

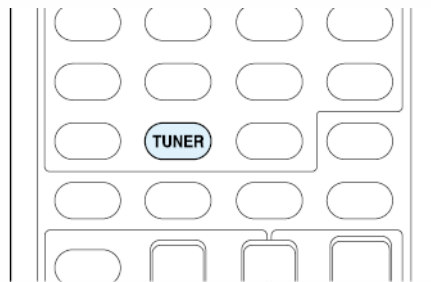


## Tuning into a Radio Station

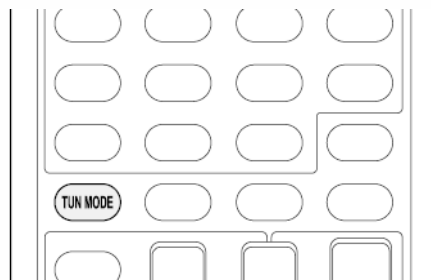
### ■ Tuning Automatically



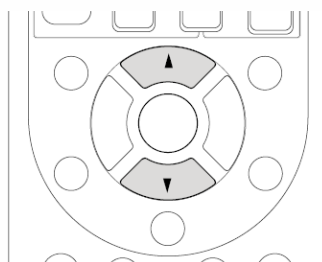
1. Press TUNER on the remote controller several times to select either "AM" or "FM".



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.

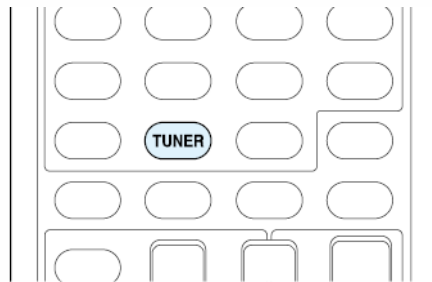


**When the signal from an FM radio station is weak:** Radio wave may be weak depending on the building structure and environmental conditions. In that case, perform the procedure as explained below in "Tuning Manually" to manually select the desired station.

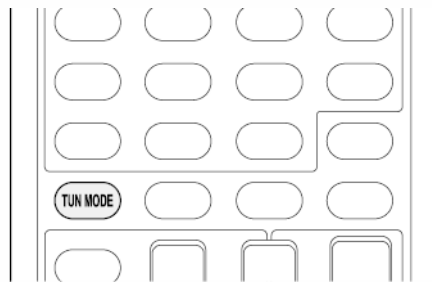
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## ■ Tuning Manually ▼

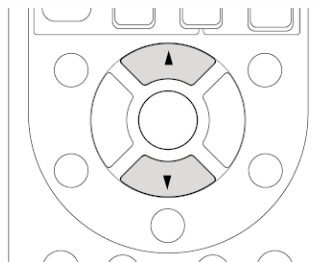
1. Press TUNER on the remote controller several times to select either "AM" or "FM".



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.

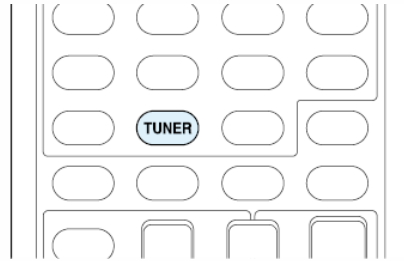
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## ■ Directly inputting the frequency ▼

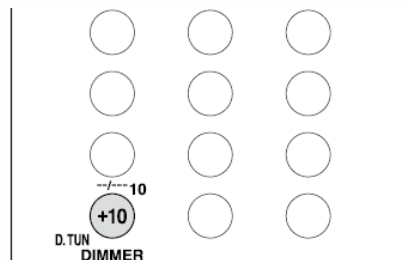
It allows you to directly enter the frequency of the radio station you want to

listen to.

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

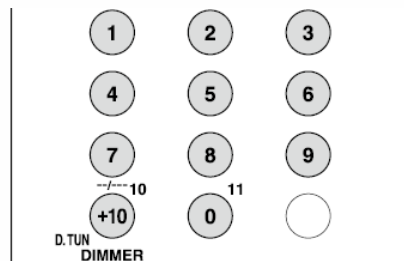


2. Press D.TUN.



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.



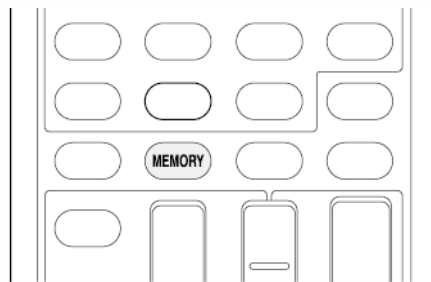


### Presetting a Radio Station

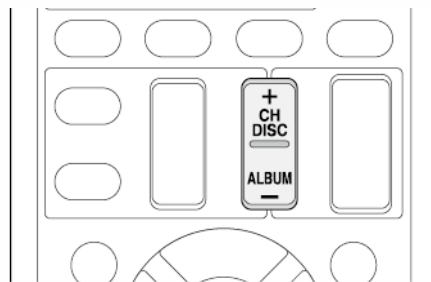
It allows you to register up to 40 of your favorite AM/FM radio stations. Registering radio stations in advance allows you to tune into your radio station of choice directly.

#### ■ 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.

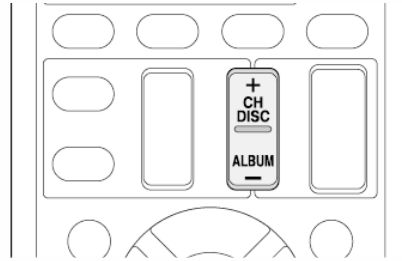


4. Press MEMORY again to register the station.
  - When the station is registered, the preset number stops flashing.
  - Repeat this procedure for all of your favorite AM/FM radio stations.

#### ■ 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

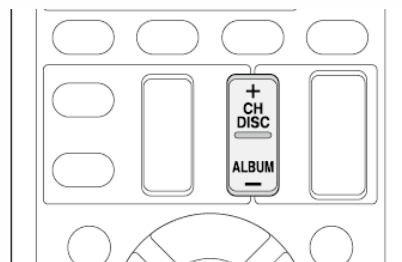
also select by directly entering the preset number with the number buttons on the remote controller.



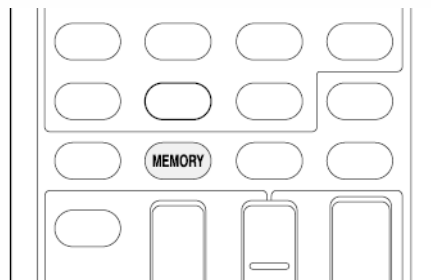
## ■ Deleting a Preset Radio Station



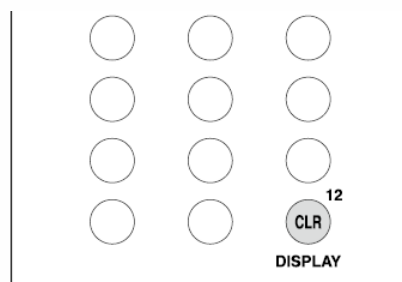
1. Press CH +/- on the remote controller to select the preset number to delete.



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.

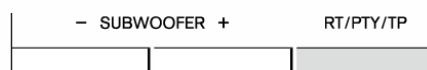
**PTY (Program Type):** Allows you to search for RDS stations by program type.

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

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#### ■ Displaying Radio Text (RT) ∨

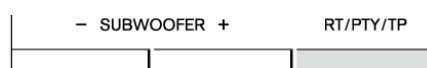
1. Press RT/PTY/TP on the main unit once.
  - The Radio Text (RT) is displayed scrolling across the display. "No Text Data" is displayed when no text information is available.



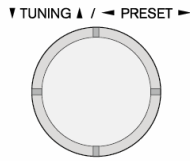
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#### ■ Searching by Type (PTY) ∨

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



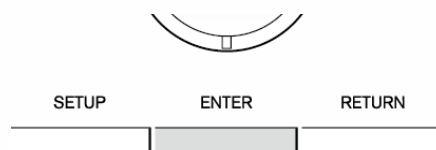
2. Press ◀PRESET▶ to select the type of program to search for.



- 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)

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



4. When such a radio station is found, the indication on the display flashes.

Then, press ENTER again.

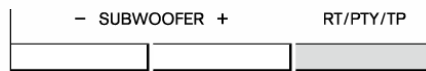
- If no stations are found, the message "Not Found" is displayed.

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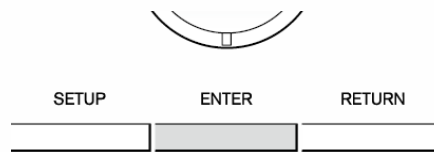
## ■ Listening to Traffic Information (TP) ∨

1. 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.



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



3. 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.





## About the Remote Controller

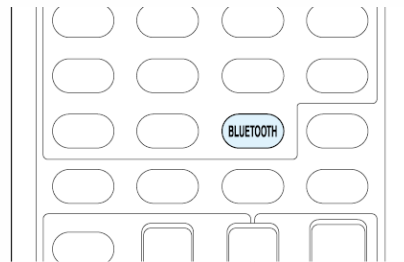
Use the remote controller of this unit to play music files stored on a Bluetooth-enabled device.

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

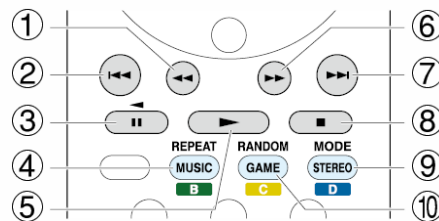


## Remote Controller Buttons

1. Press BLUETOOTH on the remote controller.



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



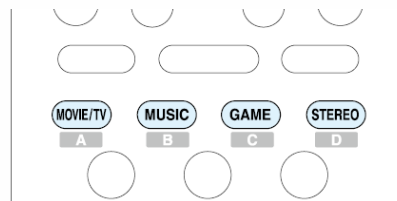
- ① ◀◀: This button fast-reverses the current track.
- ② ◀◀◀: This button plays the current track from the beginning. Pressing this button twice plays the previous track.
- ③ ||: This button pauses the playback.
- ④ **REPEAT**: This button replays the track (or tracks). Pressing this button repeatedly cycles through the repeat modes.
  - MUSIC (B)
  - RANDOM (C)
  - MODE (D)
  - STEREO
- 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 and Asian models)
- ⑩ **RANDOM**: This button performs random playback.



### 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.

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*Dolby D*

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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

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#### ■ AllCh Stereo ▼

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

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#### ■ 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.

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#### ■ 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.

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#### ■ 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.

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### ■ 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.
- 

### ■ 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.

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### ■ Game-Action ▼

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

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■ Game-Rock ▼

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

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■ Game-RPG ▼

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

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■ Game-Sports ▼

Suitable for audio source with much reverberation.

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■ 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.

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■ Multich (Multichannel) ▼

Mode suitable for playing sources recorded in PCM multichannel.

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■ 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.

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■ Stereo ▼

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

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■ 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.

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■ 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.

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■ 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.

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■ 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.





### 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.

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#### ■ MOVIE/TV button ▼

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

##### Analog

Direct  
Mono  
Dolby Surround  
Neo:6 Cinema<sup>\*1</sup>  
TV Logic<sup>\*2</sup>  
AllCh Stereo<sup>\*3</sup>  
Full Mono<sup>\*3</sup>  
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.

##### PCM

Direct  
Mono  
Dolby Surround  
Neo:6 Cinema<sup>\*1</sup>  
TV Logic<sup>\*2</sup>  
AllCh Stereo<sup>\*3</sup>  
Full Mono<sup>\*3</sup>

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.

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.

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.

**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  
Mono  
Dolby Atmos  
TV Logic  
AllCh Stereo  
Full Mono  
T-D

**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.

**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.

**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.

**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.

**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.

**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.

#### 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.

#### 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.

installed.

DTS-ES

Direct

Mono

DTS\*<sup>1</sup>

ES Matrix\*<sup>2</sup>

ES Discrete\*<sup>2</sup>

Dolby Surround\*<sup>3</sup>

TV Logic\*<sup>4</sup>

AllCh Stereo\*<sup>5</sup>

Full Mono\*<sup>5</sup>

T-D

\*<sup>1</sup> Can only be selected when the back speakers are not installed.

\*<sup>2</sup> Back speakers need to be installed.

\*<sup>3</sup> Height speakers need to be installed.

\*<sup>4</sup> Surround speakers or height speakers need to be installed.

\*<sup>5</sup> Center speaker, surround speakers or height speakers need to be installed.

---

MUSIC button ▼

You can select a mode suitable for music.

Analog

Direct

Stereo

Dolby Surround

Neo:6 Music\*<sup>1</sup>

Orchestra\*<sup>2</sup>

Unplugged\*<sup>2</sup>

Studio-Mix\*<sup>2</sup>

AllCh Stereo\*<sup>3</sup>

Full Mono\*<sup>3</sup>

\*<sup>1</sup> Center speaker or surround speakers need to be installed.

