

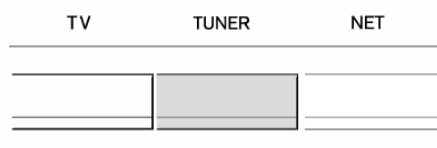


Tuning into a Radio Station

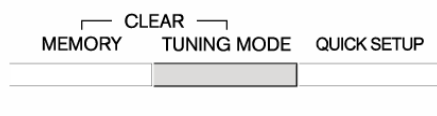
■ Tuning automatically



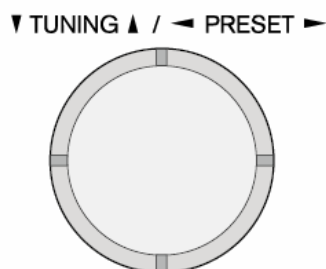
1. Press TUNER on the main unit several times to select either "AM" or "FM".



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



3. Press ▼TUNING▲ to start automatic tuning.
 - 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.

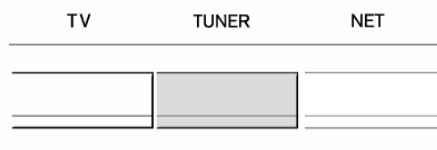


When the signal from an FM radio station is weak: Radio wave may be weak depending on the building structure and environmental conditions. In that case, perform the manual tuning procedure as explained in the next section, "Tuning manually", to manually select the desired station.

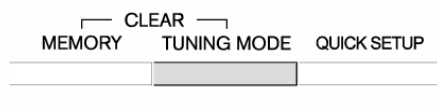
■ Tuning manually



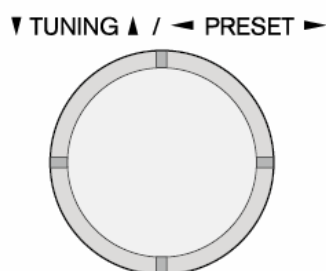
1. Press TUNER on the main unit several times to select either "AM" or "FM".



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



3. Press ▼TUNING▲ to select the desired radio station.
 - 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.



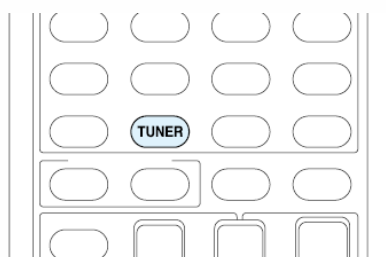
To return to automatic tuning: Press TUNING MODE on the main unit again. The unit automatically tunes into a radio station. Normally "AUTO" should be displayed.

■ Tuning to the frequency directly

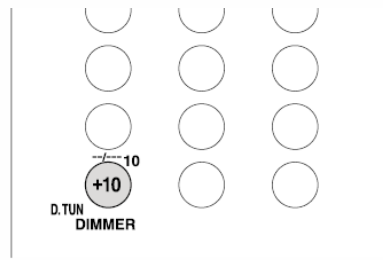


It allows you to directly enter the frequency of the radio station you want to listen to.

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

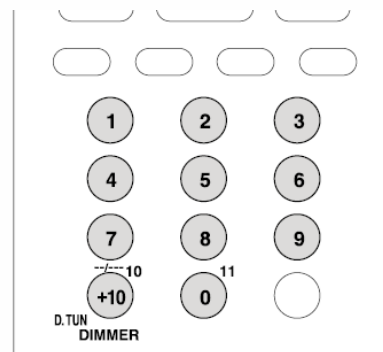


2. Press D.TUN.



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 the wrong number, press D.TUN and enter the correct one.





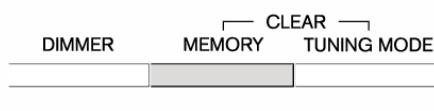
Presetting an AM/FM Radio Station

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

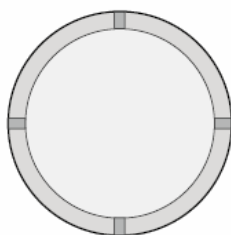


1. Tune into the AM/FM radio station you want to register.
2. Press MEMORY on the unit so that the preset number on the display flashes.



3. Press ◀PRESET▶ several times to select a number between 1 and 40 while the preset number is flashing (about 8 seconds).

▼ TUNING ▲ / ◀ PRESET ▶

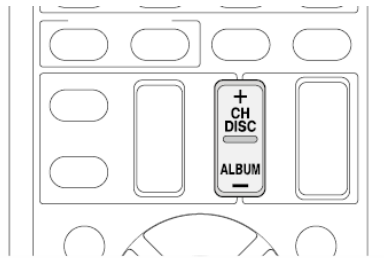


4. Press MEMORY again to register the station.
 - When the station is registered, the preset number stops flashing.
 - Repeat this procedure for all of your favorite AM/FM radio stations.

■ Selecting a Preset Radio Station



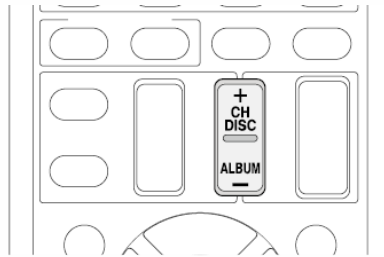
1. Press CH +/- on the remote controller to select a preset number.
 - Alternatively you can press ◀PRESET▶ on the main unit. You can also select by directly entering the preset number with the number buttons on the remote controller.



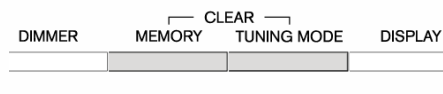
■ Deleting a Preset Radio Station



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



2. Press and hold MEMORY on the main unit and press TUNING MODE to delete the preset number.
 - When deleted, the number on the display goes off.





Using RDS (European, Australian and Asian models)

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

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

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

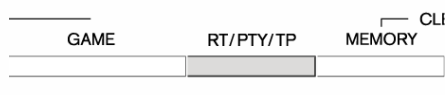
RT (Radio Text): Tuning into a radio station transmitting Radio Text information displays text on the display of the unit.

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

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

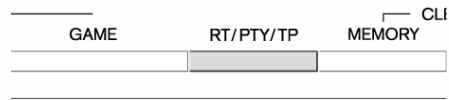
■ Displaying Radio Text (RT) ▼

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

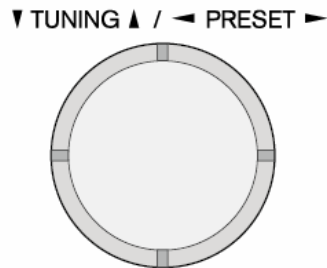


■ Searching by Type (PTY) ▼

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



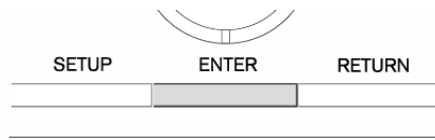
2. Press ◀PRESET▶ to select the type of program to search for.



- 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)

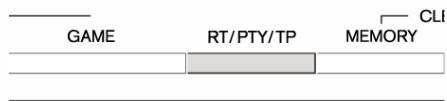
3. Press ENTER to search the radio stations of the selected type.



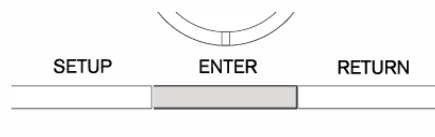
4. When such a radio station is found, the indication on the display flashes. Then, press ENTER again.
 - If no stations are found, the message "Not Found" is displayed.
-

■ 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.

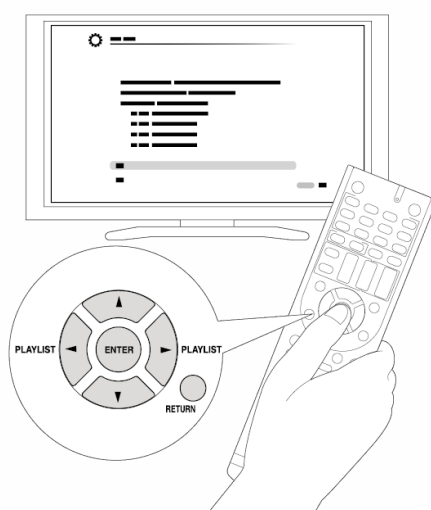


3. When a radio station is found, searching stops and traffic information is received.
 - "Not Found" is displayed if no radio station distributing traffic information is found.



Playing Music Files on a USB Storage Device

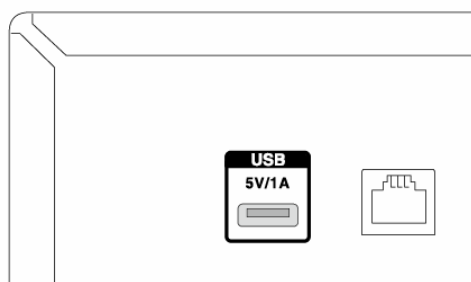
- **Operation:** You can set up by viewing the guidance displayed on the TV screen (OSD). Select the item with the cursor buttons of the remote controller and press ENTER to confirm your selection. To return to the previous screen, press RETURN.
- (European, Australian, Taiwanese and Asian models) If the OSD language is set to Chinese, the operations in this section are not displayed on the TV. Operate by looking at the display on the main unit. Note that the display on the main unit does not support the display of Chinese characters. Characters that cannot be displayed are replaced with asterisks (*).



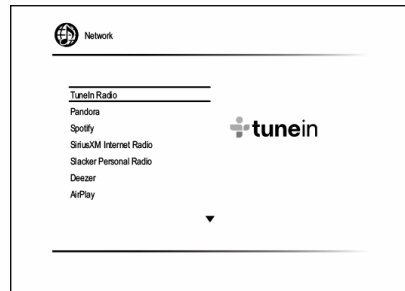
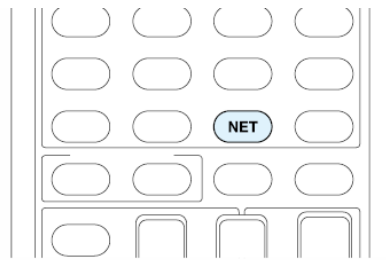
■ Playing Back



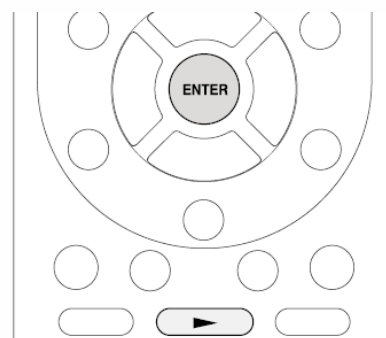
1. Plug your USB storage device with the music files into the USB port on the rear of the unit.



2. Press NET on the remote controller to display the NET TOP screen.



3. Select "USB" with the cursors and press ENTER.
 - If the "USB" indicator on the display flashes, check whether the USB storage device is plugged in properly.
 - Do not unplug the USB storage device while "Connecting..." is on the display. This may cause data corruption or malfunction.
4. Press ENTER again in the next screen. The list of folders and music files on the USB storage device are displayed. Select the folder with the cursors and press ENTER to confirm your selection.
5. With the cursors, select the music file to play, and then press ENTER or ► to start playback.



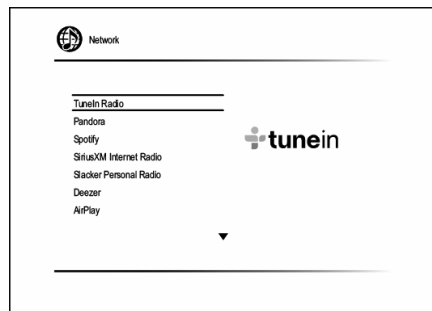
- The USB port of this unit conforms with the USB 1.1 standard. The transfer speed may be insufficient for some content you play, which may cause some interruption in sound.



About Internet Radio

The unit comes preset with Internet radio stations such as TuneIn Radio for you to enjoy these services, just by connecting the unit to the Internet.

- Network services or contents may become unavailable if the service provider terminates its service.



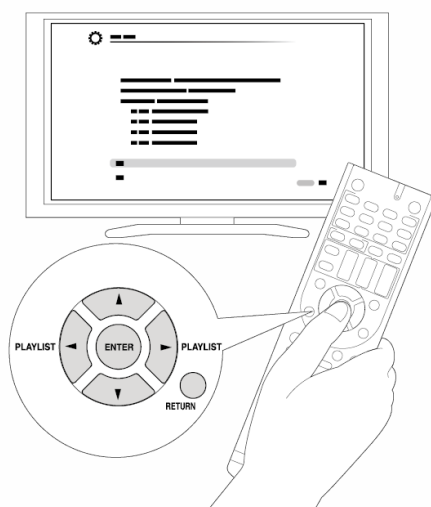


TuneIn Radio

With more than 70,000 radio stations and 2 million on-demand programs registered, TuneIn Radio is a service where you can enjoy music, sports and news from all over the world.

● **Operation:** You can set up by viewing the guidance displayed on the TV screen (OSD). 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.

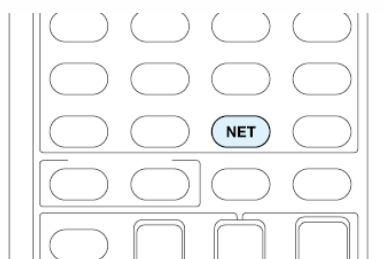
- (European, Australian, Taiwanese and Asian models) If the OSD language is set to Chinese, the operations in this section are not displayed on the TV. Operate by looking at the display on the main unit. Note that the display on the main unit does not support the display of Chinese characters. Characters that cannot be displayed are replaced with asterisks (*).

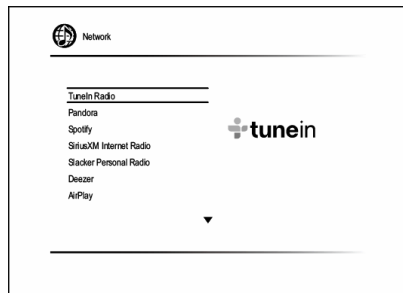


■ Playing Back



1. Press NET on the remote controller to display the NET TOP screen.





2. Select "Tuneln Radio" with the cursors and press ENTER to display the Tuneln Radio top screen.
3. With the cursors, select a radio station or program and press ENTER to start playing.

■ Regarding the Tuneln Radio Menu



To display the Tuneln menu, press MENU or ENTER while playing a radio station. Selecting the corresponding menu item with the cursors and pressing ENTER allows you to perform the following operations:

Add to My Presets: Registers the radio station or program being broadcast in "My Presets". Once registered, "My Presets" is displayed in the level under Tuneln Radio. To play, select the program from "My Presets".

Remove from My Presets: Deletes a radio station or program from your "My Presets" within Tuneln Radio.

Report a problem: Reports a problem or interactively solves a problem related to Tuneln Radio.

View Schedule: Displays the radio station or program schedule.

Clear recents: Clears all radio stations and programs from the "Recents" within Tuneln Radio. (This menu is displayed only when a radio station or program inside the "Recents" is being played.)

Add to My Favorites: Registers the radio station or program being broadcast in "My Favorites". "My Favorites" are displayed in the level under the one displayed when you press NET. To play, select the program from "My Favorites".

■ Regarding the Tuneln Radio Account



Creating an account on the Tuneln Radio website (tunein.com) and logging in it from the unit allows you to automatically add radio stations and programs to your "My Presets" on the unit as you save them on the website.

"My Presets" are displayed in the level under TuneIn Radio.

To display a radio station registered in "My Presets", you must log into TuneIn Radio from the unit. To log in, select "Login" - "I have a TuneIn account" in the "TuneIn Radio" top list on the unit, and then enter your user name and password.

- If you associate the device on My Page within the TuneIn Radio website using the registration code obtained by selecting "Login" - "Login with a registration code" on the unit, you can log in without entering the user name and password.

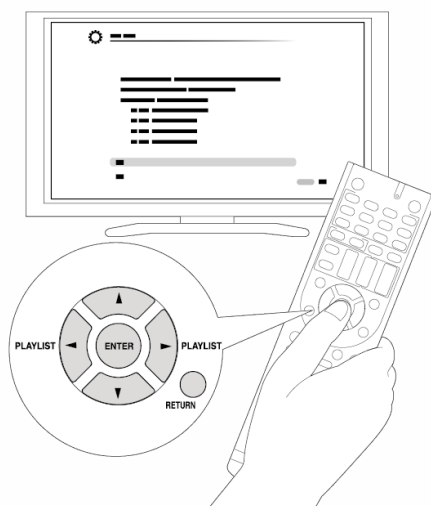


Pandora®—Getting Started (U.S., Australia and New Zealand only)

Pandora is a free, personalized Internet radio service that plays the music you know and helps you discover music you'll love.

● **Operation:** You can set up by viewing the guidance displayed on the TV screen (OSD). 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.

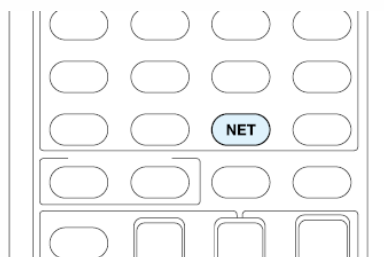
- (European, Australian, Taiwanese and Asian models) If the OSD language is set to Chinese, the operations in this section are not displayed on the TV. Operate by looking at the display on the main unit. Note that the display on the main unit does not support the display of Chinese characters. Characters that cannot be displayed are replaced with asterisks (*).

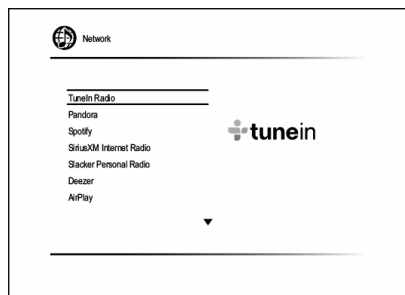


■ Playing Back



1. Press NET on the remote controller to display NET TOP screen.





2. With the cursors on the remote controller, select "Pandora", and then press ENTER.
3. Use ▲/▼ to select "I have a Pandora Account" or "I'm new to Pandora" and then press ENTER.

If you are new to Pandora select "I'm new to Pandora". You will see an activation code on your TV screen. Please write down this code. Go to an Internet connected computer and point your browser to www.pandora.com/onkyo. Enter your activation code and then follow the instructions to create your Pandora account and your personalized Pandora stations. You can create your stations by entering your favorite tracks and artists when prompted. After you have created your account and stations you can return to your Onkyo receiver and press ENTER to begin listening to your personalized Pandora.

If you have an existing Pandora account, you can add your Pandora account to your Onkyo receiver by selecting "I have a Pandora Account" and logging in with your email and password.

 - If you want to use multiple user accounts, see "Using Multiple Accounts". Login can be made from the "Users" screen.
4. To play a station, use ▲/▼ to select the station from your station list, and then press ENTER. Playback starts and the playback screen appears.

■ Create a New Station



Enter the name of a track, artist, or genre and Pandora will create a unique radio station for you based on the musical qualities of that track, artist, or genre.

I like this track: Give a track "thumbs-up" and Pandora will play more music like it.

I don't like this track: Give a track "thumbs-down" and Pandora will ban that track from the current station.

Why is this track playing?: Discover some of the musical attributes that Pandora uses to create your personal radio stations.

I'm tired of this track: If you are tired of a track, you can put the track to

sleep and Pandora will not play it for one month.

Create station from this artist: Creates a radio station from this artist.

Create station from this track: Creates a radio station from this track.

Delete this station: This will permanently delete a station from your Pandora account. All of your thumbs feedback will be lost should you choose to re-create the station with the same track or artist.

Rename this station: Lets you rename the current radio station.

Bookmark this artist: Pandora will bookmark your favorite artist for your profile on www.pandora.com.

Bookmark this track: Pandora will bookmark the current track and allow you to buy them all from Amazon or iTunes in one step!

Add to My Favorites: Adds a station to My Favorites list.

PANDORA®

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Spotify

This unit is compatible with Spotify Connect. To enable Spotify Connect, install the Spotify application on your smartphone or tablet and create a Spotify premium account.

