JP PTT	01615
JXCN	03948

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Kabel Deutschland	03514, 01981, 01983, 02165, 03607, 02620
KabelBW	02889, 01981, 01983
KabelNoord	02015
Kaon	02493, 02889, 02746, 03407, 04409, 02682, 02979, 03389
kbro	02350, 03139
KCN-TV	02703
KCT	01760, 02703, 02752, 03474
KCTV	02979, 03340, 03389, 03849, 03322
KCTV JEJU	02979, 03340, 03389, 03849
KCTV-KJ	02979, 03340, 03389, 03849
KDMC	03319, 02979
Kiryung	03498
Kiss	02132, 02271
KoolConnect	01481
KPN	02952, 02437
Kreatel	02030
KT	02683, 03478
Lattecom	02030
LG	03340, 02682, 03407, 02979, 03389, 03319
LG U+	02682
Linksys	02271
Lishui Huashu	04034
Longyan Broadcasting Cable & Tv	04195
Lumos Networks	01998, 03028
Magio Sat	02132
Magnet	01615
Maige TV	03937
Massillon Cable	00476, 01376
Matanuska Telephone Association	01481, 02254, 02482, 02586

Mediacom	01376, 00476, 01982, 01877
Mediastream	01376, 00476
Mega	02683
Mega TV	02683
Megacable	01376, 00476
Meo	02401
MetroCast Cablevision	01376, 01982, 00476
Mi-Connection	01877
Midcontinent Communications	01376, 00476, 01982
Mid-Hudson Cable	00476, 01376
Minerva Networks	03118
MIO	02275, 02802
mio TV	02275, 02802
Mitsubishi Electric	03274
MOD	03647, 01917
Motorola	01376, 00476, 02378, 02437, 01998, 02030, 00858, 01982, 02952, 00276, 01562, 02275, 03916, 01585, 04034, 02401
Movistar	01585, 03288
Moxi	02187
Moyo	03611
MTS	01998, 03611, 01615, 01481, 01898
MyLGTV	02682
NET	01883
NewWave Communications	00476, 01376, 02187
NIB	03322
Ningde Cable TV	04195
Noos	02436
Northland Communications	01376
Novus	01376, 00476
Now TV	02009, 02014
NTL	01060, 00276

NTT	03237, 03274
NTV Plus	02762
NU Telecom	01998, 03028
Numericable	02436

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O2	02586
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Oi TV	03452, 03454, 04165
Olleh TV	02683, 03478
Olleh-Skylife	02683, 03478
Ono	01562
Open IPTV	01615
Optimum	01877
Optimus Clix	02437
Optus	00276, 01060
Orange	02407
Oriental Cable Networks	03865
Pace	01376, 01060, 02620, 01982, 01877, 01998, 00858, 01582, 01883, 03454, 02294, 02401
Panasonic	02703, 02752, 03474, 01760, 01782, 01982
Parasat	03479
Paul Bunyan Communications	02254, 02586
PCCW	02009, 02057
Philips	01582, 02378, 03560, 02294
Pioneer	01782, 01877, 03925, 02700
Pioneer Telephone	02254, 02302
Portugal Telecom	02401
Premiere	02620
Primacom	02889
Primestar	02030



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PrimeTV	02030
PT	02401
PTCI	01376
PX	03348
Qook TV	02683, 03478
Qook-Skylife	02683, 03478
Qrix	03465, 02979
QuickLine	02493
Qwerty	01898, 01481, 01615
Qwerty.TV	01898
RCN	01376, 00476, 03560
Reach Broadband	01376, 01877, 01982
Reliance	02556
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Rogers	01877, 01376
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Sagem	02407, 02436, 03288
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SaskTel	01998
SBN	03965