\*<sup>2</sup> Surround speakers or height speakers need to be installed.

\*<sup>3</sup> Center speaker, surround speakers or height speakers need to be installed.

## PCM

Direct  
Stereo  
Dolby Surround  
Neo:6 Music<sup>\*1</sup>  
Orchestra<sup>\*2</sup>  
Unplugged<sup>\*2</sup>  
Studio-Mix<sup>\*2</sup>  
AllCh Stereo<sup>\*3</sup>  
Full Mono<sup>\*3</sup>

\*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.

## Multich PCM

Direct  
Stereo  
Multich<sup>\*1</sup>  
Dolby Surround  
Orchestra<sup>\*2</sup>  
Unplugged<sup>\*2</sup>  
Studio-Mix<sup>\*2</sup>  
AllCh Stereo<sup>\*3</sup>  
Full Mono<sup>\*3</sup>

\*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.

## DSD

Direct  
Stereo  
DSD<sup>\*1 \*2</sup>  
Dolby Surround  
Neo:6 Music<sup>\*3</sup>  
Orchestra<sup>\*4</sup>



Unplugged\*<sup>4</sup>

Studio-Mix\*<sup>4</sup>

AllCh Stereo\*<sup>5</sup>

Full Mono\*<sup>5</sup>

\*<sup>1</sup> Cannot be selected when the input format is monaural or 2 ch.

\*<sup>2</sup> Center speaker or surround speakers need to be installed.

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

\*<sup>4</sup> Surround speakers or height speakers need to be installed.

\*<sup>5</sup> Center speaker, surround speakers or height speakers need to be installed.

## 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

## Dolby D

Direct

Stereo

Dolby D\*<sup>1</sup> \*<sup>2</sup>

Dolby Surround

Neo:6 Music\*<sup>3</sup>

Orchestra\*<sup>4</sup>

Unplugged\*<sup>4</sup>

Studio-Mix\*<sup>4</sup>

AllCh Stereo\*<sup>5</sup>

Full Mono\*<sup>5</sup>

\*<sup>1</sup> Cannot be selected when the input format is monaural or 2 ch.

\*<sup>2</sup> Center speaker or surround speakers need to be installed.

\*<sup>3</sup> 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.

#### 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.

#### 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.

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.

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.

## 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.

## 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.

## 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.

## 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\*<sup>5</sup>

- \*<sup>1</sup> Can only be selected when the back speakers are not installed.
  - \*<sup>2</sup> Back speakers need to be installed.
  - \*<sup>3</sup> Height speakers need to be installed.
  - \*<sup>4</sup> Surround speakers or height speakers need to be installed.
  - \*<sup>5</sup> Center speaker, surround speakers or height speakers need to be installed.
- 

## ■ GAME button ∨

You can select a mode suitable for games.

### Analog

Direct  
Dolby Surround  
Game-RPG\*<sup>1</sup>  
Game-Action\*<sup>1</sup>  
Game-Rock\*<sup>1</sup>  
Game-Sports\*<sup>1</sup>  
AllCh Stereo\*<sup>2</sup>  
Full Mono\*<sup>2</sup>  
T-D

- \*<sup>1</sup> Surround speakers or height speakers need to be installed.
- \*<sup>2</sup> Center speaker, surround speakers or height speakers need to be installed.

### PCM

Direct  
Dolby Surround  
Game-RPG\*<sup>1</sup>  
Game-Action\*<sup>1</sup>  
Game-Rock\*<sup>1</sup>  
Game-Sports\*<sup>1</sup>  
AllCh Stereo\*<sup>2</sup>  
Full Mono\*<sup>2</sup>  
T-D

- \*<sup>1</sup> Surround speakers or height speakers need to be installed.

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

## 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.

## 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.

## 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

#### 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.

#### 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.

**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.

**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.

**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.

**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.

## 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.

## 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.

## DTS-ES

Direct

DTS \*1

ES Matrix\*<sup>2</sup>

ES Discrete\*<sup>2</sup>

Dolby Surround\*<sup>3</sup>

Game-RPG\*<sup>4</sup>

Game-Action\*<sup>4</sup>

Game-Rock\*<sup>4</sup>

Game-Sports\*<sup>4</sup>

AllCh Stereo\*<sup>5</sup>

Full Mono\*<sup>5</sup>

T-D

\*<sup>1</sup> Can only be selected when the back speakers are not installed.

\*<sup>2</sup> Back speakers need to be installed.

\*<sup>3</sup> Height speakers need to be installed.

\*<sup>4</sup> Surround speakers or height speakers need to be installed.

\*<sup>5</sup> 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.

All format

Stereo

AllCh Stereo\*<sup>1</sup>

\*<sup>1</sup> 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".

---

Dolby D      5.1

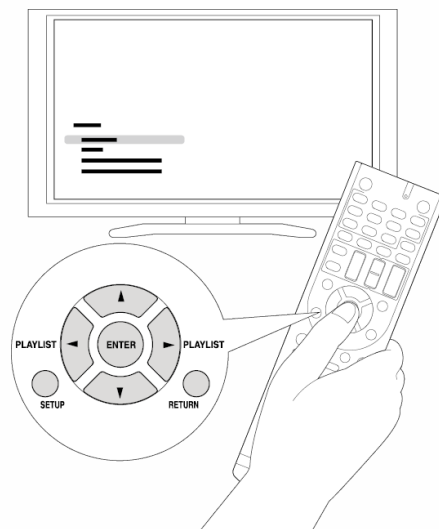
---



### How to Set

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

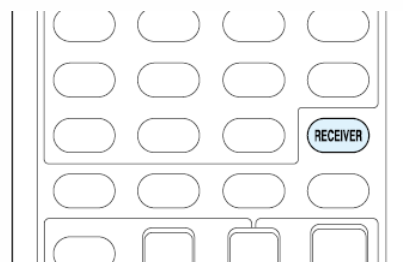
● **Operation:** You can set up by viewing the guidance displayed on the TV screen. Select the item with the cursor buttons of the remote controller and press ENTER to confirm your selection. To return to the previous screen, press RETURN.



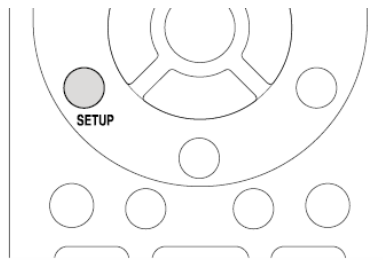
#### ■ Operation



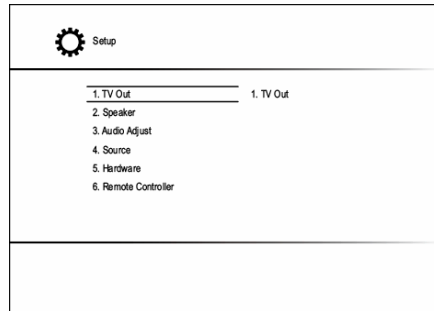
1. Press RECEIVER on the remote controller.
  - Always press RECEIVER first to change the remote controller to RECEIVER mode (the mode to operate this unit) since its mode may be changed to operate another component.



2. Press SETUP to display the Setup menu.

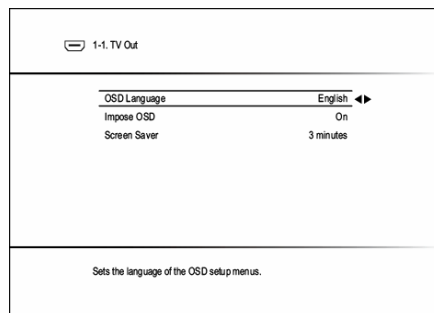


3. Press ▲/▼ to select the desired menu, and then press ENTER.



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.

**OSD Language**

Default Value: 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 and Asian models).

**Impose OSD**

Default Value: 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.

- 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**

Default Value: 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.

[Speaker Channels](#)

Default Value: 5.1.2 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](#)

Default Value: Yes

Set whether a subwoofer is connected or not.

"Yes": When subwoofer is connected

"No": When subwoofer is not connected

[Height Speaker](#)

Default Value: Bundled Dolby Speaker

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

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

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

---

### 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.

**Front**

Default Value: 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**

Default Value: 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**

Default Value: 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.

**Surround**

Default Value: 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](#)

Default Value: 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](#)

Default Value: 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)

### [Double Bass](#)

Default Value: 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.

- 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.

**Unit**

Default Value: 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**

Default Value: 12.0ft/3.60m

Specify the distance between each speaker and the listening position.

**Center**

Default Value: 12.0ft/3.60m

Specify the distance between each speaker and the listening position.

**Front Right**

Default Value: 12.0ft/3.60m

Specify the distance between each speaker and the listening position.

**Height Left**

Default Value: 9.0ft/2.70m

Specify the distance between each speaker and the listening position.

**Height Right**

Default Value: 9.0ft/2.70m

Specify the distance between each speaker and the listening position.

**Surround Right**

Default Value: 7.0ft/2.10m

Specify the distance between each speaker and the listening position.

**Back Right**

Default Value: 7.0ft/2.10m

Specify the distance between each speaker and the listening position.

**Back Left**

Default Value: 7.0ft/2.10m

Specify the distance between each speaker and the listening position.

**Surround Left**

Default Value: 7.0ft/2.10m

Specify the distance between each speaker and the listening position.

Subwoofer

Default Value: 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.

Front Left

Default Value: 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

Default Value: 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

Default Value: 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

Default Value: 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 Right

Default Value: 0dB

Select a value between "-12dB" and "+12dB". A test tone will be output each time you change the value. Select the desired level.

Surround Right

Default Value: 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

Default Value: 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 Left

Default Value: 0dB

Select a value between "-12dB" and "+12dB". A test tone will be output each time you change the value. Select the desired level.

Surround Left

Default Value: 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

Default Value: 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".
  - "Level Calibration" cannot be changed while muting is on.
-



### 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 ▼

**Multiplex**  
**Input Channel**

Default Value: 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.

- If multiplex audio is being played, "1+1" will be displayed when DISPLAY is pressed.

**Mono**  
**Input Channel**

Default Value: 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.

**Loudness Management**

Default Value: 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.

[Neo:6 Music Center Image](#)

Default Value: 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.

[Listening Angle](#)

Default Value: 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 ▼

IntelliVolume

Default Value: 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.

Name

Default Value: ---

Select a name registered in the unit and replace the currently selected input selector name with it.

- 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.

Audio Select

Default Value: -

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.

- The priority is HDMI → DIGITAL AUDIO/OPTICAL → Analog if this setting is not changed.

"ARC": When giving priority to input signal from ARC compatible TV.

- The setting can be selected only when "HDMI" - "Audio Return Channel" is set to "Auto" and also the "TV" input is selected.

"HDMI": When giving priority to input signal from HDMI jacks.

"DIGITAL AUDIO": When giving priority to input signal from DIGITAL AUDIO (COAXIAL) jack.

"OPTICAL": When giving priority to input signal from OPTICAL jacks.

"Analog": When giving priority to input signal from AUDIO jacks.

- The setting cannot be changed when "GAME 1" or "STRM BOX" input is selected.

#### PCM Fixed Mode

Default Value: Off

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.

- 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 ▼

### Video Select

Default Value: Last

Select the video input played along with audio output when either "TUNER" or "BLUETOOTH" is selected.

"Last": Select the video input played immediately prior.

"BD/DVD", "CBL/SAT", "GAME 1", "GAME 2", "STRM BOX", "VCR",

"AUX": Play the video from the selected input.

- 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 ▼

[AM / FM Frequency Step \(North American models\)](#)

Default Value: 10 kHz / 0.2 MHz

Select a frequency step depending on your area of residence.  
Select "10 kHz / 0.2 MHz" or "9 kHz / 0.05 MHz".

- When this setting is changed, all radio presets are deleted.

[AM Frequency Step \(European, Australian and Asian models\)](#)

Default Value: 9 kHz

Select a frequency step depending on your area of residence.  
Select "10 kHz" or "9 kHz".

- When this setting is changed, all radio presets are deleted.
- 

#### HDMI ▼

[HDMI CEC \(RIHD\)](#)

Default Value: Off

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

"On": Use this function

"Off": Do not use this function

When changing this setting, turn off and then on again the power of all connected components.

- 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".

## HDMI Standby Through

Default Value: Off

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."

- Power consumption in standby mode increases if set to anything other than "Off".

"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.

"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.

"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.

- 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)".

## Audio TV Out

Default Value: 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

- 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](#)

Default Value: 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](#)

Default Value: 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 ▼

#### [Sleep Timer](#)

Default Value: Off

Allows the unit to enter standby automatically when the specified time elapses. Select a value between "10 minutes" to "90 minutes".

"Off": Does not turn the unit to standby automatically.

#### [Auto Standby](#)

Default Value: 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.