- Refer to the following for the procedures for configuring Spotify:
www.spotify.com/connect/
- The Spotify software is subject to third party licenses found here:
www.spotify.com/connect/third-party-licenses

■ Playing Back ▼

Just by clicking the Connect icon in the playback screen of the Spotify application and selecting this unit, you can automatically turn this unit on (auto power on function), switch input to the NET position, and start playback of high-quality streaming from Spotify. To enable the auto power on function, make sure the "Network Standby" setting item in this unit's Setup is "On".

■ Notes for using the multi-zone function ▼

- To enjoy Spotify music in a separate room, select zone 2, and manually select "NET" as the input of the separate room. Also select this unit in the Spotify application.
- Volume adjustment with the Spotify application is possible only for the equipment connected to the ZONE2 speaker terminals. If any other terminal is used for connection, adjust the volume on the audio equipment placed in a separate room.
- To enjoy Spotify music in the main room after playing it in a separate room, select "NET" as the input of the main room.



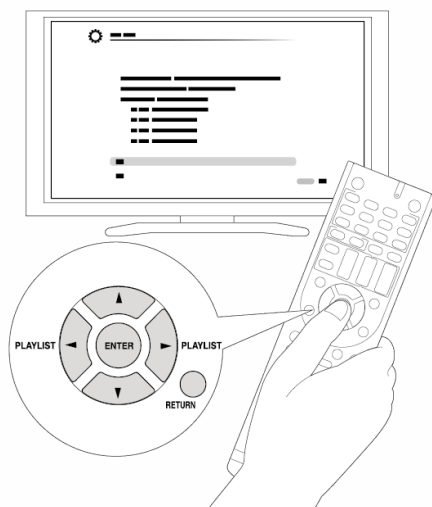


SiriusXM Internet Radio (North American only)

If you want to listen to the service, you must subscribe. To subscribe go to www.siriusxm.com/internetradio with your computer. When you subscribe, you will be provided with a username and password which has to be entered into the AV receiver. To use SiriusXM Internet Radio, you must have your AV receiver connected to the Internet. Using the remote control, follow these steps:

● **Operation:** You can set up by viewing the guidance displayed on the TV screen (OSD). 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.

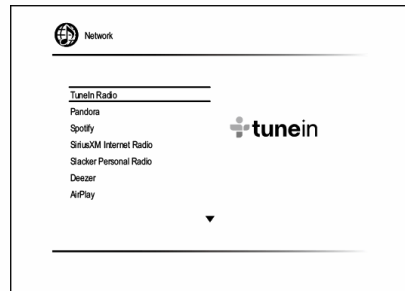
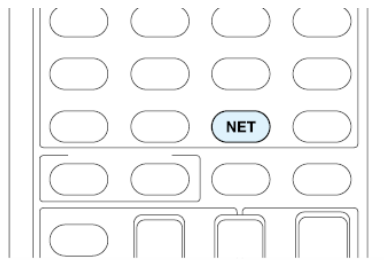
- (European, Australian, Taiwanese and Asian models) If the OSD language is set to Chinese, the operations in this section are not displayed on the TV. Operate by looking at the display on the main unit. Note that the display on the main unit does not support the display of Chinese characters. Characters that cannot be displayed are replaced with asterisks (*).



■ Playing Back



1. Press NET on the remote controller to display NET TOP screen.



2. With the cursors on the remote controller, select "SiriusXM Internet Radio", and then press ENTER.
3. Select "Sign In", and then press ENTER. If you have an existing SIRIUS account, you can sign in by selecting "Sign In". Enter your user name and password in the next keyboard screen, or in Web Setup. If you do not know your username or password, call Sirius XM at (888) 539-7474 for assistance.
 - If you want to use multiple user accounts, see "Using Multiple Accounts". Login can be made from the "Users" screen.

Using the keyboard screen

- ① Use ▲/▼/◀/▶ and ENTER to enter your user name and password.
 - ② Select "OK".
 - ③ Press ENTER. The "Confirm your entries" screen appears.
 - ④ Press ENTER. "Please wait..." appears and then "SiriusXM Internet Radio" screen appears which displays the category available for selection.
4. Use ▲/▼ to select the category and then press ENTER. The channel list screen for the selected category appears.
 5. Use ▲/▼ to select the desired channel and then press ENTER. The playback screen for the selected channel appears and you can listen to SiriusXM Internet Radio. You can control the tracks with the buttons on the remote control.
Enabled buttons: ►, ■, ◀◀, ▶▶

Add to My Favorites: Adds a channel to My Favorites list.

Add to Presets: Adds the currently playing station to presets list.

Delete from Presets: Deletes the currently playing station from presets list.



SiriusXM Internet Radio subscriptions are sold separately and are governed by the Sirius Terms and Conditions (see www.sirius.com). Be sure to read this agreement before you purchase your subscription.

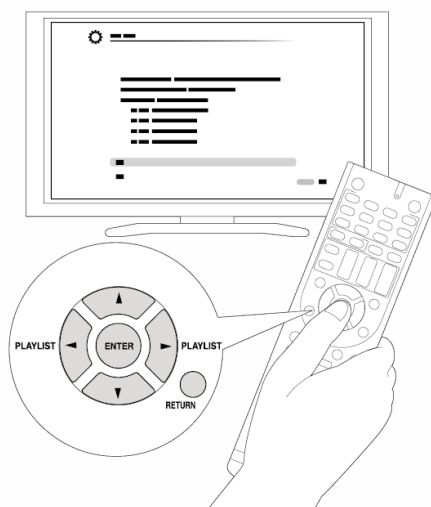
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Slacker Personal Radio (North American only)

● **Operation:** You can set up by viewing the guidance displayed on the TV screen (OSD). 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.

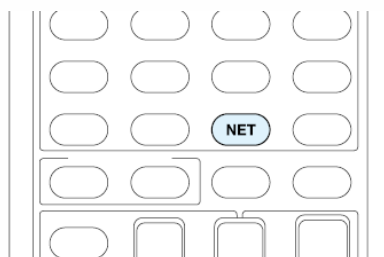
- (European, Australian, Taiwanese and Asian models) If the OSD language is set to Chinese, the operations in this section are not displayed on the TV. Operate by looking at the display on the main unit. Note that the display on the main unit does not support the display of Chinese characters. Characters that cannot be displayed are replaced with asterisks (*).

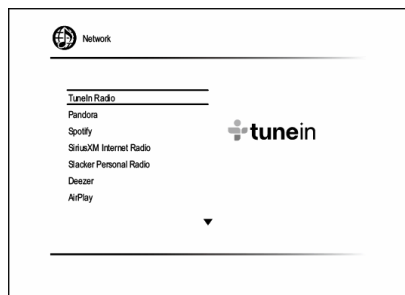


■ Playing Back



1. Press NET on the remote controller to display NET TOP screen.





2. With the cursors on the remote controller, select "Slacker Personal Radio", and then press ENTER.
3. If you do not have an account, create one on the Slacker website (www.slacker.com) with your computer. If you already have a Slacker account, select "Sign in to your account" and then press ENTER. The keyboard screen appears. You can enter information from the remote control or the keys on the main unit.
4. If there are no mistakes in the information you have entered, use ▲/▼/◀/▶ to select "OK" then press ENTER. An account information confirmation screen appears.
5. If you do not have an account, select "Access without Sign In" and press ENTER to use a restricted version of the service. Note that use will be restricted.
 - If you want to use multiple user accounts, see "Using Multiple Accounts". Login can be made from the "Users" screen.
6. Use ▲/▼ to select a menu item and then press ENTER. To sign out, use ▲/▼ to select "Sign out" from this screen and then press ENTER.
7. Use ▲/▼ to select a station and then press ENTER or ▶ to start playback from the station. The playback screen appears.
8. You can control the tracks with the buttons on the remote control.
Enabled buttons: ▶, ||, ■, ▶▶

Rate Song as Favorite: Stores information to server, making it more likely that the song will be played again.

Ban Song: Stores information to server, making it less likely that the song will be played again.

Ban Artist: Stores information to server, making it less likely that the songs from this artist will be played again.

Mark Favorite: Adds the currently playing station to your favorites.

Unmark Favorite: Deletes the currently playing station from your

favorites.

Add song to Library: Adds the currently playing track to your library.

Delete song from Library: Deletes the currently playing track from your library.

Add to My Favorites: Adds a station or song to My Favorites list.

Using Multiple Accounts: The AV receiver supports multiple user accounts, which means you can freely switch between several logins. After registering user accounts, login is performed from the "Users" screen.

Press MENU while the Users screen is displayed. "Add new user", "Remove this user" menu appear. You can either store a new user account, or delete an existing one.

- Some of the services do not allow the use of multiple user accounts.
- You can store up to 10 user accounts.
- To switch between accounts you must first log out from the current account, and log in again on the "Users" screen.



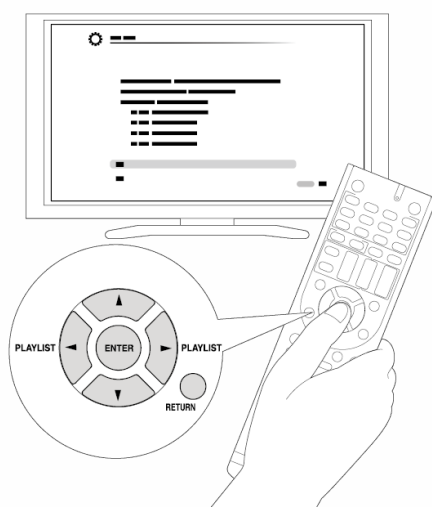
Registering Other Internet Radios

To listen to other Internet radio program, register the program in the "My Favorites" list as described in the next section. "My Favorites" are displayed in the level under the one displayed when you press NET.

- You can register up to 40 Internet radio stations.
- The unit supports Internet radio stations stored in the following formats: PLS (URL ending in .pls), M3U (URL ending in .m3u) and RSS (URL ending in rss/rdf/xml). Depending on the data type and playback format, there may be some you cannot play.
- Available services may vary depending on your area of residence.

● **Operation:** You can set up by viewing the guidance displayed on the TV screen (OSD). 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.

- (European, Australian, Taiwanese and Asian models) If the OSD language is set to Chinese, the operations in this section are not displayed on the TV. Operate by looking at the display on the main unit. Note that the display on the main unit does not support the display of Chinese characters. Characters that cannot be displayed are replaced with asterisks (*).



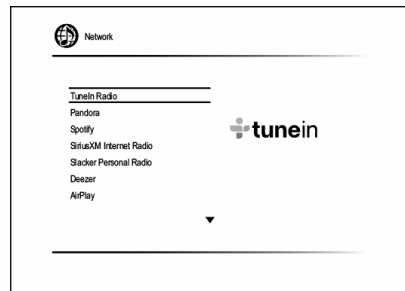
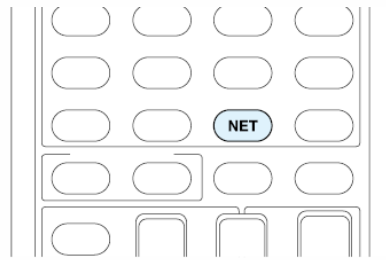
■ Registration Procedure



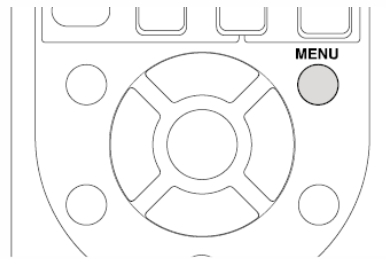
Before Performing any Operation: The name and URL of the radio station that you want to add are required for registration. Check the specifications

before use.

1. Press NET on the remote controller to display the NET TOP screen.



2. Select "My Favorites" with the cursors and press ENTER to display the "My Favorites" list screen.
3. With the cursors, select a blank area of "My Favorites" and press MENU to display the menu screen.



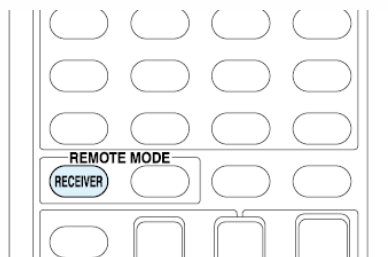
4. Select "Create new station" with the cursors and press ENTER to display the keyboard screen.
5. Enter the name and URL of the radio station to add.
 - Select "A/a" and press ENTER to toggle between upper and lower case. Select "←" or "→" and press ENTER to move the cursor to the selected direction. Select "⌫" and press ENTER to delete one character to the left of the cursor position.

■ Registering a Station with PC

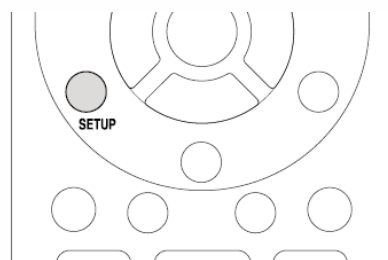


Before Performing any Operation: The name and URL of the radio station that you want to add are required for registration. Check the specifications before use. Also, Make sure this unit and a computer are connected to the same router.

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. With the cursors, select "6. Hardware" - "Network" - "IP Address" to display the IP address.
 - Take note of the IP address since you will need it later.
4. Open the Internet browser on your PC or smartphone and enter the IP address of the unit in the URL field.
 - When using Internet Explorer, you can alternatively select "Open" in the "File" menu to enter the IP address.
 - Information of the unit is displayed on the browser. ("WEB Setup")
5. Click "My Favorites" tab, then enter the name and URL of the Internet radio station.
6. Click "Save" to register the entered Internet radio station in "My Favorites".

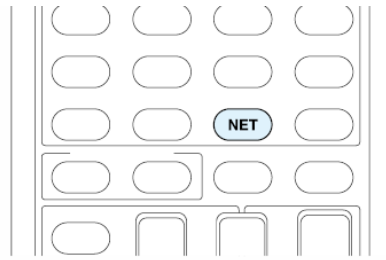
To rename the registered radio station: Select the radio station in the "My Favorites" list and press MENU to display the menu screen. Select "Rename this station" with the cursors and press ENTER to display the keyboard screen. Rename the station as desired.

- Radio stations can be renamed also from "WEB Setup".

■ Playing a Registered Radio Station



1. Press NET on the remote controller to display the NET TOP screen.

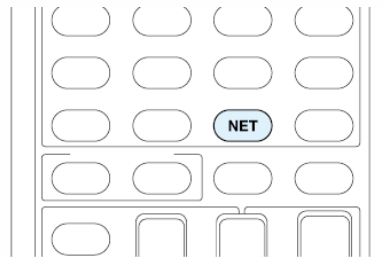


2. Select "My Favorites" with the cursors and press ENTER to display the registered Internet radio stations.
3. With the cursors, select a radio station and press ENTER to start playing.

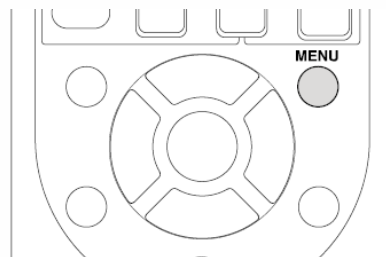
■ Deleting a Registered Radio Station



1. Press NET on the remote controller to display the NET TOP screen.



2. Select "My Favorites" with the cursors and press ENTER to display the registered Internet radio stations.
3. With the cursors, select the radio station to delete and press MENU to display the menu screen.

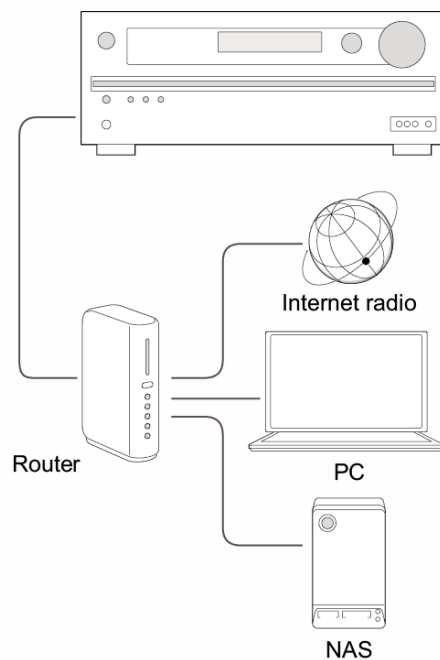


4. With the cursors, select "Delete from My Favorites", and then press ENTER. A confirmation screen will appear.
5. With the cursors, select "OK", and then press ENTER to delete the radio station.
 - Select "Back" to return to the previous screen.
 - Radio stations can be deleted also from "WEB Setup".



About DLNA

Digital Living Network Alliance (DLNA) can be referred to as a technology standard or the industry group to develop the technology standard to interconnect and use AV components, computers and other devices in a home network. This unit allows you to use DLNA to play music files stored on a computer or a hard disk connected to your home network (NAS device). Make sure this unit and a computer or NAS device are connected to the same router.



- To stream a music file, you need a NAS device with DLNA server functions or a PC where a player (e.g., Windows Media® Player 11 or Windows Media® Player 12) with DLNA server functions is installed. To enable streaming with Windows Media® Player 11 or Windows Media® Player 12, you must first configure the settings.



Configuring the Windows Media® Player

■ Windows Media® Player 11



1. Turn on your PC and start Windows Media® Player 11.
 2. In the "Library" menu, select "Media Sharing" to display a dialog box.
 3. Select the "Share my media" check box, and then click "OK" to display the compatible devices.
 4. Select this unit, and then click "Allow".
 - When it is clicked, the corresponding icon is checked.
 5. Click "OK" to close the dialog.
- Depending on the version of Windows Media® Player, the names of the items you need to select may differ from the explanation here.
-

■ Windows Media® Player 12



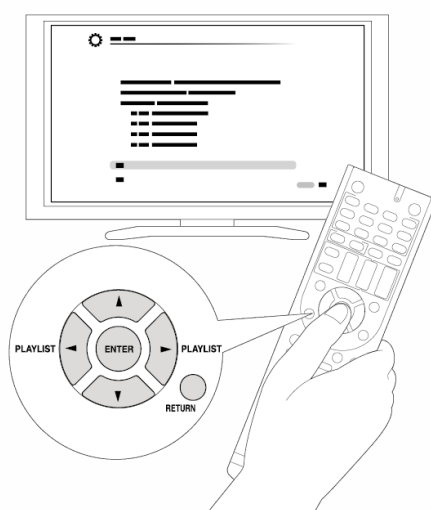
1. Turn on your PC and start Windows Media® Player 12.
 2. In the "Stream" menu, select "Turn on media streaming" to display a dialog box.
 - If media streaming is already turned on, select "More streaming options..." in the "Stream" menu to list players in the network, and then go to step 4.
 3. Click "Turn on media streaming" to list players in the network.
 4. Select this unit in "Media streaming options" and check that it is set to "Allow".
 5. Click "OK" to close the dialog.
- Depending on the version of Windows Media® Player, the names of the items you need to select may differ from the explanation here.



DLNA Playback

● **Operation:** You can set up by viewing the guidance displayed on the TV screen (OSD). 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.

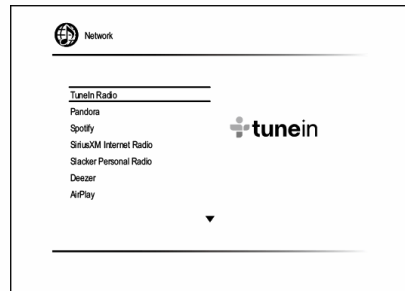
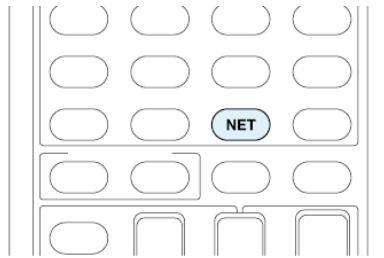
- (European, Australian, Taiwanese and Asian models) If the OSD language is set to Chinese, the operations in this section are not displayed on the TV. Operate by looking at the display on the main unit. Note that the display on the main unit does not support the display of Chinese characters. Characters that cannot be displayed are replaced with asterisks (*).