Scientific Atlanta	01877, 00858, 01982, 02401, 02345, 01987, 02047, 02436, 03028, 02378
SCTV	02493
SCV	02950
Seokyoung	03340
Service Electric	01376, 00476, 01982
SetaBox	01917
Shaanxi Broadcasting	03965
Shanghai	03865
Shanghai OCN	03865
Shanxi Broadcasting Network	03965
Shaw	01376, 01877, 00476, 02187, 01982
Shenzhen Broadcasting	01991, 04162
Shenzhen Digital TV	01991, 04162
Shijiazhuang Broadcasting	04026
Shimanto CATV	02752
Sichuan Broadcasting	03953
SingTel	02275, 01998, 02802
Siti Digital	03664
SK Broadband	03442, 02681
SK Btv	02681, 03442
Sky Austria	02620, 02447, 02832
Sky Deutschland	02620, 02447, 02832
SkyCable	02950, 03521, 03527, 04177
SkyLife	02683, 03478
Skyworth	03298, 02960, 03278, 01991, 03521, 04177, 03946, 04162
Smartlabs	03611
Smile Content	02437

SMT	03527
SMtronics	03319
Sogetel	01998, 02482
Sonaecom	02437
Sonera	00660
Source Cable	01376, 00476
Starcat	02703, 01782
StarHub	01927, 00276
Stipte	01898
Stofa	02015
Suddenlink	01877, 01376, 01982, 03560, 00476
Supercable	00276
Supercanal	01376, 00476
Suwon Cable	03319
Suzhou Cable Network	04022
SVA	03865
Swisscom	02271
SXBCTV	03965

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Tbaytel	03028
Tbroad	03319
TCC	04409, 04408
TCN	03340, 02703
T-Com	02132
TDC	02271
TDS Telecom	03028
Technicolor	01982, 02994, 03288
TechniSat	03316
Tele2	00660, 02447
Telecentro	00476, 01376
TeleColumbus	02889
Telefonica	01585, 03028, 03288, 02586
Telekom Deutschland	02132
Telenet	01920, 03451, 03477
Telewest	01987

Telia	02030
Telmex	01376
TELUS	03028
TFN	03127, 03139
T-Home	02132
Thomson	01582, 01981, 01982, 01983, 03007, 02407
T-Hrvatski Telekom	02132
Tianjin Broadcast & TV Network	04010
Tianjin Broadcasting	04010
Time Warner	01877, 01376, 00476, 02187
TiVo	03560, 03265
ToongTV	03322
Top	03766
TopTV	01991
TP	02407
Trans PX	00276
True Visions	03075, 02762
TVB	01615
TVS Cable	01376, 01877, 01982
U+	02682
U+ tvG	02682
UCATV	02703, 01760
Unitymedia	02955, 02610, 03451, 03477
UPC	01582, 03451, 03477, 00660, 01060
UPC Cablecom	01582, 03451, 03477
US Electronics	00276
U-verse	00858
Vector	02030
VeeTV	03231
Verizon	02378
Viasat	02030
Videotron	01877, 02947
Viken Fibernett	02030, 02437



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Virgin Media	01987, 02563, 01060, 03265, 00276
Visionetics	01374
Vivo	03288
Vodafone	02401
Volia	02493
Volia Cable	02493
Voo	02742
VTR	01376
wasu	04034
Wave Broadband	01376, 00476, 02479, 04079
Wavevision	01376, 01877, 01982
Wbox	02832
WEHCO Video	01376
Welho	02832
WellAV	03479
Westman Communications	01376, 00476, 02187
WideOpenWest	01376, 01877, 02187
Windjammer Cable	00476, 01376, 01877
WNC	03118
WOW!	01877, 01376, 00476, 02187, 02479
Xfinity	01376, 01982, 00476, 01877, 03560, 02187
Xuyi Radio & TV	02897
YBN	03322
YCV	02703, 01760
Youview	02994
Yunnan Broadcasting	03961
Yuxing	02014
Zhong Hua Dian Xin	01917

Ziggo	02589, 03607, 02015, 02762, 00660, 02401, 02447
Zinwell	03139
Zito Media	01376, 01982
ZTE	04196

