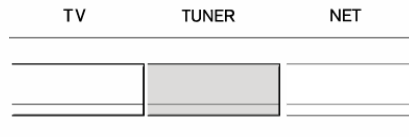# Tuning into a Radio Station

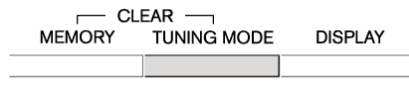■ Tuning automatically ⌄

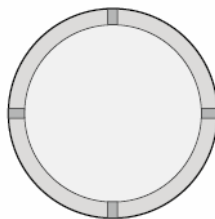1. Press TUNER on the main unit several times to select either "AM" or "FM".



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.
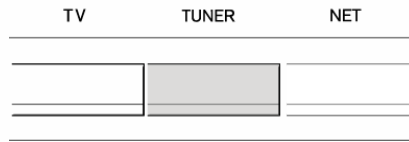


**When the signal from an FM radio station is weak**: Radio wave may be weak depending on the building structure and environmental conditions. In that case, perform the manual tuning procedure as explained in the next section, "Tuning manually", to manually select the desired station.
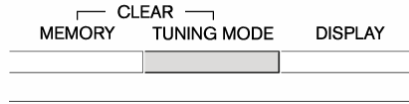
■ Tuning manually ⌄

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

TV          TUNER          NET

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

```
        ┌─ CLEAR ─┐
  MEMORY   TUNING MODE   DISPLAY
```

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.
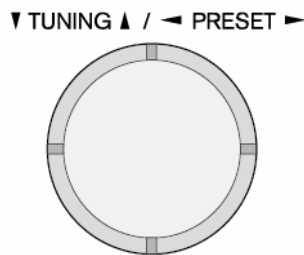
▼ TUNING ▲ / ◄ PRESET ►

**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".

(TUNER)
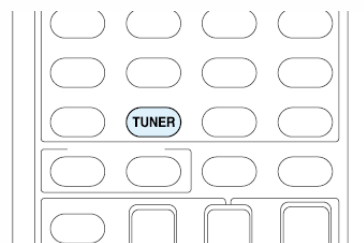
2. Press D.TUN.

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                                    ⌄

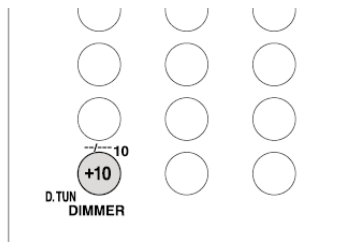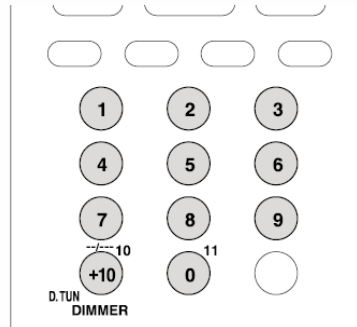1. Tune into the AM/FM radio station you want to register.

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

```
                    ┌── CLEAR ──┐
DIMMER      MEMORY    TUNING MODE
```
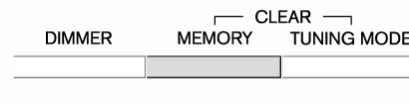
3. Press ◄PRESET► several times to select a number between 1 and 40 while the preset number is flashing (about 8 seconds).

▼ TUNING ▲ / ◄ PRESET ►
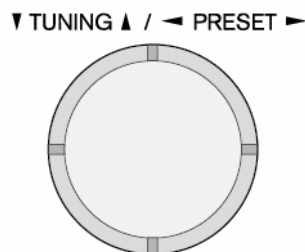
4. Press MEMORY again to register the station.
   ● When the station is registered, the preset number stops flashing.
   ● Repeat this procedure for all of your favorite AM/FM radio stations.

■ 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.

---
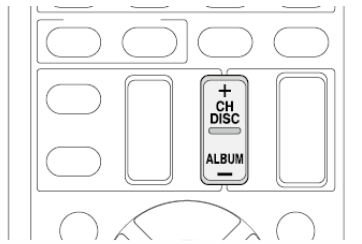
## ■ Deleting a Preset Radio Station

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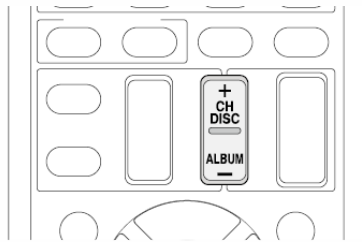


2. Press and hold MEMORY on the main unit and press TUNING MODE to delete the preset number.
   - When deleted, the number on the display goes off.
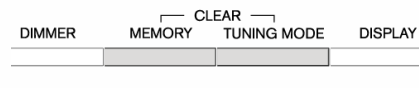
# Using RDS (European, Australian and Asian models)

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.
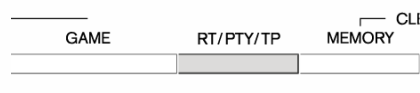
2. Press ◄PRESET► to select the type of program to search for.

▼ TUNING ▲ / ◄ PRESET ►
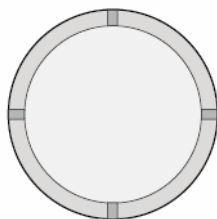
- The following RDS station types are displayed:
None
News (News reports)
Affairs (Current affairs)
Info (Information)
Sport
Educate (Education)
Drama
Culture
Science (Science and technology)
Varied
Pop M (Pop music)
Rock M (Rock music)
Easy M (Middle of the road music)
Light M (Light classics)
Classics (Serious classics)
Other M (Other music)
Weather
Finance
Children (Children's programmes)
Social (Social affairs)
Religion
Phone In
Travel
Leisure
Jazz (Jazz music)
Country (Country music)
Nation M (National music)
Oldies (Oldies music)
Folk M (Folk music)
Document (Documentary)

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

SETUP        ENTER        RETURN
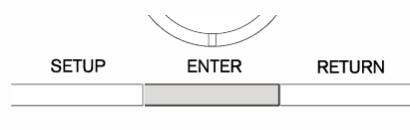
4. When such a radio station is found, the indication on the display flashes. Then, press ENTER again.

- 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.
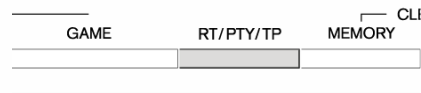


2. Press ENTER to search a radio station distributing traffic information.
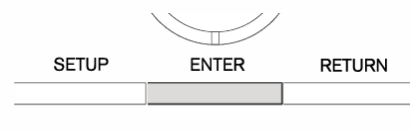


3. When a radio station is found, searching stops and traffic information is received.
   - "Not Found" is displayed if no radio station distributing traffic information is found.

● **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.
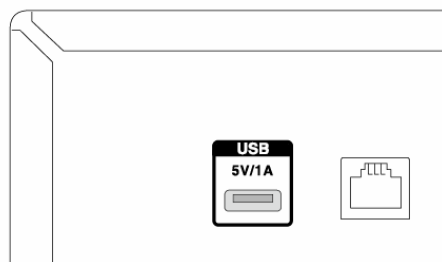


2. Press NET on the remote controller to display the NET TOP screen.
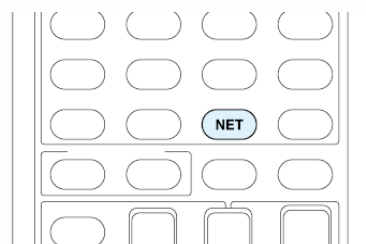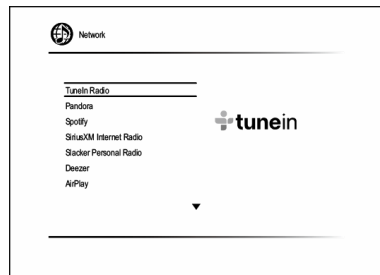
3. Select "USB" with the cursors and press ENTER.
   - If the "USB" indicator on the display flashes, check whether the USB storage device is plugged in properly.
   - Do not unplug the USB storage device while "Connecting..." is on the display. This may cause data corruption or malfunction.

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.
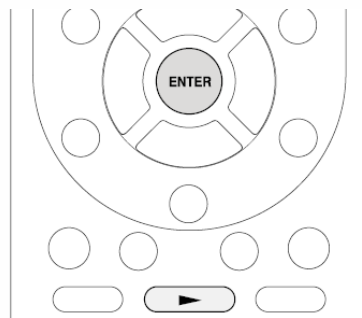


   - The USB port of this unit conforms with the USB 1.1 standard. The transfer speed may be insufficient for some content you play, which may cause some interruption in sound.

# 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.
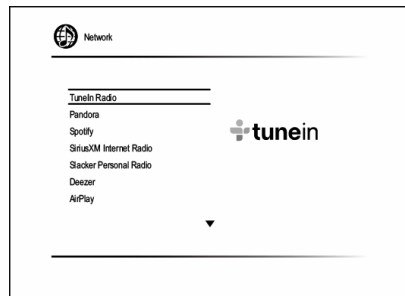
# TuneIn Radio

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 (✽).
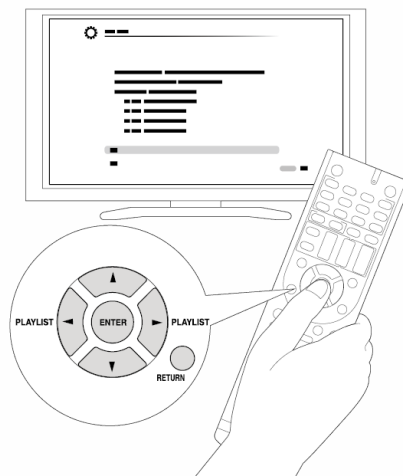


◼ Playing Back ⌄

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

2. Select "TuneIn Radio" with the cursors and press ENTER to display the TuneIn Radio top screen.

3. With the cursors, select a radio station or program and press ENTER to start playing.

■ Regarding the TuneIn Radio Menu          ⌄

To display the TuneIn 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 TuneIn Radio. To play, select the program from "My Presets".

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

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

**View Schedule:** Displays the radio station or program schedule.

**Clear recents:** Clears all radio stations and programs from the "Recents" within TuneIn 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 TuneIn Radio Account          ⌄

Creating an account on the TuneIn 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.

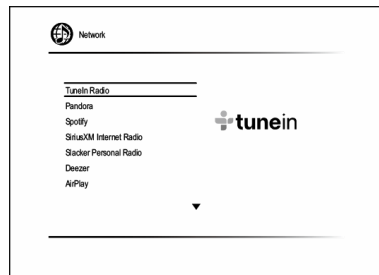2. With the cursors on the remote controller, select "Pandora", and then press ENTER.

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®

# 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 (✳).
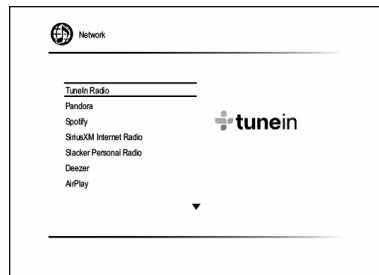


---

■ 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: ►, ■, I◄◄, ►►I

   **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.
Sirius, XM and all related marks and logos are trademarks of Sirius XM Radio Inc. and its subsidiaries. All rights reserved.

# 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: ► , II , ■ , ►►I

   **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 (✳).
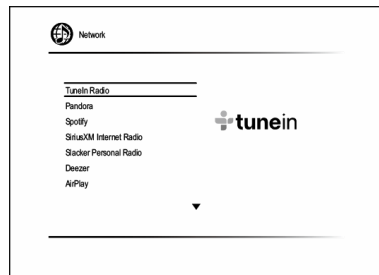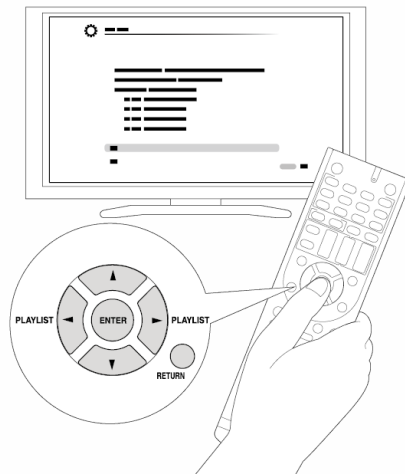


🟦 Registration Procedure                                    ⌄

**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.
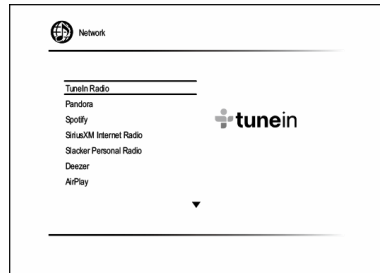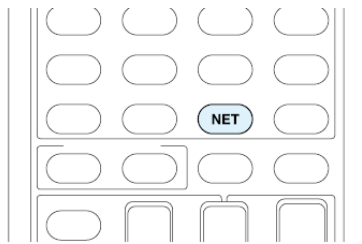
2. Select "My Favorites" with the cursors and press ENTER to display the "My Favorites" list screen.

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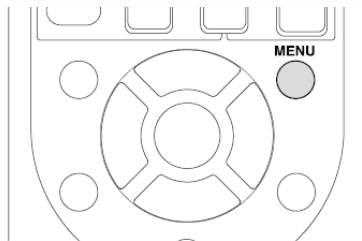


4. Select "Create new station" with the cursors and press ENTER to display the keyboard screen.

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.
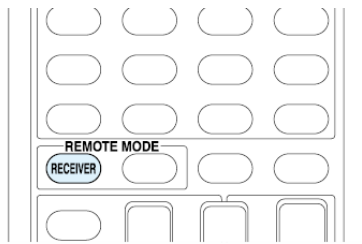
2. Press SETUP to display the SETUP menu.
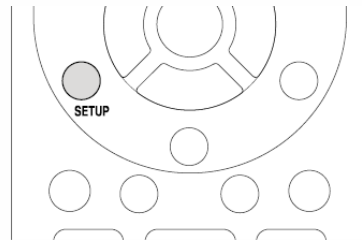


3. With the cursors, select "6. Hardware" - "Network" -"IP Address" to display the IP address.
   - Take note of the IP address since you will need it later.

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.
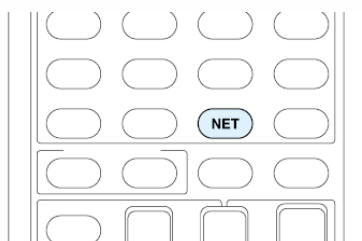


2. Select "My Favorites" with the cursors and press ENTER to display the registered Internet radio stations.

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.
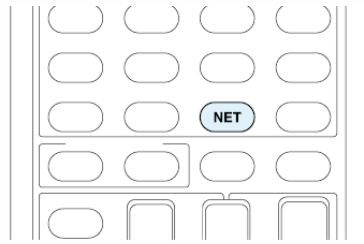


2.  Select "My Favorites" with the cursors and press ENTER to display the registered Internet radio stations.

3.  With the cursors, select the radio station to delete and press MENU to display the menu screen.
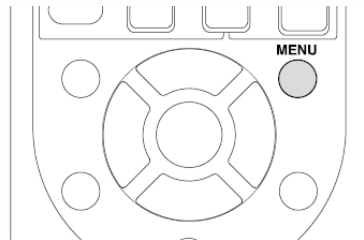


4.  With the cursors, select "Delete from My Favorites", and then press ENTER. A confirmation screen will appear.

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.
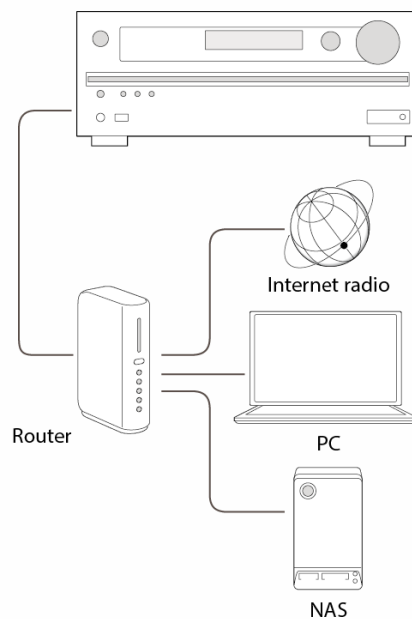


- To stream a music file, you need a NAS device with DLNA server functions or a PC where a player (e.g., Windows Media® Player 11 or Windows Media® Player 12) with DLNA server functions is installed. To enable streaming with Windows Media® Player 11 or Windows Media® Player 12, you must first configure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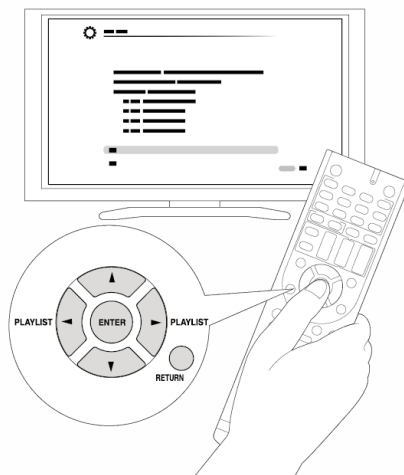


## ■ Playing Back            ∨

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.
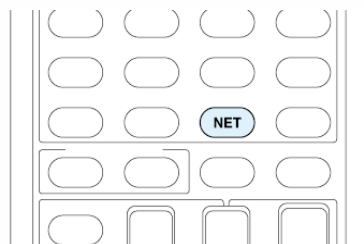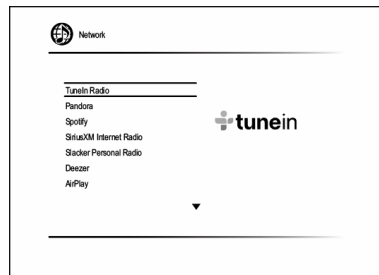
3. Select "DLNA" with the cursors and press ENTER.

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.
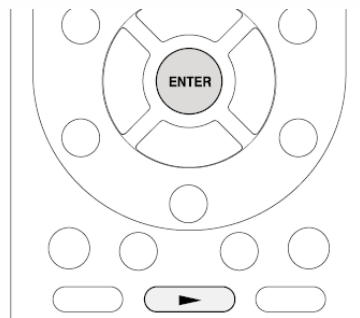
4. Select this unit in "Play to" to open the "Play to" window of Windows Media® Player 12 and start playback on the unit.
   - Operations during remote playback are possible from the "Play to" window on the PC. The playback screen is displayed on the TV connected to the HDMI output of the unit. If your 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.