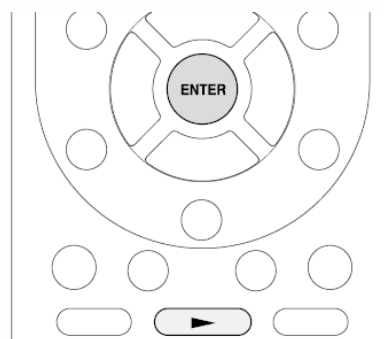
■ Playing Back



1. Start the server (Windows Media® Player 11, Windows Media® Player 12, or NAS device) containing the music files to play.
2. Press NET on the remote controller to display the NET TOP screen.
 - If the "NET" indicator on the display flashes, the unit is not properly connected to the network. Check the connection.



3. Select "DLNA" with the cursors and press ENTER.
4. Select the target server with the cursors and press ENTER to display the items list screen.
 - Searching does not work in servers that do not support search functions.
 - The unit cannot access pictures and videos stored on servers.
 - Contents stored on the server may not be displayed depending on the server sharing settings.
5. With the cursors, select the music file to play, and then press ENTER or ► to start playback.
 - If "No Item" is displayed, check whether the network is properly connected.





Controlling Remote Playback from a PC

You can use this unit to play music files stored on your PC by operating the PC inside your home network. The unit supports remote playback with Windows Media® Player 12. To use the remote playback function with Windows Media® Player 12, Windows Media® Player 12 must be configured in advance.

- Using a DLNA-compatible controller (such as an Android application), you can select a music file stored on Windows Media® Player 12 and stream to this unit by operating the controller. For information on how to remotely play using the controller, refer to the controller's instruction manual.

■ Setting PC



1. Turn on your PC and start Windows Media® Player 12.
 2. In the "Stream" menu, select "Turn on media streaming" to display a dialog box.
 - If media streaming is already turned on, select "More streaming options..." in the "Stream" menu to list players in the network, and then go to step 4.
 3. Click "Turn on media streaming" to list players in the network.
 4. Select this unit in "Media streaming options" and check that it is set to "Allow".
 5. Click "OK" to close the dialog box.
 6. Open the "Stream" menu and check that "Allow remote control of my Player..." is checked.
- Depending on the version of Windows Media® Player, the names of the items you need to select may differ from the explanation here.

■ Remote playback



1. Turn on the power of the unit.

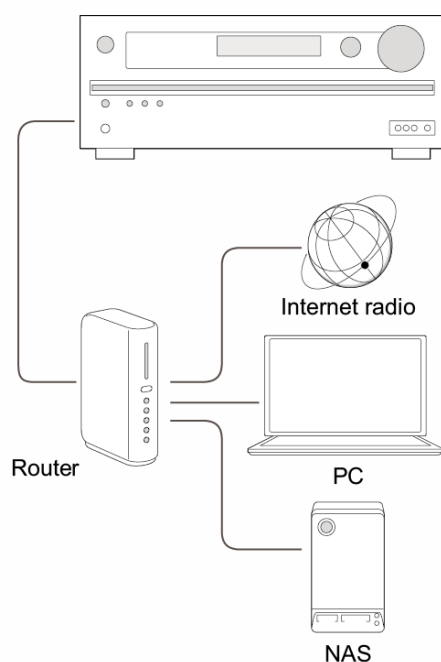
2. Turn on your PC and start Windows Media® Player 12.
3. Select and right-click the music file to play with Windows Media® Player 12.
 - To remotely play a music file on another server, open the target server from "Other Libraries" and select the music file to play.
4. Select this unit in "Play to" to open the "Play to" window of Windows Media® Player 12 and start playback on the unit.
 - Operations during remote playback are possible from the "Play to" window on the PC. The playback screen is displayed on the TV connected to the HDMI output of the unit. If your PC is running on Windows 8®, click "Play to", and then select this unit.
5. Adjust the volume using the volume bar on the "Play to" window.
 - Sometimes, the volume displayed on the remote playback window may differ from that appeared on the display of the unit.
 - When the volume is adjusted from the unit, the value is not reflected in the "Play to" window.
 - This unit cannot play music files remotely in the following conditions.
 - It is using a network service.
 - It is playing a music file on a USB storage device.
- Depending on the version of Windows Media® Player, the names of the items you need to select may differ from the explanation here.



About Shared Folder

A shared folder is configured in a network device such as a PC or NAS (hard disk connected to your home network) for access from other users.

You can play music files in a shared folder on your PC or NAS connected to the same home network as that of the unit. To play music files in a shared folder, you must first configure Windows® 8 or Windows® 7. Make sure the unit and PC or NAS device are connected to the same router.



- The sharing options must be configured and a shared folder created on the PC in advance.
- For information on how to configure the NAS device and create a shared folder, refer to the NAS device's instruction manual.



Setting PC

■ Configuring the Sharing Options ▼

1. Select "Choose home group and sharing options" on the "Control Panel".
 - If the menu is not displayed, check whether "View by" is set to "Category".
 2. Select "Change advanced sharing settings".
 3. Check whether the following radio buttons are selected in "Home or Work":
 - "Enable network discovery"
 - "Turn on file and printer sharing"
 - "Turn on sharing so anyone with network access can read and write files in the Public folders."
 - "Turn off password protected sharing"
 4. Select "Save Changes" and click "OK" on the dialog box.
-

■ Creating a Shared Folder ▼

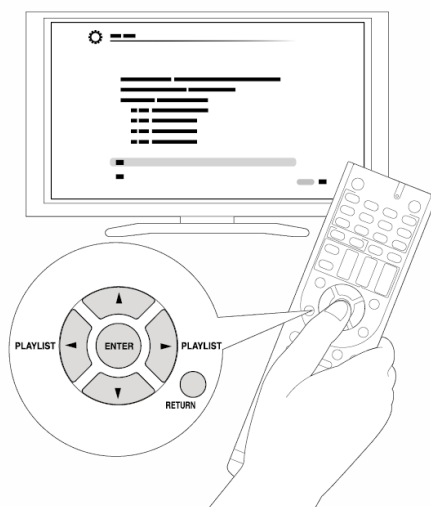
1. Select and right-click the folder to share.
2. Select "Properties".
3. Select "Advanced Sharing" on the "Sharing" tab.
4. Select the "Share this folder" check box and click "OK".
5. Select "Share" for "Network File and Folder Sharing".
6. Select "Everyone" from the pull-down menu. Click "Add", and then "Share".
 - To set user name and password to a shared folder, set "Permissions" in "Advanced Sharing" on the "Sharing" tab.
 - Check whether a workgroup is set.



Playing from a Shared Folder

● **Operation:** You can set up by viewing the guidance displayed on the TV screen (OSD). 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.

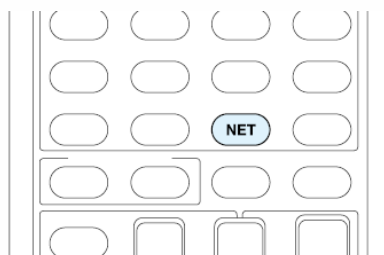
- (European, Australian, Taiwanese and Asian models) If the OSD language is set to Chinese, the operations in this section are not displayed on the TV. Operate by looking at the display on the main unit. Note that the display on the main unit does not support the display of Chinese characters. Characters that cannot be displayed are replaced with asterisks (*).

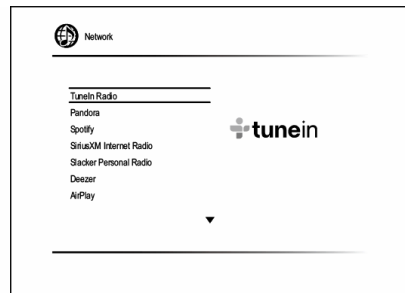


■ Playing Back

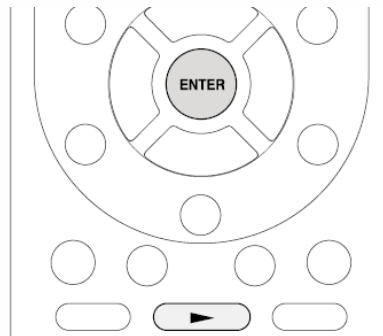


1. Press NET on the remote controller to display the NET TOP screen.
 - If the "NET" indicator on the display flashes, the unit is not properly connected to the network. Check the connection.





2. With the cursors, select "Home Media", and then press ENTER.
3. With the cursors, select the target server, and then press ENTER.
 - You can check the server name of your PC from the PC properties.
4. With the cursors, select the target shared folder, and then press ENTER.
5. If a username and password is required, enter the necessary login information.
 - The login information is the account information set at the time of creating the shared folder.
 - Once entered, the login information will be remembered from the next time onward.
6. With the cursors, select the music file to play, and then press ENTER or ► to start playback.





About the Remote Controller

The remote controller of this unit allows you to play music files stored on USB storage devices, Internet radio, PCs and NAS devices on your home network, as well as on Bluetooth-enabled devices. It also allows you to view information of the music file being played and perform various other operations.

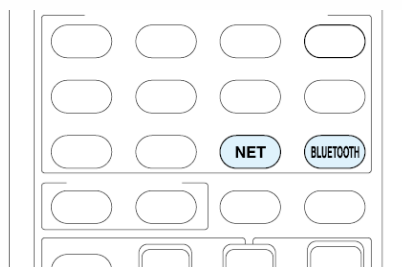
- Available buttons may vary depending on the service and device to play.
- Some buttons cannot be used with Bluetooth-enabled devices.
Furthermore, the Bluetooth-enabled devices must support the AVRCP profile. Some devices may not be operated, even when they support AVRCP profile.



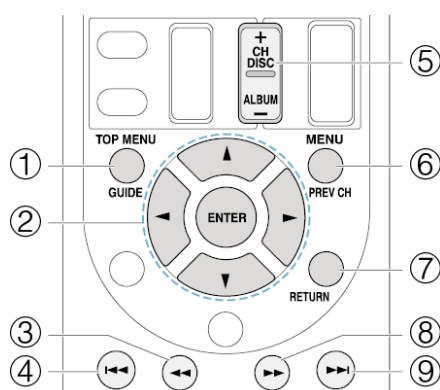
Operating Music Files with the Remote Controller

Remote Controller Buttons

1. Press INPUT SELECTOR (NET, or BLUETOOTH) appropriate for the input source on the remote controller.

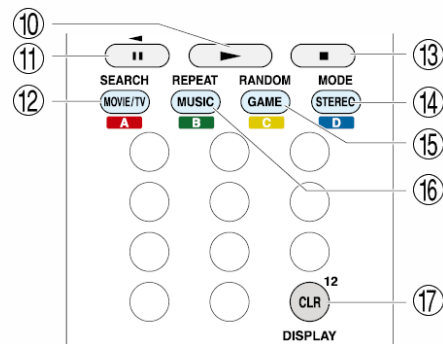


2. Operate the remote controller by referring to the name and function of each of the buttons.



- ① **TOP MENU**: This button displays the top menu for each media or server.
- ② **▲/▼, ENTER**: These buttons navigate through items and activate the selected item.
◀/▶: These buttons allow you to navigate to other pages when the list continues on other pages.
- ③ **◀◀**: This button fast-reverses the current track. This button is not operable from 10 seconds before the playback ends.
- ④ **◀◀**: This button plays the current track from the beginning. Pressing this button twice plays the previous track.
- ⑤ **+/- button**: Moves the cursor up or down on the Internet radio stations list in "My Favorites".
- ⑥ **MENU**: This button displays the menu of each Internet radio service.
- ⑦ **RETURN**: This button returns to the previous screen.
- ⑧ **▶▶**: This button fast-forwards the current track. This button is not operable from 10 seconds before the playback ends.

⑨ ►►: This button plays the next track.



⑩ ►: This button starts the playback.

⑪ ||: This button pauses the playback.

⑫ **SEARCH**: This button toggles between the playback screen and list screen during playback.

⑬ ■: This button stops the playback.

⑭ **MODE**: This button displays the video from the input selected in "Video Select". Each press of the button displays or turns off the video. You can change the display position of the OSD by pressing ENTER while the video is displayed on the screen.

- These buttons are disabled when the OSD language is set to Chinese. (European, Australian, Taiwanese and Asian models)

⑮ **RANDOM**: This button performs random playback.

⑯ **REPEAT**: This button replays the track (or tracks). Pressing this button repeatedly cycles through the repeat modes.

⑰ **DISPLAY**: This button changes the displayed track information during playback. Pressing this button when the list screen is displayed toggles the screen to playback.

- Bluetooth-enabled devices: Usable buttons are ►, ||◀◀, ◀◀, ||, ►►, ►►||, and ■.



Icons Displayed during Playback

Icons are displayed on the display during music file playback. The meaning of each icon is as follows:

: Folder

: Track

: Play

: Pause

: Fast-forward

: Fast-reverse

: Artist

: Album

: Repeat one track

: Repeat within a folder

: Repeat

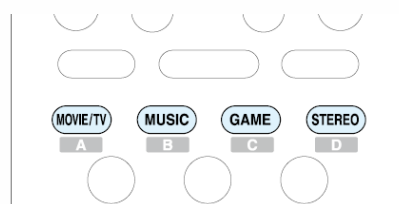
: Shuffle



Selecting Listening Mode

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

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



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

Dolby D

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



Listening Mode Types

In alphabetical order

■ AllCh Stereo ▼

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

■ Direct ▼

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

■ Dolby Atmos ▼

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

■ Dolby D (Dolby Digital) ▼

Mode suitable for playing sources recorded in Dolby Digital.

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

■ Dolby D+ (Dolby Digital Plus) ▼

Mode suitable for playing sources recorded in Dolby Digital Plus.

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

■ Dolby Surround ▼

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

■ Dolby TrueHD



Mode suitable for playing sources recorded in Dolby TrueHD.

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

■ DSD



Mode suitable for playing sources recorded in DSD.

- This unit supports DSD signals input through HDMI IN. However, depending on the connected player, better sound is possible when output from the PCM output of the player.
 - This listening mode can be selected only if your Blu-ray Disc/DVD player's output setting is 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.

■ Game-Action ▼

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

■ Game-Rock



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

■ Game-RPG



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

■ Game-Sports



Suitable for audio source with much reverberation.

■ Mono



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

■ Multich (Multichannel)



Mode suitable for playing sources recorded in PCM multichannel.

■ Orchestra



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

■ Pure Audio (European, Australian and Asian models)



This mode reproduces the original sound accurately. Since the audio from the input source is output without surround sound processing and the display and video circuitry are turned off, possible noise sources are minimized for a realistic audio reproduction.

- This mode cannot be selected when Zone 2 is active. Activating Zone 2 when this mode is selected automatically switches to the Direct listening mode.
-

■ Stereo



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

subwoofer.

■ Studio-Mix



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

■ T-D (Theater-Dimensional)



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

■ TV Logic



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

■ Unplugged



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



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: Pure Audio (European, Australian and Asian models), Mono, Direct, and Stereo.

■ MOVIE/TV button



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

☐ Analog

Direct
Mono
Dolby Surround
Neo:6 Cinema^{*1}
TV Logic^{*2}
AllCh Stereo^{*3}
Full Mono^{*3}
T-D

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

^{*2} Surround speakers or height speakers need to be installed.

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

☐ PCM

Direct
Mono
Dolby Surround
Neo:6 Cinema^{*1}
TV Logic^{*2}
AllCh Stereo^{*3}

Full Mono *³

T-D

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

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

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

☐ 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.

☐ DTS-ES

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

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

☒ MUSIC button



You can select a mode suitable for music.

☐ Analog

Pure Audio (European, Australian and Asian models)
Direct
Stereo
Dolby Surround
Neo:6 Music*¹
Orchestra*²
Unplugged*²
Studio-Mix*²
AllCh Stereo*³
Full Mono*³

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

- *² Surround speakers or height speakers need to be installed.
- *³ Center speaker, surround speakers or height speakers need to be installed.

☐ PCM

Pure Audio (European, Australian and Asian models)

Direct

Stereo

Dolby Surround

Neo:6 Music*¹

Orchestra*²

Unplugged*²

Studio-Mix*²

AllCh Stereo*³

Full Mono*³

- *¹ Center speaker or surround speakers need to be installed.
- *² Surround speakers or height speakers need to be installed.
- *³ Center speaker, surround speakers or height speakers need to be installed.

☐ Multich PCM

Pure Audio (European, Australian and Asian models)

Direct

Stereo

Multich*¹

Dolby Surround

Orchestra*²

Unplugged*²

Studio-Mix*²

AllCh Stereo*³

Full Mono*³

- *¹ Center speaker or surround speakers need to be installed.
- *² Surround speakers or height speakers need to be installed.
- *³ Center speaker, surround speakers or height speakers need to be installed.

☐ DSD

Pure Audio (European, Australian and Asian models)

Direct

Stereo

DSD *1 *2

Dolby Surround

Neo:6 Music *3

Orchestra *4

Unplugged *4

Studio-Mix *4

AllCh Stereo *5

Full Mono *5

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

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

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

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

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

☐ Dolby Atmos

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

Pure Audio (European, Australian and Asian models)

Direct

Stereo

Dolby Atmos

Orchestra

Unplugged

Studio-Mix

AllCh Stereo

Full Mono

☐ Dolby D

Pure Audio (European, Australian and Asian models)

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 D+

Pure Audio (European, Australian and Asian models)

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

Pure Audio (European, Australian and Asian models)

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

Pure Audio (European, Australian and Asian models)

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

Pure Audio (European, Australian and Asian models)

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

Pure Audio (European, Australian and Asian models)

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

Pure Audio (European, Australian and Asian models)

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

Pure Audio (European, Australian and Asian models)

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

Pure Audio (European, Australian and Asian models)

Direct

Stereo

DTS*¹

ES Matrix*²

ES Discrete*²

Dolby Surround*³

Orchestra*⁴

Unplugged*⁴

Studio-Mix*⁴

AllCh Stereo*⁵

Full Mono*⁵

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

*² Back speakers need to be installed.

*³ Height speakers need to be installed.

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

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

☒ GAME button



You can select a mode suitable for games.

☐ Analog

Direct

Dolby Surround

Game-RPG*¹

Game-Action*¹

Game-Rock*¹

Game-Sports*¹

AllCh Stereo*²

Full Mono*²

T-D

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

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

☐ PCM

Direct
Dolby Surround
Game-RPG *¹
Game-Action *¹
Game-Rock *¹
Game-Sports *¹
AllCh Stereo *²
Full Mono *²
T-D

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

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

☐ 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^{*2}

ES Discrete^{*2}

Dolby Surround^{*3}

Game-RPG^{*4}

Game-Action^{*4}

Game-Rock^{*4}

Game-Sports^{*4}

AllCh Stereo^{*5}

Full Mono^{*5}

T-D

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

*2 Back speakers need to be installed.

*3 Height speakers need to be installed.

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

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

☒ STEREO button



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

☐ All format

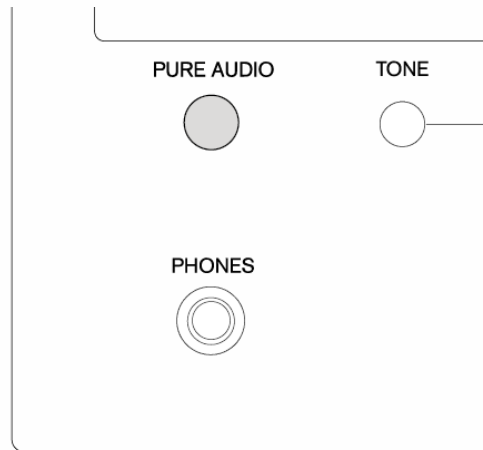
Stereo

AllCh Stereo^{*1}

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

■ PURE AUDIO button (on the main unit only) (European, Australian and Asian models) ✓

The display and analog video circuit are turned off to switch the unit to Pure Audio mode (European, Australian and Asian models) which provides purer sound. Selecting this mode lights the PURE AUDIO indicator on the unit. Pressing the button again reselects the previous listening mode.