- "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

Default Value: Off

Enable or disable "Auto Standby" while "HDMI Standby Through" is on.

"On": The setting will be enabled.

"Off": The setting will be disabled.

- This setting cannot be set to "On" if "Auto Standby" is set to "Off".

#### Power Out at Standby for STRM BOX

Default Value: Off

Devices connected to the USB port are supplied with electricity even when this unit is in standby mode when this function is "On".

- Power consumption in standby mode may increase when this function is being used.

---

## Bluetooth ▼

### Bluetooth

Default Value: 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

### Auto Input Change

Default Value: 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

Default Value: 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

Default Value: -

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

Default Value: -

Displays the name of the Bluetooth-enabled device connected to the unit.

- The name is not displayed when "Status" is "Ready" or "Pairing".

## Status

Default Value: -

Displays the status of the Bluetooth-enabled device connected to the unit.

"Ready": Not paired

"Pairing": Pairing

"Connected": Successfully connected

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### 6. Remote Controller

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Remote ID ▼

Remote ID

Default Value: 1

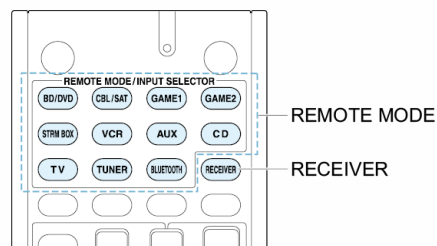
Select an ID for the unit's remote controller from "1", "2", and "3" to prevent interference between the unit and other Onkyo components that are installed in the same room. After changing the ID on the main unit, change the ID on the remote controller accordingly with the following procedure.

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.
-



## 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.



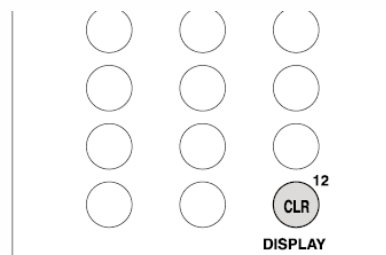


## Programming Remote Control Codes

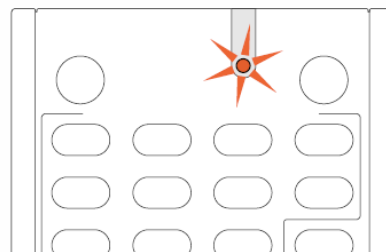
### ■ Consulting the Remote Control Code List



1. 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)
2. 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.

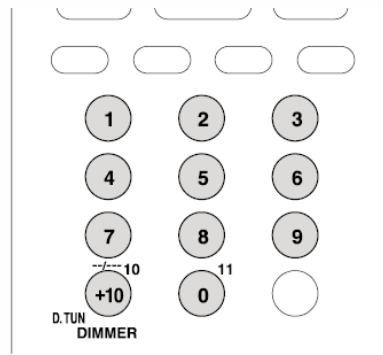


- The remote indicator lights in the input mode.



3. 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.

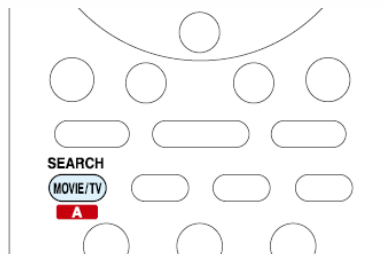


## ■ Remapping the Colored Buttons

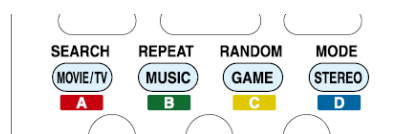


The colored button assignment on the AV receiver's remote controller can be remapped to match that on the remote controller of the component whose remote control code you programmed to REMOTE MODE.

1. 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)



2. 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.

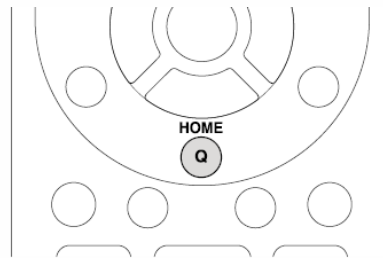


---

## ■ 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.

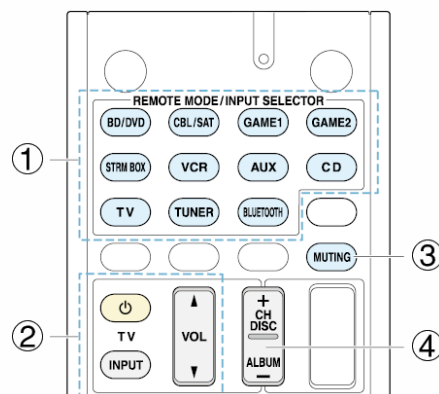
**To reset all the remote controller settings:** While holding down RECEIVER, press and hold Q for 3 or more seconds until the remote indicator stays lit. Within 30 seconds, press RECEIVER again. Resetting is complete when the remote indicator flashes twice.



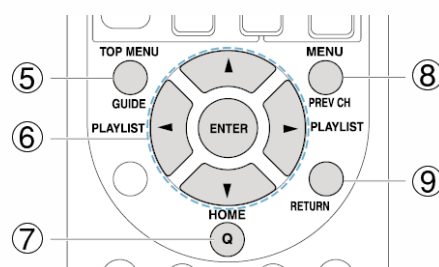
# Operating Other Components with the Remote Controller

## TV operation

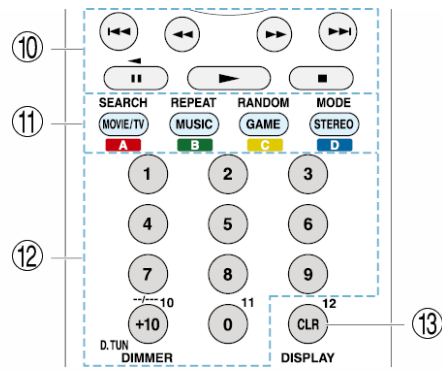
Press the REMOTE MODE button programmed with the remote control code for the relevant AV component to switch the remote controller mode to that for the AV component. Then, operate by using the corresponding buttons. Available buttons vary depending on the product category of the component. Operation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



- ① REMOTE MODE
- ② , INPUT, VOL ▲/▼
- ③ MUTING
- ④ CH +/-



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



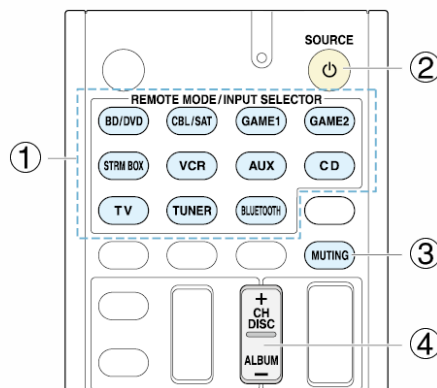
- ⑩ ►, ||, ■, ◀◀, ▶▶, ◀◀◀, ▶▶▶ ( \* )
- ⑪ A (Red), B (Green), C (Yellow), D (Blue)
- ⑫ Number 1 to 9, 0, +10
- ⑬ CLR, DISPLAY

\* Not CEC compatible.

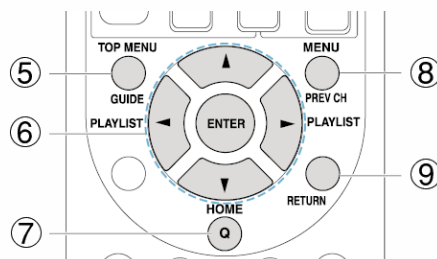


## Blu-ray Disc player/DVD player/DVD recorder operation

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.

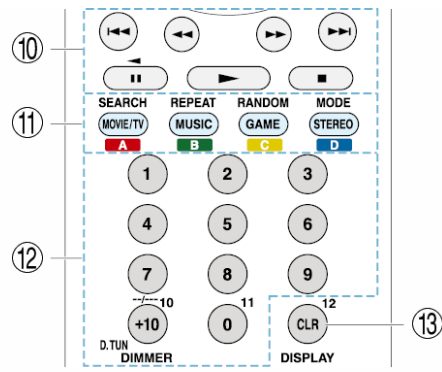


- ① REMOTE MODE
- ② SOURCE
- ③ MUTING
- ④ CH +/-, DISC +/-



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





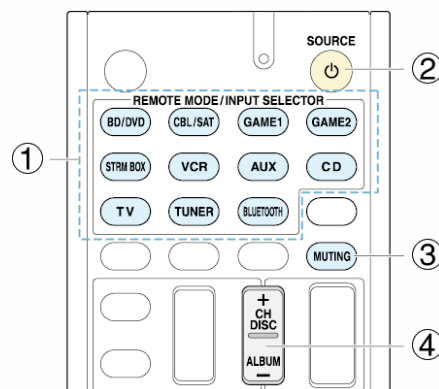
- ⑩ ►, ||, ■, ◀◀, ▶▶, ◀◀◀, ▶▶▶
- ⑪ A (Red), B (Green), C (Yellow), D (Blue)
- ⑫ Number 1 to 9, 0, +10 ( \* )
- ⑬ CLR, DISPLAY

\* Not CEC compatible.

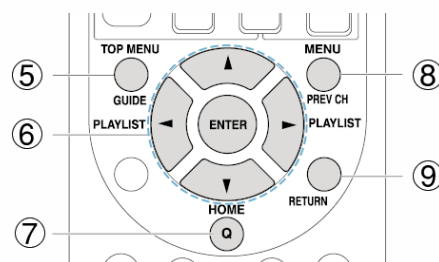


## VCR/PVR operation

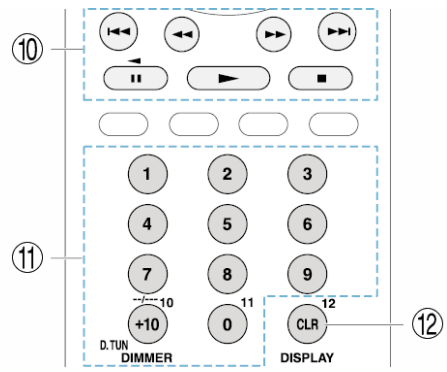
Press the REMOTE MODE button programmed with the remote control code for the relevant AV component to switch the remote controller mode to that for the AV component. Then, operate by using the corresponding buttons. Available buttons vary depending on the product category of the component. Operation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

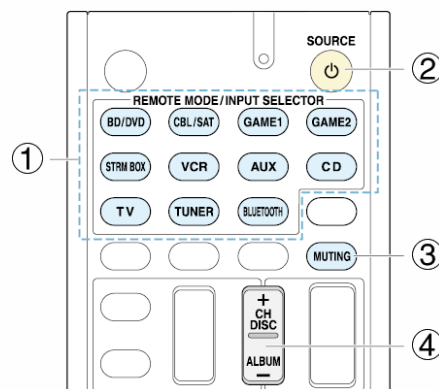


- ⑩ ►, ||, ■, ◀◀, ▶▶, ◀◀◀, ▶▶▶
- ⑪ Number 1 to 9, 0, +10
- ⑫ CLR, DISPLAY

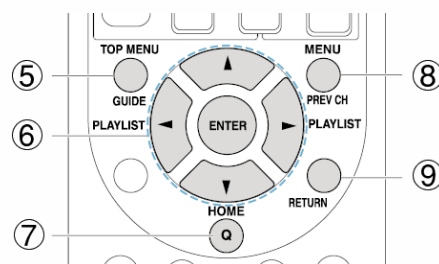


## Satellite receiver / Cable receiver operation

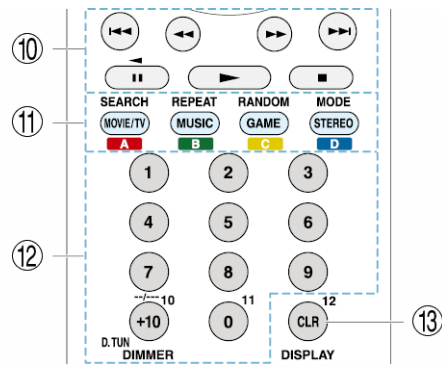
Press the REMOTE MODE button programmed with the remote control code for the relevant AV component to switch the remote controller mode to that for the AV component. Then, operate by using the corresponding buttons. Available buttons vary depending on the product category of the component. Operation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

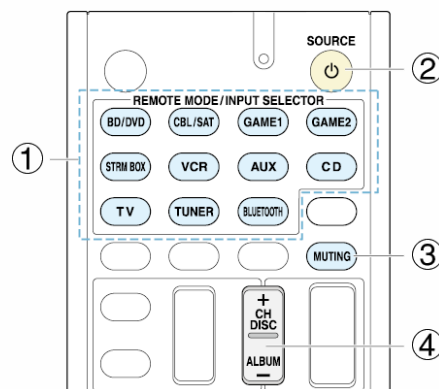


- ⑩ ►, ||, ■, ◀, ▶, ◀◀, ▶▶, ◀◀◀, ▶▶▶
- ⑪ A (Red), B (Green), C (Yellow), D (Blue)
- ⑫ Number 1 to 9, 0, +10
- ⑬ CLR, DISPLAY