Internet radio

Router

PC

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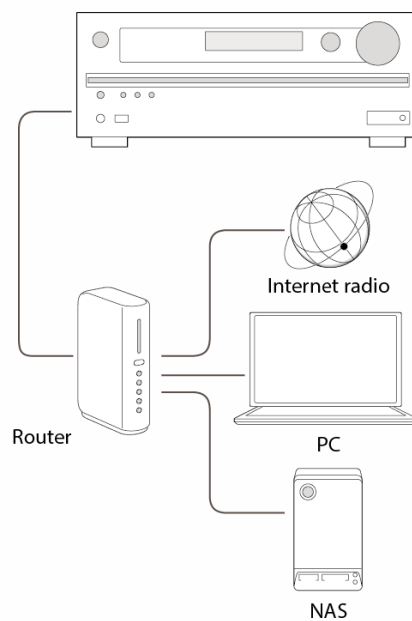
- The sharing options must be configured and a shared folder created on the PC in advance.
- For information on how to configure the NAS device and create a shared folder, refer to the NAS device's instruction manual.

# 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.
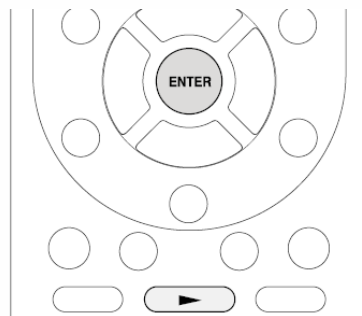
## About the Remote Controller

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.

# Remote Controller Buttons

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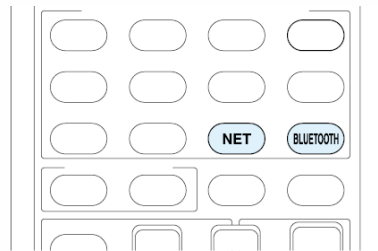


2. Operate the remote controller by referring to the name and function of each of the buttons.
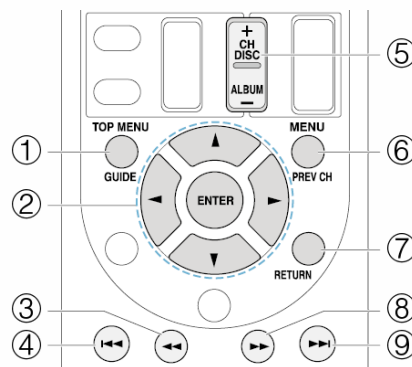


① **TOP MENU**: This button displays the top menu for each media or server.
② **▲/▼, ENTER**: These buttons navigate through items and activate the selected item.
   **◄/►**: These buttons allow you to navigate to other pages when the list continues on other pages.
③ **◄◄**: This button fast-reverses the current track. This button is not operable from 10 seconds before the playback ends.
④ **I◄◄**: 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 **►►I**: This button plays the next track.
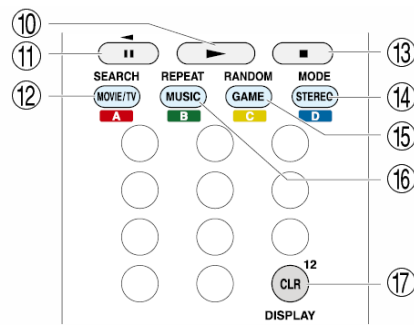
⑩ ► : This button starts the playback.

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.
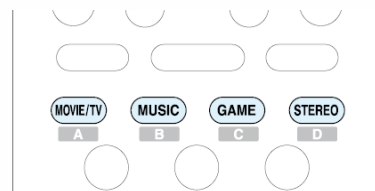
   

2. Press the selected button repeatedly to switch the modes displayed on the display of the unit.
   - Set the listening mode of your choice by listening to the actual sound.

   

   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

■ **Future listening mode update**

A future firmware update is planned to enable the unit to support playback in DTS:X audio format. For this reason, the available listening modes will vary depending on the firmware version.

Versions before the release of an update with support for the DTS:X audio format
- Neo:6 Cinema and Neo:6 Music are available.

Versions that support the DTS:X audio format
- DTS:X and DTS Neural:X are available. (Neo:6 Cinema and Neo:6 Music become unavailable after the update.)

**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 inceiling 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.

## ■ DTS Neural:X ∨

Neural:X enables upmixing of legacy content such as mono, stereo, 5.1 or 7.1ch to many higher speaker count including the layout using elevated channels set for DTS:X playback.

## ■ DTS:X ∨

This mode is for use with DTS sources. DTS:X is DTS's next-generation object-based surround sound technology that includes height to deliver a fully-immersive listening experience to your living room.

## ■ 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.

---

■ Future listening mode update                                            ⌄

A future firmware update is planned to enable the unit to support playback in DTS:X audio format. For this reason, the available listening modes will vary depending on the firmware version.

Versions before the release of an update with support for the DTS:X audio format
- Neo:6 Cinema and Neo:6 Music are available.

Versions that support the DTS:X audio format
- DTS:X and DTS Neural:X are available. (Neo:6 Cinema and Neo:6 Music become unavailable after the update.)

---

■ MOVIE/TV button                                                         ⌄

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

☐ Analog

Direct
Mono
Dolby Surround
Neo:6 Cinema[*1]
DTS Neural:X
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]
DTS Neural:X

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
DTS Neural:X

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]
DTS Neural:X

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
DTS Neural:X
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
DTS Neural:X
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
DTS Neural:X
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
DTS Neural:X

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]
DTS Neural:X

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]
DTS Neural:X

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]
DTS Neural:X
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]
DTS Neural:X
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
DTS Neural:X
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.

☐ DTS:X

Direct
Mono
DTS:X
TV Logic*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.

■ 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]
DTS Neural:X

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]
DTS Neural:X

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
DTS Neural:X

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
DTS Neural:X
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]
DTS Neural:X
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]
DTS Neural:X
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
DTS Neural:X
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
DTS Neural:X
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]
DTS Neural:X
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]
DTS Neural:X
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]
DTS Neural:X
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]
DTS Neural:X
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
DTS Neural:X
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.

☐ DTS:X

Pure Audio (European, Australian and Asian models)
Direct
Stereo
DTS:X
Orchestra*1
Unplugged*1
Studio-Mix*1
AllCh Stereo*2
Full Mono*2

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

*2 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
DTS Neural:X
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
DTS Neural:X
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

DTS Neural:X
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
DTS Neural:X
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
DTS Neural:X
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
DTS Neural:X
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
DTS Neural:X
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
DTS Neural:X
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
DTS Neural:X

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
DTS Neural:X
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
DTS Neural:X
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
DTS Neural:X
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
(DTS-ES Discrete)[2]
Dolby Surround[3]
DTS Neural:X
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.

☐ DTS:X

Direct
DTS:X
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.

---

■ 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.

PURE AUDIO          TONE

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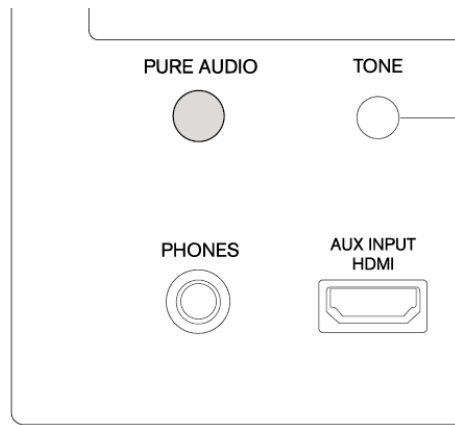
- Selecting Pure Audio for listening mode turns off the display and analog video circuitry, but the video signals input through HDMI input are output from HDMI output.