- Selecting Pure Audio for listening mode turns off the display and analog video circuitry, but the video signals input through HDMI input are output from HDMI output.



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 is "Dolby Atmos" format.

Dolby D 5.1

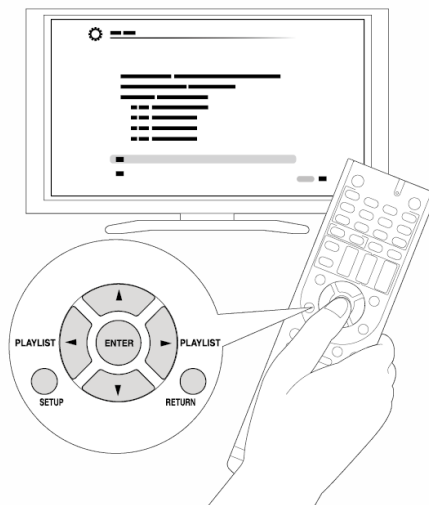


Advanced Settings (Setup Menu)

How to Set

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

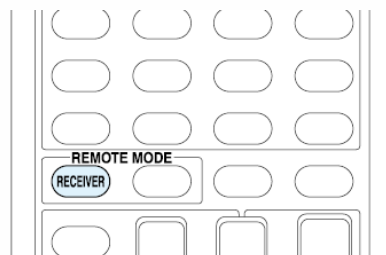
● **Operation:** You can set up by viewing the guidance displayed on the TV screen (OSD). Select the item with the cursor buttons of the remote controller and press ENTER to confirm your selection. To return to the previous screen, press RETURN.



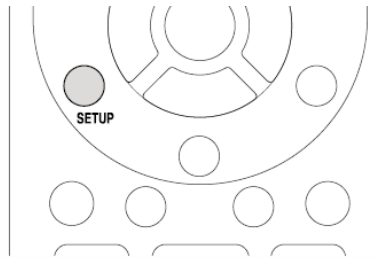
■ Operation



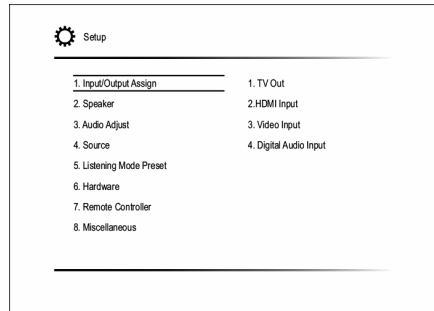
1. Press RECEIVER on the remote controller.
 - Always press RECEIVER first to change the remote controller to RECEIVER mode (the mode to operate this unit) since its mode may be changed to operate another component.



2. Press SETUP to display the Setup menu.

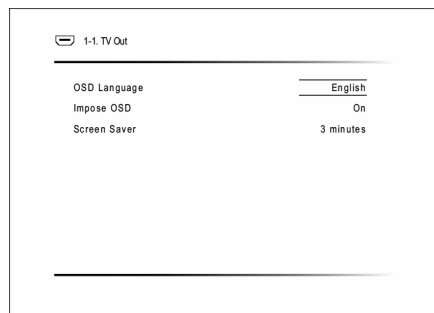


3. Press ▲/▼ to select the desired menu, and then press ENTER.



4. Press ▲/▼ to select the item, and then press ENTER.

5. With the ▲/▼/◀/▶ cursors, select the item to configure the settings.



To exit the setup menu, press SETUP.

Overview of the Setup menu

1. Input/Output Assign

Make settings to assign the various jacks and 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 related to sound.

4. Source

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

5. Listening Mode Preset

You can preset your favorite listening mode.

6. Hardware

Make a variety of settings such as for linked operation with connected HDMI

equipment, the standby mode and network connection for this unit.

7. Remote Controller

Make settings related to the remote controller.

8. Miscellaneous

Update the firmware and perform initial settings, etc.



1. Input/Output Assign

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, Taiwanese 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 will be displayed on the TV.

"Off": OSD will not be displayed on the TV.

- The 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".

HDMI Input ▼

You can change input assignment between the input selectors and HDMI IN jacks.

☐ [BD/DVD](#)

Default Value: HDMI 1 (HDCP 2.2)

"HDMI 1 (HDCP 2.2)" to "HDMI 6": Assign a desired HDMI IN jack to the BD/DVD button. If you do not assign a jack, select "-----". To select an HDMI IN jack already assigned to another input selector, change its setting to "-----" first.

☐ CBL/SAT

Default Value: HDMI 2 (HDCP 2.2)

"HDMI 1 (HDCP 2.2)" to "HDMI 6": Assign a desired HDMI IN jack to the CBL/SAT button. If you do not assign a jack, select "-----". To select an HDMI IN jack already assigned to another input selector, change its setting to "-----" first.

☐ STRM BOX

Default Value: HDMI 3 (HDCP 2.2)

"HDMI 1 (HDCP 2.2)" to "HDMI 6": Assign a desired HDMI IN jack to the STRM BOX button. If you do not assign a jack, select "-----". To select an HDMI IN jack already assigned to another input selector, change its setting to "-----" first.

☐ PC

Default Value: HDMI 4

"HDMI 1 (HDCP 2.2)" to "HDMI 6": Assign a desired HDMI IN jack to the PC button. If you do not assign a jack, select "-----". To select an HDMI IN jack already assigned to another input selector, change its setting to "-----" first.

☐ GAME

Default Value: HDMI 5

"HDMI 1" to "HDMI 6": Assign a desired HDMI IN jack to the GAME button. If you do not assign a jack, select "-----". To select an HDMI IN jack already assigned to another input selector, change its setting to "-----" first.

☐ CD

Default Value: -----

"HDMI 1 (HDCP 2.2)" to "HDMI 6": Assign a desired HDMI IN jack to the CD button. If you do not assign a jack, select "-----". To select an HDMI IN jack already assigned to another input selector, change its setting to "-----" first.

☐ TV

Default Value: -----

"HDMI 1 (HDCP 2.2)" to "HDMI 6": Assign a desired HDMI IN jack to the TV button. If you do not assign a jack, select "-----". To select an HDMI IN jack already assigned to another input selector, change its setting to "-----" first.

Video Input

You can change assignment of the COMPONENT VIDEO IN 1 and 2 jacks and the VIDEO IN 1 to 3 jacks between the input selectors. If you do not assign a jack, select "-----".

☐ [BD/DVD](#)

Default Value: COMPONENT 1

"COMPONENT 1", "COMPONENT 2": Assign the COMPONENT VIDEO IN jacks to the BD/DVD button.

"VIDEO 1" to "VIDEO 3": Assign a desired VIDEO IN jack to the BD/DVD button.

☐ [CBL/SAT](#)

Default Value: VIDEO 1

"COMPONENT 1", "COMPONENT 2": Assign the COMPONENT VIDEO IN jacks to the CBL/SAT button.

"VIDEO 1" to "VIDEO 3": Assign a desired VIDEO IN jack to the CBL/SAT button.

☐ [STRM BOX](#)

Default Value: VIDEO 2

"COMPONENT 1", "COMPONENT 2": Assign the COMPONENT VIDEO IN jacks to the STRM BOX button.

"VIDEO 1" to "VIDEO 3": Assign a desired VIDEO IN jack to the STRM BOX button.

☐ [PC](#)

Default Value: VIDEO 3

"COMPONENT 1", "COMPONENT 2": Assign the COMPONENT VIDEO IN jacks to the PC button.

"VIDEO 1" to "VIDEO 3": Assign a desired VIDEO IN jack to the PC button.

☐ [GAME](#)

Default Value: COMPONENT 2

"COMPONENT 1", "COMPONENT 2": Assign the COMPONENT

VIDEO IN jacks to the GAME button.

"VIDEO 1" to "VIDEO 3": Assign a desired VIDEO IN jack to the GAME button.

☐ [AUX](#)

Default Value: -----

The setting cannot be changed.

☐ [CD](#)

Default Value: -----

"COMPONENT 1", "COMPONENT 2": Assign the COMPONENT VIDEO IN jacks to the CD button.

"VIDEO 1" to "VIDEO 3": Assign a desired VIDEO IN jack to the CD button.

☐ [TV](#)

Default Value: -----

"COMPONENT 1", "COMPONENT 2": Assign the COMPONENT VIDEO IN jacks to the TV button.

"VIDEO 1" to "VIDEO 3": Assign a desired VIDEO IN jack to the TV button.

- When you convert video signals input to the COMPONENT VIDEO IN jacks and output them from the HDMI OUT jack, set the output resolution of the player to 480i or 576i. If the input has 480p/576p or higher resolution, an error message will appear.

Digital Audio Input



You can change input assignment between the input selectors and DIGITAL IN COAXIAL/OPTICAL 1 to 2 jacks. If you do not assign a jack, select "-----".

☐ [BD/DVD](#)

Default Value: COAXIAL

"COAXIAL", "OPTICAL 1", "OPTICAL 2": Assign a desired DIGITAL IN jack to the BD/DVD button.

☐ [CBL/SAT](#)

Default Value: -----

"COAXIAL", "OPTICAL 1", "OPTICAL 2": Assign a desired DIGITAL IN jack to the CBL/SAT button.

☐ [STRM BOX](#)

Default Value: -----

"COAXIAL", "OPTICAL 1", "OPTICAL 2": Assign a desired DIGITAL IN jack to the STRM BOX button.

☐ [PC](#)

Default Value: -----

"COAXIAL", "OPTICAL 1", "OPTICAL 2": Assign a desired DIGITAL IN jack to the PC button.

☐ [GAME](#)

Default Value: -----

"COAXIAL", "OPTICAL 1", "OPTICAL 2": Assign a desired DIGITAL IN jack to the GAME button.

☐ [CD](#)

Default Value: OPTICAL 1

"COAXIAL", "OPTICAL 1", "OPTICAL 2": Assign a desired DIGITAL IN jack to the CD button.

☐ [TV](#)

Default Value: OPTICAL 2

"COAXIAL", "OPTICAL 1", "OPTICAL 2": Assign a desired DIGITAL IN jack to the TV button.

- Sampling rates for PCM signals (stereo, mono) from a digital input are 32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz/16 bit, 20 bit, and 24 bit.
-



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

You can change the number of speaker channels connected, the type of front speaker connection, the height speaker type, and other speaker settings.

☐ [Speaker Channels](#)

Default Value: 7.1 ch

Select "2.1 ch", "3.1 ch", "4.1 ch", "5.1 ch", "6.1 ch", "7.1 ch", "2.1.2 ch", "3.1.2 ch", "4.1.2 ch", or "5.1.2 ch" to suit the number of speaker channels connected.

☐ [Subwoofer](#)

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: Front High

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

Select "Front High", "Top Front", "Top Middle", "Top Rear", "Rear High", "Dolby Speaker (Front)", or "Dolby Speaker (Surr)" according to the connected speaker type and location.

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

☐ [Bi-Amp](#)

Default Value: No

Set whether your front speaker connection is bi-amp.

"No": When front speakers are connected in a normal manner

"Yes": When front speakers are bi-amp connected

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

☐ Powered Zone 2

Default Value: No

Set the connection of speakers to Zone 2 speaker terminals.

"Yes": When speakers are connected to ZONE2 speaker terminals

"No": When speakers are not connected to ZONE2 speaker terminals

- This item will be set to "No" when "Bi-Amp" is set to "Yes".

Crossover

Allows you to change speaker configurations, such as crossover frequency. 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: 100 Hz

Select the crossover frequency from "40Hz" to "200Hz" to start outputting frequencies for each channel.

"Full Band": Full band will be output.

- If "Configuration" - "Subwoofer" is set to "No", "Front" will be fixed to "Full Band" and the low pitched range of the other channels will be output from the front speakers. Refer to the instruction manual of your speakers to make the setting.

☐ Center

Default Value: 100 Hz

Select the crossover frequency from "40Hz" to "200Hz" to start outputting frequencies for each channel.

"Full Band": Full band will be output.

- "Full Band" can be selected only when "Front" is set to "Full Band".
- 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: 100 Hz

Select the crossover frequency from "40Hz" to "200Hz" to start outputting frequencies for each channel.

"Full Band": Full band will be output.

- "Full Band" can be selected only when "Front" is set to "Full Band".
- 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: 100 Hz

- Select the crossover frequency from "40Hz" to "200Hz" to start outputting frequencies for each channel.

"Full Band": Full band will be output.

- "Full Band" can be selected only when "Front" is set to "Full Band".
- 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: 100 Hz

Select the crossover frequency from "40Hz" to "200Hz" to start outputting frequencies for each channel.

"Full Band": Full band will be output.

- This cannot be selected in the following conditions.
 - The setting for "Configuration" - "Bi-Amp" is "Yes"
 - "Configuration" - "Powered Zone 2" is set to "Yes" and ZONE 2 is on
- "Full Band" can be selected only when "Surround" is set to "Full Band".
- 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.

☐ LPF of LFE

Default Value: 120Hz

Set the low-pass filter for LFE (low-frequency effect) signals in order to pass lower frequency signals than the set value and thus cancel unwanted noises. The low-pass filter will be effective only on sources with LFE channel.

The value from "80Hz" to "120Hz" can be set.

"Off": Do not use this function

☐ Double Bass

Default Value: On

This can only be selected when "Configuration" - "Subwoofer" is set to "Yes" and "Front" is set to "Full Band".

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 (0.1 ft to 30.0 ft, in increments of 0.1 ft)

"meters": When setting in meters (0.03 m to 9.00 m, in increments of 0.03 m)

☐ 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.

- This setting cannot be changed if "Configuration" - "Powered Zone 2" is set to "Yes" and Zone2 is set to on.

☐ Height Right

Default Value: 9.0ft/2.70m

Specify the distance between each speaker and the listening position.

- This setting cannot be changed if "Configuration" - "Powered Zone 2" is set to "Yes" and Zone2 is set to on.

☐ 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.

- This setting cannot be changed if "Configuration" - "Powered Zone 2" is set to "Yes" and Zone2 is set to on.

☐ Back Left

Default Value: 7.0ft/2.10m

Specify the distance between each speaker and the listening position.

- This setting cannot be changed if "Configuration" - "Powered Zone 2" is set to "Yes" and Zone2 is set to on.

☐ 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: 0 dB

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

☐ Center

Default Value: 0 dB

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

☐ Front Right

Default Value: 0 dB

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

☐ Height Left

Default Value: 0 dB

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

- This setting cannot be changed if "Configuration" - "Powered Zone 2" is set to "Yes" and Zone2 is set to on.

☐ Height Right

Default Value: 0 dB

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

- This setting cannot be changed if "Configuration" - "Powered Zone 2" is set to "Yes" and Zone2 is set to on.

☐ Surround Right

Default Value: 0 dB

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

☐ Back Right

Default Value: 0 dB

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

- This setting cannot be changed if "Configuration" - "Powered Zone 2" is set to "Yes" and Zone2 is set to on.

☐ Back Left

Default Value: 0 dB

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

- This setting cannot be changed if "Configuration" - "Powered Zone

2" is set to "Yes" and Zone2 is set to on.

☐ [Surround Left](#)

Default Value: 0 dB

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

☐ [Subwoofer](#)

Default Value: 0 dB

Select a value between "-15 dB" and "+12 dB". 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".
-

Volume



Make the detailed volume setting of the unit.

☐ [Maximum Volume](#)

Default Value: Off

Set the maximum value to avoid too high volume. Select a value from "Off", "30" to "79".

☐ [Power On Volume](#)

Default Value: Last

Set the volume level of when the power is turned on. Select a value from "Last" (Volume level before entering standby mode), "Min", "1" to "79" and "Max".

- You cannot set a higher value than that of "Maximum Volume".

☐ Headphone Level

Default Value: 0 dB

Adjust the output level of the headphones.

Select a value between "-12 dB" and "+12 dB".



4. Source

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

IntelliVolume ▼

☐ IntelliVolume

Default Value: 0 dB

Adjust the volume level difference between the devices connected to the unit. Select a value between "-12 dB" and "+12 dB". Set a negative value if the volume of the target device is larger than the others and a positive value if smaller. When you select a desired input to check the audio, start playback of the connected device.

- This function is not effective in Zone 2.

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: Input name

1. Select a character or symbol with the cursors and press ENTER.
Repeat it to input 10 or less characters.
"A/a": Switches between upper and lower cases. (Pressing +10 on the remote controller also toggles between upper and lower cases.)
"←" "→": Moves the cursor to the arrow direction.
"⊠": Removes a character on the left of the cursor.
"Space": Puts a space.
 - Pressing CLR on the remote controller will remove all the input characters.
2. After inputting, select "OK" with the cursors and press ENTER.
The input name will be saved.

- To name a preset radio station, press TUNER on the remote controller,

select AM/FM and select the preset number.

- It cannot be set if the "NET" 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: BD/DVD: HDMI CBL/SAT: HDMI STRMBOX: HDMI PC:
HDMI GAME: HDMI CD: OPTICAL TV: OPTICAL

Select the priority for input selection when multiple audio sources are connected to one input selector, such as connections to both the "BD/DVD" of HDMI IN jack and "BD/DVD" of AUDIO IN jack. You cannot select a jack that is not associated with the currently selected input.

- The priority is HDMI → COAXIAL/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

- The setting can be selected only when the input is assigned to the HDMI IN jack in the "HDMI Input" setting.

"COAXIAL (Coaxial input)": When giving priority to input signal from DIGITAL IN COAXIAL jacks.

- The setting can be selected only when the input is assigned to the COAXIAL jack in the "Digital Audio Input" setting.

"OPTICAL (Optical input)": When giving priority to input signal from DIGITAL IN OPTICAL jacks.

- The setting can be selected only when the input is assigned to the OPTICAL jack in the "Digital Audio Input" setting.

"Analog": To always output analog audio independently of the input signal

☐ PCM Fixed Mode

Default Value: Off

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

- Changing "Audio Select" changes the setting to "Off".

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

Video Select



☐ Video Select

Default Value: Last

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

- This setting is effective only for an input selector which is assigned in "HDMI Input" or "Video Input".

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

"BD/DVD", "CBL/SAT", "STRM BOX", "PC", "GAME", "CD", "TV": Play the video from the selected input.

- The setting cannot be changed when input other than "TUNER", "NET" or "BLUETOOTH" is selected.
 - When input is "NET" or "BLUETOOTH", switch between displaying and not displaying video by pressing MODE on the remote controller.
-



5. Listening Mode Preset

You can preset your favorite listening mode to each input. (For example, you can always apply straight decode to the Dolby TrueHD source of Blu-ray Disc to play it in unchanged sound field.)

When the list of input sources is displayed, set the signal type and listening mode.

Although it is possible to select the listening mode during playback, the selected mode will be reset when the unit enters standby mode.

Analog/PCM



Default Value: Last Valid

Set the listening mode for playing PCM signals of CD and analog signals of record and cassette tape.

Mono/Multiplex



Default Value: Last Valid

Set the listening mode for playing Dolby Digital and other digital signals recorded in monaural or multiplex audio.

2 ch Source



Default Value: Last Valid

Set the listening mode for playing Dolby Digital and other digital signals recorded in 2 channels.

Dolby D/Dolby D+/TrueHD



Default Value: Last Valid

Set the listening mode for playing Dolby Digital, Dolby Digital Plus and Dolby TrueHD signals.

DTS/DTS-ES/ DTS-HD



Default Value: Last Valid

Set the listening mode for playing digital audio signals in DTS and DTS-HD High Resolution formats. Select the listening mode specified for Blu-ray or such other DTS-HD Master Audio source.

Other Multich Source



Default Value: Last Valid

Set the listening mode for playing DSD signals of DVD-Audio and Super Audio CD that are input from HDMI IN jack.