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@sat	01300
@Sky	01334
1.Sky	03538
Acoustic Solutions	01284
ADB	02553, 00887, 01887
AEG	02738, 02813
Agora	01284
Airis	02813, 03012
Airtel	02248
Akai	02938
Akira	02738
Akta	01986
Akura	01626
Alba	01284, 02034, 02568
Allvision	01334
Altech UEC	02059, 02097, 03517
Amiko	04197
Amstrad	00847, 01662, 01175, 01693, 02467
AMTC	02738, 02813
Ansonic	02418
Aonvision	02279
Apro	01672
Argos	02568
Arion	03374, 04348
Arnion	01300
Arris	00869
AS	01284

ASA	00740
ASCI	01334
ASDA	01284
AssCom	00853
Astrell	01986, 02418
Astro	00173, 01838, 02627, 00658, 03838, 01099, 01100, 02026
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Atlanta	02418, 03320
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Audiola	03012, 02418
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Aurora	00879
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Austriasat	01195, 01197, 02957, 03374, 01561, 01631, 02631
Auvisio	02932, 02738, 02813
Avanit	00299, 01631
Awa	02418
Axil	02418, 01413, 01777, 02738, 03424
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Beijing	03299
Bell	00775
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BENsat	02957, 02938
Best Buy	02728, 02842
BIG TV	04312
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BiS Television	01986
Black Diamond	01284
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Blu:sens	02938
Boca	02026, 02458, 02797, 02308, 02813
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Botech	02738, 03749
Boxer	02443, 01692, 01957, 04024
Brainwave	00658, 01672
BSkyB	01175, 01662, 00847
Bulltech	02738
Bush	01935, 02376, 01284, 02813, 01672, 03346, 03439, 02034, 03652, 01291, 01626, 02418, 02568
Cablecom	01195, 01197
Caiway	02443, 00253
Canal Digitaal	02631, 00853, 02466, 02957
Canal Digital	02553, 01780, 00853, 01334
Canal+	00853, 02657, 01195, 01197, 01986
CanalSat	00853, 02657
Century	03110, 00856
CGV	02034, 01413, 01986
Chess	02026, 01334, 01626
Signal	02289, 02835, 02836
CityCom	00299, 00658, 02957
Clarke-Tech	03320



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Claro	03787, 03790
Classic	01291, 01284, 01672
Clatronic	01413, 02738
Clayton	01626
CME	00173
CMX	02205, 02932
Cobra	02728, 03012
Com Hem	01176, 01915
Comag	02797, 02026, 02458, 02813, 02308, 01413
Comsat	01413
Comwell	01956
Continent	01986
Coship	03787, 03790, 01672, 02525, 03574
Cosmos TV	01545
Croner	02813
Crown	01284
Crypto	03012
Crystal	03012, 01416
Cyfra+	00853, 01409
Cyfrowy Polsat	02262, 02527, 00253, 00853
Dantax	01626
Danystar	02938
DASAN	03321
D-box	01114
DCR	03517
Delta	02443
Denver	02418, 02738
Deutsche Telekabel	01195, 01197
Dgtec	01631, 02418
Dick Smith Electronics	02418, 02813
Dicra	02738, 02842, 03012
Digenius	00299, 00740
Digi	01416, 01195, 01197, 02026
Digi Raum Electronics	02622