# 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
```

# 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.
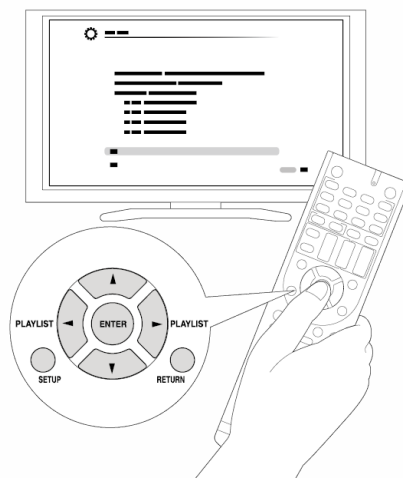


■ Operation                                                                              ⌄

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.
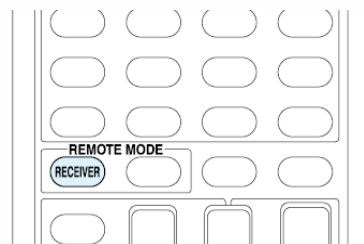


2.  Press SETUP to display the Setup menu.
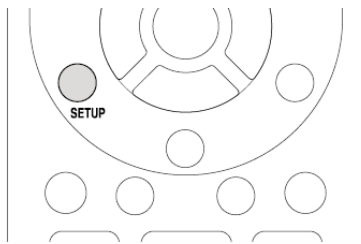
3. Press ▲/▼ to select the desired menu, and then press ENTER.
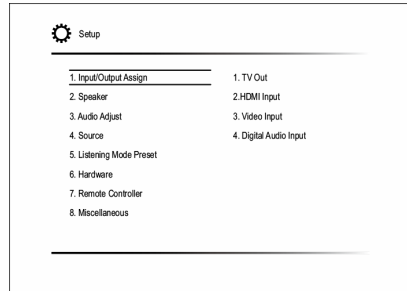


4. Press ▲/▼ to select the item, and then press ENTER.
5. With the ▲/▼/◄/► cursors, select the item to configure the settings.
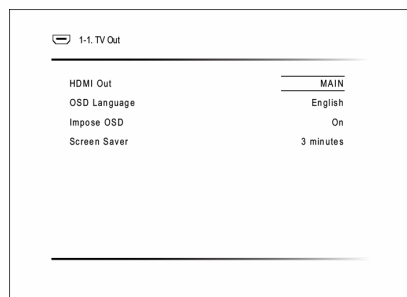


**To exit the setup menu**, press SETUP.

**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 ⌄

Select the HDMI jack to be connected with the TV. Make settings for the on-screen display function on the TV when you use the setting menu, for example.

### ☐ HDMI Out

Default Value: MAIN

Select the HDMI jack to be connected with the TV.
"MAIN": When connecting the TV to the HDMI OUT MAIN jack
"SUB": When connecting the TV to the HDMI OUT SUB jack
"MAIN+SUB": When connecting to both the MAIN and SUB jacks

### ☐ 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 7": 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 7": 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 7": 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 7": 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 7": 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.

☐ AUX

Default Value: (Front)

The setting cannot be changed.

☐ CD

Default Value: -----

"HDMI 1 (HDCP 2.2)" to "HDMI 7": 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.

☐ PHONO

Default Value: -----

"HDMI 1 (HDCP 2.2)" to "HDMI 7": Assign a desired HDMI IN jack to the PHONO 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 7": 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.

## ☐ PHONO

Default Value: -----

"COMPONENT 1", "COMPONENT 2": Assign the COMPONENT VIDEO IN jacks to the PHONO button.
"VIDEO 1" to "VIDEO 3": Assign a desired VIDEO IN jack to the PHONO 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.

☐ AUX

Default Value: -----

The setting cannot be changed.

☐ CD

Default Value: OPTICAL 1

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

☐ PHONO

Default Value: -----

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

### Speaker Impedance (European, Australian and Asian models)

Default Value: 6ohms

Set the impedance of the connected speakers.
"4ohms": When any of the connected speakers have 4 Ω or more to less than 6 Ω impedance
"6ohms": When the connected speakers all have 6 Ω or more impedance
- For impedance, check the indications on the back of the speakers or their instruction manual.

---

## 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.

---

Equalizer Settings                                                              ⌄

Adjust the output volume of each range of each connected speaker. You can adjust the volume of each range of each speaker. You can set three types of equalizer settings in the Presets 1, 2, and 3.

- You can adjust the bass in the low range frequencies (63 Hz, etc.), and the treble in the high range frequencies (16 kHz, etc.).
- You can select up to five frequency bands for each speaker.

☐ Front

Default Value: 0 dB

First select the frequency of the speaker from "25 Hz" to "16 kHz" with the ◄/► cursors, then use ▲/▼ to adjust the volume of the frequency between "−6dB" to "+6dB".

☐ Center

Default Value: 0 dB

First select the frequency of the speaker from "25 Hz" to "16 kHz" with the ◄/► cursors, then use ▲/▼ to adjust the volume of the frequency between "−6dB" to "+6dB".

☐ Height

Default Value: 0 dB

First select the frequency of the speaker from "25 Hz" to "16 kHz" with the ◄/► cursors, then use ▲/▼ to adjust the volume of the frequency between "−6dB" to "+6dB".
- This cannot be selected if "Configuration" - "Powered Zone 2" is set to "Yes" and Zone2 is set to on.

☐ Surround

Default Value: 0 dB

First select the frequency of the speaker from "25 Hz" to "16 kHz" with the ◄/
► cursors, then use ▲/▼ to adjust the volume of the frequency between "−6dB"
to "+6dB".

☐ Back

Default Value: 0 dB

First select the frequency of the speaker from "25 Hz" to "16 kHz" with the ◄/
► cursors, then use ▲/▼ to adjust the volume of the frequency between "−6dB"
to "+6dB".
- This cannot be selected if "Configuration" - "Powered Zone 2" is set to
  "Yes" and Zone2 is set to on.

☐ Subwoofer

Default Value: 0 dB

First select the frequency of the speaker from "25 Hz" to "160Hz" with the ◄/
► cursors, then use ▲/▼ to adjust the volume of the frequency between "−6dB"
to "+6dB".
- This cannot be selected if "Configuration" - "Subwoofer" is set to "No".

- The Speaker "Equalizer Settings" may be unable to be changed depending on
  the settings in "Configuration" - "Speaker Channels" / "Subwoofer".
- Adjust the volume of each speaker in "Level Calibration".
- Adjust the volume in 1 dB steps.
- This is not effective if the listening mode is Pure Audio (European, Australian
  and Asian models) or Direct.
- The result may not be as expected depending on the input source and listening
  mode setting.

# 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

## 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 AUX: HDMI CD: OPTICAL TV: OPTICAL PHONO: Analog

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 "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", "AUX", "CD", "PHONO", "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.
- This function is effective only when the device is connected to the HDMI OUT MAIN terminal.
- 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", "PHONO", "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 (MAIN)

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" is set to "On".
- Listening mode cannot be changed while "Audio TV Out (MAIN)" 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 (MAIN)" 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.
- This setting is fixed to "Off" if "TV Out" - "HDMI Out" is set to "SUB".

☐ Audio TV Out (SUB)

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
- Listening mode cannot be changed while "Audio TV Out (SUB)" 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 (SUB)" 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.
- This setting is fixed to "Off" if "TV Out" - "HDMI Out" is set to "MAIN".

☐ 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 minutes" to "90 minutes".
"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-NR646

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.
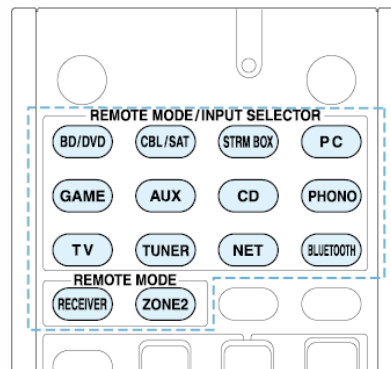


   &#42;  The RECEIVER and ZONE2 buttons cannot be programmed.

# 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.
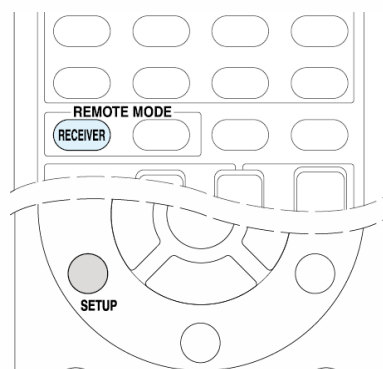


2. With the cursors, select "7. Remote Controller" - "Remote Mode" and press ENTER.

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.
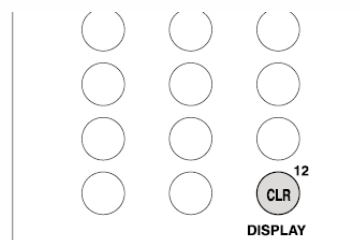


3. With the number buttons, enter the 5-digit remote control code within 30 seconds.
   - Programming is complete when the remote indicator flashes twice. The remote indicator flashes once slowly when programming the remote control code fails. Try programming again.
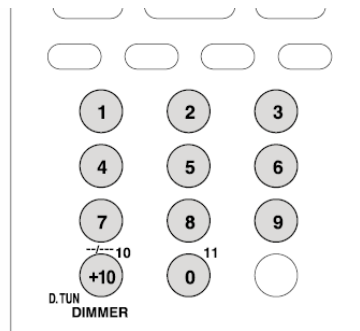
## Remapping the Colored Buttons

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.)
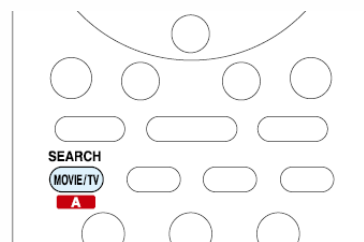
2. Within 30 seconds, press the colored buttons from left to right, in the order you want to remap.
   - For example, if the colored buttons on the remote controller of the other component are yellow, green, blue, and red from left to right, press the buttons on the AV receiver's remote controller in 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.
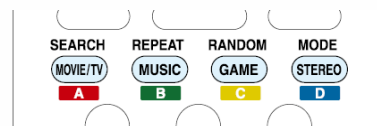
## Resetting the REMOTE MODE Buttons

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.
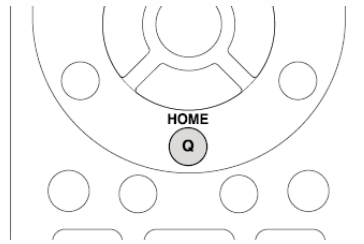


2. Within 30 seconds, press the REMOTE MODE button again.
   - Resetting is complete when the remote indicator flashes twice.

**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.

# TV operation

Press the REMOTE MODE button programmed with the remote control code for the relevant AV component to switch the remote controller mode to that for the AV component. Then, operate by using the corresponding buttons. Available buttons vary depending on the product category of the component. Operation may be incorrect or impossible depending on the product.
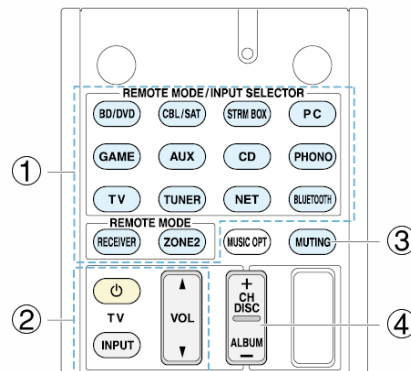
① REMOTE MODE
② ⏻, INPUT, VOL ▲/▼
③ MUTING
④ CH +/−
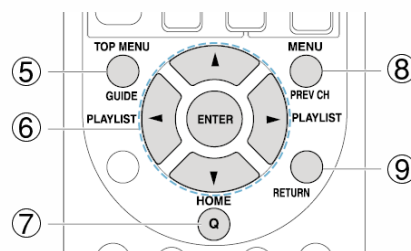
⑤ GUIDE
⑥ ▲/▼/◄/►, ENTER
⑦ HOME
⑧ PREV CH
⑨ RETURN

⑩ ►, ‖, ■, ◄◄, ►►, ◄◄◄, ►►► ( ＊ )
⑪ A (Red), B (Green), C (Yellow), D (Blue)
⑫ Number 1 to 9, 0, +10
⑬ CLR, DISPLAY
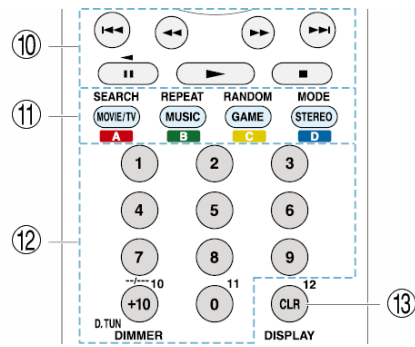
＊ Not CEC-compatible.

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

Press the REMOTE MODE button programmed with the remote control code for the relevant AV component to switch the remote controller mode to that for the AV component. Then, operate by using the corresponding buttons. Available buttons vary depending on the product category of the component. Operation may be incorrect or impossible depending on the product.
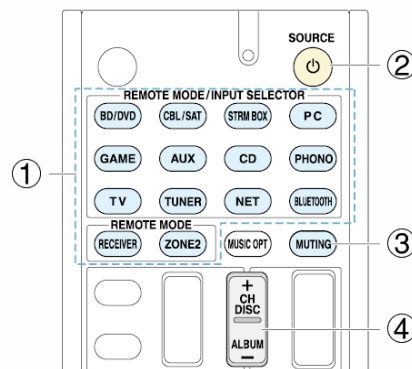
① REMOTE MODE
② ⏻SOURCE
③ MUTING
④ CH +/–, DISC +/–
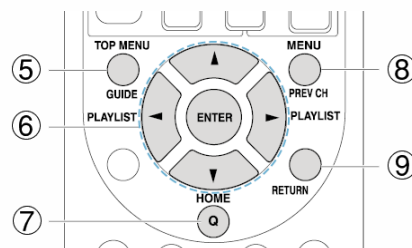
⑤ TOP MENU
⑥ ▲/▼/◄/► , ENTER
⑦ HOME
⑧ MENU
⑨ RETURN

⑩ ►, ❚❚, ■, ◄◄, ►►, |◄◄, ►►|
⑪ A (Red), B (Green), C (Yellow), D (Blue)
⑫ Number 1 to 9, 0, +10 ( ＊ )
⑬ CLR, DISPLAY
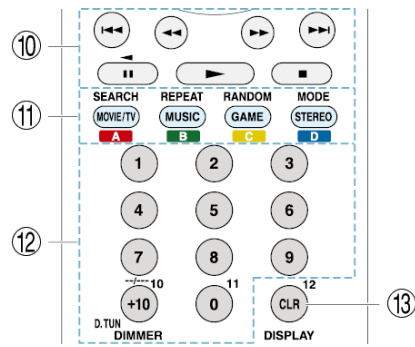
＊ Not CEC-compatible.

# VCR/PVR operation

Press the REMOTE MODE button programmed with the remote control code for the relevant AV component to switch the remote controller mode to that for the AV component. Then, operate by using the corresponding buttons. Available buttons vary depending on the product category of the component. Operation may be incorrect or impossible depending on the product.
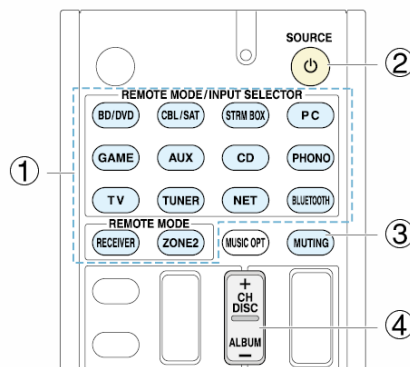
① REMOTE MODE
② ⏻ SOURCE
③ MUTING
④ CH +/−
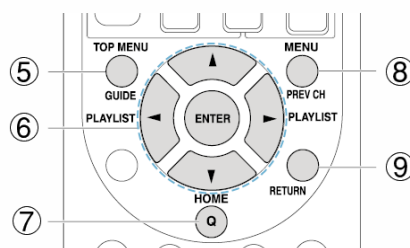
⑤ GUIDE
⑥ ▲/▼/◄/►, ENTER
⑦ HOME
⑧ PREV CH
⑨ RETURN
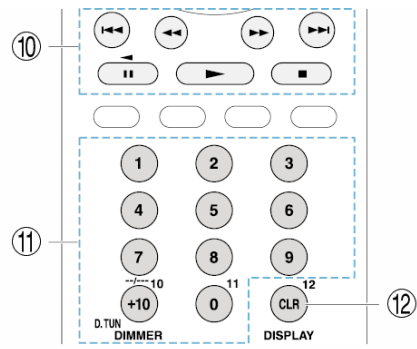
⑩ ►, ▌▌, ■, ◄◄, ►►, |◄◄, ►►|

⑪ Number 1 to 9, 0, +10

⑫ CLR, DISPLAY

# Satellite receiver / Cable receiver operation

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

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

⑤ GUIDE
⑥ ▲/▼/◄/► , ENTER
⑦ HOME
⑧ PREV CH
⑨ RETURN

⑩ ▶ , �
II, ■ , ◀◀ , ▶▶ , I◀◀ , ▶▶I
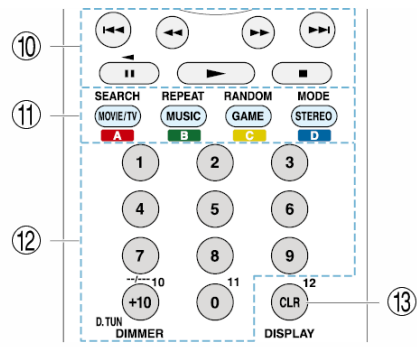
⑪ A (Red), B (Green), C (Yellow), D (Blue)

⑫ Number 1 to 9, 0, +10

⑬ CLR, DISPLAY

# CD player operation

Press the REMOTE MODE button programmed with the remote control code for the relevant AV component to switch the remote controller mode to that for the AV component. Then, operate by using the corresponding buttons. Available buttons vary depending on the product category of the component. Operation may be incorrect or impossible depending on the product.
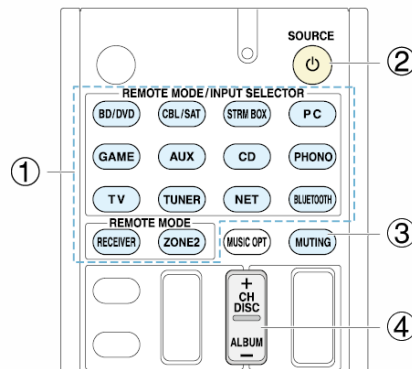
① REMOTE MODE
② ⏻SOURCE
③ MUTING
④ DISC +/−
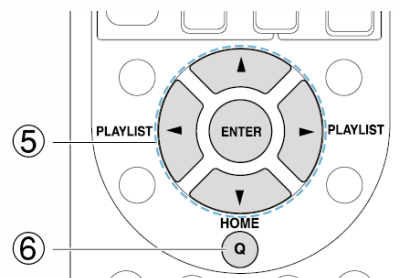
⑤ ▲/▼/◄/►, ENTER
⑥ HOME
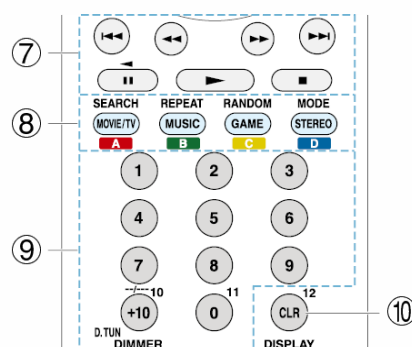
⑦ ▶ , ❚❚, ■, ◀◀ , ▶▶ , ◀◀◀ , ▶▶▶

⑧ SEARCH, REPEAT, RANDOM, MODE

⑨ Number 1 to 9, 0, +10

⑩ CLR, DISPLAY

# Cassette tape deck operation

Press the REMOTE MODE button programmed with the remote control code for the relevant AV component to switch the remote controller mode to that for the AV component. Then, operate by using the corresponding buttons. Available buttons vary depending on the product category of the component. Operation may be incorrect or impossible depending on the product.
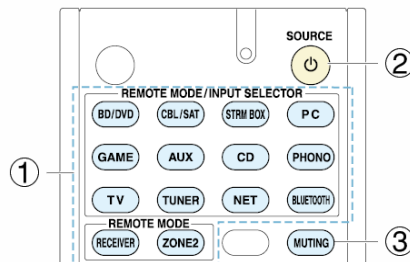
① REMOTE MODE
② ⏻ SOURCE
③ MUTING
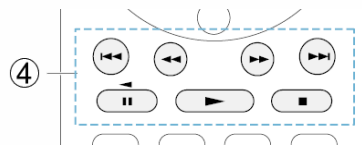
④ ▶ , ◀ (Reverse Playback), ■, ◀◀, ▶▶, ◄◄, ▶▶◄

## To operate CEC-compatible components

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

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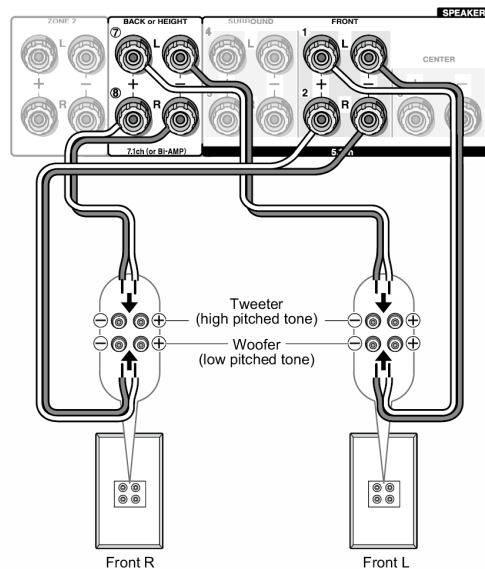


2. Turn the unit on and make the bi-amping setting.
   ① After pressing RECEIVER on the remote controller, press SETUP.
   ② With the cursors, select "2. Speaker" - "Configuration" - "Bi-Amp".
   ③ Select "Yes" with the cursors.
   - Before bi-amping, be sure to remove the short-circuit connector that 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
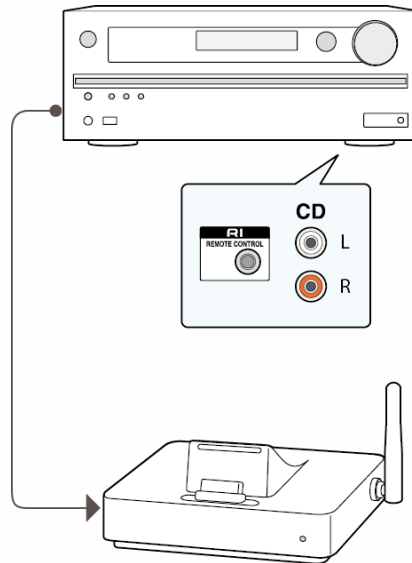


Connect an Onkyo component with RI jack to this unit using an RI cable and an analog audio cable. For details, refer to the instruction manual of the component with RI jack. The RI cable can be connected in any order. When there are two RI jacks, both jacks work in the same way and are interchangeable.
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.
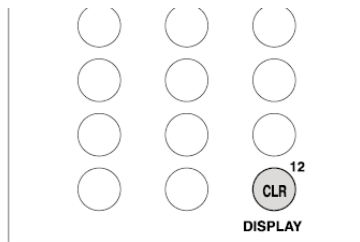
2. With the number buttons, enter the following 5-digit remote control code within 30 seconds.
   RI Dock: 81993
   Cassette tape deck with RI jack: 42157
   - Programming is complete when the remote indicator flashes twice. The remote indicator flashes once slowly when programming the remote control code fails. Try programming again.