- Available listening modes vary depending on the input signal.
- Setting "Last Valid" will always select the last selected mode.
- Only "Analog" can be set to the "TUNER" input.
- "Digital" and "TrueHD" can be set to the "NET" input.
- Only "Digital" can be set to the "BLUETOOTH" input.



6. Hardware

Tuner



☐ **AM/FM Frequency Step (North American and Taiwanese models)**

Default Value: 10kHz/0.2MHz

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

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

☐ **AM Frequency Step (European, Australian and Asian models)**

Default Value: 9kHz

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

- 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.
- When this setting is "On", the names of the CEC-compatible components and "CEC On" are displayed after this operation screen is closed.
- Power consumption in standby mode may increase if this setting is "On". (Depending on the TV status, the unit will enter the normal standby mode.)
- If you operate the MASTER VOLUME control on the 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", "STRM BOX", "PC", "GAME", "AUX", "CD", "TV": 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 or the Onkyo Remote app.

"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

- To 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 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

Select to turn the unit into standby mode automatically when the specified time elapses. Select a value between "10 min" to "90 min".

"Off": Select if you do not want the unit to automatically switch to standby.

☐ [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.
- "Auto Standby" does not work when Zone 2 is active.
- 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".

☐ USB Power Out at Standby

Default Value: Off

When this function is "On", you can still have equipment connected to the USB port supplied with power even when this unit is in standby.

- When this function is being used, the power consumption increases even when the unit is on standby. However, the increase in power consumption is kept to a minimum by automatically entering the HYBRID STANDBY mode, where only the essential circuit is operating.

☐ Network Standby

Default Value: Off

When this function is "On", you can turn on the power of the unit via network using an application such as Onkyo Remote.

- When "Network Standby" is used, the power consumption increases even when the unit is on standby. However, the increase in power consumption is kept to a minimum by automatically entering the HYBRID STANDBY mode, where only the essential circuit is operating.

☐ Bluetooth Wakeup

Default Value: Off

This function wakes up the unit on standby by connecting a Bluetooth-enabled device.

"On": Use this function

"Off": Do not use this function

- Setting to "On" increases the power consumption even when the unit is on standby. However, the increase in power consumption is kept to a minimum by automatically entering the HYBRID STANDBY

mode, where only the essential circuit is operating.

- This setting is fixed to "Off" if "Bluetooth" - "Auto Input Change" is set to "Off".
 - Wait for a while if "Network Standby" or "Bluetooth Wakeup" cannot be selected. It will appear when the network function is started up.
-

Network



Make the network setting.

- When LAN is configured with a DHCP, set "DHCP" to "Enable" to configure the setting automatically. ("Enable" is set by default) To assign fixed IP addresses to each components, you must set "DHCP" to "Disable" and assign an address to this unit in "IP Address" as well as set information related to your LAN, such as Subnet Mask and Gateway.

☐ [Wi-Fi](#)

Default Value: Off (Wired)

Connect the unit to network via wireless LAN router.

"On": Wireless LAN connection

"Off (Wired)": Wired LAN connection

☐ [Wi-Fi Setup](#)

Default Value: –

You can configure wireless LAN settings by pressing ENTER when "Start" is displayed.

☐ [Wi-Fi Status](#)

Default Value: –

The information of the connected access point will be displayed.

"SSID": SSID of the connected access point.

"Signal": Signal strength of the connected access point.

"Status": Status of the connected access point.

☐ [MAC Address](#)

Default Value: –

This is the MAC address of the AV receiver.

This value is specific to the component and cannot be changed.

☐ [DHCP](#)

Default Value: Enable

"Enable": Auto configuration by DHCP

"Disable": Manual configuration without DHCP

- If selecting "Disable", you must set "IP Address", "Subnet Mask", "Gateway", and "DNS Server" manually.

☐ IP Address

Default Value: –

Displays/Sets the IP address.

☐ Subnet Mask

Default Value: –

Displays/Sets the subnet mask.

☐ Gateway

Default Value: –

Displays/Sets the gateway.

☐ DNS Server

Default Value: –

Displays/Sets the primary DNS server.

☐ Proxy URL

Default Value: –

Displays/Sets the proxy server URL.

☐ Proxy Port

Default Value: –

Displays/Sets the proxy server port number when you enter "Proxy URL".

☐ Friendly Name

Default Value: TX-NR545

Change the name for this unit to a simple one for display on the equipment connected by network.

1. Press ENTER to display the Edit screen.
2. Select a character or symbol with the cursors and press ENTER. Repeat it to input 31 or less characters.

"A/a": Switches between upper and lower cases. (Pressing +10 on the remote controller also toggles between upper and lower cases.)

"←" "→": Moves the cursor to the arrow direction.

"⌫": Removes a character on the left of the cursor.

"Space": Puts a space.

- Pressing CLR on the remote controller will remove all the input characters.
3. After inputting, select "OK" with the cursors and press ENTER.
The input name will be saved.

☐ AirPlay Password

Default Value: -----

You can enter a password (maximum of 31 places) so that only the entered user can use AirPlay.

1. Press ENTER to display the Edit screen.
2. Select a character or symbol with the cursors and press ENTER.

Repeat it to input 31 or less characters.

"A/a": Switches between upper and lower cases. (Pressing +10 on the remote controller also toggles between upper and lower cases.)

"←" "→": Moves the cursor to the arrow direction.

"⌫": Removes a character on the left of the cursor.

"Space": Puts a space.

- Pressing D on the remote controller will switch whether to mask the password with "*" or display in the plain text.
 - Pressing CLR on the remote controller will remove all the input characters.
3. After inputting, select "OK" with the cursors and press ENTER.
The input password will be saved.

☐ Usage Data

Default Value: No

As a means of improving the quality of our products and services, Onkyo may collect information about your usage over the network. Select "Yes" if you agree to our collecting this information. Select "No" if you do not want us to collect this information.

- You can set this after confirming the Privacy Policy. When you select "Usage Data" and press ENTER, the Privacy Policy is displayed. (The same screen is displayed once also when setting up the network connection.) If you agree to the collection of the information, this setting also becomes "Yes". Note that if you agree to the Privacy Policy but select "No" for this setting, the information will not be collected.

☐ Network Check

Default Value: –

You can check the network connection.
Press ENTER when "Start" is displayed.

- Wait for a while if "Network" cannot be selected. It will appear when the network function is started up.
-

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 selector 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

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



7. Remote Controller

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.

Remote Mode



Default Value: –

Input and register the remote controller code of other devices.

- For registration of the remote control code, refer to "Operating Other Components with the Remote Controller".



8. Miscellaneous

Firmware Update

☐ [Update Notice](#)

Default Value: Enable

Availability of a firmware update will be notified via network.

"Enable": Notify updates

"Disable": Do not notify updates

☐ [Version](#)

Default Value: –

The current firmware version will be displayed.

☐ Update via NET

Default Value: –

Press ENTER to select when you want to update the firmware via network.

- You will not be able to select this setting if you do not have Internet access or there is nothing to update.

☐ Update via USB

Default Value: –

Press ENTER to select when you want to update the firmware via USB.

- You will not be able to select this setting if a USB storage device is not connected or there is nothing to update in the USB storage device.

- Wait for a while if "Firmware Update" cannot be selected. It will appear when the network function is started up.
-

Initial Setup

You can make the initial setup from the setup menu.

- Wait for a while if "Initial Setup" cannot be selected. It will appear when the network function is started up.
-

Lock



☐ [Setup Parameter](#)

Default Value: Unlocked

Lock the Setup menu to protect the settings.

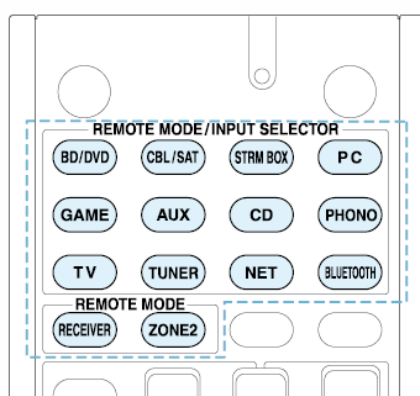
"Locked": The menu is locked.

"Unlocked": The menu is unlocked.



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.



* The RECEIVER and ZONE2 buttons cannot be programmed.



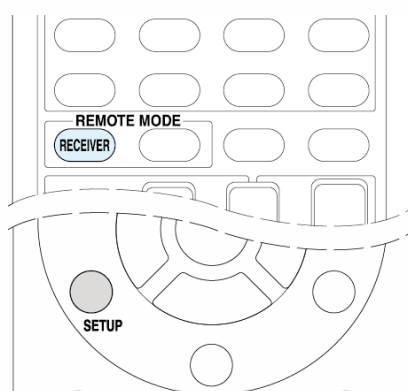
Programming Remote Control Codes

■ Searching in the Setup Menu



You can search a remote control code and register it to a desired REMOTE MODE button in the unit's Setup menu.

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



2. With the cursors, select "7. Remote Controller" - "Remote Mode" and press ENTER.
3. With the cursors, select the REMOTE MODE button for which you want to register a remote control code and press ENTER to display the subcategory selection screen.
4. With the cursors, select the target subcategory, and then press ENTER to display the brand name input screen.
5. Select a character with the cursors and press ENTER. Repeat it to enter the first three characters of the brand name.
6. Select "Search" with the cursors and press ENTER.
 - After a search is done, the list of possible brand names is displayed. If the brand name list is not displayed, select "Not Listed" with the cursors and press ENTER to return to the brand name input screen in step 5.
7. With the cursors, select the target brand name, and then press ENTER.
 - When the brand name is specified, the remote control code of the brand and how to register it will be displayed on the TV screen.

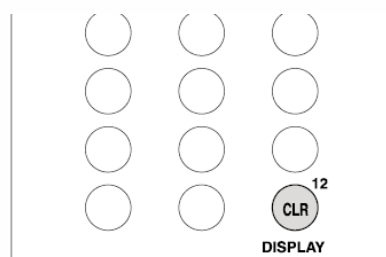
8. Follow the guidance displayed on the TV screen.
9. If the component can successfully be operated with its registered remote control code, select "OK" with the cursors and press ENTER.
 - Only TV remote control codes can be entered for TV.
 - Program a remote control code in accordance with the input 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)
 - If the component cannot be operated, select "Try Next Code" with the cursors and press ENTER to display another code.

■ Consulting the Remote Control Code List



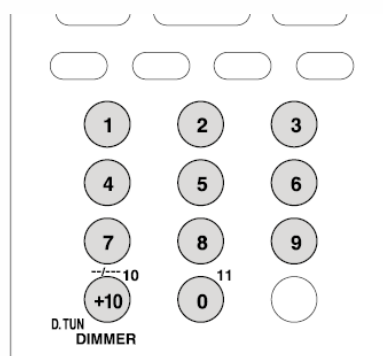
Find the remote control code in the remote control code list.

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.

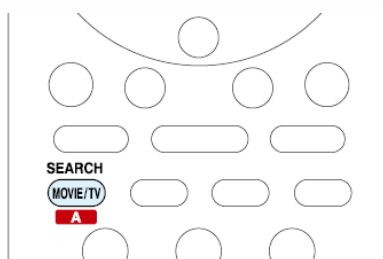


■ Remapping the Colored Buttons

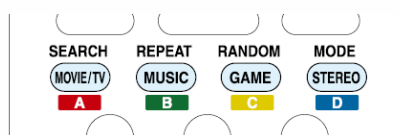


The colored button assignment on the AV receiver's remote controller can be remapped to match that on the remote controller of the component whose remote control code you programmed to REMOTE MODE. However, you will not be able to remap the colored buttons if Zone 2 is selected.

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 (DVD player, TV, etc.)



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.

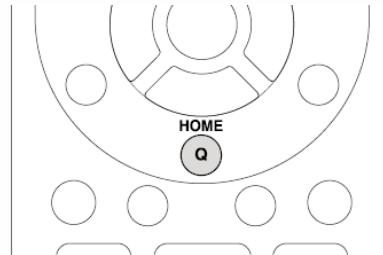


■ Resetting the REMOTE MODE Buttons



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.

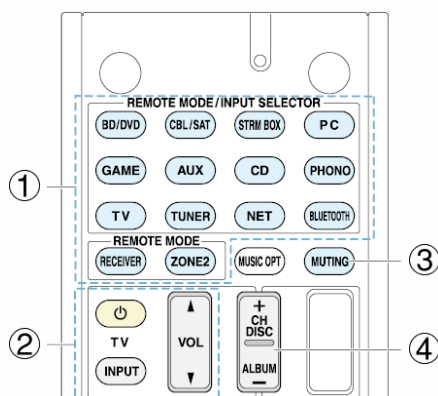
To reset all the remote controller settings: While holding down RECEIVER, press and hold Q for 3 or more seconds until the remote indicator stays lit. Within 30 seconds, press RECEIVER again. Resetting is complete when the remote indicator flashes twice.



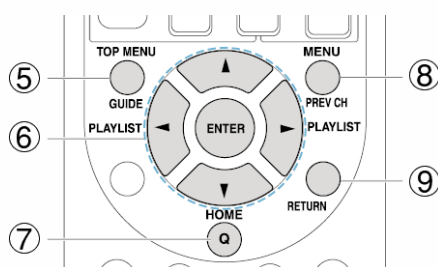
Operating Other Components with the Remote Controller

TV operation

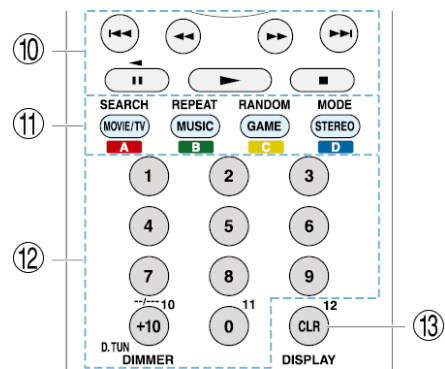
Press the REMOTE MODE button programmed with the remote control code for the relevant AV component to switch the remote controller mode to that for the AV component. Then, operate by using the corresponding buttons. Available buttons vary depending on the product category of the component. Operation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



- ① REMOTE MODE
- ② , INPUT, VOL ▲/▼
- ③ MUTEING
- 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

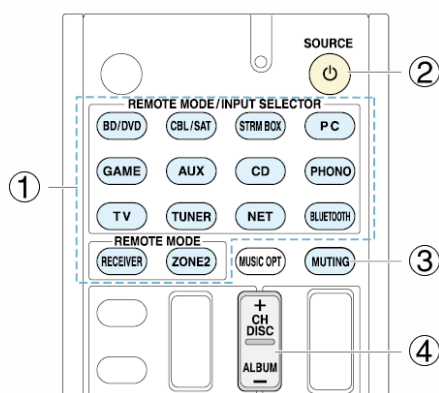
* Not CEC-compatible.



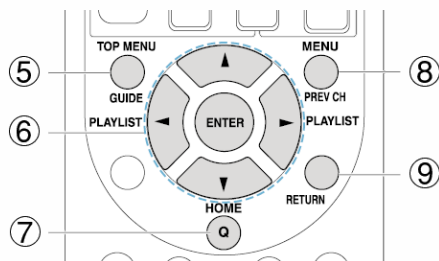
Operating Other Components with the Remote Controller

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

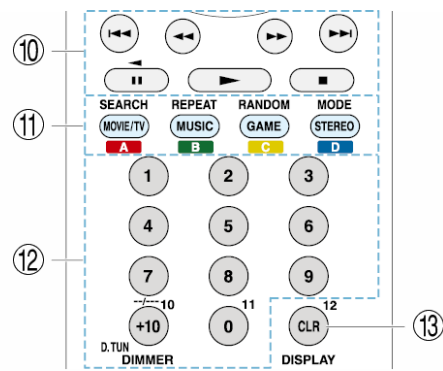
Press the REMOTE MODE button programmed with the remote control code for the relevant AV component to switch the remote controller mode to that for the AV component. Then, operate by using the corresponding buttons. Available buttons vary depending on the product category of the component. Operation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



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



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



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

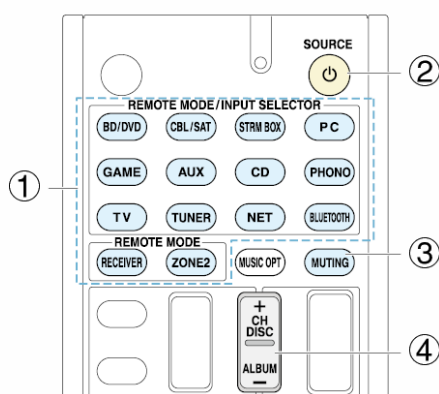
* Not CEC-compatible.



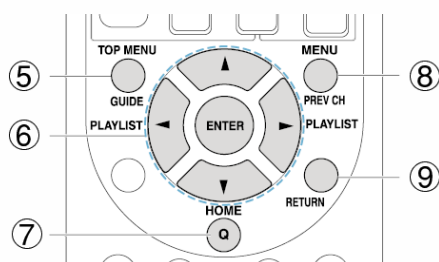
Operating Other Components with the Remote Controller

VCR/PVR operation

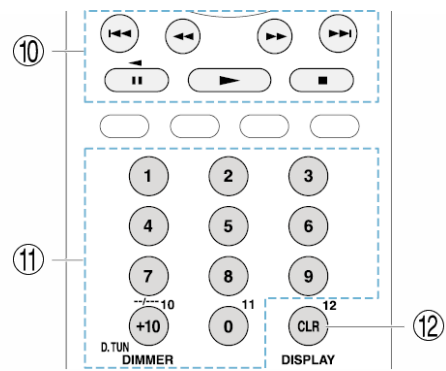
Press the REMOTE MODE button programmed with the remote control code for the relevant AV component to switch the remote controller mode to that for the AV component. Then, operate by using the corresponding buttons. Available buttons vary depending on the product category of the component. Operation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



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



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



⑩ ►, ||, ■, ◀◀, ▶▶, ◀◀◀, ▶▶▶

⑪ Number 1 to 9, 0, +10

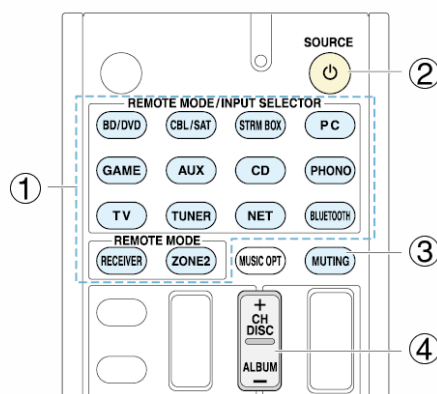
⑫ CLR, DISPLAY



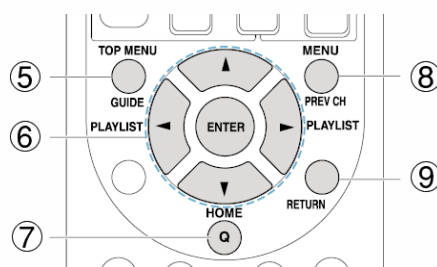
Operating Other Components with the Remote Controller

Satellite receiver / Cable receiver operation

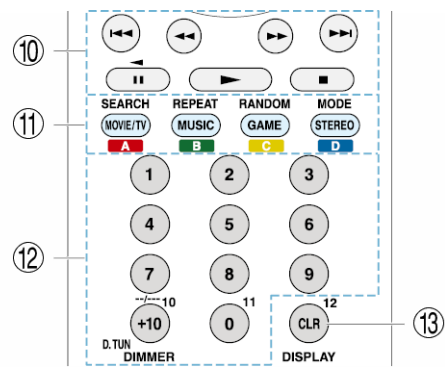
Press the REMOTE MODE button programmed with the remote control code for the relevant AV component to switch the remote controller mode to that for the AV component. Then, operate by using the corresponding buttons. Available buttons vary depending on the product category of the component. Operation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