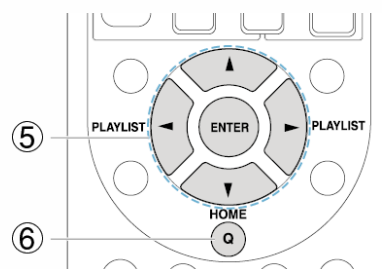


## CD player operation

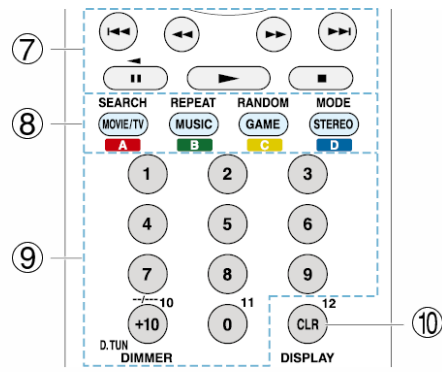
Press the REMOTE MODE button programmed with the remote control code for the relevant AV component to switch the remote controller mode to that for the AV component. Then, operate by using the corresponding buttons. Available buttons vary depending on the product category of the component. Operation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



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



- ⑤ ▲/▼/◀/▶, ENTER
- ⑥ HOME

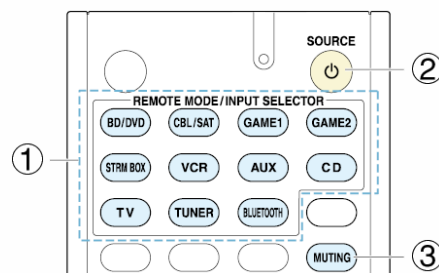


- ⑦ ►, ||, ■, ◀, ▶, ◀◀, ▶▶, ◀◀◀, ▶▶▶
- ⑧ SEARCH, REPEAT, RANDOM, MODE
- ⑨ Number 1 to 9, 0, +10
- ⑩ CLR, DISPLAY

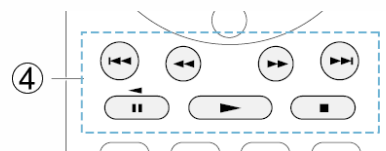


## Cassette tape deck operation

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), ■, ◀◀, ▶▶, ◀◀◀, ▶▶▶





### 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.



### (Read before starting the procedure) Speaker Impedance

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

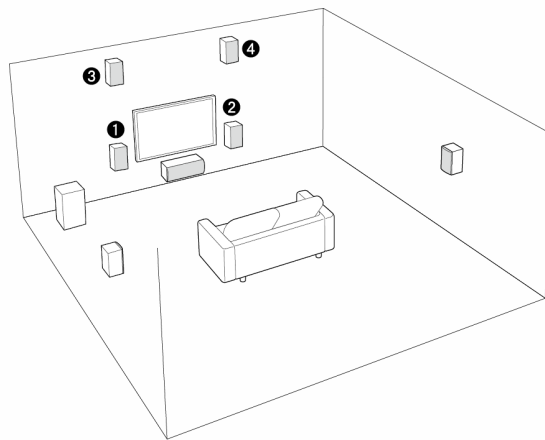


## Connections for Different Height Speakers Types

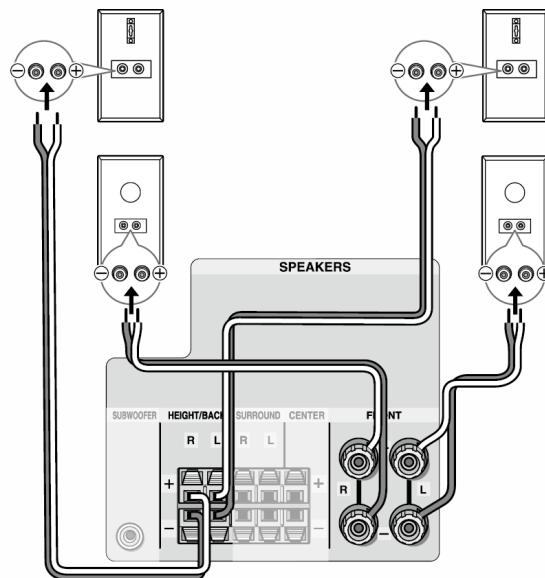
### ■ Front High



Install the ❶❷ Front speakers and ❸❹ Front High speakers as shown in the figure to enjoy the Dolby Atmos listening mode. Install the Front High speakers on the upper part of the front wall.



1. Connect the ❶ to ❹ speakers as shown below using the FRONT terminals and HEIGHT/BACK terminals.



2. Turn on the unit and set "Height Speaker" to "Front High".

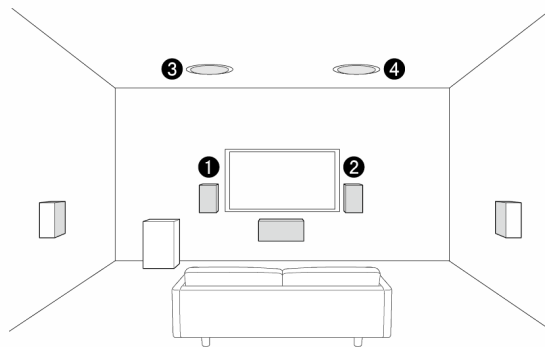
- ❶ After pressing RECEIVER, press SETUP on the remote controller.
- ❷ With the cursors, select "2. Speaker" - "Configuration" - "Height Speaker".

- ③ Select "Front High" with the cursors.
- If "Height Speaker" cannot be selected in step ② , set the "Speaker Channels" setting in "Configuration" to "5.1.2 ch".

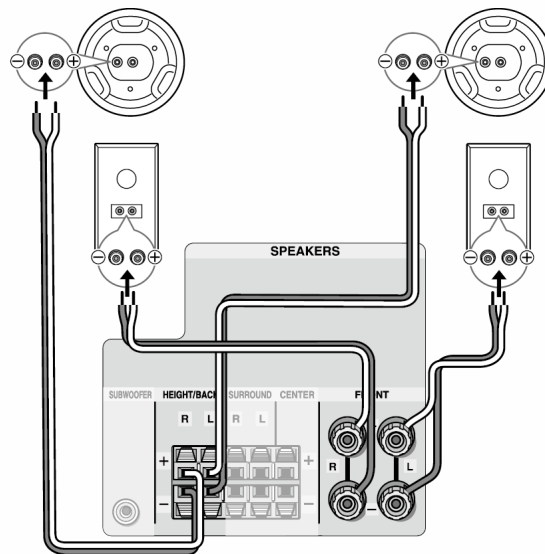
## ■ Top Front



Install the ①② Front speakers and ③④ Top Front speakers as shown in the figure to enjoy the Dolby Atmos listening mode. Install Ceiling Speakers or such other speakers as Top Front speakers so that they are positioned around the middle of just above the listening position and just above the front speakers.



1. Connect the ① to ④ speakers as shown below using the FRONT terminals and HEIGHT/BACK terminals.

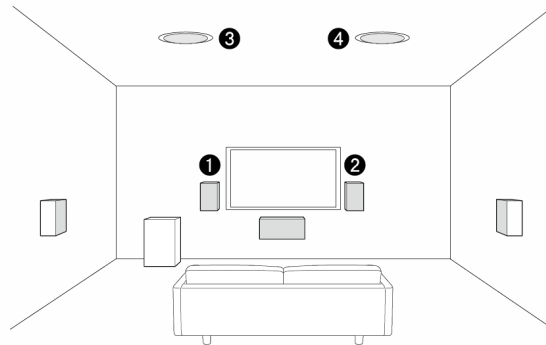


2. Turn on the unit and set "Height Speaker" to "Top Front".
  - ① After pressing RECEIVER, press SETUP on the remote controller.
  - ② With the cursors, select "2. Speaker" - "Configuration" - "Height Speaker".
  - ③ Select "Top Front" with the cursors.
    - If "Height Speaker" cannot be selected in step ② , set the "Speaker Channels" setting in "Configuration" to "5.1.2 ch".

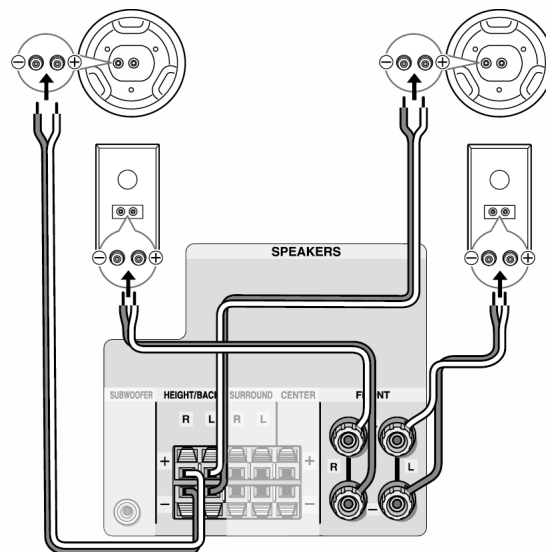
## ■ Top Middle



Install the **1 2** Front speakers and **3 4** Top Middle speakers as shown in the figure to enjoy the Dolby Atmos listening mode. Install Ceiling Speakers or such other speakers as Top Middle speakers so that they are positioned just above the listening position.



1. Connect the **1** to **4** speakers as shown below using the FRONT terminals and HEIGHT/BACK terminals.

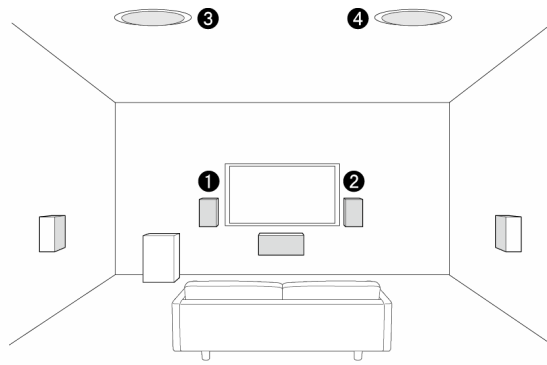


2. Turn on the unit and set "Height Speaker" to "Top Middle".
  - ① After pressing RECEIVER, press SETUP on the remote controller.
  - ② With the cursors, select "2. Speaker" - "Configuration" - "Height Speaker".
  - ③ Select "Top Middle" with the cursors.
    - If "Height Speaker" cannot be selected in step ②, set the "Speaker Channels" setting in "Configuration" to "5.1.2 ch".

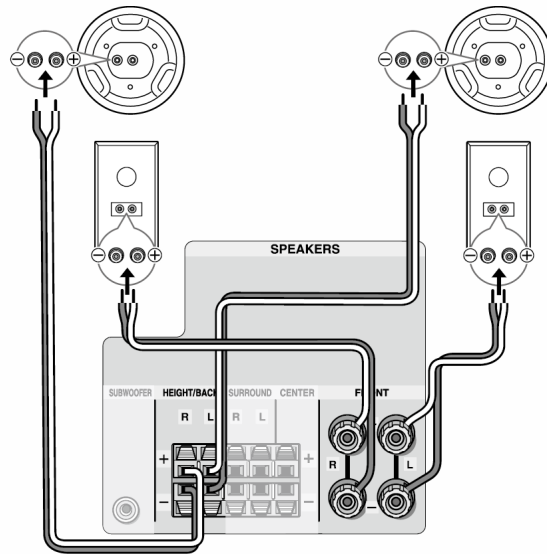
## ■ Top Rear



Install the **1 2** Front speakers and **3 4** Top Rear speakers as shown in the figure to enjoy the Dolby Atmos listening mode. Install Ceiling Speakers or such other speakers as Top Rear speakers so that they are positioned around the middle of just above the listening position and just above the back speakers.



1. Connect the ❶ to ❷ speakers as shown below using the FRONT terminals and HEIGHT/BACK terminals.

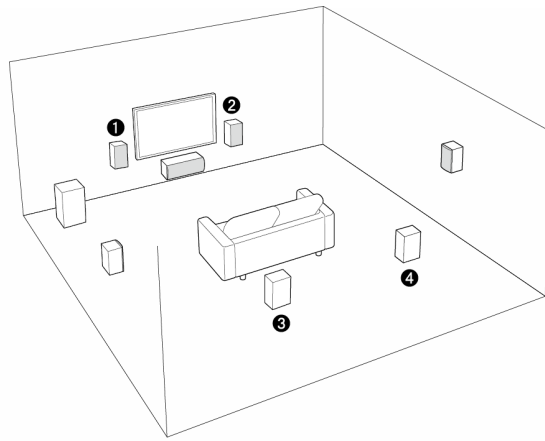


2. Turn on the unit and set "Height Speaker" to "Top Rear".
  - ❶ After pressing RECEIVER, press SETUP on the remote controller.
  - ❷ With the cursors, select "2. Speaker" - "Configuration" - "Height Speaker".
  - ❸ Select "Top Rear" with the cursors.
    - If "Height Speaker" cannot be selected in step ❷ , set the "Speaker Channels" setting in "Configuration" to "5.1.2 ch".