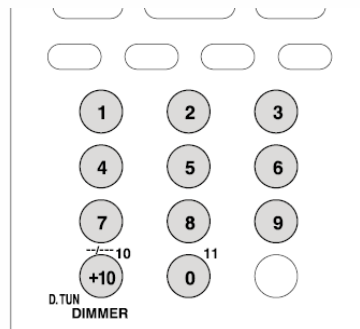


**Input selector on the RI Dock**: Switch to "DOCK" or "TAPE"**.** For details, refer to the RI Dock's instruction manual.

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.

# 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.
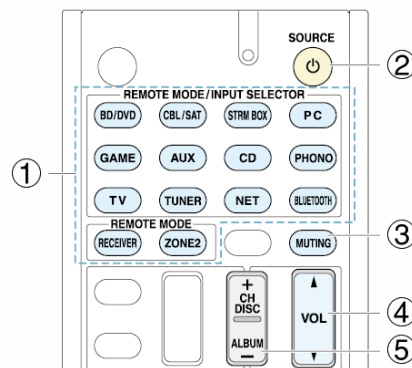


① REMOTE MODE
② ⏻SOURCE
③ MUTING
④ VOL ▲/▼
⑤ ALBUM +/–
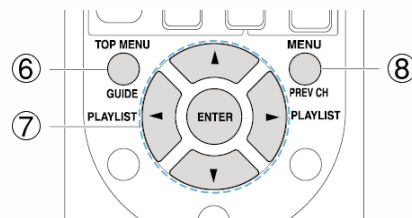


⑥ TOP MENU
⑦ ▲/▼/◄/►, ENTER, PLAYLIST◄/►
⑧ MENU
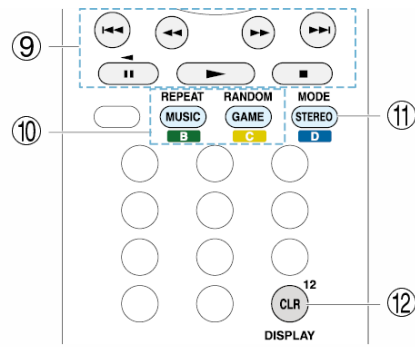
⑨ ▶, ❙❙, ■, ◀◀, ▶▶, ❙◀◀, ▶▶❙
⑩ REPEAT, RANDOM
⑪ MODE
⑫ DISPLAY

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

# The updating function on this unit

This unit has functionality to update the firmware (the system software) over a network or by the USB port. This enables us to make improvements to a variety of operations and to add features.

For details about the settings and operations that change due to updates, see here.

- 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.
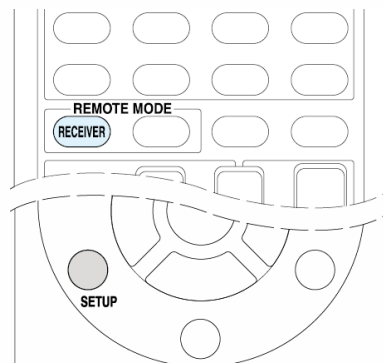


   The Setup menu is displayed on the TV screen.
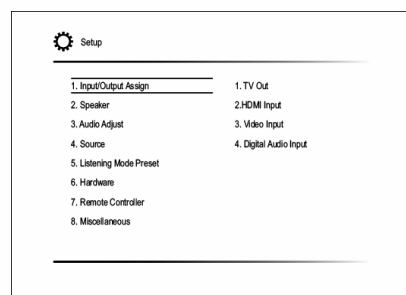


2. With the cursors, select "8. Miscellaneous" - "Firmware Update" - "Update via NET", and then press ENTER.
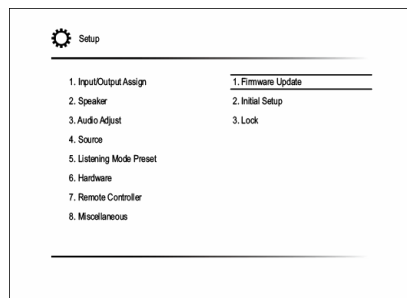
- If "Firmware Update" is grayed out and cannot be selected, wait for a while until it starts up.
- You will not be able to select "Update via NET" if there is nothing to update.

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.



⏻ ON/STANDBY

---
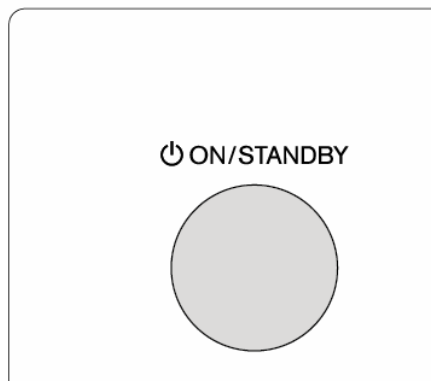
■ If an Error Message is Displayed    ⌄

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:
   ONKAVR ∗ ∗ ∗ ∗ _ ∗ ∗ ∗ ∗ ∗ ∗ ∗ ∗ ∗ ∗ ∗ .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.
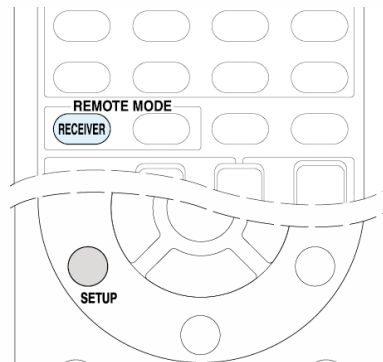
The Setup menu is displayed on the TV screen.
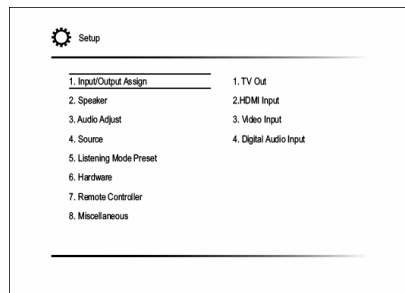
6. With the cursors, select "8. Miscellaneous" - "Firmware Update" - "Update via USB", and then press ENTER.
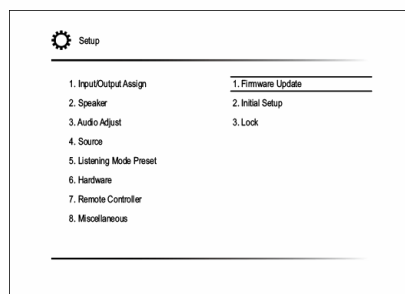
- If "Firmware Update" is grayed out and cannot be selected, wait for a while until it starts up.
- You will not be able to select "Update via USB" if there is nothing to update.

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.

⏻ ON/STANDBY
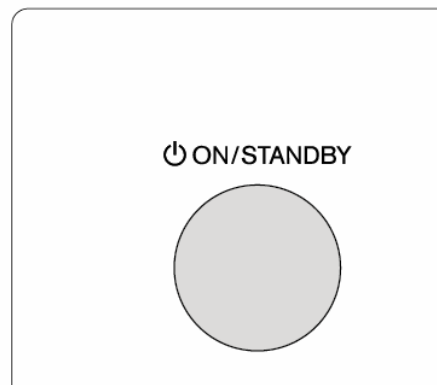
**If an Error Message is Displayed**

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 ⏻ON/STANDBY on the main unit. "Clear" is appeared on the display and the unit will enter standby mode.
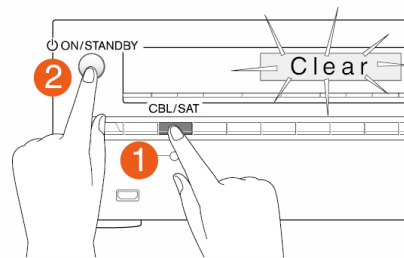


■ How to reset the remote controller
1. While holding down ① RECEIVER on the remote controller (note that step 2 must be performed with this button pressed down)

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.
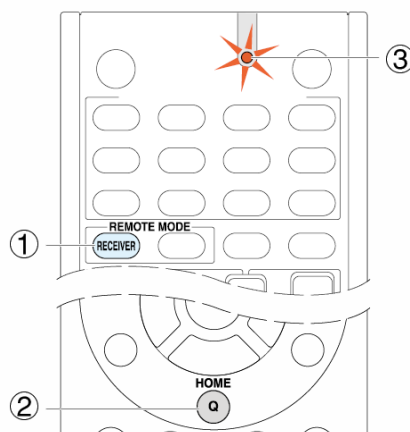
# Power

■ **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
- There is no sound from a connected turntable.
- 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

■ 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 MAIN 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.

■ 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.

■ 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.

■ Only the center speaker produces sound

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

■ The surround speakers produce no sound

● When the T-D (Theater-Dimensional), Stereo or Mono listening mode is selected, the surround speakers produce no sound.

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

■ The center speaker produces no sound

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

■ No sound from the back speakers 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.

■ The subwoofer produces no sound

● When the input signal does not include a subwoofer audio element (LFE), the subwoofer may not produce sound.

■ 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.

■ There is no sound from a connected turntable.
● If your turntable uses an MC cartridge, you must connect an audio equalizer and either an MC head amp or an MC transformer.

■ 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.

■ 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)

■ Cannot select a desired listening mode

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

- **There is no sound with Dolby Atmos**
- 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.

■ 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

■ **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.

■ 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 "-----".

■ 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

■ 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.

■ 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.

■ "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.

■ 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.

■ 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

■ 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.

■ 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

■ 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 digital audio input jacks or 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 a digital optical cable (OPTICAL), digital coaxial cable (COAXIAL), or RCA cable. Also, some players require audio output setting.
- Only analog and 2ch PCM 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

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

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

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

# 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

■ There is no sound
● Try resetting your iPod/iPhone.

◼ There is no video
● Make sure the correct input is selected on your TV or the unit.
● Make sure that your iPod/iPhone model's TV OUT setting is set to On.
● Some versions of the iPod/iPhone do not output video.

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

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

# Others

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

■ **When performing Automatic Speaker Setup, the measurement fails and the message "Ambient noise is too high." is displayed.**
- This can be caused by a malfunction in your speaker unit. Check if the unit produces normal sounds.

■ **The Late Night function does not work**
- Make sure the source material is Dolby Digital, Dolby Digital Plus, Dolby TrueHD, or DTS.

■ **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 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 MAIN/SUB 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 MAIN/SUB 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 |
| diVision | 12197, 12239 |
| Dixi | 10037 |
| DNS | 13434 |
| Domeos | 10668 |
| Donghai | 10037, 10668, 11037 |
| Drean | 10037 |
| DSE | 10698 |
| Dual | 12197, 11037, 12676, 11667, 10037, 11585, 10714 |
| Dumont | 10017 |
| Durabrand | 10171, 10178, 10714, 11037 |
| Dux | 10037 |
| D-Vision | 12197, 10037, 10556 |
| DX Antenna | 13817 |
| Dynatron | 10037 |
| Dynex | 12049 |
| E.S.C. | 10037 |
| Easy Living | 12104 |
| ECE | 10037 |
| ECG | 12197, 12125 |
| Eiki | 10735 |
| Elbe | 10037, 10556 |
| Electroband | 10000 |
| Electrograph | 11755 |
| Electrohome | 11670 |
| Electrolux | 11585 |
| Electron | 12466, 12855 |
| Elektra | 10017 |
| Element | 13559, 11687, 12183, 12964, 13907, 11886, 12256 |
| Elfunk | 11037 |
| ELG | 10037 |
| Elin | 10037 |
| Elite | 13867, 10037 |

| | |
|---|---|
| Emerson | 11864, 11394, 10171, 11886, 10178, 10037, 13623, 12183, 10668, 10714, 13559 |
| e-motion | 12426 |
| Enox. | 12673 |
| Envision | 11589, 11365, 12087, 12014, 11506 |
| Epson | 11379 |
| EQD | 12014, 12087 |
| EQD Auria | 12014, 12087 |
| Erisson | 13183 |
| Erres | 10037 |
| ESA | 10812, 10171 |
| Essentials | 12486 |
| Euroman | 10037 |
| Europa | 10037 |
| Europhon | 10037 |
| Evesham Technology | 11667 |
| Evotel | 12561 |
| Excello | 11037 |
| Exquisit | 10037 |

## Television (F to J)

| | |
|---|---|
| F&U | 12676 |
| FairTec | 11585 |
| Favi | 13382 |
| Fedders Lloyd | 13639 |
| Ferguson | 10625, 11037, 13005, 10037, 12426, 10195, 11585, 12676 |
| Fidelity | 10037, 10512, 10171 |
| Finlandia | 10208 |
| Finlux | 11667, 12676, 10714, 10037, 10556 |
| Firstline | 10714, 10037, 10668, 11037, 10208, 10556 |
| Fisher | 11585, 10208 |
| Flint | 10037 |
| Fluid | 12964, 13907 |
| Formenti | 10037 |
| Fortress | 10093 |
| Fraba | 10037 |
| Friac | 10037 |
| Frigidaire | 11826 |
| Fujimaro | 11498, 11687 |
| Fujimaru | 11687 |

| | |
|---|---|
| Fujitsu | 10809 |
| Fujitsu Siemens | 10809 |
| Funai | 13817, 10171, 11394, 10000, 11037, 10714, 10668, 11864 |
| Funai United | 12676 |
| Furrion | 13332 |
| Gaba | 11037 |
| Galaxi | 10037 |
| Galaxis | 10037 |
| Gateway | 11755 |
| GE | 11447, 10178, 10735, 10625, 10093, 11454 |
| GEC | 10037 |
| General Electric | 11447, 10178, 10735, 10625, 10093, 11454 |
| Genesis | 10037 |
| Genexxa | 10037 |
| GFM | 10171, 11864, 11886 |
| Gibralter | 10017 |
| Gibson | 11826 |
| Gintai | 11150 |
| Godrej | 11585 |
| GoGen | 12676, 11585 |
| Goldfunk | 10668 |
| GoldStar | 10178, 10037, 10714, 13183, 11150 |
| Goodmans | 10037, 11037, 10634, 11667, 10668, 11523, 11585, 11687, 11983, 10714, 10556, 10625, 12426, 12676 |
| Gorenje | 11585, 12676 |
| Gradiente | 10037 |
| Graetz | 10714 |
| Gran Prix | 12197 |
| Granada | 10037, 10208 |
| Grandin | 10037, 10714, 10668, 11037, 10556, 12125 |
| Grundig | 10195, 11223, 12125, 12239, 10556, 10037, 11523, 11667, 13067, 10672, 12561, 12676 |
| Grunkel | 11523 |
| GVA | 12098, 13067 |
| Haier | 12876, 11749, 12309, 13382, 11753, 13620, 13613, 13429, 10698, 11983, 12293, 13790, 13987, 10037, 10508 |

| | |
|---|---|
| Hallmark | 10178 |
| Handic | 12676 |
| Hankook | 10178 |
| Hannspree | 11826 |
| Hanseatic | 10037, 10634, 10714, 10625, 10556 |
| Hantarex | 12197, 10037 |
| Hantor | 10037 |
| Harwood | 10037 |
| Hauppauge | 10037 |
| Havermy | 10093 |
| HB | 10714 |
| HB Ingelen | 10714 |
| H-Buster | 13620, 13419 |
| HCM | 10037 |
| Heran | 11826 |
| Herosonic | 11826 |
| Highline | 10037 |
| Hikona | 11983 |
| Hinari | 10037, 10208 |
| HiPlus | 11826 |
| Hisawa | 10714 |
| Hisense | 12846, 12098, 13519, 12183, 10556, 13123, 10508, 14029, 10208, 13382 |
| Hitachi | 11643, 12676, 11576, 11585, 11037, 11691, 13317, 11667, 10634, 13639, 10037, 10679, 12170, 12846, 10150, 10178, 10508, 11150 |
| Hitachi Fujian | 10150 |
| Hitec | 10698 |
| Hiteker | 13118 |
| Hoher | 10714, 13434 |
| Hongmei | 10093 |
| Hornyphon | 10037 |
| Hua Tun | 11150 |
| Hypson | 10037, 10714, 10556, 10668, 11037 |
| Hyundai | 10698, 12414, 12676, 11037, 11523 |
| Iberia | 10037 |
| ICE | 10037 |
| iLo | 11394 |
| Imperial | 10037 |
| Indiana | 10037 |

| | |
|---|---|
| Ingelen | 10714 |
| Ingo Devices | 12239 |
| Inno Hit | 11585, 11037 |
| Innova | 10037 |
| Insignia | 12049, 11423, 10171 |
| Integra | 11807, 13100, 13500 |
| Inteq | 10017 |
| Interbuy | 10037 |
| Interfunk | 10037, 10512 |
| Internal | 10556 |
| Intervision | 10037 |
| Irradio | 10037 |
| IRT | 10698 |
| Isis | 12676 |
| Isukai | 10037 |
| iSymphony | 13429, 13382, 13118 |
| ITS | 10037 |
| ITT | 12675, 12125, 12676, 10208, 11523 |
| ITT Nokia | 10208 |
| ITV | 10037 |
| James | 13183 |
| Jay-tech | 13067 |
| JC Penney | 10178 |
| JCB | 10000 |
| JCM | 12256 |
| Jinfeng | 10208 |
| Jinxing | 10556, 10037, 10698 |
| JMB | 12676, 10634, 10556, 12426 |
| JTC | 13067 |
| Jubilee | 10556 |
| JVC | 11774, 11653, 11601, 11818, 10653, 12321, 12271, 11428, 13650, 11670, 12676, 14070, 10650, 10093, 10508 |

## ■ Television (K to N)

| | |
|---|---|
| Kaisui | 10037 |
| Karcher | 12125, 10714 |
| Kathrein | 10556 |
| KDS | 11498, 11687 |
| Kendo | 11037, 11585, 12676, 10037 |
| Kennex | 11037 |
| Kioto | 10556 |
| Kiton | 10037, 10668 |

| | |
|---|---|
| KLL | 10037 |
| Kneissel | 10037, 10556 |
| Kolin | 11610, 10150, 11755, 10037, 11150 |
| Kolster | 10037 |
| Konig | 10037, 10512 |
| Konka | 12881, 13419, 10037, 10714 |
| Korpel | 10037 |
| Kosmos | 10037 |
| Kunlun | 10208 |
| Kuppersbusch | 12676 |
| L&S Electronic | 10714 |
| Lavis | 11037 |
| Leader | 12876 |
| Lecson | 10037 |
| Legend | 12397, 12309 |
| Lenco | 12676, 11983, 10037, 11037 |
| Leyco | 10037 |
| LG | 11840, 11860, 11423, 12731, 12182, 12358, 10178, 12362, 13941, 12424, 10037, 10714, 10017, 10556, 10698, 11753 |
| Liberton | 13183 |
| Liesenkotter | 10037 |
| Lifetec | 10668, 10037, 11037, 10714 |
| Linetech | 12676 |
| Linsar | 12676, 11667, 11585 |
| Lloyd | 13639 |
| Lodos | 11037 |
| Loewe | 10512, 10633, 10037 |
| Logic | 11585 |
| Logik | 13432, 13005, 12486, 11037, 10698, 11585, 11687 |
| Logix | 10668 |
| Luma | 10037, 11037 |
| Lumatron | 10037, 10668 |
| Lumenio | 10037 |
| Lux May | 10037 |
| Luxor | 12676, 11037, 10208 |
| LXI | 10178, 10017 |
| Madison | 10037 |
| MAG | 11687, 11498 |
| Magnavox | |

| | |
|---|---|
| | 13623, 11866, 12372, 11454, 11506, 10171, 11365, 11755, 11867 |
| Magnum | 10714, 10037 |
| Manesth | 10037 |
| Manhattan | 10037, 11037, 10668 |
| Marantz | 10037, 10556, 11454 |
| Mark | 10037, 10714 |
| Marks & Spencer | 12673 |
| Mascom | 12197, 12125 |
| Masters | 10037 |
| Mastro | 10698 |
| Masuda | 10037 |