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



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



⑩ ►, ||, ■, ◀◀, ▶▶, ◀◀◀, ▶▶▶

⑪ A (Red), B (Green), C (Yellow), D (Blue)

⑫ Number 1 to 9, 0, +10

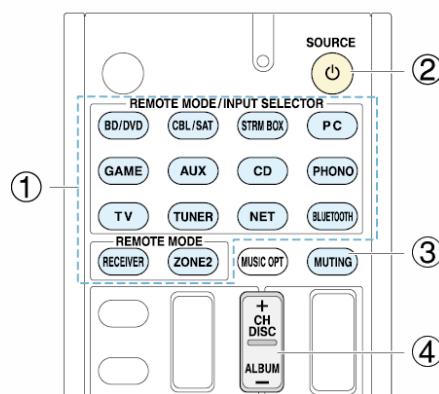
⑬ CLR, DISPLAY



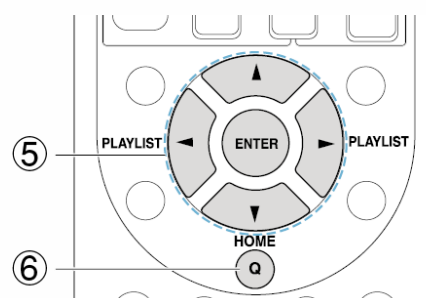
Operating Other Components with the Remote Controller

CD player operation

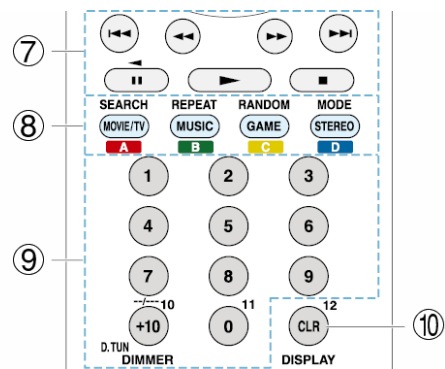
Press the REMOTE MODE button programmed with the remote control code for the relevant AV component to switch the remote controller mode to that for the AV component. Then, operate by using the corresponding buttons. Available buttons vary depending on the product category of the component. Operation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



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



- ⑤ ▲/▼/◀/▶, ENTER
- ⑥ HOME



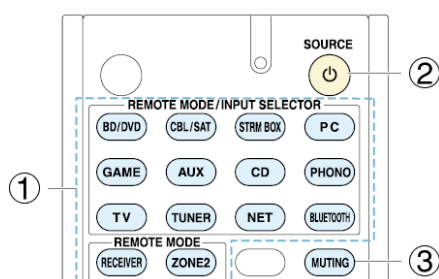
- ⑦ ►, ||, ■, ◀◀, ▶▶, ◀◀◀, ▶▶▶
- ⑧ SEARCH, REPEAT, RANDOM, MODE
- ⑨ Number 1 to 9, 0, +10
- ⑩ CLR, DISPLAY



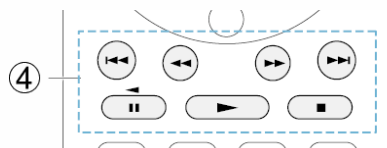
Operating Other Components with the Remote Controller

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(Consumer Electronics Control)-compatible TV sets.

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

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

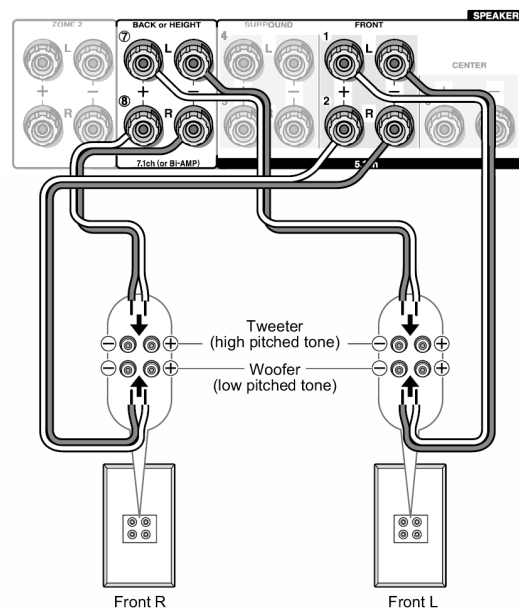


Connecting Bi-amp Speakers

It is possible to connect speakers supporting bi-amping to improve quality of the bass and treble. Up to 5.1 ch will be played in bi-amping.

■ Connections

1. Connect as below using the FRONT terminals and BACK or HEIGHT terminals.



2. Turn the unit on and make the bi-amping setting.
 - ① After pressing RECEIVER on the remote controller, press SETUP.
 - ② With the cursors, select "2. Speaker" - "Configuration" - "Bi-Amp".
 - ③ Select "Yes" with the cursors.
 - Before bi-amping, be sure to remove the short-circuit connector that connects the tweeter (treble) jack and the subwoofer (bass) jack.
 - Use speakers supporting bi-amping only. For details, refer to the speakers' instruction manual.



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.

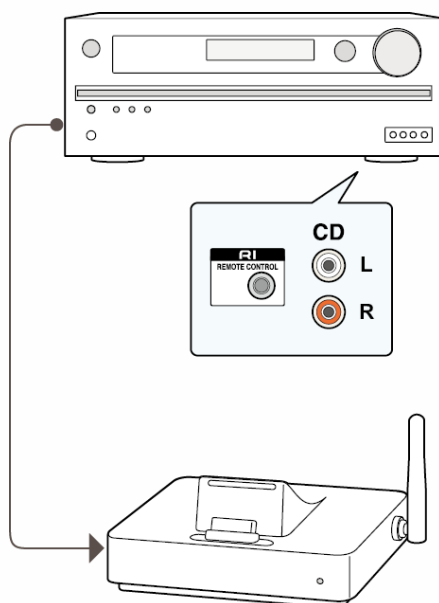
Direct Change: When playback is started on a component connected via RI, the unit selects that component as the input source.

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.
- These functions do not work when Zone 2 is turned on.
- 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.

To connect the RI Dock or cassette tape deck via RI, the following settings are required.

■ Rename the input selector



To make the RI functions work, you must rename the input selectors on the unit. Press CD or GAME to display "CD" or "GAME" on the main unit display. Then press and hold CD or GAME 3 seconds or more to switch the display to "DOCK" or "TAPE".

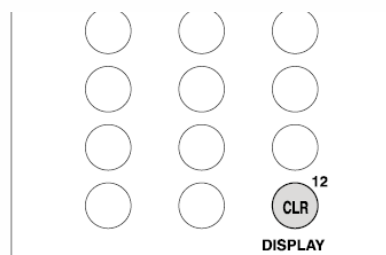
■ To program the RI remote control code



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.
- The RECEIVER and ZONE2 buttons cannot be programmed.

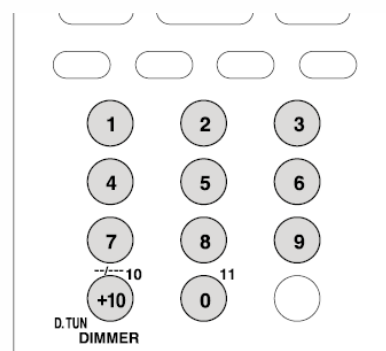


2. With the number buttons, enter the following 5-digit remote control code within 30 seconds.

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: Switch to "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.



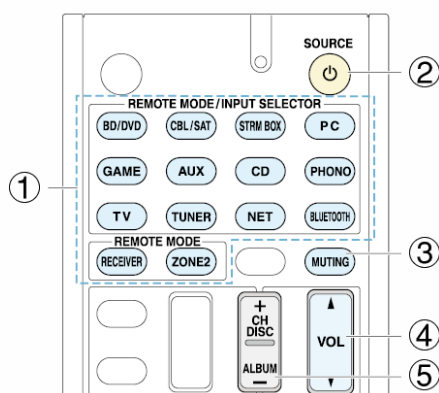
Connecting and Operating Onkyo RI Components

iPod®/iPhone® Operation

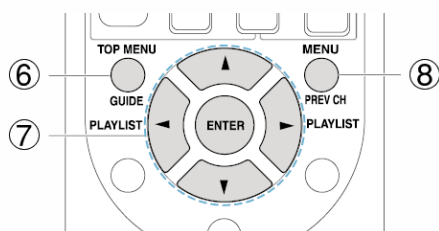
The RI Dock allows you to use the AV receiver's remote controller to operate and play music on your iPod/iPhone. Moreover, it also allows you to view videos on your iPod/iPhone on the screen of your TV, as well as perform RI operations if connected via RI. This operation is possible only when the RI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

Before performing any operation: Make sure the OS for your iPod/iPhone is updated 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.

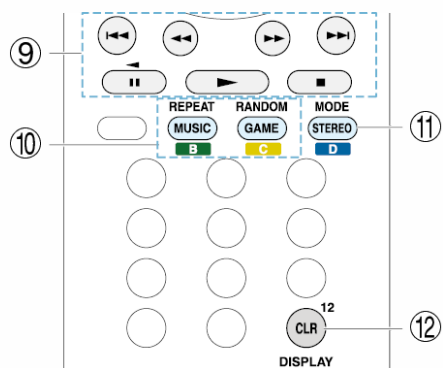


- ① REMOTE MODE
- ② SOURCE
- ③ MUTING
- ④ VOL ▲/▼
- ⑤ ALBUM +/-



- ⑥ TOP MENU

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



- ⑨ ▶, II, ■, ◀◀, ▶▶, I◀◀, ▶▶I
 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.



About Firmware Update

There are two methods for updating the firmware; via network and via USB. Use the one that best suits your environment.

- For the latest information on updates, visit the Onkyo website.
- Before updating, make sure that the speaker setup microphone is not connected.
- During an update, do not
 - Disconnect and reconnect any cable, USB storage device, speaker setup microphone or headphones, or perform any operation on the component such as turn off its power
 - Access to this unit from a PC or smartphone using Android application
- The update may take about 30 minutes to complete for either method: via network or via USB.

Furthermore, existing settings are guaranteed regardless of the method used for update.

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

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

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



Updating the Firmware via Network

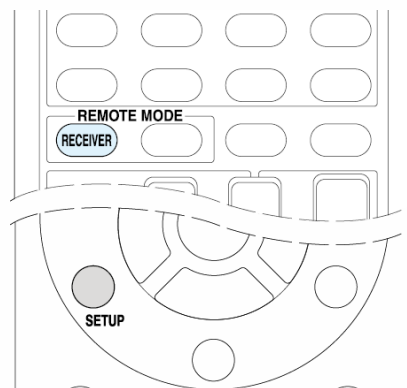
Before Starting

- Check that the unit is turned on, and the connection to the Internet is secured.
- Turn off the controller component (PC etc.) connected to the network.
- Stop any playing Internet radio, USB storage device, or server content.
- If the multi-zone function is active, press OFF on the main unit to turn it off.
- If "HDMI CEC (RIHD)" is set to "On", set it to "Off" (default value).
 - After pressing RECEIVER on the remote controller, press SETUP. Then, after selecting "6. Hardware" - "HDMI" and pressing ENTER, select "HDMI CEC (RIHD)" to select "Off".
- * The description may differ from the on-screen display but that will not change the way to operate or the function.

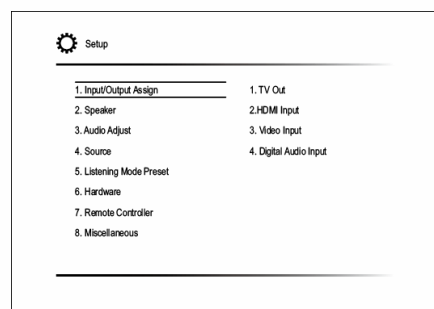
Update



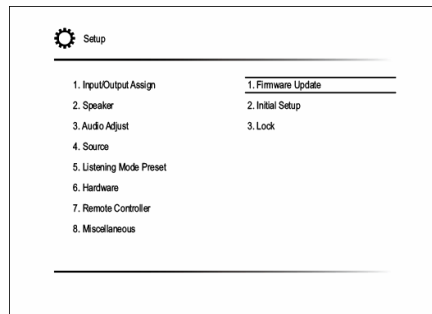
1. After pressing RECEIVER on the remote controller, press SETUP.



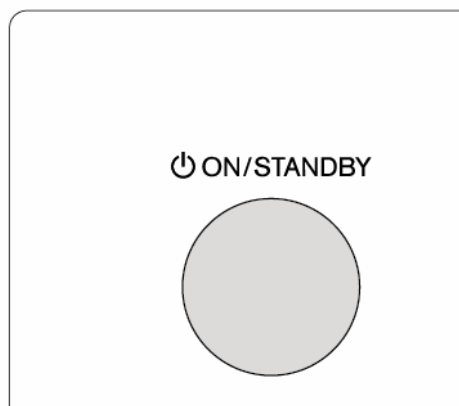
The Setup menu is displayed on the TV screen.



2. With the cursors, select "8. Miscellaneous" - "Firmware Update" - "Update via NET", and then press ENTER.



- If "Firmware Update" is grayed out and cannot be selected, wait for a while until it starts up.
 - You will not be able to select "Update via NET" if there is nothing to update.
3. Press ENTER with "Update" selected to start update.
 - During the update, the TV screen may go black depending on the updated program. In that case, check the progress on the display of the unit. The TV screen will remain black until the update is complete and the power is turned on again.
 - "Completed!" is displayed when the update is complete.
 4. Press ON/STANDBY on the main unit to turn the unit into standby mode. The process is completed and your firmware is updated to the latest version.
 - Do not use RECEIVER on the remote controller.



■ If an Error Message is Displayed



When an error occurs, "* - * * Error!" is displayed on the unit. ("* " represents an alphanumeric character.) Check the following:

Error Code

- * -01, * -10:
Ethernet cable not found. Connect the Ethernet cable properly.

- * -02, * -03, * -04, * -05, * -06, * -11, * -13, * -14, * -16, * -17, * -18, * -20, * -21:

Internet connection error. Check the following:

- Whether the router is turned on
- Whether this unit and router are connected to the network

Try to disconnect and then connect again the power to the unit and router. This may solve the problem. If you are still unable to connect to the Internet, the DNS server or proxy server may be temporarily down. Check the service status with your ISP provider.

- **Others**

First disconnect then reconnect the AC power cord, and then retry from the beginning.



Updating the Firmware via USB

Before Starting

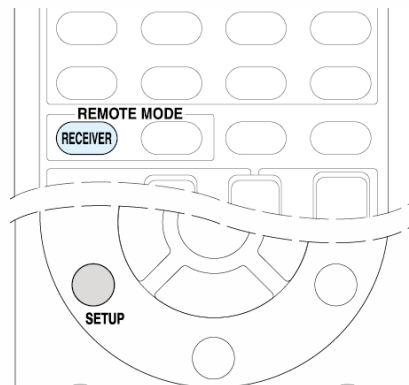
- Prepare a 64MB or larger USB storage device.
 - Media inserted in a USB card reader may not be used for this function.
 - USB storage devices with security function are not supported.
 - USB hubs and USB devices with hub function are not supported. Do not connect these devices to the unit.
- Delete any data stored on the USB storage device.
- Turn off the controller component (PC etc.) connected to the network.
- Stop any playing Internet radio, USB storage device, or server content.
- If the multi-zone function is active, press OFF on the main unit to turn it off.
- If "HDMI CEC (RIHD)" is set to "On", set it to "Off" (default value).
 - After pressing RECEIVER on the remote controller, press SETUP. Then, after selecting "6. Hardware" - "HDMI" and pressing ENTER, select "HDMI CEC (RIHD)" to select "Off".
 - * Some USB storage devices may take long to load, may not be loaded correctly, or may not be correctly fed depending on the device or their content.
 - * Onkyo will not be liable whatsoever for any loss or damage of data, or storage failure arising from the use of the USB storage device with this AV receiver. Thank you for your understanding.
 - * The description may differ from the on-screen display but that will not change the way to operate or the function.

■ Update

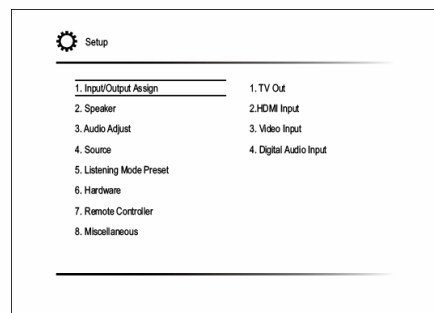


1. Connect the USB storage device to your PC.
2. Download the firmware file from the Onkyo website to your PC and unzip. Firmware files are named in the following way:
ONKAVER * * * * _ * * * * * * * * * * * * * * .zip
Unzip the file on your PC. The number of unzipped files and folders varies depending on the model.
3. Copy all unzipped files and folders to the root folder of the USB storage device.
 - Make sure to copy the unzipped files.

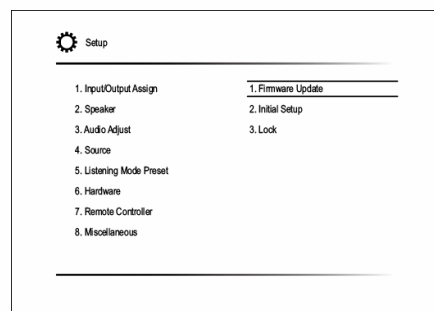
4. Connect the USB storage device to the USB port of the unit.
 - If you connect a USB hard disk drive to the USB port of the unit, we recommend that you use its AC adapter to power it.
 - If the USB storage device has been partitioned, each section will be treated as an independent device.
5. After pressing RECEIVER on the remote controller, press SETUP.



The Setup menu is displayed on the TV screen.



6. With the cursors, select "8. Miscellaneous" - "Firmware Update" - "Update via USB", and then press ENTER.



- If "Firmware Update" is grayed out and cannot be selected, wait for a while until it starts up.
 - You will not be able to select "Update via USB" if there is nothing to update.
7. Press ENTER with "Update" selected to start update.
 - During the update, the TV screen may go black depending on the updated program. In that case, check the progress on the display of

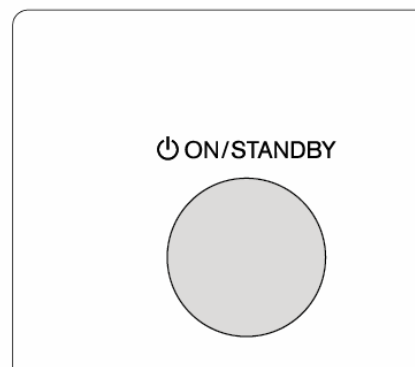
the unit. The TV screen will remain black until the update is complete and the power is turned on again.

- During the update, do not turn off, or disconnect and reconnect the USB storage device.
- "Completed!" is displayed when the update is complete.

8. Disconnect the USB storage device from the unit.

9. Press  ON/STANDBY on the main unit to turn the unit into standby mode. The process is completed and your firmware is updated to the latest version.

- Do not use  RECEIVER on the remote controller.



If an Error Message is Displayed

When an error occurs, "* - * * Error!" is displayed on the unit. ("*" represents an alphanumeric character.) Check the following:

Error Code

- * -01, * -10:
USB storage device not found. Check whether the USB storage device or USB cable is correctly inserted to the USB port of the unit.
Connect the USB storage device to an external power source if it has its own power supply.
- * -05, * -13, * -20, * -21:
The firmware file is not present in the root folder of the USB storage device, or the firmware file is for another model. Retry from the download of the firmware file.
- **Others**
First disconnect then reconnect the AC power cord, and then retry from the beginning.



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.

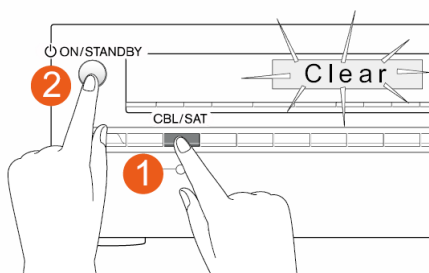


Resetting the unit

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.