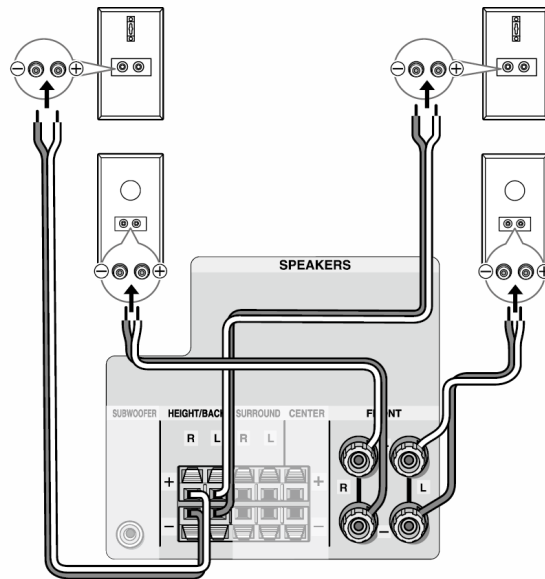
## ■ Rear High



Install the ❶❷ Front speakers and ❸❹ Rear High speakers as shown in the figure to enjoy the Dolby Atmos listening mode. Install the Rear High speakers on the upper part of the back wall.



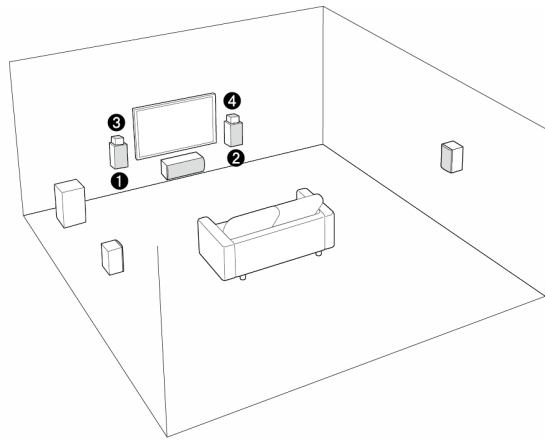
1. Connect the ❶ to ❷ speakers as shown below using the FRONT terminals and HEIGHT/BACK terminals.



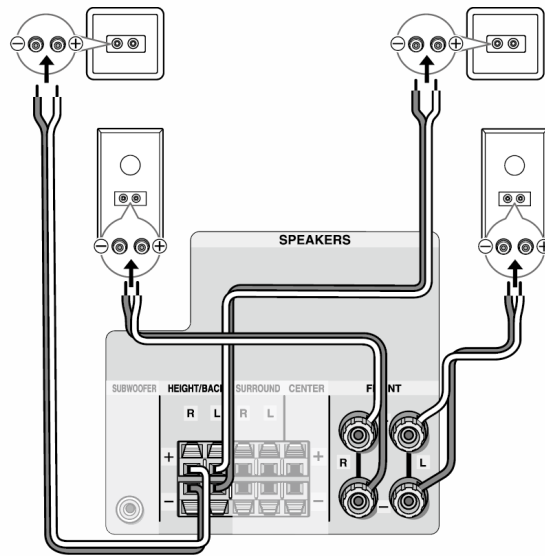
2. Turn on the unit and set "Height Speaker" to "Rear High".
  - ❶ After pressing RECEIVER, press SETUP on the remote controller.
  - ❷ With the cursors, select "2. Speaker" - "Configuration" - "Height Speaker".
  - ❸ Select "Rear High" with the cursors.
    - If "Height Speaker" cannot be selected in step ❷, set the "Speaker Channels" setting in "Configuration" to "5.1.2 ch".

#### ■ Dolby Enabled Speaker (Front) ▼

Install the ❶❷ Front speakers and ❸❹ Dolby Enabled Speakers (Front) as shown in the figure to enjoy the Dolby Atmos listening mode. Dolby Enabled Speakers are Height speakers and installed on the top board of the front speakers.



1. Connect the ❶ to ❷ speakers as shown below using the FRONT terminals and HEIGHT/BACK terminals.



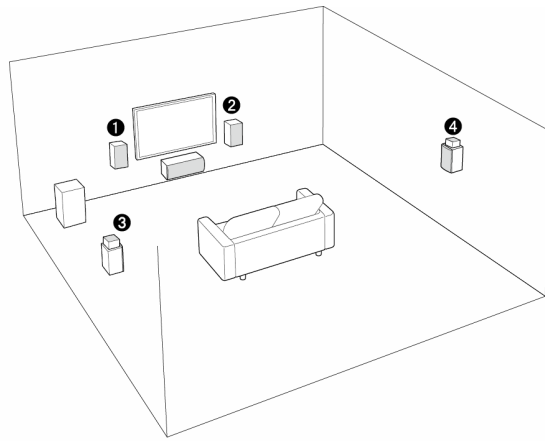
2. Turn on the unit and set "Height Speaker" to "Dolby Speaker (Front)".
  - ❶ After pressing RECEIVER, press SETUP on the remote controller.
  - ❷ With the cursors, select "2. Speaker" - "Configuration" - "Height Speaker".
  - ❸ Select "Dolby Speaker (Front)" with the cursors.
    - If "Height Speaker" cannot be selected in step ❷, set the "Speaker Channels" setting in "Configuration" to "5.1.2 ch".

## ■ Dolby Enabled Speaker (Surround)

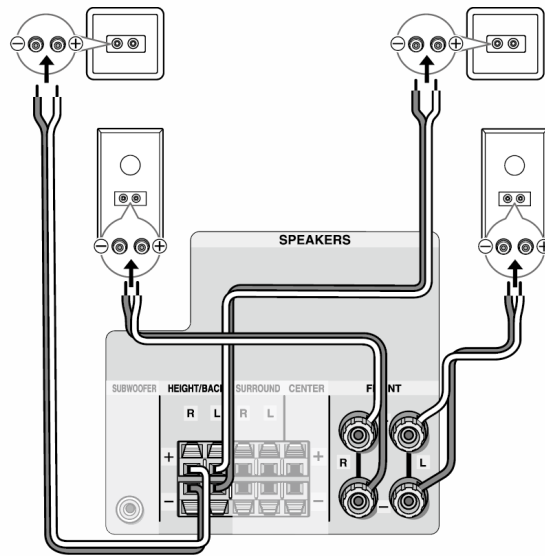


Install the ❶❷ Front speakers and ❸❹ Dolby Enabled Speakers (Surround) as shown in the figure to enjoy the Dolby Atmos listening mode. Dolby Enabled Speakers are Height speakers and installed on the top board of the surround speakers.





1. Connect the ❶ to ❹ speakers as shown below using the FRONT terminals and HEIGHT/BACK terminals.

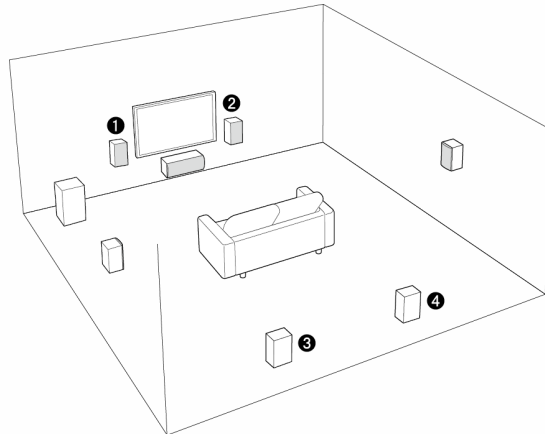


2. Turn on the unit and set "Height Speaker" to "Dolby Speaker (Surr)".
  - ❶ After pressing RECEIVER, press SETUP on the remote controller.
  - ❷ With the cursors, select "2. Speaker" - "Configuration" - "Height Speaker".
  - ❸ Select "Dolby Speaker (Surr)" with the cursors.
    - If "Height Speaker" cannot be selected in step ❷, set the "Speaker Channels" setting in "Configuration" to "5.1.2 ch".

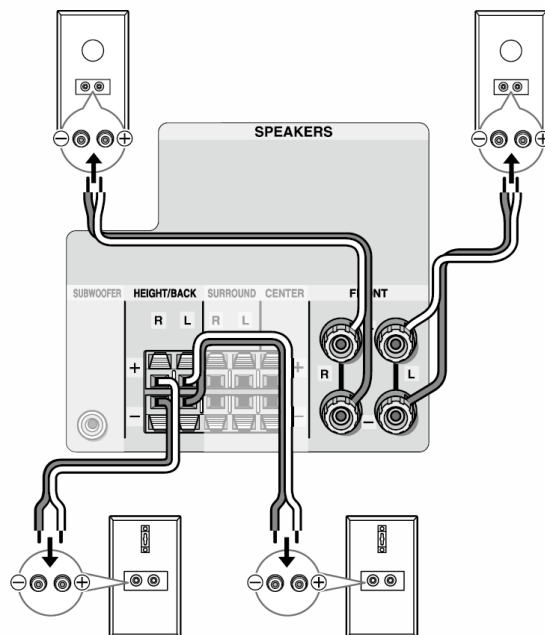


## Back Speakers Connection

Install the ①② Front speakers on the front and ③④ Back speakers on the back as shown in the figure.



1. Connect the ① to ④ speakers as shown below using the FRONT terminals and HEIGHT/BACK terminals.



2. Turn on the unit and change the "Speaker Channels" setting.
  - ① After pressing RECEIVER, press SETUP on the remote controller.
  - ② With the cursors, select "2. Speaker" - "Configuration" - "Speaker Channels".
  - ③ Select "6.1 ch" or "7.1 ch" with the cursors.



## 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.

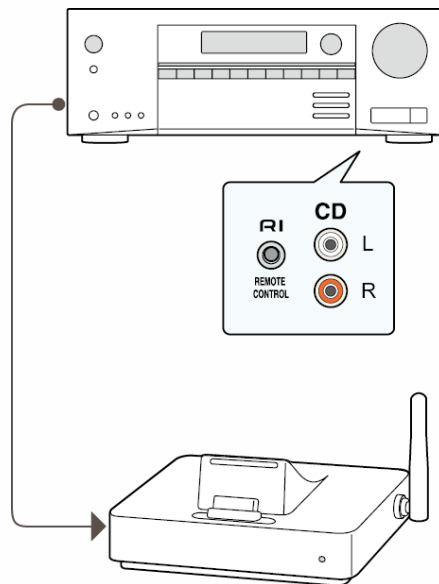
**Direct Change:** When playback is started on a component connected via RI, the unit selects that component as the input source.

**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 ▼

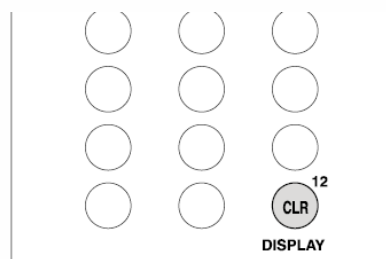
To make the RI functions work, you must rename the input selectors on the unit. After pressing RECEIVER to switch to RECEIVER mode, press SETUP on the remote controller. Use the cursors in the Setup menu to select "4. Source" - "Name Edit" - "Name" and rename the input selector to "DOCK" or "TAPE".

### ■ 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.

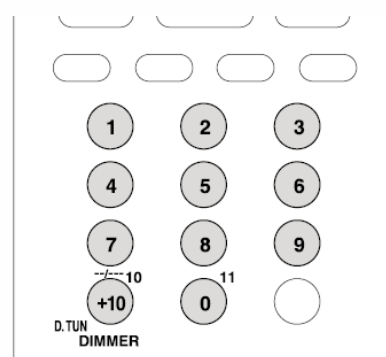


2. With the number buttons, enter the following 5-digit remote control code within 30 seconds.

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.