| Matsui | 10037, 10195, 10208, 12486, 11037, 10714, 11667, 12676, 10556, 12561 |
| Matsushita | 10650 |
| Maxent | 11755 |
| Maxess | 12493 |
| Meck | 10698 |
| Mediator | 10037, 10556 |
| Medion | 12676, 10714, 10037, 10668, 11037, 11585, 11667, 10512, 12239, 13067, 10556, 10698, 12563 |
| Megatron | 10178 |
| MEI | 11037 |
| Melectronic | 10037, 10195, 10634, 10512, 10714 |
| Memorex | 11687, 11037, 11670, 10178, 10150 |
| Memory | 11983 |
| Mercury | 10037 |
| Mermaid | 10037 |
| Metronic | 10625 |
| Metz | 11037, 10668, 10195 |
| MGA | 10150, 10178 |
| Micromaxx | 10037, 10668, 10714, 11037 |
| Microsonic | 13419 |
| Midland | 10017 |
| Mikomi | 11585, 11667 |
| Minato | 10037 |
| Minerva | 10195 |
| 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 |
| Moree | 10037 |
| Morgan's | 10037 |
| Moserbaer | 11585 |
| Motorola | 10093 |
| MTC | 10512 |
| MTlogic | 10714, 12104 |
| Mudan | 10208 |
| 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 |
| Nokia | 10208 |
| Norcent | 11365, 11589 |
| Nordmende | 13419, 13861, 10037, 10195, 11585, 13835, 10714, 11667 |
| Normerel | 10037 |
| Nortek | 10668 |
| Novatronic | 10037 |
| Novex | 11523 |
| Novita | 11585 |
| NPG | 13434 |

### Television (O to S)

| | |
|---|---|
| O.K.Line | 11037 |
| Oceanic | 10208 |
| 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 |
| Optoma | 12796 |
| Optonica | 10093 |
| Orava | 11037 |
| Orbit | 10037 |
| Orion | 12108, 10037, 12676, 10556, 10714, 11037, 11667, 13540, 13650 |
| Orline | 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 |

| | |
|---|---|
| Palladium | 10037, 10714, 10556 |
| 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 |
| PARK | 12104 |
| Penney | 10178 |
| Peony | 10208 |
| 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 |
| Phoenix | 10037 |
| PHOENIX Apollo | 12239 |
| Phonola | 10037, 10556 |
| Pioneer | 10679, 11457, 10037, 10698, 11636, 10512, 12171 |
| PJ | 11506 |
| Planar | 10679, 14247, 11589 |
| Plantron | 10037 |
| Playsonic | 10714, 10037 |
| Polaroid | 11523, 11769, 11498, 11687, 11767, 12676, 14035, 12125, 11826 |
| Powerpoint | 10037, 10698 |
| Premier | 13419, 13183, 13793 |
| Prestiz | 13419 |
| Prima | 11753, 10037, 11749, 12461, 10698 |
| Prinston | 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 |
| Radiola | 10037, 10556 |
| Radiomarelli | 10037 |
| Radionette | 10714 |
| RadioShack | 10178, 10037 |
| 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 |
| Realistic | 10178 |
| Recco | 10898, 13183 |
| Reconnect | 13183 |
| Recor | 10037 |
| Rectiligne | 10037 |
| Red Star | 10037 |
| Reflex | 10037, 10668, 11037 |
| RefleXion | 12239 |
| Relisys | 11585 |
| Relon | 11826 |
| Remotec | 10037, 10093, 10171, 11150 |
| Reoc | 10714, 12197 |
| Revox | 10037 |
| RFT | 10037 |
| R-Line | 10037 |
| Roadstar | 11037, 10037, 10714, 10668 |

| | |
|---|---|
| Rolsen | 12098, 13067, 13434 |
| Rowa | 10898, 13047, 10698, 11038, 13001, 10037 |
| RTF | 10037 |
| Runco | 10017 |
| Saba | 10625, 12676, 10714 |
| Saga | 12197 |
| Sagem | 10618 |
| Saivod | 10668, 11037, 10037, 11667 |
| 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 |
| Sears | 10171, 10178 |
| Seaway | 10634 |
| Seelver | 10556, 11037 |
| 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 |
| Shinelco | 12104 |
| Shintoshi | 10037 |
| Shivaki | 12197, 10178, 10037 |
| Siam | 10037 |
| Siemens | 10195, 10037 |
| Siera | 10556, 10037 |
| Silva | 10037 |
| Silva Schneider | 12197, 10037, 12125 |
| SilverCrest | 12676, 11037 |
| Sinudyne | 10037 |
| 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 |
| Sunny | 10037 |
| Sunstar | 10037 |
| Sunstech | 12676 |
| Sunwood | 10037 |
| Superior | 11585 |
| Superscan | 10093, 10171 |
| Supersonic | 10208, 11753, 12104 |
| SuperTech | 10037, 10556 |
| Supra | 10178 |
| Supreme | 10000 |
| SVA | 11498 |
| Svasa | 10208 |
| Swisstec | 12106, 12104 |
| Sylvania | 10171, 11864, 11886, 11394 |
| Symphonic | 10171, 11394 |
| Synco | 11755, 11826, 10000, 10093, 10178 |
| Syntax | 11610 |
| Sysline | 10037 |
| ▪ Television (T to Z) | |
| Tacico | 10178, 11150 |
| Tai Yi | 11150 |
| Talent | 10178 |
| Tandy | 10093 |
| Tashiko | 10650, 11150 |
| Tatung | 10037, 11150, 11687 |
| Tauras | 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 |
| Technica | 11037, 12106, 12426 |
| Technical | 12676, 11667 |
| Technics | 10017, 10556, 10650 |
| Technika | 12426, 12106, 12197, 11667, 11983, 12676, 13005, 12125, 13067 |
| TechniSat | 10556 |
| Technisson | 10714 |
| Techno | 11585 |
| Technosonic | 10556, 10625 |
| Techwood | 12676, 11667, 11037 |
| Tecnimagen | 10556 |
| Teco | 10093, 10178, 10653, 11523, 11687 |
| Tedelex | 10208 |
| Teknika | 10150 |
| TELE System | 11585, 12125 |
| Telecor | 10037 |
| Telefunken | 10625, 12676, 12414, 10698, 12239, 11585, 11667, 10037, 10714 |
| Telefusion | 10037 |
| Telegazi | 10037 |
| Telemagic | 10735 |
| Telemeister | 10037 |
| Telesonic | 10037 |
| Telestar | 10037, 10556 |
| Teletech | 10037, 10668, 11037 |
| Teleview | 10037 |
| Tennessee | 10037 |
| Tensai | 10037, 11037 |
| Terris | 11667 |
| Tesco | 12426 |
| Tesla | 11037, 10037, 10556, 10714 |
| Tevion | 10714, 12426, 10668, 11037, 12125, 10037, 10556, 11498, 11585, 11667, 11687, 12197, 12289 |
| ThemeScene | 12796 |
| Thomas | 10625 |

| | |
|---|---|
| Thomas America | 10625 |
| Thomson | 10625, 13047, 12675, 11447, 10037 |
| Thorn | 10037, 10512 |
| Tiane | 10093 |
| TMK | 10178 |
| TNCi | 10017 |
| Tokai | 10037, 10668, 11037 |
| Tokaido | 11037 |
| Tophouse | 10672, 10698 |
| Topline | 10668, 11037 |
| Toshiba | 11508, 11524, 11656, 13323, 12676, 12598, 10508, 12724, 13570, 11743, 10650, 10618, 12108, 11037, 10093, 10195, 11150, 11169 |
| Tosonic | 11508 |
| TRANS-continents | 10037, 10556, 10668, 11037 |
| Transonic | 10037, 10698, 10512 |
| Triad | 10556 |
| Trio | 11498, 11687 |
| Triumph | 10037, 10556 |
| Tucson | 12676 |
| TVE | 12239 |
| TVTEXT 95 | 10556 |
| Uher | 10037 |
| Ultravox | 10037 |
| UMC | 12106, 12426 |
| Unic Line | 10037 |
| Uniden | 12122, 12676, 11667 |
| United | 10714, 11037, 10037, 10556, 11523, 11983, 12125, 13434 |
| Universal | 10037, 10714 |
| Universum | 10037, 11037, 10512, 10668, 10618, 10195 |
| Univox | 10037 |
| V7 Videoseven | 11755 |
| Vanguard | 10037 |
| VD-Tech | 13067, 13332 |
| Venturer | 13005 |
| Vestel | 11037, 11585, 10037, 12676, 10668, 11667 |
| Vexa | 10037 |
| Victor | 11428, 10000, 10093, 10150, 11150, 10650, 10653 |

| | |
|---|---|
| Videocon | 10508, 10037 |
| Videoseven | 11755 |
| VideoSystem | 10037 |
| Vidikron | 10735 |
| Vidtech | 10178 |
| Viewsonic | 12014, 12745, 12087, 13706, 11755, 11627, 12049, 11365 |
| Viore | 12352, 13382, 13118, 13429, 12104 |
| Visa | 10037 |
| Vision | 11826, 10037 |
| VisionPlus | 12426, 12106 |
| Visual Innovations | 12106 |
| VIZIO | 11758, 13758, 12707, 12757, 13415, 12512, 13174, 12209 |
| Vortec | 10037 |
| Voxson | 12197, 10178, 10037, 11667 |
| VU | 12098, 11365 |
| Walker | 12676, 11667, 11585 |
| Waltham | 10037, 11037, 10668 |
| Wansa | 12098 |
| Wards | 10178, 10017, 10000 |
| Watson | 11037, 10037, 10668, 10714 |
| WeCube | 11860 |
| Wega | 10037 |
| Welltech | 10714 |
| Weltstar | 11037 |
| Westinghouse | 11712, 13579, 13382, 13949, 11826, 12293, 11755, 12397 |
| Westwood | 11585 |
| Wharfedale | 11983, 11667, 10037, 10556 |
| White Westinghouse | 10037 |
| Wilson | 10556 |
| Windsor | 11037, 10668 |
| Windy Sam | 10556 |
| Wintel | 10714 |
| Wyse | 11365 |
| Xenius | 11667, 10634, 11585, 12676 |
| Xiahua | 11753, 10037, 11749, 12461, 10698 |
| Xiron | 11983, 11037 |
| XLogic | 10698 |
| Xoceco | 11753, 10037, 11749, 12461, 10698 |
| Xogego | 11753, 10037, 11749, 12461, 10698 |

| | |
|---|---|
| Xoro | 13067 |
| Xpeer | 12051 |
| XRYPTON | 10037 |
| Yamaha | 11576, 10650 |
| Yamishi | 10037 |
| Yokan | 10037 |
| Yoko | 10037 |
| YU-MA-TU | 10037 |
| Zenith | 10017, 10178, 11423, 10000, 12731, 11365, 12358, 12362 |
| Zepto | 11585 |
| Ziggo | 11818 |
| Zonda | 10698 |

## ■ TV DVD Combination

| | |
|---|---|
| Akai | 32966 |
| Alba | 32966 |
| Black Diamond | 30713 |
| Blue Sky | 30713 |
| Bush | 30713, 32966 |
| Celcus | 32966 |
| Centrum | 30713 |
| Crown | 30713 |
| Dantax | 32966 |
| Digihome | 32966 |
| Dual | 32966, 30713 |
| Elfunk | 30713 |
| Emerson | 30675 |
| Ferguson | 30713, 32966 |
| Finlux | 32966 |
| Funai | 30675 |
| Goodmans | 30713, 32966 |
| Grandin | 30713 |
| Grundig | 30539, 32966 |
| Hitachi | 32966, 30713 |
| Hyundai | 32966 |
| Insignia | 32095 |
| JMB | 32966 |
| JVC | 32966 |
| Kuppersbusch | 32966 |
| Linetech | 32966 |
| Linsar | 32966 |

| | |
|---|---|
| Logik | 30713 |
| Luxor | 32966, 30713 |
| Matsui | 30713, 32966 |
| Medion | 32966 |
| Mitsubishi Electric | 34004 |
| OK. | 32966 |
| OKI | 32966 |
| Orava | 30713 |
| Orion | 30713 |
| Panasonic | 32859 |
| Philips | 30539 |
| Polaroid | 32966 |
| ProLine | 32966 |
| Prosonic | 32966 |
| Saba | 32966 |
| Salora | 32966 |
| Sanyo | 32966 |
| SEG | 30713 |
| Sharp | 32966, 30630 |
| Sony | 30864 |
| Soundwave | 30713 |
| Sylvania | 30675, 30630 |
| Symphonic | 30675 |
| Technica | 30713 |
| Technical | 32966 |
| Techwood | 32966 |
| Telefunken | 32966 |
| Teletech | 30713 |
| Thomson | 30551 |
| Toshiba | 32966 |
| United | 30713 |
| Universum | 30713 |
| Walker | 32966 |
| Waltham | 30713 |
| Weltstar | 30713 |
| Xiron | 30713 |

■ DVD

| | |
|---|---|
| 3D LAB | 30539 |
| Accurian | 30675 |
| Acoustic Solutions | 30730, 30713 |
| AEG | 30675, 31643, 30770, 31233 |

| | |
|---|---|
| Aitro | 32095 |
| Aiwa | 30533 |
| Akai | 32966, 30770, 31233, 30675 |
| Akura | 31233 |
| Alba | 32966, 30713, 30539, 30730 |
| Amitech | 30770 |
| Amphion MediaWorks | 30872 |
| Amstrad | 30713, 30770, 32139 |
| AMW | 30872 |
| Ansonic | 30831 |
| Anthem | 32820 |
| Anthem Statement | 32820 |
| Aristona | 30539, 30646 |
| Arrgo | 31023 |
| AS | 30730, 30713 |
| ASDA | 32213 |
| Audio Authority | 32555 |
| Audix | 30713 |
| Autovox | 30713 |
| Awa | 30730, 30872 |
| Axion | 30730 |
| Basic Line | 30713 |
| Beko | 30831 |
| Bel Canto Design | 31571 |
| Belson | 32139 |
| Berthen | 31643 |
| Best Buy | 32139 |
| Black Diamond | 30713 |
| Blu:sens | 31233 |
| Blue Parade | 30571 |
| Blue Sky | 30713 |
| Brainwave | 30770 |
| Brandt | 30551, 30503 |
| Bush | 30713, 30730, 30831, 32966 |
| Byd:sign | 30872 |
| California Audio Labs | 30490 |
| Cambridge Audio | 32808 |
| CCE | 30730 |
| Celcus | 32966 |
| Centrum | 30713, 30675 |
| Changhong | 30627 |

| | |
|---|---|
| Cinea | 30831 |
| Cineral | 30730 |
| Cinetec | 30713, 30872 |
| CJ Digital | 31643 |
| Classic | 30730 |
| Clatronic | 30675, 31233 |
| Clayton | 30713 |
| CMX | 31643 |
| Coby | 32494, 30730 |
| Codex | 31233 |
| Continental Edison | 30831, 30872 |
| Craig | 30831 |
| Crown | 30713, 30770 |
| Cybercom | 30831 |
| CyberHome | 31023 |
| Daenyx | 30872 |
| Daewoo | 30770, 30872, 30490 |
| Dansai | 30770 |
| Dantax | 30713, 30539, 32966 |
| Datsun | 31233 |
| Daytek | 30872 |
| Dayton Audio | 30872 |
| DCE | 30831 |
| Decca | 30770 |
| Denon | 31634, 32258, 30490, 32748, 33851 |
| Denver | 31643 |
| Dewo | 31634 |
| Dick Smith Electronics | 32095, 30675 |
| Digihome | 32966, 30713 |
| DigiLogic | 30713 |
| DiK | 30831 |
| Dikom | 32494 |
| Disney | 30675, 30831 |
| DK Digital | 30831, 32095, 31643 |
| Donghai | 31233 |
| Dragon | 30831 |
| DSE | 32095, 30675 |
| Dual | 30831, 30730, 30713, 32966, 31023 |
| Durabrand | 30713, 30675, 31023, 30831 |
| Dynex | 32596 |
| E:max | 30770, 31233, 31643 |

| | |
|---|---|
| ECC | 30730 |
| Electrocompaniet | 32545 |
| Elfunk | 30713 |
| Elin | 30770 |
| Elite | 32854 |
| Elta | 30770, 31643, 31233 |
| Eltax | 31233 |
| Emerson | 30675, 30591, 32213 |
| Enterprise | 30591 |
| Epworth | 30533 |
| EuroLine | 30675, 31233, 31643 |
| Ferguson | 30713, 32966 |
| Finlux | 32966, 30770, 30591, 30741 |
| Firstline | 30713 |
| Funai | 30675 |
| GE | 30522 |
| General Electric | 30522 |
| GFM | 30675 |
| G-Hanz | 32213 |
| G-HanzS | 32213 |
| Go Video | 31044, 30741 |
| GoGen | 32139 |
| GoldStar | 30741, 30591 |
| Goodmans | 30713, 30730, 32966 |
| GoWell | 31643 |
| GPX | 30741 |
| Gran Prix | 30831 |
| Grandin | 30713, 31233 |
| Grundig | 30539, 30551, 30713, 31643, 32966 |
| Grunkel | 30770, 30831 |
| GVG | 30770 |
| H & B | 30713, 31233 |
| Hanseatic | 30741 |
| Harman/Kardon | 30582, 33228, 32927 |
| HE | 30730 |
| Hello Kitty | 30831 |
| Hen° | 30713 |
| Hitachi | 30573, 32966, 30713, 31664 |
| Hoher | 30713, 30831, 31643 |
| Home Electronics | 30770, 30730 |
| Home Tech Industries | 31643 |

| | |
|---|---|
| Humax | 30646 |
| HYD | 31233 |
| Hyundai | 32966 |
| Ingersoll | 31023 |
| Inno Hit | 30713 |
| Insignia | 32095, 32596, 32428, 30675, 30741 |
| Integra | 30627, 32147, 31769, 31634, 30571, 30503, 31612 |
| Irradio | 31233, 30646 |
| ITT | 31233 |
| Jamo | 32358 |
| JDB | 30730 |
| JMB | 32966 |
| JVC | 30623, 31602, 32365, 32612, 32855, 32966 |
| Kansas Technologies | 31233 |
| Kendo | 30713, 30831 |
| Kennex | 30713, 30770 |
| Kenwood | 30534, 30490 |
| KeyPlug | 31643 |
| Kiiro | 30770 |
| KingVision | 31643 |
| Kuppersbusch | 32966 |
| Leiker | 30872 |
| Lenco | 30713, 30770 |
| Lenoxx | 32213 |
| Lexicon | 32545 |
| LG | 30741, 32811, 31602, 30591, 31233 |
| Lifetec | 30831 |
| Linetech | 32966 |
| Linsar | 32966 |
| LM | 31643 |
| Lodos | 30713 |
| Loewe | 30741, 30539 |
| Logik | 30713 |