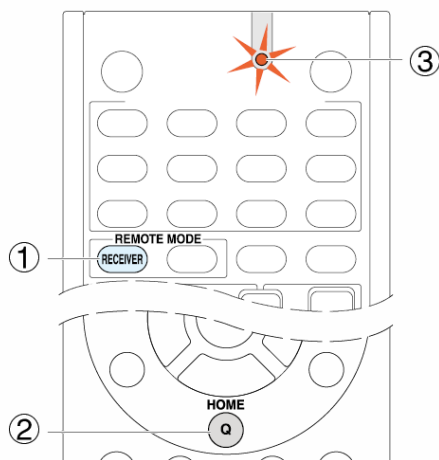
■ How to reset

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.





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.
- Check that the output jack of the connected equipment and the input jack of this unit are connected correctly.
- 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.
- If "Audio Select" - "PCM Fixed Mode" is set to "On", set it to "Off".

If the above does not solve the problem, check the following.

- There is no sound from the television
- There is no sound from the connected player
- One of the speakers 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 and 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 IN cannot be heard



Troubleshooting

- There is no sound from the television
 - The input selector of this unit needs to be in the position that corresponds to the jack where the television is connected.
 - 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 DIGITAL IN OPTICAL jack of the unit or an analog audio cable connection between the audio output jack of the TV and the AUDIO IN TV jack of the unit.



Troubleshooting

- There is no sound from the connected player
 - The input selector of this unit needs to be in the position that corresponds to the jack where 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

- One of the speakers 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, 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 and 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 the input signal does not include a subwoofer audio element (LFE), the subwoofer may not produce sound.



Troubleshooting

■ Volume is low

- Check the volume. The volume level is adjustable between Min, 1 to 79, Max (80). A level of around 40 is normal in a domestic environment.



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, Pure Audio (European, Australian and Asian models), 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.
- When 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 IN cannot be heard
- Since it takes longer to identify the format of an HDMI signal than it does for other digital audio signals, audio output may not start immediately.



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.

If the above does not solve the problem, check the following.

- Cannot select a desired listening mode
- There is no sound with Dolby Atmos
- Cannot select the Pure Audio listening mode (European, Australian and Asian models)



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.



Troubleshooting

- There is no sound with Dolby Atmos
 - You need to have either back speakers or height speakers connected. After connecting each of the speakers, make sure the connection settings in "Configuration" - "Speaker Channels" are correct.
 - Dolby Atmos play is only possible when the input signal is Dolby Atmos.



Troubleshooting

- Cannot select the Pure Audio listening mode (European, Australian and Asian models)
 - The Pure Audio listening mode cannot be selected while Zone 2 is on.



Video

- Check that the output jack of the connected equipment and the input jack of this unit are connected correctly.
- 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.

If the above does not solve the problem, check the following.

- There is no picture from a source connected to an HDMI IN
- There is no picture from a source connected to the component video input jack
- Images flicker



Troubleshooting

- There is no picture from a source connected to an HDMI IN
 - The input selector of this unit needs to be in the position that corresponds to the jack where the player is connected.
 - While the Pure Audio (European, Australian and Asian models) listening mode is selected only video signals input through HDMI IN can be output.
 - Check if "Resolution Error" is displayed on the main unit display when video input via HDMI IN jack is not displayed. In this case, the TV does not support the resolution of the video input from the player. Change the setting on the player.
 - Reliable operation with an HDMI-to-DVI adapter is not guaranteed. In addition, video signals from a PC are not supported.
 - Try switching off the DeepColor function. To turn off the DeepColor 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 DeepColor function, repeat the above described step until "Deep Color:On" is appeared on the display.



Troubleshooting

- There is no picture from a source connected to the component video input jack
- If multiple video inputs are put into one input, the output will be made in the order of HDMI, COMPONENT VIDEO/composite video. In this case, to output composite video, set "HDMI Input" to "-----".



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 HDMI linked operation with CEC-compliant equipment such as a television
 - Set the HDMI CEC (RIHD) setting of the unit to "On". Press RECEIVER and then SETUP on the remote controller, select "Setup" - "6. Hardware" - "HDMI" - "HDMI CEC (RIHD)" and set to "Yes".
 - It is also necessary to make the HDMI linked system settings on the CEC-compliant equipment. Check the operating instructions.
- 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.
 - While Zone 2 is selected, the RI functions do not work.



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.

If the above does not solve the problem, check the following.

- 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
- "Bluetooth" - "Auto Reconnect" 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 building a Bluetooth connection between this unit and your Bluetooth-enabled device for the first time, if the connection fails, select "6.Hardware" - "Bluetooth", execute "Clear" in "Pairing Information", turn off and then on again your Bluetooth-enabled device to clear the device name, and build the Bluetooth connection again.
 - If the wireless LAN and Bluetooth connections are used at the same time, try connecting the ETHERNET port and router with the Ethernet cable after selecting "6. Hardware" - "Network" and changing "Wi-Fi" to "Off (Wired)" for a better connection.



- 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

- "Bluetooth" - "Auto Reconnect" 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.



Network function

- "Network Setup" becomes selectable after the network starts up even if it cannot be selected first. It may take about a minute to start up.
- When NET is blinking, the AV receiver is not properly connected to the home network.
- Try unplugging the power supply of this unit and the router, and then plugging in again. Try rebooting the router.

If the above does not solve the problem, check the following.

- Cannot access the Internet radio
- Cannot access the network server
- Playback stops while listening to music files on the network server



■ Cannot access the Internet radio

- Certain network service or contents available through the unit may not be accessible in case the service provider terminates its service.
- Make sure that your modem and router are properly connected, and make sure they are both turned on.
- Make sure that the router LAN side port is properly connected to the AV receiver.
- Make sure that connecting to Internet from other components is possible. If connecting is not possible, turn off all components connected to the network, wait for a while, and then turn on the components again.
- If a specific radio station is unavailable for listening, make sure the registered URL is correct, or whether the format distributed from the radio station is supported by this unit.
- Depending on ISP, setting the proxy server is necessary.
- Make sure that the used router and/or modem is supported by your ISP.



Troubleshooting

- Cannot access the network server
 - This unit needs to be connected to the same router as the network server.
 - Make sure your network server has been started up.
 - Make sure your network server is properly connected to the home network.
 - Make sure your network server is correctly set.
 - Make sure that the router LAN side port is properly connected to the AV receiver.



Troubleshooting

- Playback stops while listening to music files on the network server
 - Make sure the network server is compatible with this unit.
 - When the PC is serving as the network server, try quitting any application software other than the server software (Windows Media® Player 12 etc.).
 - If the PC is downloading or copying large files, the playback may be interrupted.



USB storage device

- USB storage device is not displayed
 - Check whether the USB storage device or USB cable is correctly inserted to the USB port of the unit.
 - Remove the USB storage device from the AV receiver once, and then try re-connecting.
 - Performance of the hard disk that receive power from the USB port of the unit is not guaranteed.
 - Depending on the type of format, the playback may not be performed normally. Check the type of the file formats that is supported.
 - USB storage devices with security functions may not be played.



Wi-Fi (Wireless LAN) Network

- Try plugging/unplugging the power supply of wireless LAN router and the unit, check the wireless LAN router power-on status, and try reboot of the wireless LAN router.

If the above does not solve the problem, check the following.

- [Cannot access to Wi-Fi \(Wireless LAN\) network](#)
- [Playback is interrupted and communication does not work](#)



Troubleshooting

- Cannot access to Wi-Fi (Wireless LAN) network
 - The wireless LAN router setting may be switched to Manual. Return the setting to Auto.
 - Try the manual set-up. The connection may succeed.
 - When the wireless LAN router setting is at stealth mode (mode to hide the SSID key) or when ANY connection is off, the SSID is not displayed. Change the setting and try again.
 - Check if SSID and encryption settings (WEP, etc.) are correct. Make sure the network settings of the unit is properly set.
 - Connection to an SSID that includes multi-byte characters is not supported. Name the SSID of the wireless LAN router using single-byte alphanumeric characters only and try again.



Troubleshooting

- Playback is interrupted and communication does not work
 - Cannot receive signals due to a bad connection. Shorten the distance from wireless LAN access point or remove obstacles for a good visibility, and try again. Place the unit away from microwave ovens or other access points. It is recommended to place the Wi-Fi router (access point) and the unit in the same room.
 - If there is a metallic object near the unit, wireless LAN connection may not be possible as the metal can effect on the radio wave.
 - 2.4 GHz band for wireless LAN may not be enough. Connect ETHERNET port of the unit and the router via an Ethernet cable after selecting "6. Hardware" - "Network" and changing "Wi-Fi" to "Off(Wired)".
 - When other wireless LAN devices are used near the unit, several issues such as interrupted playback and communication may occur. You can avoid these issues by changing the channel of your Wi-Fi router. For instructions on changing channels, see the instruction manual provided with your Wi-Fi router.



Multi-zone Function

- There is no zone output from the connected player
 - With multi-zone function, sound is output only when the signal input source is an external component connected to the analog audio input jacks, "NET", "BLUETOOTH", "AM" or "FM". Multi-zone output is not possible if the player and the unit are connected via HDMI cable. Connect the player using RCA cable. Also, some players require audio output setting.
 - Only analog audio signals can be output from an external component to Zone 2.
 - When the "NET" input source is selected, DSD and Dolby TrueHD audio signals cannot be output to Zone 2.



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.

If the above does not solve the problem, check the following.

- 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 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. Also, some components may not operate at all.
- 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 and 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 display is turned off when the Pure Audio (European, Australian and Asian models) listening mode is selected.
- 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".
 - (European, Australian, Taiwanese and Asian models) The guidance displayed on the TV screen (OSD) are not displayed when the OSD language is set to Chinese if the input selector is "NET" or "BLUETOOTH". Operate by confirming the display on the main unit. Note that the display on the main unit does not support the display of Chinese characters. Characters that cannot be displayed are replaced with asterisks (*).



RI Dock

- Make sure the unit is turned on, the correct input source is selected, and the volume is turned up.
- Make sure cord and cable plugs are properly plugged in.
- 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.

If the above does not solve the problem, check the following.

- 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, DTS, DTS-ES, DTS Neo:6 Cinema, DTS 96/24, DTS-HD High Resolution Audio, DTS-HD Master Audio, DTS Express, DSD.
- How do I change the language of a multiplex source
 - Select "Main" or "Sub" for "3. Audio Adjust" - "Multiplex/Mono" - "Multiplex Input Channel".
- Cannot connect to the AV receiver from a Web browser
 - Make sure that the IP address of the AV receiver is correctly input to the Internet browser.
 - When DHCP is used for allocating the IP address, the IP address of this AV receiver may have been changed.
 - Make sure that both AV receiver and PC are properly connected to the network.
- Power consumption in standby mode
 - In the following cases, the power consumption in standby mode may reach up to a maximum of 4.4 W:
 - When "Network Standby" in "6. Hardware" - "Power Management" - "Network" is set to "On".
 - When "HDMI CEC (RIHD)" is set to "On". (Depending on the TV

status, this unit will enter normal standby mode.)

- The "HDMI Standby Through" setting is set to other than "Off".
- When "Bluetooth Wakeup" in "6. Hardware" - "Power Management" is set to "On".
- When "USB Power Out at Standby" is set to "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 instruction manual 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 unit supports Revision 1.4 and Revision 2.2 (HDMI OUT and HDMI IN1 to 3 only) 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 the HDMI OUT jack or HDMI IN1 to 3 jacks 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.



Home network (LAN)

The connection of several components via cables enabling the mutual communication is called a network.

At households, many families create (generally, the term "build" is used) a network to connect PC and gaming machines to the Internet and to exchange data between PC.

The network established in a relatively narrow area such as one household is called a LAN (Local Area Network).

In this manual, a term "home network" (network for a family) is used instead of "LAN," so this LAN becomes more familiar.

By connecting this unit with the network server such as a PC, playing music files in the network server (in the PC) is possible. Moreover, by connecting to the Internet, listening to the Internet radio is also possible.

This unit, PC, and Internet are not directly connected.

When connecting with a PC and/or Internet, several components (network components) are necessary.

Components necessary for establishing a home network (LAN):

Components necessary for the home network (LAN) for using the NET function of this unit are as follows.

■ Router

A router is a device that controls information (data) flow between the unit, PC, and the Internet.

As a network term, the flow of information (data) is called "traffic". The router has a role to control the information flow as the traffic control, between connected components.

- A router with a built-in 100Base-TX switch is recommended.
- In addition, if your router has the DHCP function, facilitating the network setting becomes possible.
- Some routers have a built-in modem, and some Internet Service Providers (ISP) require you to use specific routers.

Please consult your ISP or PC dealer if you are unsure.

■ CAT5 Ethernet cable

The Ethernet cable is a cable that actually connects components that comprise the network. There are straight type and cross type Ethernet cables.

- Use a shielded CAT5 Ethernet cable (straight-type) to connect the unit to your home network.

Consult your cable store for details of Ethernet cable.

■ Network server (When PC etc./network server is used)

Component that stores music files and provides the unit with those files at the time of playback.

- Requirements for use with this unit depend on the component that is used as a network server.
- Conditions for pleasant playback of music files on the unit depend on the using network server (PC performance). See instruction manuals of using components.

■ Modem (when Internet radio is used)

Device that connects home network (LAN) and Internet

There are many kinds of modems depending on the forms of Internet connection.

In addition, when connecting to the Internet, it is required to conclude an agreement with a company that provides Internet connection service, called ISP (Internet Service Provider).

Use a modem that is recommended by your ISP company for the Internet connection.

There are some devices that have both router and modem functions.

Within above network components, prepare a router, Ethernet cable, and network server when the NET function "network server" is used.

For enjoying the NET function "Internet radio," it is necessary to use the router, Ethernet cable, and modem (and agreement with ISP).



Server Requirements

■ Server playback

This unit can play digital music files stored on a PC or media server and supports the following technologies:

- Windows Media® Player 11
- Windows Media® Player 12
- DLNA-certified media server

The network server must be connected to the same network as this unit. Up to 20,000 folders can be displayed, and folders may be nested up to 16 levels deep.

Caution: Depending on the media server, the unit may not recognize it, or may not be able to play its music files.

■ Remote playback

Remote playback is the function that enables this unit to play music files saved in different components by operating the DLNA-compliant controller component and PC in the home network.

- Windows Media® Player 12
- DLNA-certified (within DLNA Interoperability Guidelines version 1.5) media server or controller component.
 - * The setting varies depending on the media server or controller components. Refer to your components' instruction manual for details.

If the operating system of your personal PC is Windows® 8/Windows® 7, Windows Media® Player 12 is already installed. For more information, see the Microsoft web site.



USB Storage Device Requirements

- USB mass storage device class (but not always guaranteed).
- FAT16 or FAT32 file system format.
- If the USB storage device has been partitioned, each section will be treated as an independent device.
- Up to 20,000 folders can be displayed, and folders may be nested up to 16 levels deep.
- USB hubs and USB storage devices with hub functions are not supported. Do not connect these devices to the unit.

Caution:

- If the media you connect is not supported, the message "No Storage" will be displayed.
- Sound files that are protected by copyright cannot be played.
- When the USB audio player and this unit are connected, the audio player screen and the screen of the unit may be different. In addition, control functions of the audio player (classifying and sorting music files and adding information, etc.) are not available on this unit.
- Do not connect a PC to the USB port of the unit. Inputting sound to the USB port of the unit from a PC is not possible.
- Media inserted to the USB card reader may not be available in this function.
- Some USB storage devices and its contents may require some time to be read.
- Depending on the USB storage device, proper reading of the contents and proper supply of the power supply may not be possible.
- Onkyo accepts no responsibility whatsoever for the loss or damage to data stored on a USB storage device when that device is used with this unit. We recommend that you back up your important music files beforehand.
- Performance of the hard disk that receive power from the USB port of the unit is not guaranteed.
- If you connect a USB hard disk drive to the USB port of the unit, we recommend that you use its AC adapter to power it.
- When an audio player that are operated with batteries is used, make sure that the batteries have enough remaining power.
- This unit does not support USB storage devices with security functions.



Supported Audio Formats

- For server playback and playback from a USB storage device, this unit supports the following music file formats.
- Music files of the following formats that can be played depend on the network server. For example, when using Windows Media® Player 12, not all music files in the PC can be played. The music files that can be played are the ones registered to the Windows Media® Player 12 library.
- Variable bit-rate (VBR) files are supported. However, playback times may not be displayed correctly.
- This unit supports the gapless playback of the USB storage device in the following conditions.
When WAV, FLAC and Apple Lossless files are continuously played back with the same format, sampling frequency, channels and quantization bit rate
- Remote playback does not support the gapless playback.
- For playback via wireless LAN, the sampling rate of 88.2 kHz or higher, DSD and Dolby TrueHD are not supported.

Caution:

- With remote playback on this unit the following formats are not supported:
 - FLAC, Ogg Vorbis, DSD and Dolby TrueHD.

■ MP3 (.mp3 or .MP3)

- Supported formats: MPEG-1/MPEG-2 Audio Layer 3
- Supported sampling rates: 8 kHz, 11.025 kHz, 12 kHz, 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz, 48 kHz
- Supported bitrates: Between 8 kbps and 320 kbps. Incompatible files cannot be played.

■ WMA (.wma or .WMA)

WMA stands for Windows Media Audio and is an audio compression technology developed by Microsoft Corporation. Audio can be encoded in WMA format by using Windows Media® Player.

- Supported sampling rates: 8 kHz, 11.025 kHz, 16 kHz, 22.05 kHz, 32 kHz, 44.1 kHz, 48 kHz
- Supported bitrates: Between 5 kbps and 320 kbps. Incompatible files cannot be played.
- WMA Pro/Voice formats are not supported.

■ WMA Lossless (.wma or .WMA)

- Supported sampling rates: 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz
- Quantization bit: 16 bit, 24 bit

■ WAV (.wav or .WAV)

WAV files contain uncompressed PCM digital audio.

- Supported sampling rates: 8 kHz, 11.025 kHz, 12 kHz, 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz, 48 kHz, 64 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
- Quantization bit: 8 bit, 16 bit, 24 bit
 - * For playback from a USB storage device, sampling rates of 176.4 kHz and 192 kHz are not supported.
 - * For playback from a USB storage device, 5.1 ch is not supported.

■ AAC

(.aac/.m4a/.mp4/.3gp/.3g2/.AAC/.M4A/.MP4/.3GP or .3G2)

- Supported formats: MPEG-2/MPEG-4 Audio
- Supported sampling rates: 8 kHz, 11.025 kHz, 12 kHz, 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz, 48 kHz, 64 kHz, 88.2 kHz, 96 kHz
- Supported bitrates: Between 8 kbps and 320 kbps. Incompatible files cannot be played.

■ FLAC (.flac or .FLAC)

FLAC is a file format for lossless audio data compression.

- Supported sampling rates: 8 kHz, 11.025 kHz, 12 kHz, 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz, 48 kHz, 64 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
- Quantization bit: 8 bit, 16 bit, 24 bit
 - * For playback from a USB storage device, sampling rates of 176.4 kHz and 192 kHz are not supported.
 - * For playback from a USB storage device, 5.1 ch is not supported.

■ Ogg Vorbis (.ogg or .OGG)

- Supported sampling rates: 8 kHz, 11.025 kHz, 16 kHz, 22.05 kHz, 32 kHz, 44.1 kHz, 48 kHz
- Supported bitrates: Between 32 kbps and 500 kbps. Incompatible files cannot be played.
- Incompatible files cannot be played.

■ LPCM (Linear PCM)

- Supported sampling rates: 44.1 kHz, 48 kHz
- Quantization bit: 16 bit
 - * Only for playback via DLNA.