Digi Romania	01416
Digitality	01334, 02813
Digihome	02034, 01284, 01935
DigiLogic	01284, 02034
DigiQuest	02278, 02738, 01300, 01631
Digital	02308
DigitAlb	01195, 01197
DigitalBox	02540, 01631, 02289, 01100, 03240
DigitSat-e	02842
Digiturk	03517, 02097
Digiwave	01631
Dikom	02938, 02842
Dilog	01957, 01780
DiPro	02278
DirectTV	01377, 01442, 00099
Dish Mexico	00775
Dish Network	00775
DishHD	04090
Dishpro	00775
DishTV	01300, 02604, 01780
Di-Way	02289
DMT	03321
DMTech	02738
DNA	01780, 01957, 01176, 02144
Donghai	02938
Doro	01672
DragonSat	02928
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Dream Multimedia	01237, 01652, 01923
Dream Satellite TV	01416, 03374
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DSTV	00879, 02059, 02060
DTI Electronics	02938
DTK Deutsche	01195, 01197
Telekabel	
DTV	03572
Dual	02034
Durabrand	01284, 02034
Dyon	02738, 02813
Easy-One	03240
Echostar	00775, 02262, 02527, 00853, 01409
Eco-Star	01413
Edision	01631
Ekotech	03422
Elap	01413
Elbe	02418
Electron	01956
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Elless	00740
Elta	02738
Embratel	02796, 03787
Energy Sistem	02418, 01631, 02289, 02813
Engel	03749, 01611, 01672
Etisalat	02443
Europhon	00299, 01334
Eurosat	01611, 01413
Eurosky	00740, 00299
Eutra	00740
Evesham Technology	02034
Eycos	03374
F&U	03012
Fagor	01611
FaVal	03422
Ferguson	02638, 01291, 01803, 01935, 02034
Finepass	01780
Finlux	01626, 02034

Finnet	01780, 01957
FinnSat	00740, 01195, 01197, 01351
FMD	01413
Fortec Star	01631
Foxtel	01356, 00879, 01176
Freesat	01692, 02928, 03266, 01986, 02376
Freesat+	02443, 03266
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Fte Maximal	02289
Fuba	02750, 00173, 00299, 03726
Fuji Onkyo	02728, 01631
Funai United	03012
Galaxis	00853, 00879
Galaxy	01956
Galaxy Innovations	02799, 04197
General Instrument	00869
General Satellite	03064, 02622
Gi	02799, 04197
GigaBlue	03663
GigaTV	02738
Globo	02026, 01334, 00740, 01429, 02957, 01626
GMMZ	03538
Go	01780
GoGen	02738
GOI	00775
Gold Box	00853
Gold Vision	01631
Golden Media	04197
GoldMaster	01334, 02928
Goodmans	01284, 02376, 02034, 03652, 02568, 03346, 03439
Gradiente	00887, 03110, 00856



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Grandin	01626
Grocos	01409
Grundig	00173, 00847, 02376, 01291, 02034, 00853, 02813, 01284, 01780, 02738, 03424, 00879, 01672, 02568, 03346
GVT	03789
Haier	02418
Hailo	02289
Hallo	01626
Handan	01780, 01957
Hanseatic	01099, 01100
Hauppauge	01672
HD Box	02928
HD+	02797, 02443, 01429, 02569, 03095
HDT	01416, 01255, 03321
Hirschmann	00173, 00299, 02026, 00740
Hitachi	02034, 01284
Homecast	02525
Hornet	01300
HTS	00775
Huawei	03787
Huaxian Radio and Television Network	04041
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Hubei Radio & Television Network	04041
Hughes Network Systems	01442, 01377

Humax	01176, 02443, 01427, 01808, 02736, 01882, 01915, 03140, 02231, 02408, 02144, 02616, 02754, 01377, 03517, 01989, 02289, 03321, 01255
Hyundai	01416
Hyundai Digital Technology	01416, 01255, 03321
ibox	01652
IceCrypt	04197, 02838, 02928
ID Digital	01176
ID Sat	02289, 01334, 01631
i-Joy	02938
Illusion	01631
Imagin	01195, 01197
Imperial	01195, 01197, 01334, 01429, 01672
InDigital	01416
Indovision	01989, 00856, 01887, 02108, 00887, 01255
iNETBOX	01652, 01237
Inno Hit	01626, 02728
Innova	00099
Intv	04348
Inverto	03095
inVion	02418
iotronic	01413
IP Vision	02455
IPM	03567
IQ	02813
IQ Prism	02813
ISkyB	00887
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Jaeger	02797, 01334
Jameson	02813
Jerrold	00869
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Kabel Deutschland	01195, 01197, 01672, 01882, 01915
KabelBW	01882, 01915, 01195, 01197, 01429
KabelNoord	00253, 02443
Kamosonic	02738
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Kathrein	01561, 02569, 00658, 00173, 03658, 01416, 02263
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