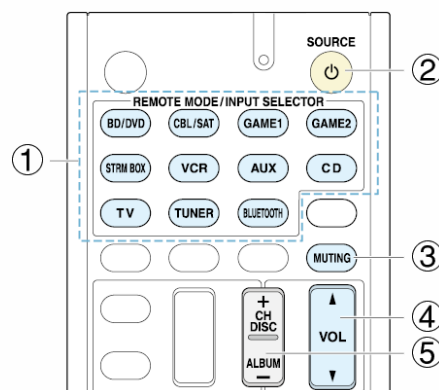


## iPod®/iPhone® Operation

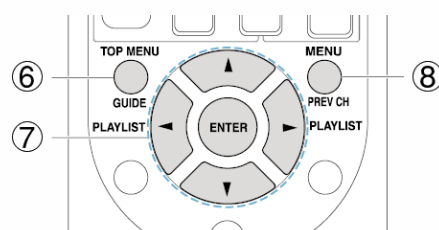
The RI Dock allows you to use the AV receiver's remote controller to operate and play music on your iPod/iPhone. Moreover, it also allows you to view videos on your iPod/iPhone on the screen of your TV, as well as perform RI operations if connected via RI. This operation is possible only when the RI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

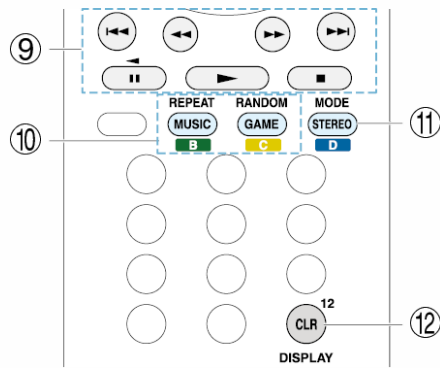


- ① REMOTE MODE
- ② SOURCE
- ③ MUTING
- ④ VOL ▲/▼
- ⑤ ALBUM +/-



- ⑥ TOP MENU

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



- 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.



### 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.



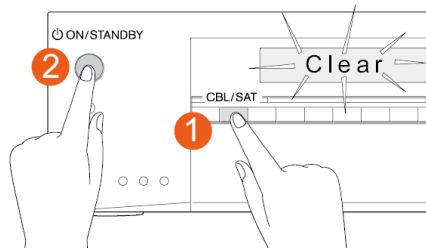


## Resetting the unit

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.

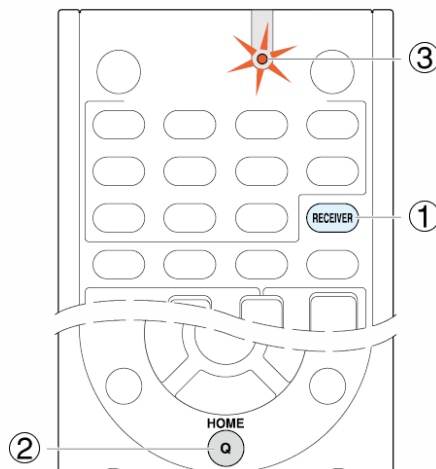
### ■ How to reset

1. While holding down CBL/SAT on the main unit (note that step 2 must be performed with this button pressed down)
2. Press  $\odot$ 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
- No sound from a connected player
- A speaker produces no sound
- Only the front speakers produce sound
- Only the center speaker produces sound
- The surround speakers produce no sound
- The center speaker produces no sound
- No sound from the back speakers or height speakers
- The subwoofer produces no sound
- Volume is low
- Noise can be heard
- The sound changes when I connect my headphones
- About DTS signals
- The beginning of audio received by an HDMI input jack cannot be heard



- 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.



## Troubleshooting

- 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.



## Troubleshooting

- 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.



## Troubleshooting

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



## Troubleshooting

- 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.





## Troubleshooting

- 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.



## Troubleshooting

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



## Troubleshooting

- 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.



## Troubleshooting

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



## Troubleshooting

- 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.



## Troubleshooting

- 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.



## Troubleshooting

- 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.





## Troubleshooting

- 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](#)
- [There is no sound with Dolby Atmos](#)



## Troubleshooting

- 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
- Images flicker



- 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.



## Troubleshooting

### ■ 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**
- **Music playback is unavailable on the unit even after successful Bluetooth connection**
- **Sound is interrupted**
- **The audio quality is poor after connection with a Bluetooth-enabled device**
- **The Auto Reconnect function of Bluetooth does not work**



## Troubleshooting

- 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.



## Troubleshooting

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



## Troubleshooting

- 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.



## Troubleshooting

- 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**
- **Operating other Onkyo component by using a RI remote control code is not available**
- **Cannot operate Onkyo components (ones without RI connection) and components of other makers**





## Troubleshooting

- The remote controller does not work
  - Before operating this unit with the remote controller, be sure to first press RECEIVER.



## Troubleshooting

- 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.



## Troubleshooting

- 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 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
- There is no video
- The AV receiver's remote controller does not control your iPod/iPhone
- The unit unexpectedly selects your iPod/iPhone as the input source



## Troubleshooting

- There is no sound
  - Try resetting your iPod/iPhone.



## Troubleshooting

- 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.



## Troubleshooting

- 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.





## Troubleshooting

- 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".



# 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.



## 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
Belstar	11037
BenQ	12563, 11562, 11523
Beon	10037
Berthen	10556, 10668
Bestar	10037
Bexa	12493
BGH	14070, 14029, 10898, 12414, 12098
Black Diamond	11037
Blaupunkt	10195, 12426
Blue Sky	10714, 10037, 11037, 10668, 10556, 10625
BlueDiamond	12426
Bluetech	12561
bogo	12561
BPL	10208, 10037
Brandt	10625, 11585, 10714
Brinkmann	10037, 10668
Brionvega	10037
Britania	12414
BuBuGao	12098, 11523
Bush	11037, 10037, 12676, 10668, 10714, 13790, 13005, 11667, 11687, 11983, 10556, 12125, 10208, 11585, 12104, 10698, 11589, 12673, 12964
Byd:sign	12209
Cameron	11523
Camper	10037
Carad	11037, 10668
Carena	10037
Carrefour	10037
Cascade	10037
Casio	10037
Cathay	10037
CCE	13782, 14091, 10037
Celcus	12676, 11585

Celebrity	10000
cello	12673
Centrum	11037
Centurion	10037
Changhong	13434, 12769, 11498, 10508, 10208
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
CMX	13332, 13067
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
Crown Mustang	10672, 10898
Crypton	11667
Currys Essentials	12486
Curtis	12855, 13577, 12466, 12352, 13895, 12397, 13636, 13382, 14035
Curtis Mathes	10093
Cyberpix	11667
Daenyx	10672
Daewoo	10634, 10037, 10672, 10556, 12098, 10178, 11150, 12125

Dansai	10037, 10208
Dantax	11037, 12676, 10714, 11667
Datsura	10208
DAWA	10037
Daytek	10672
Daytron	10037
De Graaf	10208
Decca	10037
Dell	11863
Denver	12197, 13067, 10037, 12239
Desmet	10037
Devant	12098
DGM	12239
Diamant	10037
Diamond	10698, 10672
Dick Smith Electronics	10698
Digatron	10037
Digihome	12676, 11667
Digiline	10037, 10668
Digimate	12239
Digisonic	11826
Digitor	10698, 10037
Digitrex	13067
Dikom	12561
diVision	12197, 12239
Dixi	10037
DNS	13434
Domeos	10668
Donghai	10037, 10668, 11037
Drean	10037
DSE	10698
Dual	12197, 11037, 12676, 11667, 10037, 11585, 10714
Dumont	10017
Durabrand	10171, 10178, 10714, 11037
Dux	10037
D-Vision	12197, 10037, 10556
DX Antenna	13817
Dynatron	10037

Dynex	12049
E.S.C.	10037
Easy Living	12104
ECE	10037
ECG	12197, 12125
Eiki	10735
Elbe	10037, 10556
Electroband	10000
Electrograph	11755
Electrohome	11670
Electrolux	11585
Electron	12466, 12855
Elektra	10017
Element	13559, 11687, 12183, 12964, 13907, 11886, 12256
Elfunk	11037
ELG	10037
Elin	10037
Elite	13867, 10037
Emerson	11864, 11394, 10171, 11886, 10178, 10037, 13623, 12183, 10668, 10714, 13559
e-motion	12426
Enox.	12673
Envision	11589, 11365, 12087, 12014, 11506
Epson	11379
EQD	12014, 12087
EQD Auria	12014, 12087
Erisson	13183
Erres	10037
ESA	10812, 10171
Essentials	12486
Euroman	10037
Europa	10037
Europhon	10037
Evesham Technology	11667
Evotel	12561
Excello	11037

Exquisit	10037
■ Television (F to J)	
F&U	12676
FairTec	11585
Favi	13382
Fedders Lloyd	13639
Ferguson	10625, 11037, 13005, 10037, 12426, 10195, 11585, 12676
Fidelity	10037, 10512, 10171
Finlandia	10208
Finlux	11667, 12676, 10714, 10037, 10556
Firstline	10714, 10037, 10668, 11037, 10208, 10556
Fisher	11585, 10208
Flint	10037
Fluid	12964, 13907
Formenti	10037
Fortress	10093
Fraba	10037
Friac	10037
Frigidaire	11826
Fujimaro	11498, 11687
Fujimaru	11687
Fujitsu	10809
Fujitsu Siemens	10809
Funai	13817, 10171, 11394, 10000, 11037, 10714, 10668, 11864
Funai United	12676
Furrion	13332
Gaba	11037
Galaxi	10037
Galaxis	10037
Gateway	11755
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
Gibson	11826
Gintai	11150
Godrej	11585
GoGen	12676, 11585
Goldfunk	10668
GoldStar	10178, 10037, 10714, 13183, 11150
Goodmans	10037, 11037, 10634, 11667, 10668, 11523, 11585, 11687, 11983, 10714, 10556, 10625, 12426, 12676
Gorenje	11585, 12676
Gradiente	10037
Graetz	10714
Gran Prix	12197
Granada	10037, 10208
Grandin	10037, 10714, 10668, 11037, 10556, 12125
Grundig	10195, 11223, 12125, 12239, 10556, 10037, 11523, 11667, 13067, 10672, 12561, 12676
Grunkel	11523
GVA	12098, 13067
Haier	12876, 11749, 12309, 13382, 11753, 13620, 13613, 13429, 10698, 11983, 12293, 13790, 13987, 10037, 10508
Hallmark	10178
Handic	12676
Hankook	10178
Hannspree	11826
Hanseatic	10037, 10634, 10714, 10625, 10556
Hantarex	12197, 10037
Hantor	10037
Harwood	10037

Hauppauge	10037
Havermy	10093
HB	10714
HB Ingelen	10714
H-Buster	13620, 13419
HCM	10037
Heran	11826
Herosonic	11826
Highline	10037
Hikona	11983
Hinari	10037, 10208
HiPlus	11826
Hisawa	10714
Hisense	12846, 12098, 13519, 12183, 10556, 13123, 10508, 14029, 10208, 13382
Hitachi	11643, 12676, 11576, 11585, 11037, 11691, 13317, 11667, 10634, 13639, 10037, 10679, 12170, 12846, 10150, 10178, 10508, 11150
Hitachi Fujian	10150
Hitec	10698
Hiteker	13118
Hoher	10714, 13434
Hongmei	10093
Hornyphon	10037
Hua Tun	11150
Hypson	10037, 10714, 10556, 10668, 11037
Hyundai	10698, 12414, 12676, 11037, 11523
Iberia	10037
ICE	10037
iLo	11394
Imperial	10037
Indiana	10037
Ingelen	10714
Ingo Devices	12239
Inno Hit	11585, 11037



Innova	10037
Insignia	12049, 11423, 10171
Integra	11807, 13100, 13500
Inteq	10017
Interbuy	10037
Interfunk	10037, 10512
Internal	10556
Intervision	10037
Irradio	10037
IRT	10698
Isis	12676
Isukai	10037
iSymphony	13429, 13382, 13118
ITS	10037
ITT	12675, 12125, 12676, 10208, 11523
ITT Nokia	10208
ITV	10037
James	13183
Jay-tech	13067
JC Penney	10178
JCB	10000
JCM	12256
Jinfeng	10208
Jinxing	10556, 10037, 10698
JMB	12676, 10634, 10556, 12426
JTC	13067
Jubilee	10556
JVC	11774, 11653, 11601, 11818, 10653, 12321, 12271, 11428, 13650, 11670, 12676, 14070, 10650, 10093, 10508

■ Television (K to N)

Kaisui	10037
Karcher	12125, 10714
Kathrein	10556
KDS	11498, 11687
Kendo	11037, 11585, 12676, 10037
Kennex	11037

Kioto	10556
Kiton	10037, 10668
KLL	10037
Kneissel	10037, 10556
Kolin	11610, 10150, 11755, 10037, 11150
Kolster	10037
Konig	10037, 10512
Konka	12881, 13419, 10037, 10714
Korpel	10037
Kosmos	10037
Kunlun	10208
Kuppersbusch	12676
L&S Electronic	10714
Lavis	11037
Leader	12876
Lecson	10037
Legend	12397, 12309
Lenco	12676, 11983, 10037, 11037
Leyco	10037
LG	11840, 11860, 11423, 12731, 12182, 12358, 10178, 12362, 13941, 12424, 10037, 10714, 10017, 10556, 10698, 11753
Liberton	13183
Liesenkotter	10037
Lifetec	10668, 10037, 11037, 10714
Linetech	12676
Linsar	12676, 11667, 11585
Lloyd	13639
Lodos	11037
Loewe	10512, 10633, 10037
Logic	11585
Logik	13432, 13005, 12486, 11037, 10698, 11585, 11687
Logix	10668
Luma	10037, 11037
Lumatron	10037, 10668
Lumenio	10037