| Lumatron | 30713, 30741 |
| Lunatron | 30741 |
| Luxman | 30573 |
| Luxor | 32966, 30713 |
| Magnavox | 30675, 31354, 30503, 30539, 30646, 31506, 33488, 30713 |
| Manhattan | 30713 |

| | |
|---|---|
| Marantz | 30539, 32481, 32414, 33444 |
| Mark | 30713 |
| Marquant | 30770 |
| Matsui | 30713, 32966 |
| Maxim | 30713, 30872 |
| MBO | 30730 |
| McIntosh | 31273 |
| MDS | 30713 |
| Mecotek | 30770 |
| Medion | 30831, 32966, 30741, 30630 |
| Memorex | 30831, 32213, 33153 |
| Metz | 30713, 30571 |
| Micromedia | 30503, 30539 |
| Micromega | 30539 |
| Microsoft | 31708, 32083, 32202, 30522 |
| Microstar | 30831 |
| Minax | 30713 |
| Minoka | 30770 |
| Mitsubishi Electric | 31521, 34004, 30713 |
| Mizuda | 30770 |
| Mustek | 30730 |
| Muvid | 31643 |
| Mystral | 30831 |
| NAD | 30741 |
| Naiko | 30770 |
| NEC | 30741, 31602 |
| Neom | 31643 |
| Nevir | 30831, 30770 |
| New Acoustic Dimension | 30741 |
| Nisato | 31233 |
| Noblex | 31233 |
| Norcent | 30872 |
| Nordmende | 30831 |
| Nortek | 31643 |
| OK. | 32966 |
| OKI | 32966 |
| Omni | 32139 |
| One For All | 32555 |
| Onkyo | 30627, 32147, 30503, 31769, 31612, 30571, 31634 |
| Oppo | 32545, 30575 |
| Optimus | 30571 |

| | |
|---|---|
| Orava | 30713 |
| Orbit | 31643, 30872 |
| Orion | 30713, 31233 |
| Ormond | 30713 |
| Pacific | 30831, 30713 |
| Packard Bell | 30831 |
| Palladium | 30713 |
| Panasonic | 31641, 30490, 33641, 31579, 33580, 33862, 32710, 32859, 32523, 30503 |
| Philco | 30675 |
| Philips | 32056, 30539, 31354, 32789, 30646, 32434, 31506, 32334, 31340, 30503, 33488, 30675, 32084, 30713 |
| Pioneer | 31571, 30571, 30631, 31531, 32442, 32847, 30142, 32854 |
| Play It | 31643 |
| Polaroid | 32966 |
| Polk Audio | 30539 |
| Portland | 30770 |
| Powerpoint | 30872 |
| Presidian | 30675 |
| Prinz | 30831 |
| Prism | 30831 |
| Pro Vision | 30730 |
| ProLine | 31643, 32966 |
| Proscan | 30522 |
| Proson | 30713 |
| Prosonic | 32966 |
| Pye | 30539, 30646, 30675 |
| Radionette | 30741 |
| Radiotone | 30713 |
| RCA | 30522, 32213, 30571, 31769, 32532 |
| RE-BL | 32555 |
| REC | 30490 |
| Red | 32213 |
| Red Star | 30770 |
| Richmond | 31233 |
| Roadstar | 30713, 30730 |
| Ronin | 30872 |
| Rotel | 30623 |

| | |
|---|---|
| Rowa | 30872 |
| Saba | 30551, 31643, 32966 |
| Saivod | 30831 |
| Salora | 32966, 30741 |
| Samsung | 30199, 30573, 33195, 32069, 31635, 32942, 32369, 32329, 32489, 31044, 30490, 32107 |
| Sanyo | 32966, 30713, 31233 |
| ScanMagic | 30730 |
| Schaub Lorenz | 30770, 31643 |
| Schneider | 30539, 30646, 30831, 30713 |
| Schontech | 30713 |
| Scott | 31233 |
| Seeltech | 31643 |
| SEG | 30713, 30872 |
| Semp | 30503 |
| Semp Toshiba | 30503 |
| Sharp | 32250, 30630, 32966, 30675, 33313, 30713 |
| Sherwood | 30741, 30770, 32820, 33837 |
| Shinsonic | 30533 |
| Sigmatek | 32139 |
| Silva Schneider | 30831, 30741 |
| SilverCrest | 31643 |
| Skantic | 30713, 30539 |
| Skymaster | 30730 |
| SM Electronic | 30730 |
| Smart | 30713 |
| Sonashi | 30831 |
| Soniq | 30831 |
| Sony | 31516, 31633, 30533, 31033, 30864, 31070, 31548, 32861, 31536, 32839, 32180, 30772 |
| Sound Color | 31233 |
| Soundwave | 30713 |
| Spectra | 30872 |
| SR Standard | 30831 |
| Sunkai | 30770 |
| Sunstech | 30831, 32139, 32966 |
| Superior | 31643 |
| Supratech | 32139 |
| SV2000 | 30675 |

| | |
|---|---|
| Sylvania | 30675, 30630 |
| Symphonic | 30675 |
| Sytech | 30831 |
| Tandberg | 30713 |
| Targa | 30741 |
| Tascam | 31818 |
| Tatung | 30770 |
| TBoston | 32139 |
| Tchibo | 30741 |
| TCM | 30741 |
| Teac | 30571, 30675, 30741, 31818, 32139, 34004 |
| Technica | 30713 |
| Technical | 32966 |
| Technics | 30490 |
| Technika | 30770, 30831 |
| Technosonic | 30730 |
| TechnoStar | 31643 |
| Techwood | 30713, 32966 |
| Telefunken | 30551, 32966 |
| Teletech | 30713 |
| Tensai | 30770 |
| Theta Digital | 30571 |
| Thomson | 30551, 30522, 30831 |
| Thule Audio | 30551 |
| Tokai | 31233 |
| Tosaki | 32006 |
| Toshiba | 30503, 33157, 33857, 32006, 32277, 32705, 31769, 32966, 32551 |
| TRANS-continents | 30831, 30872, 31233 |
| Transonic | 30730 |
| Trent | 31643 |
| Trevi | 30831 |
| TruTech | 30675 |
| TVE | 30713 |
| United | 30713, 30675, 30730, 31233, 31643 |
| Universum | 30713, 30741, 30591 |
| Urban Concepts | 30503 |
| Venturer | 31769 |
| Vestel | 30713 |
| Vitek | 30831 |
| VIZIO | 32563 |

| | |
|---|---|
| Voxson | 30730, 30831 |
| Waitec | 30730, 31233 |
| Walker | 32966 |
| Waltham | 30713 |
| WB Electronics | 32555 |
| Welkin | 30831 |
| Wellington | 30713 |
| Weltstar | 30713 |
| Wharfedale | 30713 |
| Wilson | 31233, 30831 |
| Windsor | 30713 |
| Windy Sam | 30573 |
| Woxter | 32139 |
| Xbox | 32083, 31708, 32202, 30522 |
| Xiron | 30713 |
| XMS | 30770 |
| X-View | 31233 |
| Yamada | 30872, 32139 |
| Yamaha | 30497, 32298, 30539, 30817, 30490, 31354, 33871, 30646, 33837 |
| Yamakawa | 30872 |
| YBA | 30872 |
| Yukai | 30730 |
| Zenith | 30741, 30591, 30503 |

■ Blu-ray Disc

| | |
|---|---|
| Anthem | 32820 |
| Anthem Statement | 32820 |
| Cambridge Audio | 32808 |
| Denon | 32258, 32748, 33851 |
| Electrocompaniet | 32545 |
| Elite | 32854 |
| Funai | 30675 |
| Harman/Kardon | 33228, 32927 |
| Insignia | 32596, 32428, 30675 |
| Integra | 32147, 32900, 32910, 33100, 33101, 33500, 33501 |
| JVC | 32365, 32612, 32855 |
| Lexicon | 32545 |
| LG | 31602, 32811, 30741 |
| Magnavox | 30675 |
| Marantz | 32414, 33444 |
| Mitsubishi Electric | 34004 |

| | |
|---|---|
| Onkyo | 32147, 32900, 33101, 33501, 32910, 33100, 33500 |
| Oppo | 32545 |
| Panasonic | 31641, 33862, 33580, 33641, 32859, 32523, 32710 |
| Philips | 32789, 32434, 32084 |
| Pioneer | 32442, 32847, 32854, 30142 |
| RCA | 32532 |
| Samsung | 30199, 33195 |
| Sharp | 32250, 33313 |
| Sherwood | 32820, 33837 |
| Sony | 31516, 32180, 30772 |
| Sylvania | 30675 |
| Tascam | 34004 |
| Toshiba | 32705, 33157, 33857, 32551 |
| VIZIO | 32563 |
| Yamaha | 32298, 33871, 33837 |

■ DVD-R

| | |
|---|---|
| Accurian | 30675 |
| AEG | 30675 |
| Akai | 30675 |
| Aristona | 30646 |
| CyberHome | 31023 |
| Denon | 30490 |
| Dick Smith Electronics | 30675 |
| DSE | 30675 |
| Emerson | 30675 |
| Funai | 30675 |
| Go Video | 30741 |
| GPX | 30741 |
| Hitachi | 31664 |
| Humax | 30646 |
| Insignia | 32095 |
| Irradio | 30646 |
| JVC | 30623, 32612 |
| LG | 30741 |
| Loewe | 30741 |
| Magnavox | 30675, 30646, 31506 |
| Medion | 30741 |
| NEC | 30741 |
| Panasonic | 30490, 31579, 33580, 32710, 32859, 32523 |

| | |
|---|---|
| Philips | 30646, 31340, 31506, 32334, 30539, 32056 |
| Pioneer | 30631 |
| Pye | 30646, 30675 |
| RCA | 30522 |
| Samsung | 31635, 32942, 33195, 32107, 30490, 32069, 32489 |
| Schneider | 30646 |
| Sharp | 33313, 30630, 30675, 30713 |
| Silva Schneider | 30741 |
| Sony | 31070, 31033, 32861, 31516, 31536, 32839, 32180, 31633 |
| Sylvania | 30675 |
| Targa | 30741 |
| Tchibo | 30741 |
| TCM | 30741 |
| Thomson | 30551 |
| Toshiba | 32277, 32551, 30503 |
| Universum | 30741 |
| Yamaha | 30646 |
| Zenith | 30741 |

■ VCR

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

■ Cable Set Top Box (A to E)

| | |
|---|---|
| ABN | 03322, 02897, 02979, 03340, 03407, 03849 |
| Access Communications | 01376, 00476 |
| ACT | 02950 |
| Adams Cable TV | 01376 |
| ADB | |

|  | 02586, 01920, 01585, 01927, 01481, 01998, 02254, 02302, 02437, 03028 |
|---|---|
| Akado | 02043 |
| Aland | 02030, 02437 |
| Alands Datakommunikation | 02030, 02437 |
| Alcom | 02030, 02437 |
| Alice | 01585 |
| Allegiance Communications | 00476, 01376 |
| Allen TV Cable | 00476 |
| Altibox | 02437, 02030 |
| Amino | 01615, 01898, 01481, 02482, 01998, 02302, 03028 |
| Anguang Network | 03936 |
| Anhui Network | 03936 |
| Arcadyan | 02952 |
| Arion | 03336 |
| Armstrong | 01376, 00476 |
| Arris | 02187, 01982, 01998, 02378 |
| Arvig Communication Systems | 01376, 01982, 01998, 02345 |
| Astound Broadband | 01376, 01877, 00476, 02479, 04079 |
| AT&T | 00858 |
| AT&T U-verse | 00858 |
| Atlantic Broadband | 01877, 01376 |
| ATMC | 01376, 01982, 03028 |
| Austar | 00276 |
| B tv | 02681, 03442 |
| Baja Broadband | 00476, 01376 |
| BBTV | 02980 |
| Beijing | 04010 |
| Belgacom TV | 02047, 02132 |
| Bell | 01998 |
| Bell Aliant | 01998 |
| Bell ExpressVu | 01998 |
| Bell Fibe TV | 01998 |
| Bend Broadband | 01376, 00476, 02187 |
| BesTV | 04196 |
| Bevcomm | 01898, 00476 |
| BGCTV | 03278, 00476 |
| BIG.BOX | 03465 |
| Blue Ridge Communications | 01877 |
| Bluewin | 02271 |

| | |
|---|---|
| Bouygues Telecom | 03007 |
| Boxer | 03607 |
| Bright ClouDigital | 03961 |
| Bright House | 01877, 01376, 00476 |
| British Telecom | 02294 |
| Broadstripe | 00476, 01376 |
| BSI | 02979 |
| BT | 02294 |
| BT Vision | 02294 |
| Buckeye Cable System | 01376, 00476, 01877, 02187 |
| C&M | 03407, 03319, 02962, 02979 |
| Cable America | 01376, 01877 |
| Cable Axion Digitel | 01376, 00476 |
| Cable HK | 01374 |
| Cable One | 01376, 00476, 01877 |
| Cablecom | 01582 |
| Cablecom Mexico | 00476, 01376 |
| Cablemas | 01376, 01877 |
| Cablevision | 01877, 01376, 03336, 00476 |
| Cabovisao | 02436, 02493 |
| Caiway | 02015, 03607, 02762, 00660, 02447 |
| Caiyun Digital | 03961 |
| CalTel Connections | 02254, 02586 |
| Canal Digital | 02030 |
| Canby Telcom | 01481, 02302 |
| Cass Cable | 00476, 01376 |
| CC9 | 02703, 02752, 03474 |
| CCAP | 01877 |
| CCS | 03322 |
| Celrun | 03442, 02682 |
| CenturyLink | 01998 |
| Channel Master | 03118 |
| Charter | 01877, 01376, 00476, 02187, 03560 |
| Chengde Guangtong | 03936 |
| Chengdu Cable | 03953 |
| Chengdu Telecom | 04196 |
| China Telecom | 04196, 02913, 03937 |
| China Unicom | 04366, 04196 |
| Chongqing Cable | 03954 |
| Chongqing Cable Networks | 03954 |
| CHT | 03647, 01917 |

| | |
|---|---|
| Chunghwa | 03647, 01917 |
| Cincinnati Bell | 01877, 01376 |
| Cisco | 01877, 00858, 03028, 01982, 02132, 02345, 02589, 01883, 01998, 01582, 02047, 02378, 02563, 02401, 02742, 03265, 02271, 02947, 03452 |
| Citycable | 03451, 03477 |
| CJ | 03322, 02897, 02979, 03340, 03407, 03849 |
| CJ Digital | 02979, 02897, 03322, 03340, 03407, 03849 |
| CJ HelloVision | 03322, 02897, 02979, 03340, 03407, 03849 |
| Claro | 01376, 00476 |
| ClubInternet | 02132 |
| CMA Communications | 01376 |
| CMB | 03389, 02979, 03498 |
| CMBTV | 03498 |
| CNS | 02980, 02350 |
| Cogeco | 01376, 01982, 00476 |
| Com Hem | 00660, 02447, 02832, 02015 |
| Comcast | 01982, 01376, 00476, 01877, 03560, 02187 |
| Comporium | 01877, 03560, 02187 |
| Consolidated Communications | 01877, 01376, 01998, 02302, 03048 |
| Coship | 01991, 02950, 03278, 04162, 04408, 04196 |
| Cosmic | 02897 |
| Cox | 01877, 01376, 00476 |
| CTS | 02703, 03474 |
| Daeryung | 01877 |
| Darty Box | 02436 |
| DASAN | 02683 |
| Delta | 03607, 02015, 00660, 02447, 02762 |
| DEN | 02726 |
| Deutsche Telekom | 02132 |
| Digeo | 02187 |
| Digi | 02762, 03479 |
| Digicable | 03382, 02479 |
| DigitAlb | 02493 |
| Director | 00476 |
| Dmg | 03835 |

| | |
|---|---|
| DNA | 02832, 00660, 02030 |
| Dom.ru TV | 02493 |
| Dream Satellite TV | 02493 |
| DSD | 03340 |
| DST | 03389 |
| Du | 02401 |
| DV | 02979 |
| Eagle Communications | 01376, 02187 |
| EastLink | 01376, 00476 |
| Echostar | 02955, 03452 |
| Elion | 03916 |
| Entertain | 02132 |
| Entone | 02302, 03048 |
| ER Telecom | 02493 |
| eTb | 04281 |
| Evolution | 02479, 02746, 04079 |
| Extra TV | 02132 |

■ Cable Set Top Box (F to J)

| | |
|---|---|
| Fastway | 03382 |
| FCTV | 01782, 02703 |
| Fidelity Communications | 01376 |
| Finnet | 02030, 02832 |
| First Media | 03783 |
| Freebox | 01976 |
| Frontier Communications | 02378 |
| Fujian Broadcast & TV Network Group | 04195 |
| Fujian Broadcast and TV | 04195 |
| Gangwon Broadcasting Network | 03407 |
| Gansu Cable | 04236 |
| GCI | 01376 |
| GCS | 03322 |
| GDCATV | 02980, 03131, 03132 |
| Gehua | 03278, 00476 |
| General Communications | 01376 |
| General Instrument | 00276, 00476 |
| Google | 03666 |
| Gospell | 04205 |
| Grande Communications | 01877, 03560, 01376 |
| Great Plains Communications | 01376 |
| Guangdong Cable | 02980, 03131, 03132 |

| | |
|---|---|
| Guangxi Broadcasting | 02897, 03407, 03961 |
| Guangxi Broadcasting Network | 02897, 03407, 03961 |
| Guangzhou Cable | 02945 |
| Guizhou Broadcasting Network | 03946 |
| Hana TV | 02681, 03442 |
| Hathw@y | 02043, 02726 |
| Hawaiian Telcom | 03028 |
| HBC | 01376, 01877, 01982, 02979, 03322, 03340, 03849 |
| HCN | 02979, 03340 |
| HD+ | 03607 |
| HDT | 03465 |
| Hebei Broadcasting | 04026, 03967 |
| Hebei Broadcasting Network | 04026, 03967 |
| Hebei Digital TV | 04205 |
| Hello TV | 03322 |
| HelloD | 02979 |
| Henan Cable | 04034 |
| HickoryTech | 01898, 02302 |
| Hikari TV | 03237 |
| Himawari TV | 01760 |
| Homecast | 02977, 02979, 03389 |
| Hong Kong Cable | 01374 |
| Hrvatski Telekom | 02132 |
| HSHONG | 03965, 03937, 04026 |
| Huashu | 04034 |
| Huawei | 02994, 03278, 03937, 01991, 02913, 04281, 01982 |
| Humax | 03607, 02762, 02043, 02447, 00660, 01981, 01983, 02620, 02832, 03560, 02165, 02683, 02701, 02889, 02715, 02962, 03051, 03053, 03075, 03319, 03849 |
| Hunan Cable Net | 04205 |
| HYA | 02989 |
| Hyroad | 02979 |
| HyTV | 02979, 03340 |
| Hyundai Digital Technology | 03465 |
| HZRTV | 02960 |
| I-Cable | 01374 |
| i-CAN | 01585, 02437 |
| I-Digital | 03319, 02979 |

| | |
|---|---|
| IMBTVN | 04106 |
| INESA | 03865 |
| Innovative Systems | 01898 |
| Inotel | 02437 |