■ Apple Lossless (.m4a/.mp4/.M4A/.MP4)

- Supported sampling rates: 8 kHz, 11.025 kHz, 12 kHz, 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz, 48 kHz, 64 kHz, 88.2 kHz, 96 kHz

- Quantization bit: 16 bit, 24 bit

■ DSD (.dsf or .DSF)

- Supported sampling rates: 2.8224 MHz, 5.6448 MHz
 - * For playback from a USB storage device, 5.6448 MHz is not supported.

■ Dolby TrueHD (.vr/.mlp/.VR/.MLP)

- Supported sampling rates: 48 kHz, 64 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
 - * Only sampling rates of 48 kHz is supported for playback from USB.
 - * Playback via DLNA is not supported.
 - * For playback from a USB storage device, 7.1 ch is not supported.



Radio Wave Caution

The AV receiver uses a 2.4 GHz radio wave frequency, which is a band used by other wireless systems as 1 and 2 described below.

1. Devices which use a 2.4 GHz radio wave frequency
 - Cordless phones
 - Cordless facsimiles
 - Microwave ovens
 - Wireless LAN devices (IEEE802.11b/g/n)
 - Wireless AV equipment
 - Wireless controllers for game systems
 - Microwave oven-based health aids
 - Video transmitter
 - Specific type of external monitor and LCD display
2. Less common devices which use a 2.4 GHz radio wave frequency
 - Anti-theft systems
 - Amateur radio stations (HAM)
 - Warehouse logistic management systems
 - Discrimination systems for train or emergency vehicles

If these devices and the AV receiver are used at the same time, the audio may be undesirably stopped or disturbed due to a radio wave interference.

Suggestions for improvement

- Switch off the devices which emit the radio wave.
- Place the interfering devices away from the AV receiver.
- The AV receiver uses radio wave, and a third person can receive the wave on purpose or accidentally. Do not use the communication for important or fatal matters.
- We assume no responsibility whatsoever for any error or damage of network environment or access device resulting from the use of this apparatus.

Confirm with the provider or access device maker for more information.



Scope of Operation

Use of the AV receiver is limited to home use. (Transmission distances may be reduced depending on communication environment.)

In the following locations, poor condition or inability to receive radio waves may cause the audio to be interrupted or stopped:

- In reinforced concrete buildings or steel framed or iron framed buildings.
- Near large metallic furniture.
- In a crowd of people or near a building or obstacle.
- In a location exposed to the magnetic field, static electricity or radio wave interference from radio communication equipment using the same frequency band (2.4 GHz) as the AV receiver, such as a 2.4 GHz wireless LAN device (IEEE802.11b/g/n) or microwave oven.
- If you live in a heavily populated residential area (apartment, townhouse, etc.) and if your neighbor's microwave oven is placed near your AV receiver, you may experience radio wave interference. If this occurs, move your AV receiver to a different place.

When the microwave oven is not in use, there will be no radio wave interference.



Radio Wave Reflections

The radio waves received by the AV receiver include the radio wave coming directly from the devices and waves coming from various directions due to reflections by walls, furniture and building (reflected waves). The reflected waves (due to obstacles and reflecting objects) further produce a variety of reflected waves as well as variation in reception condition depending on locations. If the audio cannot be received properly due to this phenomenon, try moving the location of the wireless LAN device a little.

Also note that audio may be interrupted due to the reflected waves when a person crosses or approaches the space between the AV receiver and the wireless LAN device.

- We assume no responsibility whatsoever for any damages resulting from the use of this apparatus except in the cases deemed acceptable under the applicable laws and regulations.
- Operation in all environment is not guaranteed for wireless LAN. The communication may not be possible or have desirable communication speed.



Precautions

- Do not use this apparatus near an electronic device handling high-accuracy controls or weak signals. Doing so may cause an accident due to a malfunction of the device.
- Do not use this apparatus in use prohibited location such as an aircraft equipment or a hospital. Doing so may cause an accident due to a malfunction of an electronic device or an electro-medical apparatus. Follow the instructions of the medical facilities.

■ Electronic device which requires cautions

Hearing aid, pace maker, other medical electronic devices, fire alarm, automatic door, and other automatic control device.

When using a pace maker or other medical electronic devices, confirm with the medical electronic device maker or dealer for the effect of the radio wave.



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
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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

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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
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JMB	12676, 10634, 10556, 12426
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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
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Lifetec	10668, 10037, 11037, 10714
Linetech	12676
Linsar	12676, 11667, 11585
Lloyd	13639
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Loewe	10512, 10633, 10037
Logic	11585
Logik	13432, 13005, 12486, 11037, 10698, 11585, 11687
Logix	10668
Luma	10037, 11037
Lumatron	10037, 10668
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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
Ministry Of Sound	11667
Minoka	10037
Miray	12414, 13183, 10898
Misakai	10171
Mitsubishi Electric	11250, 12313, 10150, 10178, 10512, 11797, 10093, 10556, 10037, 11150, 11037, 11171
Mivar	10609
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Moserbaer	11585
Motorola	10093
MTC	10512
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Multitec	11037, 10037, 10668
Multitech	10037
Murphy	12673
Mx Onda	11983, 11498, 11687
Myryad	10556
Mystery	13047
NAD	10037, 10178
Naiko	10037
Nakimura	10037
National	10208, 10508
Naxa	12104, 13382
NEC	11797, 13257, 12293, 12461, 11585, 10037, 10178, 10508, 10653, 11150
Neckermann	10037, 10556
NEI	10037, 11037
Neoka	11826

Neon	12673
Netsat	10037
NetTV	11755
Neufunk	10037, 10556, 10714
Nevir	12676
New Acoustic Dimension	10037, 10178
New Sonic	11826
New Tech	10037, 10556
Newave	10093, 10178, 11150
NEX	13861
Nexus Electronics	12183
Nikkai	10037
Nikkei	12197, 10714
Nikko	10178, 10017
Nimbro	12104
Noblex	14029
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Norcent	11365, 11589
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Normerel	10037
Nortek	10668
Novatronic	10037
Novex	11523
Novita	11585
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O.K.Line	11037
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OK Line	11037
OK.	13434, 12676, 13047
Okano	10037
OKI	11667, 12676, 12125, 13434, 11585
Olevia	11610
Omni	10698
Onei	11667
Onida	10653, 12414

Onimax	10714
Onix	10698
Onkyo	11807, 13100, 13500
Onn	12125, 11667
Opera	10037, 10714
Optimus	10650, 10679
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Optonica	10093
Orava	11037
Orbit	10037
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Online	10037
Ormond	10668, 11037
Osaki	10037, 10556
Osio	10037
Osume	10037
Otic	11983, 11498, 11687
Otto Versand	10037, 10512, 10093, 10556, 10195
Pacific	10714, 11037, 10556
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Palsonic	12461, 10698, 13067, 10037
Panama	10037
Panasonic	11636, 11480, 11291, 10650, 11650, 13825, 12170, 10037, 10093, 10150, 10178, 10208, 10508
Panavideo	13825
Panavision	10037
Panavox	13835
Panda	10698, 10208, 10508
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Penney	10178
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Perdio	10037
Perfekt	10037
Philco	10171, 13426, 12414, 11394, 10037, 10178, 13639

Philips	11887, 11867, 10037, 12372, 12800, 10556, 13614, 11506, 11744, 12768, 12680, 11454, 10639, 11866, 10017, 10512, 13623, 10171, 12769, 11365, 11394, 10000, 10178, 11589
Phocus	10714
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Powerpoint	10037, 10698
Premier	13419, 13183, 13793
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Prima	11753, 10037, 11749, 12461, 10698
Princeton	11037
Pro Vision	10037, 10556, 10714, 12197
Profitronic	10037
ProLine	10625, 10634, 10037, 11037, 12676
Proscan	11447, 12183, 12256, 13577, 13382, 13332, 13717, 13895, 12746, 13636, 14035
Prosonic	10714, 12676, 12125, 10668, 12197, 10037, 11523, 11585, 11667
Protech	10037, 10668, 11037
Proton	10178
Proview	11687, 11498
Proxima	10735
Pulsar	10017
Pye	10037, 10556

Q.Bell	12561
Quadro	11667
QuantumFX	12337
Quasar	11291, 13899, 10650
Quelle	10037, 10512, 11037, 10195, 10668
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Radiotone	10037, 10668, 11037
RCA	12746, 12434, 12932, 11447, 12247, 13577, 11781, 10625, 12187, 13382, 10679, 13332, 13717, 10093, 13793, 12183, 12855, 13419, 10000, 10178, 10618, 11454, 13426, 13636
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RTF	10037
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Sagem	10618
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Salora	12197, 12676, 12239, 12125, 13067, 10208
Sampo	11755, 10898, 13419, 10093, 10171, 10178, 10650
Samsung	12051, 10812, 11632, 10618, 11458, 11630, 12953, 10037, 10556, 10650, 10178, 10208, 11150
Sandstrom	12197, 13047
Sansui	13540, 11670, 13564, 10037, 10898, 10171, 10714, 13559
Sanyo	11142, 10208, 11585, 12676, 12461, 12994, 10735, 11974, 12881, 12769, 13488, 11498, 11365, 10508, 11037, 11150, 11667, 13861
Sanyuan	10093
Save	10037
SBR	10037, 10556
Sceptre	13899, 12528, 12337
Schaub Lorenz	10714, 12676, 12125, 12197, 11667, 12289
Schneider	10037, 10714, 10556, 11037, 10668, 11585, 12676
Schontech	11037
Scotch	10178
Scott	10178, 11983
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SEG	12673, 11037, 10037, 10668, 12125, 11523, 10634, 13434
SEI	10037
Seiki	13953, 12964, 13559, 10178
Seiko Epson	11379
Sei-Sinudyne	10037
Semp	11743, 13793
Semp Toshiba	11743, 13793

Sencor	13067, 12197, 10714
Senzu	12493
Serie Dorada	10178
Serino	10093
Shanghai	10208
Sharp	12360, 11659, 10818, 10093, 12951, 11393, 12676, 13867, 10650, 11165, 11423
Sheng Chia	10093, 11150
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SKY	10037
Sky Brasil	10037
Skyworth	12899, 12963, 12889, 12769, 10037, 10698
SLX	10668
Sogo	13067
Solavox	10037
Soniko	10037
Soniq	12493, 13005
Sonitron	10208
Sonneclair	10037
Sonoko	10037
Sonolor	10208
Sontec	10037
Sontech	11983
Sony	12778, 10810, 11825, 10000, 11651, 11551, 11625, 11505, 11317, 10150, 11150, 10093, 11167
Soundesign	10178

Soundwave	10037, 11037, 12673
SOVOS	12239
Sowa	10178, 11150
Soyea	10698, 11743
Soyo	11826
Spectroniq	11498, 11687
Squareview	10171
SR Standard	10037, 11037
Starion	11037
Starlite	10037
STI	13793
Strato	10037
SunBriteTV	12337, 12528, 11610
Sunic Line	10037
Sunkai	10037, 11523
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Sunstar	10037
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Superior	11585
Superscan	10093, 10171
Supersonic	10208, 11753, 12104
SuperTech	10037, 10556
Supra	10178
Supreme	10000
SVA	11498
Svasa	10208
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Tatung	10037, 11150, 11687
Taurus	12197
TCL	13047, 13183, 12434, 13001, 10898, 11038, 12414, 13426, 12675, 10698
TCM	10714
Teac	10037, 11037, 10698, 10714, 11755, 10898, 10178, 10668, 10171, 10512, 11983, 13005
Tec	10037
Tech Line	10037, 10668, 11585
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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
Starcats	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

■ Cable Set Top Box (T to Z)

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 Fibernett	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

Digi Romania	01416
Digiality	01334, 02813
Digihome	02034, 01284, 01935
DigiLogic	01284, 02034
DigiQuest	02278, 02738, 01300, 01631
Digital	02308
DigitAlb	01195, 01197
DigitalBox	02540, 01631, 02289, 01100, 03240
DigitSat-e	02842
Digiturk	03517, 02097
Digiwave	01631
Dikom	02938, 02842
Dilog	01957, 01780
DiPro	02278
DirecTV	01377, 01442, 00099
Dish Mexico	00775
Dish Network	00775
DishHD	04090
Dishpro	00775
DishTV	01300, 02604, 01780
Di-Way	02289
DMT	03321
DMTech	02738
DNA	01780, 01957, 01176, 02144
Donghai	02938
Doro	01672
DragonSat	02928
DRE	02622
Dream	01237
Dream Multimedia	01237, 01652, 01923
Dream Satellite TV	01416, 03374
DSE	02418, 02813
D-Smart	02231
DSTV	00879, 02059, 02060
DTI Electronics	02938
DTK Deutsche Telekabel	01195, 01197
DTV	03572
Dual	02034

Durabrand	01284, 02034
Dyon	02738, 02813
Easy-One	03240
Echostar	00775, 02262, 02527, 00853, 01409
Eco-Star	01413
Edision	01631
Ekotech	03422
Elap	01413
Elbe	02418
Electron	01956
Elisa	01322, 02455
Elless	00740
Elta	02738
Embratel	02796, 03787
Energy Sistem	02418, 01631, 02289, 02813
Engel	03749, 01611, 01672
Etisalat	02443
Europhon	00299, 01334
Europsat	01611, 01413
Eurosky	00740, 00299
Eutra	00740
Evesham Technology	02034
Eycos	03374
F&U	03012
Fagor	01611
FaVal	03422
Ferguson	02638, 01291, 01803, 01935, 02034
Finepass	01780
Finlux	01626, 02034
Finnet	01780, 01957
FinnSat	00740, 01195, 01197, 01351
FMD	01413
Fortec Star	01631
Foxtel	01356, 00879, 01176
Freesat	01692, 02928, 03266, 01986, 02376
Freesat+	02443, 03266

freeview	02982
Fte Maximal	02289
Fuba	02750, 00173, 00299, 03726
Fuji Onkyo	02728, 01631
Funai United	03012
Galaxis	00853, 00879
Galaxy	01956
Galaxy Innovations	02799, 04197
General Instrument	00869
General Satellite	03064, 02622
Gi	02799, 04197
GigaBlue	03663
GigaTV	02738
Globo	02026, 01334, 00740, 01429, 02957, 01626
GMMZ	03538
Go	01780
GoGen	02738
GOI	00775
Gold Box	00853
Gold Vision	01631
Golden Media	04197
GoldMaster	01334, 02928
Goodmans	01284, 02376, 02034, 03652, 02568, 03346, 03439
Gradiente	00887, 03110, 00856
Gran Prix	00740
Grandin	01626
Grocos	01409
Grundig	00173, 00847, 02376, 01291, 02034, 00853, 02813, 01284, 01780, 02738, 03424, 00879, 01672, 02568, 03346
GVT	03789
Haier	02418
Hailo	02289
Hallo	01626
Handan	01780, 01957
Hanseatic	01099, 01100

Hauppauge	01672
HD Box	02928
HD+	02797, 02443, 01429, 02569, 03095
HDT	01416, 01255, 03321
Hirschmann	00173, 00299, 02026, 00740
Hitachi	02034, 01284
Homecast	02525
Hornet	01300
HTS	00775
Huawei	03787
Huaxian Radio and Television Network	04041
Hubei Chutian	04041
Hubei Radio & Television Network	04041
Hughes Network Systems	01442, 01377
Humax	01176, 02443, 01427, 01808, 02736, 01882, 01915, 03140, 02231, 02408, 02144, 02616, 02754, 01377, 03517, 01989, 02289, 03321, 01255
Hyundai	01416
Hyundai Digital Technology	01416, 01255, 03321
ibox	01652
IceCrypt	04197, 02838, 02928
ID Digital	01176
ID Sat	02289, 01334, 01631
i-Joy	02938
Illusion	01631
Imagin	01195, 01197
Imperial	01195, 01197, 01334, 01429, 01672
InDigital	01416
Indovision	01989, 00856, 01887, 02108, 00887, 01255
iNETBOX	01652, 01237
Inno Hit	01626, 02728
Innova	00099
Intv	04348

Inverto	03095
inVion	02418
iotronic	01413
IP Vision	02455
IPM	03567
IQ	02813
IQ Prism	02813
ISkyB	00887
ITT	02418
Jaeger	02797, 01334
Jameson	02813
Jerrold	00869
Jiuzhou	03140
JVC	00775, 01284
Kabel Deutschland	01195, 01197, 01672, 01882, 01915
KabelBW	01882, 01915, 01195, 01197, 01429
KabelNoord	00253, 02443
Kamosonic	02738
Kaon	01300, 02231
Kathrein	01561, 02569, 00658, 00173, 03658, 01416, 02263
Kenwood	00853
Konig	02289, 01631, 00173
Koscom	01956
KPN	01986
Kreiling	00658, 01626
Kreiselmeyer	00173
KT	03321
L&S Electronic	01334
Labgear	03424
LaSAT	00740, 00299
Lava	01631
Lazer	02738
Leiker	02728
Leiko	01626
Lemon	01334
Lenoxx	01611

LG	03321
Lifesat	00299
LinkBox	02957
Linsar	01284, 02842
Listo	01626, 02813
Lodos	01284
Logik	02034, 01284, 01906, 02842, 01803, 03652
LogiSat	02797, 02026, 02813, 02458
Lorenzen	00299
Lowry	02938
Luxor	01935, 02034
M vision	03562
M7	02631
Macab	00853
Magic TV	02982
Majestic	03012, 02738, 02842
Manhattan	01300
Maplin	02034
Marusys	02799, 03543
Mascom	02738
Maspro	00173, 03099
Matsui	01284, 00173, 01626
Maximum	01334, 02813, 01672, 01986
Mediabox	00853
MediaSat	00853
Mediascape	02289, 02835, 02836
Mediaset	02750, 02278, 01427, 02736, 02739
Medion	00299, 00740, 01626, 01334, 02026, 02797
Mega TV	03321
MegaSat	01631, 02034, 02813, 02289, 00740, 02738
Melita	01416
Meo	02466
Mercury	03422
Metronic	01986, 02418, 02738, 01334, 01631, 01413, 01672, 01935,

	02278
Metz	00173
Micro	02797, 02813
Micro electronic	02308, 02813
Micromaxx	00299
Microstar	00299
Miraclebox	02928
Mitsai	02738
Morgan's	02026
Motorola	00869, 03110, 00856, 03469
Movistar	02527, 02262, 02263
MTEX	03539
Multichoice	00879, 02059, 02060
Murphy	02034
Mx Onda	02938
myfreeviewHD	02982
Mysat	02738
MySky Italia	02467
MySky New Zealand	01356, 02211
Nagra	02262
NanoXX	01631
NC+	00853, 01409
NEOTION	01334
NET	02262
Netgem	01322, 02455
Netsat	00099, 00887
Neuf TV	01322
Neuling	02458, 02026
Nevir	02938, 02728
Next	02231
Next Level	00869
Nextvision	01956
NextWave	01956
Nilox	02278
Nokia	00853
Nordmende	01611
Noru	02938
Nova	02475, 00879

NPG	02289, 01413, 01631
NTV Plus	01307, 01692, 02443
Octagon	02928
Olleh TV	03321
Olleh-Skylife	03321
Onn	02034, 01284
Openbox	01956, 02928
Opensat	02957, 01956, 02719
Opentech	02525
Opentel	02525
Optex	01626, 01413, 01611, 03012
Opticum	02957, 02797, 02932
Optus	01356, 00879
Orbis	01334
Orbitech	01195, 01100, 01197, 01099, 01351
Orchid	02289
Orion Express	01986
Orton	02957
P&T Luxembourg	01322, 02455
Pace	00847, 00887, 01356, 02754, 01682, 01175, 01693, 02475, 00853, 02231, 02467, 02631, 02657, 03469, 03790, 01377, 01662, 02097, 02211, 02059, 02060, 02466, 02796, 02160
Pacific	01284
Palcom	01611, 00299, 01409
Palsonic	02813
Panasat	00879
Panasonic	03494, 00847, 03099
Panda	00173
peeKTon	02418
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