Lux May	10037
Luxor	12676, 11037, 10208
LXI	10178, 10017
Madison	10037
MAG	11687, 11498
Magnavox	13623, 11866, 12372, 11454, 11506, 10171, 11365, 11755, 11867
Magnum	10714, 10037
Manesth	10037
Manhattan	10037, 11037, 10668
Marantz	10037, 10556, 11454
Mark	10037, 10714
Marks & Spencer	12673
Mascom	12197, 12125
Masters	10037
Mastro	10698
Masuda	10037
Matsui	10037, 10195, 10208, 12486, 11037, 10714, 11667, 12676, 10556, 12561
Matsushita	10650
Maxent	11755
Maxess	12493
Meck	10698
Mediator	10037, 10556
Medion	12676, 10714, 10037, 10668, 11037, 11585, 11667, 10512, 12239, 13067, 10556, 10698, 12563
Megatron	10178
MEI	11037
Melectronic	10037, 10195, 10634, 10512, 10714
Memorex	11687, 11037, 11670, 10178, 10150
Memory	11983
Mercury	10037
Mermaid	10037
Metronic	10625

Metz	11037, 10668, 10195
MGA	10150, 10178
Micromaxx	10037, 10668, 10714, 11037
Microsonic	13419
Midland	10017
Mikomi	11585, 11667
Minato	10037
Minerva	10195
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Trevi	30831
TruTech	30675
TVE	30713
United	30713, 30675, 30730, 31233, 31643
Universum	30713, 30741, 30591
Urban Concepts	30503
Venturer	31769
Vestel	30713
Vitek	30831
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Voxson	30730, 30831
Waitec	30730, 31233
Walker	32966
Waltham	30713
WB Electronics	32555
Welkin	30831
Wellington	30713
Weltstar	30713
Wharfedale	30713
Wilson	31233, 30831
Windsor	30713
Windy Sam	30573
Woxter	32139
Xbox	32083, 31708, 32202, 30522
Xiron	30713
XMS	30770
X-View	31233
Yamada	30872, 32139
Yamaha	30497, 32298, 30539, 30817,

	30490, 31354, 33871, 30646, 33837
Yamakawa	30872
YBA	30872
Yukai	30730
Zenith	30741, 30591, 30503

#### ■ Blu-ray Disc

Anthem	32820
Anthem Statement	32820
Cambridge Audio	32808
Denon	32258, 32748, 33851
Electrocompaniet	32545
Elite	32854
Funai	30675
Harman/Kardon	33228, 32927
Insignia	32596, 32428, 30675
Integra	32147, 32900, 32910, 33100, 33101, 33500, 33501
JVC	32365, 32612, 32855
Lexicon	32545
LG	31602, 32811, 30741
Magnavox	30675
Marantz	32414, 33444
Mitsubishi Electric	34004
Onkyo	32147, 32900, 33101, 33501, 32910, 33100, 33500
Oppo	32545
Panasonic	31641, 33862, 33580, 33641, 32859, 32523, 32710
Philips	32789, 32434, 32084
Pioneer	32442, 32847, 32854, 30142
RCA	32532
Samsung	30199, 33195
Sharp	32250, 33313
Sherwood	32820, 33837
Sony	31516, 32180, 30772
Sylvania	30675
Tascam	34004
Toshiba	32705, 33157, 33857, 32551

VIZIO 32563  
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■ DVD-R

Accurian 30675  
AEG 30675  
Akai 30675  
Aristona 30646  
CyberHome 31023  
Denon 30490  
Dick Smith Electronics 30675  
DSE 30675  
Emerson 30675  
Funai 30675  
Go Video 30741  
GPX 30741  
Hitachi 31664  
Humax 30646  
Insignia 32095  
Irradio 30646  
JVC 30623, 32612  
LG 30741  
Loewe 30741  
Magnavox 30675, 30646, 31506  
Medion 30741  
NEC 30741  
Panasonic 30490, 31579, 33580, 32710,  
32859, 32523  
Philips 30646, 31340, 31506, 32334,  
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Pioneer 30631  
Pye 30646, 30675  
RCA 30522  
Samsung 31635, 32942, 33195, 32107,  
30490, 32069, 32489  
Schneider 30646  
Sharp 33313, 30630, 30675, 30713  
Silva Schneider 30741  
Sony 31070, 31033, 32861, 31516,  
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Sylvania	30675
Targa	30741
Tchibo	30741
TCM	30741
Thomson	30551
Toshiba	32277, 32551, 30503
Universum	30741
Yamaha	30646
Zenith	30741

#### ■ VCR

DirecTV	20739
Humax	20739
Loewe	21062
Metz	21062
Optimus	21062
Panasonic	21062, 20616
Philips	20739
Quasar	21062
RCN	20739
ReplayTV	20616
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Sony	20636
TiVo	20739, 20636

#### ■ Cable Set Top Box (A to E)

ABN	03322, 02897, 02979, 03340, 03407, 03849
Access Communications	01376, 00476
ACT	02950
Adams Cable TV	01376
ADB	02586, 01920, 01585, 01927, 01481, 01998, 02254, 02302, 02437, 03028
Akado	02043
Aland	02030, 02437
Alands Datakommunikation	02030, 02437
Alcom	02030, 02437
Alice	01585
Allegiance Communications	00476, 01376

Allen TV Cable	00476
Altibox	02437, 02030
Amino	01615, 01898, 01481, 02482, 01998, 02302, 03028
Anguang Network	03936
Anhui Network	03936
Arcadyan	02952
Arion	03336
Armstrong	01376, 00476
Arris	02187, 01982, 01998, 02378
Arvig Communication Systems	01376, 01982, 01998, 02345
Astound Broadband	01376, 01877, 00476, 02479, 04079
AT&T	00858
AT&T U-verse	00858
Atlantic Broadband	01877, 01376
ATMC	01376, 01982, 03028
Austar	00276
B tv	02681, 03442
Baja Broadband	00476, 01376
BBTV	02980
Beijing	04010
Belgacom TV	02047, 02132
Bell	01998
Bell Aliant	01998
Bell ExpressVu	01998
Bell Fibe TV	01998
Bend Broadband	01376, 00476, 02187
BesTV	04196
Bevcomm	01898, 00476
BGCTV	03278, 00476
BIG.BOX	03465
Blue Ridge Communications	01877
Bluewin	02271
Bouygues Telecom	03007
Boxer	03607
Bright ClouDigital	03961
Bright House	01877, 01376, 00476
British Telecom	02294

Broadstripe	00476, 01376
BSI	02979
BT	02294
BT Vision	02294
Buckeye Cable System	01376, 00476, 01877, 02187
C&M	03407, 03319, 02962, 02979
Cable America	01376, 01877
Cable Axion Digitel	01376, 00476
Cable HK	01374
Cable One	01376, 00476, 01877
Cablecom	01582
Cablecom Mexico	00476, 01376
Cablemas	01376, 01877
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
Chengdu Cable	03953
Chengdu Telecom	04196
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
DST	03389
Du	02401
DV	02979
Eagle Communications	01376, 02187
EastLink	01376, 00476
Echostar	02955, 03452
Elion	03916
Entertain	02132
Entone	02302, 03048
ER Telecom	02493
eTb	04281
Evolution	02479, 02746, 04079
Extra TV	02132

■ Cable Set Top Box (F to J)

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
Hathw@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
HSHONG	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
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

■ Cable Set Top Box (K to N)

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
Lattelecom	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

■ Cable Set Top Box (O to S)

O2	02586
OCN	03865
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
PrimeTel	03611, 02030, 02437
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
RIO Media	02030
Rogers	01877, 01376
Rostelecom	03611
Sagem	02407, 02436, 03288
Sagemcom	03514, 02407, 02436, 03007, 03288
Samsung	03322, 02979, 03319, 01877,

	02407, 02015, 03340, 03407, 03451, 03442, 03477, 02610, 02955, 01060, 02683, 03514, 03783, 02589, 02889, 02962, 03265, 03849, 03928, 01982, 01987
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
Starcad	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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TalkTalk	02994
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 Fibernet	02030, 02437
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

■ Satellite Set top Box

@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
Astell	01986, 02418
Astro	00173, 01838, 02627, 00658, 03838, 01099, 01100, 02026
Atevio	02928
Atlanta	02418, 03320
Atom	02289
Audiola	03012, 02418
Audioline	01672
Aurora	00879
Austar	00879
Austriasat	01195, 01197, 02957, 03374, 01561, 01631, 02631
Auvisio	02932, 02738, 02813
Avanit	00299, 01631
Awa	02418
Axil	02418, 01413, 01777, 02738, 03424

Axitronic	01626
AZ America	01631
AZBox	02719
B.net	01672
B@ytronic	00740
Beijing	03299
Bell	00775
Bell ExpressVu	00775
Bell Fibe TV	00775
Bell Satellite TV	00775
Belson	02418
BENsat	02957, 02938
Best Buy	02728, 02842
BIG TV	04312
BIOSTEK	02738
BiS Television	01986
Black Diamond	01284
Blaupunkt	00173
Blu:sens	02938
Boca	02026, 02458, 02797, 02308, 02813
Boshmann	01413, 01631
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
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 Telekom	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
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Cisco	00858, 03028, 02132, 02345, 02047, 02378, 01998, 02271, 03452
ClubInternet	02132
CNS	02980
Consolidated Communications	01998, 02302, 03048
Coship	04196
Deutsche Telekom	02132
DNA	02030
Du	02401
Echostar	03452
Elion	03916
Entertain	02132
Entone	02302, 03048
eTb	04281
Evertex	02302
Finnet	02030
Freebox	01976
Frontier Communications	02378
GDCATV	02980
Google	03666
Guangdong Cable	02980
Guangxi Broadcasting	02897
Guangxi Broadcasting Network	02897
Hana TV	02681
Hathw@y	02043
Hikari TV	03237
HSHONG	03937
Huawei	02994, 03937, 02913, 04281
i-CAN	02437
Innovative Systems	01898
Inotel	02437
Invitel	02437
InviTV	02437
ITV	04196
Jambox	02030
JP PTT	01615
Kaon	04409, 02682
kbros	03139

Kiss	02132, 02271
KoolConnect	01481
KPN	02952, 02437
Kreatel	02030
KT	02683
LG	02682
LG U+	02682
Linksys	02271
Lumos Networks	01998, 03028
Magio Sat	02132
Magnet	01615
Maige TV	03937
Matanuska Telephone Association	01481, 02254, 02482, 02586
Mega TV	02683
Meo	02401
MHTC	01481, 01998, 02254, 02302, 02482
Minerva Networks	03118
MIO	02275, 02802
mio TV	02275, 02802
Mitsubishi Electric	03274
MM&G Enterprises	01481, 01998, 02302, 02482
MOD	03647, 01917
Motorola	02378, 02437, 01998, 02030, 00858, 02952, 02275, 03916, 01585, 02401
Movistar	01585, 03288
Moyo	03611
MTS	01998, 03611, 01615, 01481, 01898
MyLGTV	02682
Now TV	02009, 02014
NTT	03237, 03274
NU Telecom	01998, 03028
Numericable	02436
Oi TV	03452, 03454, 04165
Open IPTV	01615
Optimus Clix	02437

Orange	02407
Pace	01998, 00858, 03454, 02294, 02401
PCCW	02009, 02057
Philips	02378
Pioneer Telephone	02254, 02302
Portugal Telecom	02401
Primestar	02030
PrimeTel	02030, 02437, 03611
PrimeTV	02030
PT	02401
Qwerty	01898, 01481, 01615
Qwerty.TV	01898
Reliance	02556
RIO Media	02030
Rostelecom	03611
Sagem	02407, 03288
Sagemcom	02436, 02407, 03007
Samsung	02407
SaskTel	01998
Scientific Atlanta	00858, 02345, 02047, 02401, 03028, 02378
SetaBox	01917
SingTel	02275, 01998, 02802
SK Broadband	03442, 02681
SK Btv	02681, 03442
Sky Austria	02620
Sky Deutschland	02620
Smartlabs	03611
Smile Content	02437
Sogetel	01998
Sonaecom	02437
SureWest	01998, 01481, 02254, 02482, 02586
Swisscom	02271
TalkTalk	02994
TCC	04409
TDC	02271
Technicolor	02994

Telefonica	01585, 03028, 03288
Telekom Deutschland	02132
Telia	02030
TELUS	03028
TeNeT	01898
T-Home	02132
Thomson	03007, 02407
TVB	01615
U+ tvG	02682
U-verse	00858
Verizon	02378
Viasat	02030
Viken Fibernett	02030, 02437
Vivo	03288
Vodafone	02401
WNC	03118
Youview	02994
Yuxing	02014
Zinwell	03139
ZTE	04196