| Inter Mountain Cable | 01877, 02479, 04079 |
| Invitel | 02437 |
| InviTV | 02437 |
| iTSCOM | 02703 |
| ITV | 02979, 03389, 04196, 03498 |
| J:COM | 01760, 02703, 03925, 01782, 02701, 02700, 02715, 02752, 03051, 03053 |
| Jambox | 02030 |
| JBC | 02979, 03322, 03340, 03849 |
| JCN North | 02703, 01760, 03474 |
| Jerrold | 00276, 00476 |
| Jiangsu Cable Network | 04022 |
| Jilin Broadcasting | 04009 |
| Jilin Cable | 04009 |
| Jinan Radio and Television Network | 04206 |
| Jishi Media | 04009 |
| Jiuzhou | 01991 |
| JP PTT | 01615 |
| JXCN | 03948 |

■ Cable Set Top Box (K to N)

| | |
|---|---|
| Kabel Deutschland | 03514, 01981, 01983, 02165, 03607, 02620 |
| KabelBW | 02889, 01981, 01983 |
| KabelNoord | 02015 |
| Kaon | 02493, 02889, 02746, 03407, 04409, 02682, 02979, 03389 |
| kbro | 02350, 03139 |
| KCN-TV | 02703 |
| KCT | 01760, 02703, 02752, 03474 |
| KCTV | 02979, 03340, 03389, 03849, 03322 |
| KCTV JEJU | 02979, 03340, 03389, 03849 |
| KCTV-KJ | 02979, 03340, 03389, 03849 |
| KDMC | 03319, 02979 |
| Kiryung | 03498 |
| Kiss | 02132, 02271 |
| KoolConnect | 01481 |
| KPN | 02952, 02437 |

| | |
|---|---|
| Kreatel | 02030 |
| KT | 02683, 03478 |
| Lattelecom | 02030 |
| LG | 03340, 02682, 03407, 02979, 03389, 03319 |
| LG U+ | 02682 |
| Linksys | 02271 |
| Lishui Huashu | 04034 |
| Longyan Broadcasting Cable & Tv | 04195 |
| Lumos Networks | 01998, 03028 |
| Magio Sat | 02132 |
| Magnet | 01615 |
| Maige TV | 03937 |
| Massillon Cable | 00476, 01376 |
| Matanuska Telephone Association | 01481, 02254, 02482, 02586 |
| Mediacom | 01376, 00476, 01982, 01877 |
| Mediastream | 01376, 00476 |
| Mega | 02683 |
| Mega TV | 02683 |
| Megacable | 01376, 00476 |
| Meo | 02401 |
| MetroCast Cablevision | 01376, 01982, 00476 |
| Mi-Connection | 01877 |
| Midcontinent Communications | 01376, 00476, 01982 |
| Mid-Hudson Cable | 00476, 01376 |
| Minerva Networks | 03118 |
| MIO | 02275, 02802 |
| mio TV | 02275, 02802 |
| Mitsubishi Electric | 03274 |
| MOD | 03647, 01917 |
| Motorola | 01376, 00476, 02378, 02437, 01998, 02030, 00858, 01982, 02952, 00276, 01562, 02275, 03916, 01585, 04034, 02401 |
| Movistar | 01585, 03288 |
| Moxi | 02187 |
| Moyo | 03611 |
| MTS | 01998, 03611, 01615, 01481, 01898 |
| MyLGTV | 02682 |
| NET | 01883 |
| NewWave Communications | 00476, 01376, 02187 |
| NIB | 03322 |

| | |
|---|---|
| Ningde Cable TV | 04195 |
| Noos | 02436 |
| Northland Communications | 01376 |
| Novus | 01376, 00476 |
| Now TV | 02009, 02014 |
| NTL | 01060, 00276 |
| NTT | 03237, 03274 |
| NTV Plus | 02762 |
| NU Telecom | 01998, 03028 |
| Numericable | 02436 |

■ Cable Set Top Box (O to S)

| | |
|---|---|
| O2 | 02586 |
| OCN | 03865 |
| Oi TV | 03452, 03454, 04165 |
| Olleh TV | 02683, 03478 |
| Olleh-Skylife | 02683, 03478 |
| Ono | 01562 |
| Open IPTV | 01615 |
| Optimum | 01877 |
| Optimus Clix | 02437 |
| Optus | 00276, 01060 |
| Orange | 02407 |
| Oriental Cable Networks | 03865 |
| Pace | 01376, 01060, 02620, 01982, 01877, 01998, 00858, 01582, 01883, 03454, 02294, 02401 |
| Panasonic | 02703, 02752, 03474, 01760, 01782, 01982 |
| Parasat | 03479 |
| Paul Bunyan Communications | 02254, 02586 |
| PCCW | 02009, 02057 |
| Philips | 01582, 02378, 03560, 02294 |
| Pioneer | 01782, 01877, 03925, 02700 |
| Pioneer Telephone | 02254, 02302 |
| Portugal Telecom | 02401 |
| Premiere | 02620 |
| Primacom | 02889 |
| Primestar | 02030 |
| PrimeTel | 03611, 02030, 02437 |
| PrimeTV | 02030 |
| PT | 02401 |
| PTCI | 01376 |

| | |
|---|---|
| PX | 03348 |
| QooK TV | 02683, 03478 |
| Qook-Skylife | 02683, 03478 |
| Qrix | 03465, 02979 |
| QuickLine | 02493 |
| Qwerty | 01898, 01481, 01615 |
| Qwerty.TV | 01898 |
| RCN | 01376, 00476, 03560 |
| Reach Broadband | 01376, 01877, 01982 |
| Reliance | 02556 |
| RIO Media | 02030 |
| Rogers | 01877, 01376 |
| Rostelecom | 03611 |
| Sagem | 02407, 02436, 03288 |
| Sagemcom | 03514, 02407, 02436, 03007, 03288 |
| Samsung | 03322, 02979, 03319, 01877, 02407, 02015, 03340, 03407, 03451, 03442, 03477, 02610, 02955, 01060, 02683, 03514, 03783, 02589, 02889, 02962, 03265, 03849, 03928, 01982, 01987 |
| SaskTel | 01998 |
| SBN | 03965 |
| Scientific Atlanta | 01877, 00858, 01982, 02401, 02345, 01987, 02047, 02436, 03028, 02378 |
| SCTV | 02493 |
| SCV | 02950 |
| Seokyung | 03340 |
| Service Electric | 01376, 00476, 01982 |
| SetaBox | 01917 |
| Shaanxi Broadcasting | 03965 |
| Shanghai | 03865 |
| Shanghai OCN | 03865 |
| Shanxi Broadcasting Network | 03965 |
| Shaw | 01376, 01877, 00476, 02187, 01982 |
| Shenzhen Broadcasting | 01991, 04162 |
| Shenzhen Digital TV | 01991, 04162 |
| Shijiazhuang Broadcasting | 04026 |
| Shimanto CATV | 02752 |
| Sichuan Broadcasting | 03953 |
| SingTel | 02275, 01998, 02802 |
| Siti Digital | 03664 |

| | |
|---|---|
| SK Broadband | 03442, 02681 |
| SK Btv | 02681, 03442 |
| Sky Austria | 02620, 02447, 02832 |
| Sky Deutschland | 02620, 02447, 02832 |
| SkyCable | 02950, 03521, 03527, 04177 |
| SkyLife | 02683, 03478 |
| Skyworth | 03298, 02960, 03278, 01991, 03521, 04177, 03946, 04162 |
| Smartlabs | 03611 |
| Smile Content | 02437 |
| SMT | 03527 |
| SMtronics | 03319 |
| Sogetel | 01998, 02482 |
| Sonaecom | 02437 |
| Sonera | 00660 |
| Source Cable | 01376, 00476 |
| Starcat | 02703, 01782 |
| StarHub | 01927, 00276 |
| Stipte | 01898 |
| Stofa | 02015 |
| Suddenlink | 01877, 01376, 01982, 03560, 00476 |
| Supercable | 00276 |
| Supercanal | 01376, 00476 |
| Suwon Cable | 03319 |
| Suzhou Cable Network | 04022 |
| SVA | 03865 |
| Swisscom | 02271 |
| SXBCTV | 03965 |

■ 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 |
| Astrell | 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 |
| Cignal | 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 Telekabel | 01195, 01197 |
| Dgtec | 01631, 02418 |
| Dick Smith Electronics | 02418, 02813 |
| Dicra | 02738, 02842, 03012 |
| Digenius | 00299, 00740 |
| Digi | 01416, 01195, 01197, 02026 |
| Digi Raum Electronics | 02622 |
| Digi Romania | 01416 |
| 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 |
| Philips | 00099, 00853, 02561, 01499, 01442, 02466, 01114, 01672, 02619, 02211, 03110, 03469, 00173, 00856, 00887, 02631 |
| Phoenix | 01956, 02418 |
| Phonotrend | 01780 |
| Pino | 01334 |
| Pioneer | 00853 |
| Pixel Magic | 02982 |
| PLDT | 02835, 02836, 02289 |
| PMB | 01611 |
| Polsat | 02262, 02527, 00253, 00853 |
| Portugal Telecom | 02466 |
| Premiere | 01429, 01114, 01195, 01197 |

| | |
|---|---|
| PremiumX | 03374 |
| Primacom | 01176, 01195, 01197 |
| Pro Basic | 00853 |
| ProLine | 01284 |
| PSI | 03539 |
| PT | 02466 |
| QooK TV | 03321 |
| Qook-Skylife | 03321 |
| Quelle | 00299 |
| Qwest | 01377 |
| RadioShack | 00869 |
| Radix | 01255 |
| Raduga TV | 01986, 02957 |
| RCA | 01291, 01442, 02108 |
| RCS | 01416 |
| Rebox | 02928 |
| RiksTV | 01692 |
| Rimax | 02938 |
| RIO Media | 01780 |
| Roadstar | 00853 |
| Rollmaster | 01413 |
| Ross | 02540 |
| SAB | 01956, 01631, 04197, 01300 |
| Saba | 00740, 02205 |
| Sagem | 01692, 01690, 01114, 02553, 01307 |
| Sagemcom | 01692, 04024, 03789 |
| Saivod | 02418 |
| Samart DTH | 03576, 03574 |
| Samsung | 03063, 00253, 01442, 01377, 02467, 01682, 01989, 03266, 00853, 01662, 02525, 03321, 03784, 03834, 03838, 01255, 01693 |
| Sansui | 01545 |
| Sanyo | 01626 |
| Sat Control | 01300 |
| Sat Industrie | 01611 |
| SAT+ | 01409 |
| SatCatcher | 01956 |
| Satforce | 03374 |
| Satplus | 01100 |
| SatyCon | 01631 |
| Schaub Lorenz | 02034, 02418 |

| | |
|---|---|
| Schneider | 02842 |
| Schwaiger | 01672, 01429, 02308, 02458, 01631, 02797, 02813, 00740, 01334, 02957 |
| Schwaiger CS | 01631 |
| Scott | 02738 |
| SCS | 00299, 00740 |
| Sedea | 01626 |
| Sedea Electronique | 01626 |
| SEG | 01626, 01284, 02034 |
| Sencor | 02813 |
| Servimat | 01611 |
| Set-One | 03240, 02728 |
| Shark | 01631 |
| Sharp | 01935, 02034 |
| Shaw Direct | 00869 |
| Sherwood | 01409 |
| Shinelco | 02738, 02278, 02938 |
| SHOI | 02938 |
| Siemens | 00173, 01657, 01429, 02418, 01626, 01334, 01672 |
| Sigmatek | 02418, 02813, 02738 |
| SignalMAX | 01956 |
| Silva | 00299 |
| Silva Schneider | 00740 |
| SilverCrest | 02026, 02308, 02458, 02932 |
| SKY | 01662 |
| Sky Austria | 02754, 02443, 01429, 01114, 01915, 01195, 01197 |
| Sky Brasil | 01377, 03110, 00887, 00856, 00099, 01499, 02619 |
| Sky Deutschland | 02754, 02443, 01429, 01114, 01915, 01195, 01197 |
| Sky Ireland | 01175, 01662, 00847 |
| Sky Italia | 01693, 02467, 00853 |
| Sky Mexico | 00856, 02619, 00887, 01377, 03469 |
| Sky New Zealand | 02211, 00887, 00856, 01356 |
| SKY PerfecTV! | 03099, 02616, 03049 |
| Sky UK | 01175, 01662, 00847 |
| SkyCable | 01631, 01957 |
| SkyLife | 03321, 01255 |
| Skylink | 02957, 01545, 02443, 02928, 01195, 01197, 01986 |

| | |
|---|---|
| Skymaster | 01409, 02205, 01611, 02728, 02932, 01545, 01334 |
| Skymax | 01413 |
| Skypex | 00740 |
| Skyplus | 01334, 02026, 00740, 01175 |
| SkySat | 01100 |
| Skytec | 02928 |
| Skyvision | 02797, 01334 |
| SkyWay | 02928 |
| Skyworth | 01631, 02835, 02836 |
| SL | 00740, 02026, 00299, 01672 |
| SM Electronic | 01409 |
| Smart | 01631, 01413, 03095, 02289, 00740, 00299 |
| Sogo | 02842 |
| Sonera | 01780, 01957 |
| Sony | 01558, 00847, 00853, 03049 |
| Spiderbox | 03562 |
| Star | 00887 |
| Star Choice | 00869 |
| Starmax | 02638 |
| Steinner | 02738 |
| Stream System | 01300 |
| Strong | 01409, 02235, 01626, 02278, 02418, 02813, 00879, 03424, 00853, 01300, 03374, 01284, 01682 |
| Sun Box | 03571 |
| Sun Direct | 02525 |
| Sunny | 01300 |
| Sunstech | 02738 |
| Supernova | 00887 |
| Supratech | 01413 |
| Systec | 01334 |
| Sytech | 02418, 02842, 03012 |
| S-ZWO | 03374 |
| TATA Sky | 03575 |
| TBoston | 02418 |
| TDS Telecom | 00775 |
| Teac | 01957, 01322, 02813 |
| Technical | 01626 |
| Technicolor | 03469, 03790 |
| Technika | 01284, 01672, 02034 |

| | |
|---|---|
| TechniSat | 01197, 01195, 01100, 01099, 01351, 03440, 02813, 01322 |
| Technoit | 02278 |
| Technosonic | 01672 |
| Technotrend | 01429, 01672, 02263 |
| Techwood | 01284, 02034, 01626, 01935 |
| Tecsat | 01986 |
| TEKCOMM | 02738 |
| Telasat | 02466 |
| TELE System | 02750, 01611, 01409, 02739, 03726, 02813 |
| Tele2 | 01195, 01197 |
| Telefonica | 01692, 02262, 02527, 02263 |
| TeleSAT | 02631, 02466 |
| Telestar | 01100, 01099, 01334, 01197, 02540, 01195, 01351, 01626, 01672 |
| Televes | 01300, 01334 |
| Televisa | 00887 |
| TelkomVision | 04310 |
| Telsey | 02738 |
| TelSKY | 02540 |
| Telstra | 01356 |
| TELUS | 00775 |
| Tesla | 01626 |
| Tevion | 02205, 01409, 01672, 02026, 02813 |
| Thai | 03573, 03539 |
| Thomson | 01291, 01935, 01662, 00847, 00853, 01175, 02278, 01307, 02160, 02619, 03110 03469 |
| Tiny | 01672 |
| Titan | 02205 |
| Tividi | 01429 |
| TiVo | 01377, 01442 |
| TivuSat | 02750 |
| T-Mobile | 02631, 02443, 01545 |
| TNT SAT | 01692, 01195, 01197, 01986 |
| Tokai | 02938 |
| Tonna | 01611, 02458 |
| Topfield | 01545, 01986, 01208, 02838 |
| Toshiba | 01803, 01284, 01429 |
| TPS | 01307 |
| Transparent Video Systems | 01780, 01957 |

| | |
|---|---|
| TrekStor | 02738 |
| Triax | 01291, 01626, 00853, 01099, 01611, 01631 |
| Tricolor TV | 02622, 03064 |
| True Visions | 03140, 01208, 02408, 03784 |
| TT-micro | 01429 |
| TV Cabo | 02160 |
| TV Star | 03012 |
| TV Vlaanderen | 02631, 00853, 02466 |
| TVA Digital | 02895, 01692, 02262 |
| TVB | 01989 |
| TVonics | 01906, 01803 |
| Twinner | 01611 |
| UEC | 00879, 01356 |
| UfaNet | 01986 |
| UNE | 01692 |
| United | 02842, 02278, 03012, 01626, 02418 |
| Unitymedia | 01429, 01882, 01915 |
| Universum | 00173, 00299, 00740, 01099 |
| Unixbox | 01652 |
| UPC | 01780, 02443 |
| UPC Cablecom | 01195, 01197 |
| UPC Direct | 02443 |
| Vantage | 02797 |
| Variosat | 00173 |
| VEA | 02418 |
| Vectra | 01195, 01197 |
| Vestel | 01626, 01284, 02231, 02034, 03517 |
| VH Sat | 00299 |
| Via Embratel | 03787, 02796 |
| Viasat | 01682, 01197, 01195, 02235, 00253 |
| Videocon | 03077 |
| Vietnam Television Corporation | 03834 |
| Viola Digital | 01672 |
| Vision | 01626 |
| VisionNet | 01631 |
| Visiosat | 01413 |
| Vistron | 00740 |
| Vitecom | 01413 |
| Viva | 00856 |
| Vivax | 02418 |
| Vivo | 02262, 02895, 01692, 02527 |

| | |
|---|---|
| Volcasat | 02418 |
| Voom | 00869 |
| VTC | 03834 |
| Vu+ | 03458, 02799, 03543 |
| Walker | 02034 |
| Wavelength | 01413 |
| Wharfedale | 01935, 02034, 01284, 01906 |
| Winix | 02278 |
| Wintel | 00299 |
| Wisi | 00740, 00173, 00299, 02957, 01986 |
| Woxter | 02418, 02813 |
| Xoro | 02813, 02738, 03012, 03422 |
| Xtreme | 01300 |
| Xtrend | 03320 |
| Yakumo | 01413 |
| Yes | 00887, 01887 |
| Youview | 03140 |
| ZapMaster | 00740 |
| Zehnder | 01777, 03422, 01334, 01413, 02289, 03424, 02034, 00740, 01631 |
| Zenega | 02604 |
| Zenith | 00856, 03110, 03469 |
| Ziggo | 02443, 01499, 01657, 00253 |
| Zircon | 02957 |
| Zodiac | 03726 |
| Zon | 02160 |
| Zon Optimus | 02160 |

■ Video - Accessory

| | |
|---|---|
| A.C.Ryan | 02709, 03350 |
| ABS | 01272 |
| Acer | 01272 |
| Alienware | 01272 |
| Apple | 02615 |
| ASRock | 01272 |
| Boxee | 03693 |
| Ceton | 01272 |
| Claritas | 01272 |
| CyberPower | 01272 |
| Daily Media | 01272 |
| Dell | 01272 |
| Digitech | 02260 |

| | |
|---|---|
| D-Link | 03671, 03693, 02186 |
| Elonex | 01272 |
| Eminent | 03215, 02260 |
| Emtec | 02709 |
| Fantec | 03350, 02709 |
| Fujitsu Siemens | 01272 |
| Funai | 03339 |
| Gateway | 01272 |