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ADB	01585, 02254, 02437
Altibox	02437
Amino	01615, 01898
Arcadyan	02952
Arris	01998, 02378
AT&T	00858
AT&T U-verse	00858
ATMC	03028
BBTV	02980
Belgacom TV	02047, 02132
Bell	01998
Bell Aliant	01998
Bell ExpressVu	01998
Bell Fibe TV	01998
Bluewin	02271
Bouygues Telecom	03007
British Telecom	02294
BT	02294

BT Vision	02294
Cabovisao	02436
Canal Digital	02030
CenturyLink	01998
CHT	03647
Chunghwa	03647
Cisco	03028, 02132, 00858, 02047, 02345, 02271, 02378, 03452
ClubInternet	02132
CNS	02980
Consolidated Communications	01998
Deutsche Telekom	02132
Du	02401
Echostar	03452
Elion	03916
Entertain	02132
Entone	03048
Freebox	01976
Frontier Communications	02378
GDCATV	02980
Glashart Media	01615, 01898
Google	03666
Guangdong Cable	02980
Hikari TV	03237
Huawei	02994
i-CAN	02437
Innovative Systems	01898
Invitel	02437
InviTV	02437
Kaon	04409
kbro	03139
Kiss	02132, 02271
KPN	02952, 02437
Linksys	02271
Lumos Networks	01998
Magio Sat	02132
Magnet	01615
Meo	02401
MetroNet	01998

Minerva Networks	03118
Mitsubishi Electric	03274
MOD	03647
Motorola	01998, 02437, 02378, 02952, 00858, 03916, 01585, 02030, 02401
Movistar	01585
MTS	01998, 01615, 01481, 01898
NTT	03237, 03274
Numericable	02436
Oi TV	03452, 03454, 04165
Orange	02407
Pace	00858, 01998, 03454, 02294, 02401
Philips	02378
Portugal Telecom	02401
PrimeTel	02437
PT	02401
Qwerty	01898
Sagem	02407, 03288
Sagemcom	02436, 03007, 02407
Samsung	02407
SaskTel	01998
Scientific Atlanta	00858, 02047, 02401, 02345, 03028, 02378
Sky Austria	02620
Sky Deutschland	02620
SureWest	01998
Swisscom	02271
TalkTalk	02994
TCC	04409
TDC	02271
Telefonica	01585, 03028, 03288
Telekom Deutschland	02132
TELUS	03028
T-Home	02132
Thomson	03007
U-verse	00858
Verizon	02378
Vodafone	02401



WNC	03118
Youview	02994
Zinwell	03139

■ SAT\_PVR Combination

@sat	01300
ADB	02553
AEG	02738, 02813
Airtel	02248
Altech UEC	02097, 03517
Amiko	04197
Amstrad	01662, 01175, 02467, 01693
Arion	04348
Astro	03838
Atevio	02928
Atlanta	03320
Austriasat	01195, 01197, 02957, 02631
Auvisio	02932, 02738, 02813
Avanit	00299
Axil	03424
AZ America	01631
AZBox	02719
B@ytronic	00740
Bell	00775
Bell ExpressVu	00775
Bell Fibe TV	00775
Bell Satellite TV	00775
BENsat	02957
Boca	02797, 02308, 02813
Botech	02738, 03749
Boxer	01957
BSkyB	01175, 01662
Bush	02034
Canal Digitaal	02631, 02466, 02957
Canal Digital	02553
Canal+	02657
CanalSat	02657
CityCom	02957
Clarke-Tech	03320

Claro	03790
CMX	02932
Comag	02797, 02813, 02308
Coship	03790
Cyfrowy Polsat	02527
DCR	03517
Deutsche Telekom	01195, 01197
Digenius	00740
Digi	01195, 01197
Digihome	02034
DigiQuest	01300
Digital	02308
DigitAlb	01195, 01197
DigitalBox	02540, 03240
Digiturk	03517, 02097
Dilog	01957
DirecTV	01377, 01442, 00099
Dish Mexico	00775
Dish Network	00775
DishHD	04090
Dishpro	00775
DNA	01957
DragonSat	02928
Dream Multimedia	01237, 01923
D-Smart	02231
DSTV	02059, 02060
DTK Deutsche Telekom	01195, 01197
Dyon	02738, 02813
Easy-One	03240
Echostar	00775, 02527
Edision	01631
Elta	02738
Engel	03749
Etisalat	02443
Eurosky	00740
FaVal	03422
Ferguson	02638
Finnet	01957

Foxtel	01356
Freesat	01692, 02928, 03266
Freesat+	02443, 03266
Fuji Onkyo	01631
Galaxy Innovations	02799, 04197
General Satellite	03064
Gi	02799, 04197
GigaBlue	03663
Globo	02957
Golden Media	04197
GoldMaster	02928
Goodmans	02034
Grundig	02738, 03424
GVT	03789
Handan	01957
HD Box	02928
HD+	02797, 03095
Hirschmann	00740
Hitachi	02034
Hughes Network Systems	01442
Humax	02443, 01176, 01377, 03517, 01427, 01808, 02231, 02408, 02754
IceCrypt	04197, 02928
ID Sat	01334
Indovision	01989
iNETBOX	01237
Intv	04348
Inverto	03095
Jaeger	02797
JVC	00775
Kamosonic	02738
Kaon	01300
Kathrein	02569, 01561, 03658, 00658
Labgear	03424
LaSAT	00740
LinkBox	02957
LogiSat	02797, 02813
Luxor	01935

M vision	03562
M7	02631
Marusys	02799, 03543
Maspro	03099
Maximum	01334, 02813
Medion	02797, 00740
MegaSat	01631, 02813, 02034, 02738
Meo	02466
Mercury	03422
Micro	02797, 02813
Micro electronic	02308
Miraclebox	02928
Motorola	00869
Movistar	02527
Multichoice	02059, 02060
Mysat	02738
MySky Italia	02467
MySky New Zealand	01356, 02211
NEOTION	01334
Nova	02475
NTV Plus	01307, 01692, 02443
Octagon	02928
Openbox	02928
Opensat	02957, 02719
Opticum	02957, 02797, 02932
Orbitech	01195, 01197
Orton	02957
Pace	01682, 01175, 02754, 02475, 02231, 01356, 02467, 02631, 02657, 03790, 01662, 02097, 02211, 02059, 02060, 02466, 02895
Panasonic	03099
Philips	01442, 02466, 00099, 02631
Polsat	02527
Portugal Telecom	02466
PT	02466
Qwest	01377
Raduga TV	02957

RCA	01442
Rebox	02928
Ross	02540
SAB	04197
Sagem	01692, 02553, 01307
Sagemcom	03789, 01692
Samsung	03063, 01442, 01682, 01989, 02467, 01377, 03266, 01662, 03784, 03838, 01693
Sansui	01545
Sat Control	01300
Schwaiger	02308, 00740, 02957
SEG	02034
Set-One	03240
Sharp	02034, 01935
Shaw Direct	00869
Siemens	01657
SilverCrest	02308, 02932
Sky Austria	02754, 02443
Sky Brasil	01377
Sky Deutschland	02754, 02443
Sky Ireland	01175, 01662
Sky Italia	02467, 01693
Sky New Zealand	02211, 01356
SKY PerfecTV!	03099
Sky UK	01175, 01662
SkyCable	01631, 01957
Skylink	02957, 01545, 02443, 02928, 01195, 01197
Skymaster	02932, 01545
Skypex	00740
Skyplus	00740, 01175, 01334
Skytec	02928
Skyvision	02797
SkyWay	02928
Skyworth	01631
SL	00740
Smart	03095, 01631
Spiderbox	03562

Star Choice	00869
Starmax	02638
Stream System	01300
Strong	03424, 01300, 02813, 01682, 02278
Sunny	01300
TDS Telecom	00775
Teac	01957
Technicolor	03790
TechniSat	01197, 01195, 03440
Technotrend	01429
Techwood	02034
Telasat	02466
Telefonica	01692, 02527
TeleSAT	02631, 02466
Telestar	02540, 01195, 01197
TelkomVision	04310
TelSKY	02540
Telstra	01356
TELUS	00775
Thomson	01662, 01175, 01935, 01307, 02160
TiVo	01377, 01442
T-Mobile	02631, 02443, 01545
TNT SAT	01692
Topfield	01545, 02838
TPS	01307
Tricolor TV	03064
True Visions	03784
TV Cabo	02160
TV Vlaanderen	02631, 02466
TVA Digital	02895
TVonics	01906
UPC	02443
UPC Direct	02443
Vantage	02797
Vestel	02231, 03517
Via Embratel	02796
Viasat	01682, 01197, 01195

Vivo	02895, 01692, 02527
Vu+	03458, 02799, 03543
Wisi	00740, 02957
Xoro	02738, 02813, 03422
Xtreme	01300
Xtrend	03320
Zehnder	03422, 03424, 01777, 02034, 00740
Ziggo	02443
Zircon	02957

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AEG	12197, 12239
Affinity	13870, 13717
Akai	12676, 13067, 12197
Akura	12289, 11983, 12239
Alba	12676, 13005, 13067, 12104
Apollo	12239
Audiosonic	12104, 11983
Audiovox	11769
Azuki	12239
Baier	12239
Bauer	12197
Beko	12239
Black Diamond	11037
Blaupunkt	12426
Blue Sky	11037
BlueDiamond	12426
Bush	13005, 12676, 11983, 12104, 10698, 11037
Celcus	12676
cello	12673
Centrum	11037
Coby	13627, 12315
Crown	11037
Currys Essentials	12486
Curtis	12855, 12466, 13895, 13636, 14035
Dantax	12676
Denver	12197, 13067, 12239

DGM	12239
Digihome	12676
Digimate	12239
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diVision	12197, 12239
Dual	12197, 12676, 11037
Durabrand	10171
D-Vision	12197
Dynex	12049
Easy Living	12104
ECG	12197, 12125
Electrohome	11670
Element	12964
Elfunk	11037
Emerson	11886, 11864, 11394, 10171
e-motion	12426
Enox.	12673
Essentials	12486
Favi	13382
Ferguson	13005, 12426, 11037, 12676
Finlux	12676
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Grundig	12239, 12125, 12676
Haier	11753, 12309, 13429, 11749, 11983
Hantarex	12197
Hikona	11983
Hisense	13519
Hitachi	12676, 11037, 11667
Hyundai	12676
Ingo Devices	12239
Insignia	12049
iSymphony	13429
Jay-tech	13067
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JVC	12271, 11670, 11774, 12676, 11601
Kuppersbusch	12676
Lenco	12676, 11983
LG	11860, 11423
Linetech	12676
Linsar	12676
Logik	13432, 13005, 12486, 11037, 11687
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Marks & Spencer	12673
Mascom	12197
Matsui	12486, 12676, 11037
Medion	12676, 12239, 13067
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Memory	11983
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Palsonic	13067
Panasonic	11291, 12170, 11636, 11480
Panavox	13835
Philips	13614, 12800, 10556, 11454, 11394, 12372
PHOENIX Apollo	12239
Polaroid	11769, 11523, 12676
Powerpoint	10698
Prima	11753

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ProLine	12676
Proscan	12256, 13895, 13636
Prosonic	12676, 12197
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RCA	12187, 12746, 12932, 11447, 12247, 13382
RefleXion	12239
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Salora	12197, 12676, 12239
Sandstrom	12197
Sansui	11670, 13564
Sanyo	12676, 13488
Sceptre	12528, 12337
Schaub Lorenz	12197, 12289
Scott	11983
SEG	12673, 11037
Sencor	12197
Sharp	10818, 12676, 12360
Shinelco	12104
Shivaki	12197
Skyworth	12963
Soniq	12493, 13005
Sontech	11983
Sony	12778, 10000
Soundwave	11037, 12673
SOVOS	12239
Supersonic	11753, 12104
Swisstec	12106, 12104
Sylvania	11886, 11864, 11394, 10171
Tauras	12197
Teac	10698, 11983, 13005
Technica	11037, 12426
Technical	12676
Technika	12426, 12197, 12106, 11983, 13005
Techwood	12676

Telefunken	12239, 10698, 12676
Teletch	11037
Tesco	12426
Tevion	12426
Thomson	12675, 10625, 13047
Toshiba	13323, 12676, 11524, 11656
TVE	12239
UMC	12426, 12106
United	11037, 11983
VD-Tech	13067
Venturer	13005
Vestel	11037
Viewsonic	12049
Viore	13429, 12352, 12104, 13382, 13118
VisionPlus	12426
Walker	12676
Waltham	11037
Weltstar	11037
Westinghouse	11712
Wharfedale	11983
Xiahua	11753
Xiron	11983, 11037
Xoceco	11753
Xogego	11753
Xoro	13067
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Xogego	11753
Xoro	13067
Zenith	10000, 10178