| G-Box Midnight | 04440 |
| Hewlett Packard | 01272 |
| hFX | 01272 |
| Howard Computers | 01272 |
| HP | 01272 |
| Hush | 01272 |
| iBUYPOWER | 01272 |
| iconBIT | 03350, 02709 |
| ICY Box | 03350 |
| iNext | 03350 |
| Iomega | 02558 |
| ISTAR | 02260 |
| JadooTV | 02260 |
| Keedox | 04442 |
| LG | 03373 |
| Linksys | 01272 |
| Magnavox | 03339 |
| Mede8er | 02709 |
| Media Center PC | 01272 |
| Micca | 03669 |
| Microsoft | 01272, 01805, 04000 |
| Mind | 01272 |
| Netgear | 03324, 04401, 03292 |
| NiveusMedia | 01272 |
| Northgate | 01272 |
| Omniverse | 04421 |
| Packard Bell | 01272 |
| Panasonic | 03760 |
| Philips | 01272 |
| Pivos | 04339 |
| PopBox | 02260 |
| Popcorn Hour | 02260 |
| RCA | 03335 |

| | |
|---|---|
| Ricavision | 01272 |
| Roku | 03061, 02371 |
| Seagate | 02698 |
| Sony | 02713, 01272 |
| Stack 9 | 01272 |
| Sumvision | 04339 |
| Systemax | 01272 |
| Tagar Systems | 01272 |
| Toshiba | 01272 |
| Touch | 01272 |
| TrekStor | 02723 |
| Trust | 01272 |
| VIA Technologies | 01272 |
| Viewsonic | 01272 |
| VIZIO | 03670 |
| Voodoo | 01272 |
| Western Digital | 02558 |
| Woxter | 02709 |
| Xbox | 01805, 04000, 01272 |
| Xtreamer | 02723 |
| ZT Group | 01272 |

■ CD

| | |
|---|---|
| A.V.International | 70157 |
| ADVANTAGE | 70032 |
| AH! | 70157 |
| Aiwa | 70157 |
| Arcam | 70157 |
| Atoll | 70157 |
| Atoll Electronique | 70157 |
| Audio Research | 70157 |
| Audiolab | 70157 |
| Audiomeca | 70157 |
| Audioton | 70157 |
| AVI | 70157 |
| Balanced Audio Technology | 70157 |
| BAT | 70157 |
| Cairn | 70157 |
| California Audio Labs | 70029, 70303 |
| Cambridge | 70157 |
| Cambridge Audio | 70157 |
| Carver | 70157 |

| | |
|---|---|
| CCE | 70157 |
| Curtis Mathes | 70029 |
| Cyrus | 70157 |
| Denon | 70766 |
| DKK | 70000 |
| DMX Electronics | 70157 |
| Dynaco | 70157 |
| Epworth | 70157 |
| Genexxa | 70032, 70000 |
| Goldmund | 70157 |
| Grundig | 70157 |
| Harman/Kardon | 70157, 73044 |
| HIFIAkademie | 70157 |
| Hitachi | 70032 |
| JVC | 70072 |
| Integra | 71817 |
| Kenwood | 70036, 70157 |
| Krell | 70157 |
| Linn | 70157 |
| Loewe | 70157 |
| Magnavox | 70157 |
| Marantz | 70157, 70029 |
| Matsui | 70157 |
| MCS | 70029 |
| Memorex | 70032 |
| Meridian | 70157 |
| Micromega | 70157 |
| Miro | 70000 |
| Mission | 70157 |
| Myryad | 70157 |
| NAD | 70721, 70000 |
| Naim | 70157 |
| New Acoustic Dimension | 70721, 70000 |
| NSM | 70157 |
| Onkyo | 71817 |
| Optimus | 70032, 70000 |
| Panasonic | 70303, 70029 |
| Philips | 70157 |
| Pioneer | 70032 |
| Polk Audio | 70157 |
| Primare | 70157 |

| | |
|---|---|
| Proton | 70157 |
| QED | 70157 |
| Quad | 70157 |
| Quasar | 70029 |
| Radiola | 70157 |
| RCA | 70032 |
| Restek | 70157 |
| Revox | 70157 |
| Rotel | 70157 |
| SAE | 70157 |
| Sansui | 70157 |
| SAST | 70157 |
| Siemens | 70157 |
| Silsonic | 70036 |
| Simaudio | 70157 |
| Sonic Frontiers | 70157 |
| Sony | 70000, 70490 |
| Sylvania | 70157 |
| TAG McLaren | 70157 |
| TAG McLaren Audio | 70157 |
| Tandy | 70032 |
| Tascam | 73095, 73511, 73533 |
| Teac | 73095, 73531, 73532, 73551 |
| Technics | 70303, 70029, 70207 |
| Thorens | 70157 |
| Thule Audio | 70157 |
| Universum | 70157 |
| Victor | 70072 |
| Wards | 70032, 70000, 70157 |
| Yamaha | 70036, 70032, 70490 |
| Zonda | 70157 |

■ Cassette Deck

| | |
|---|---|
| Aiwa | 40029 |
| Arcam | 40076 |
| Audiolab | 40029, 40229 |
| Carver | 40029 |
| Denon | 40076 |
| Epworth | 40029 |
| Grundig | 40029 |
| Harman/Kardon | 40029 |
| Inkel | 40070 |

| JVC | 40244 |
|---|---|
| Kenwood | 40070 |
| Magnavox | 40029 |
| Marantz | 40029 |
| Myryad | 40029 |
| Onkyo | 42157 |
| Optimus | 40027 |
| Panasonic | 40229 |
| Philips | 40029, 40229 |
| Pioneer | 40027 |
| Polk Audio | 40029 |
| Radiola | 40029 |
| RCA | 40027 |
| Revox | 40029 |
| Sansui | 40029 |
| Sony | 40243, 40170 |
| Tascam | 73095 |
| Technics | 40229 |
| Thorens | 40029 |
| Universum | 40029 |
| Victor | 40244 |
| Wards | 40027, 40029 |
| Yamaha | 40097 |

🟦 **Receiver**

| Integra | 52503 |
|---|---|
| Onkyo | 52503 |

🟦 **Audio - Accessory**

| Apple | 81115 |
|---|---|
| Jamo | 82228 |
| Onkyo | 81993, 82990, 82351, 82352, 82353 |
| Polk Audio | 82228 |

🟦 **IPTV**

| ADB | 02586, 01585, 01481, 01998, 02254, 02302, 02437, 03028 |
|---|---|
| Aland | 02030, 02437 |
| Alands Datakommunikation | 02030, 02437 |
| Alcom | 02030, 02437 |
| Altibox | 02437, 02030 |
| Amino | 01615, 01898, 01481, 02482, 01998, 02302, 03028 |
| Arcadyan | 02952 |

| | |
|---|---|
| Arkwest | 02482, 01481, 01998, 02302 |
| Arris | 01998, 02378 |
| Arvig Communication Systems | 01998, 02345 |
| AT&T | 00858 |
| AT&T U-verse | 00858 |
| ATMC | 03028 |
| B tv | 02681, 03442 |
| BBTV | 02980 |
| BEK Communications | 02254, 02302 |
| Belgacom TV | 02047, 02132 |
| Bell | 01998 |
| Bell Aliant | 01998 |
| Bell ExpressVu | 01998 |
| Bell Fibe TV | 01998 |
| BesTV | 04196 |
| Bluewin | 02271 |
| Bouygues Telecom | 03007 |
| British Telecom | 02294 |
| BT | 02294 |
| BT Vision | 02294 |
| Cabovisao | 02436 |
| CalTel Connections | 02586 |
| Canal Digital | 02030 |
| Canby Telcom | 01481, 02302 |
| Celrun | 03442 |
| CenturyLink | 01998 |
| Channel Master | 03118 |
| China Telecom | 04196, 02913, 03937 |
| China Unicom | 04366, 04196 |
| CHT | 03647, 01917 |
| Chunghwa | 03647, 01917 |
| Cisco | 00858, 03028, 02132, 02345, 02047, 02378, 01998, 02271, 03452 |
| ClubInternet | 02132 |
| CNS | 02980 |
| Consolidated Communications | 01998, 02302, 03048 |
| Coship | 04196 |
| Deutsche Telekom | 02132 |
| DNA | 02030 |
| Du | 02401 |
| Echostar | 03452 |
| Elion | 03916 |

| | |
|---|---|
| Entertain | 02132 |
| Entone | 02302, 03048 |
| eTb | 04281 |
| Evertek | 02302 |
| Finnet | 02030 |
| Freebox | 01976 |
| Frontier Communications | 02378 |
| GDCATV | 02980 |
| Google | 03666 |
| Guangdong Cable | 02980 |
| Guangxi Broadcasting | 02897 |
| Guangxi Broadcasting Network | 02897 |
| Hana TV | 02681 |
| Hathw@y | 02043 |
| Hikari TV | 03237 |
| HSHONG | 03937 |
| Huawei | 02994, 03937, 02913, 04281 |
| i-CAN | 02437 |
| Innovative Systems | 01898 |
| Inotel | 02437 |
| Invitel | 02437 |
| InviTV | 02437 |
| ITV | 04196 |
| Jambox | 02030 |
| JP PTT | 01615 |
| Kaon | 04409, 02682 |
| kbro | 03139 |
| Kiss | 02132, 02271 |
| KoolConnect | 01481 |
| KPN | 02952, 02437 |
| Kreatel | 02030 |
| KT | 02683 |
| LG | 02682 |
| LG U+ | 02682 |
| Linksys | 02271 |
| Lumos Networks | 01998, 03028 |
| Magio Sat | 02132 |
| Magnet | 01615 |
| Maige TV | 03937 |
| Matanuska Telephone Association | 01481, 02254, 02482, 02586 |
| Mega TV | 02683 |

| | |
|---|---|
| Meo | 02401 |
| MHTC | 01481, 01998, 02254, 02302, 02482 |
| Minerva Networks | 03118 |
| MIO | 02275, 02802 |
| mio TV | 02275, 02802 |
| Mitsubishi Electric | 03274 |
| MM&G Enterprises | 01481, 01998, 02302, 02482 |
| MOD | 03647, 01917 |
| Motorola | 02378, 02437, 01998, 02030, 00858, 02952, 02275, 03916, 01585, 02401 |
| Movistar | 01585, 03288 |
| Moyo | 03611 |
| MTS | 01998, 03611, 01615, 01481, 01898 |
| MyLGTV | 02682 |
| Now TV | 02009, 02014 |
| NTT | 03237, 03274 |
| NU Telecom | 01998, 03028 |
| Numericable | 02436 |
| Oi TV | 03452, 03454, 04165 |
| Open IPTV | 01615 |
| Optimus Clix | 02437 |
| Orange | 02407 |
| Pace | 01998, 00858, 03454, 02294, 02401 |
| PCCW | 02009, 02057 |
| Philips | 02378 |
| Pioneer Telephone | 02254, 02302 |
| Portugal Telecom | 02401 |
| Primestar | 02030 |
| PrimeTel | 02030, 02437, 03611 |
| PrimeTV | 02030 |
| PT | 02401 |
| Qwerty | 01898, 01481, 01615 |
| Qwerty.TV | 01898 |
| Reliance | 02556 |
| RIO Media | 02030 |
| Rostelecom | 03611 |
| Sagem | 02407, 03288 |
| Sagemcom | 02436, 02407, 03007 |
| Samsung | 02407 |
| SaskTel | 01998 |
| Scientific Atlanta | |

|  |  |
|---|---|
|  | 00858, 02345, 02047, 02401, 03028, 02378 |
| SetaBox | 01917 |
| SingTel | 02275, 01998, 02802 |
| SK Broadband | 03442, 02681 |
| SK Btv | 02681, 03442 |
| Sky Austria | 02620 |
| Sky Deutschland | 02620 |
| Smartlabs | 03611 |
| Smile Content | 02437 |
| Sogetel | 01998 |
| Sonaecom | 02437 |
| SureWest | 01998, 01481, 02254, 02482, 02586 |
| Swisscom | 02271 |
| TalkTalk | 02994 |
| TCC | 04409 |
| TDC | 02271 |
| Technicolor | 02994 |
| Telefonica | 01585, 03028, 03288 |
| Telekom Deutschland | 02132 |
| Telia | 02030 |
| TELUS | 03028 |
| TeNeT | 01898 |
| T-Home | 02132 |
| Thomson | 03007, 02407 |
| TVB | 01615 |
| U+ tvG | 02682 |
| U-verse | 00858 |
| Verizon | 02378 |
| Viasat | 02030 |
| Viken Fibernett | 02030, 02437 |
| Vivo | 03288 |
| Vodafone | 02401 |
| WNC | 03118 |
| Youview | 02994 |
| Yuxing | 02014 |
| Zinwell | 03139 |
| ZTE | 04196 |

■ IPTV PVR Combination

|  |  |
|---|---|
| ADB | 01585, 02254, 02437 |
| Altibox | 02437 |

| | |
|---|---|
| Amino | 01615, 01898 |
| Arcadyan | 02952 |
| Arris | 01998, 02378 |
| AT&T | 00858 |
| AT&T U-verse | 00858 |
| ATMC | 03028 |
| BBTV | 02980 |
| Belgacom TV | 02047, 02132 |
| Bell | 01998 |
| Bell Aliant | 01998 |
| Bell ExpressVu | 01998 |
| Bell Fibe TV | 01998 |
| Bluewin | 02271 |
| Bouygues Telecom | 03007 |
| British Telecom | 02294 |
| BT | 02294 |
| BT Vision | 02294 |
| Cabovisao | 02436 |
| Canal Digital | 02030 |
| CenturyLink | 01998 |
| CHT | 03647 |
| Chunghwa | 03647 |
| Cisco | 03028, 02132, 00858, 02047, 02345, 02271, 02378, 03452 |
| ClubInternet | 02132 |
| CNS | 02980 |
| Consolidated Communications | 01998 |
| Deutsche Telekom | 02132 |
| Du | 02401 |
| Echostar | 03452 |
| Elion | 03916 |
| Entertain | 02132 |
| Entone | 03048 |
| Freebox | 01976 |
| Frontier Communications | 02378 |
| GDCATV | 02980 |
| Glashart Media | 01615, 01898 |
| Google | 03666 |
| Guangdong Cable | 02980 |
| Hikari TV | 03237 |
| Huawei | 02994 |
| i-CAN | 02437 |

| | |
|---|---|
| Innovative Systems | 01898 |
| Invitel | 02437 |
| InviTV | 02437 |
| Kaon | 04409 |
| kbro | 03139 |
| Kiss | 02132, 02271 |
| KPN | 02952, 02437 |
| Linksys | 02271 |
| Lumos Networks | 01998 |
| Magio Sat | 02132 |
| Magnet | 01615 |
| Meo | 02401 |
| MetroNet | 01998 |
| Minerva Networks | 03118 |
| Mitsubishi Electric | 03274 |
| MOD | 03647 |
| Motorola | 01998, 02437, 02378, 02952, 00858, 03916, 01585, 02030, 02401 |
| Movistar | 01585 |
| MTS | 01998, 01615, 01481, 01898 |
| NTT | 03237, 03274 |
| Numericable | 02436 |
| Oi TV | 03452, 03454, 04165 |
| Orange | 02407 |
| Pace | 00858, 01998, 03454, 02294, 02401 |
| Philips | 02378 |
| Portugal Telecom | 02401 |
| PrimeTel | 02437 |
| PT | 02401 |
| Qwerty | 01898 |
| Sagem | 02407, 03288 |
| Sagemcom | 02436, 03007, 02407 |
| Samsung | 02407 |
| SaskTel | 01998 |
| Scientific Atlanta | 00858, 02047, 02401, 02345, 03028, 02378 |
| Sky Austria | 02620 |
| Sky Deutschland | 02620 |
| SureWest | 01998 |
| Swisscom | 02271 |
| TalkTalk | 02994 |
| TCC | 04409 |

| | |
|---|---|
| TDC | 02271 |
| Telefonica | 01585, 03028, 03288 |
| Telekom Deutschland | 02132 |
| TELUS | 03028 |
| T-Home | 02132 |
| Thomson | 03007 |
| U-verse | 00858 |
| Verizon | 02378 |
| Vodafone | 02401 |
| WNC | 03118 |
| Youview | 02994 |
| Zinwell | 03139 |

■ SAT_PVR Combination

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

| | |
|---|---|
| Canal Digitaal | 02631, 02466, 02957 |
| Canal Digital | 02553 |
| Canal+ | 02657 |
| CanalSat | 02657 |
| CityCom | 02957 |
| Clarke-Tech | 03320 |
| Claro | 03790 |
| CMX | 02932 |
| Comag | 02797, 02813, 02308 |
| Coship | 03790 |
| Cyfrowy Polsat | 02527 |
| DCR | 03517 |
| Deutsche Telekabel | 01195, 01197 |
| Digenius | 00740 |
| Digi | 01195, 01197 |
| Digihome | 02034 |
| DigiQuest | 01300 |
| Digital | 02308 |
| DigitAlb | 01195, 01197 |
| DigitalBox | 02540, 03240 |
| Digiturk | 03517, 02097 |
| Dilog | 01957 |
| DirecTV | 01377, 01442, 00099 |
| Dish Mexico | 00775 |
| Dish Network | 00775 |
| DishHD | 04090 |
| Dishpro | 00775 |
| DNA | 01957 |
| DragonSat | 02928 |
| Dream Multimedia | 01237, 01923 |
| D-Smart | 02231 |
| DSTV | 02059, 02060 |
| DTK Deutsche Telekabel | 01195, 01197 |
| Dyon | 02738, 02813 |
| Easy-One | 03240 |
| Echostar | 00775, 02527 |
| Edision | 01631 |
| Elta | 02738 |
| Engel | 03749 |
| Etisalat | 02443 |
| Eurosky | 00740 |

| | |
|---|---|
| FaVal | 03422 |
| Ferguson | 02638 |
| Finnet | 01957 |
| Foxtel | 01356 |
| Freesat | 01692, 02928, 03266 |
| Freesat+ | 02443, 03266 |
| Fuji Onkyo | 01631 |
| Galaxy Innovations | 02799, 04197 |
| General Satellite | 03064 |
| Gi | 02799, 04197 |
| GigaBlue | 03663 |
| Globo | 02957 |
| Golden Media | 04197 |
| GoldMaster | 02928 |
| Goodmans | 02034 |
| Grundig | 02738, 03424 |
| GVT | 03789 |
| Handan | 01957 |
| HD Box | 02928 |
| HD+ | 02797, 03095 |
| Hirschmann | 00740 |
| Hitachi | 02034 |
| Hughes Network Systems | 01442 |
| Humax | 02443, 01176, 01377, 03517, 01427, 01808, 02231, 02408, 02754 |
| IceCrypt | 04197, 02928 |
| ID Sat | 01334 |
| Indovision | 01989 |
| iNETBOX | 01237 |
| Intv | 04348 |
| Inverto | 03095 |
| Jaeger | 02797 |
| JVC | 00775 |
| Kamosonic | 02738 |
| Kaon | 01300 |
| Kathrein | 02569, 01561, 03658, 00658 |
| Labgear | 03424 |
| LaSAT | 00740 |
| LinkBox | 02957 |
| LogiSat | 02797, 02813 |
| Luxor | 01935 |
| M vision | 03562 |

| | |
|---|---|
| M7 | 02631 |
| Marusys | 02799, 03543 |
| Maspro | 03099 |
| Maximum | 01334, 02813 |
| Medion | 02797, 00740 |
| MegaSat | 01631, 02813, 02034, 02738 |
| Meo | 02466 |
| Mercury | 03422 |
| Micro | 02797, 02813 |
| Micro electronic | 02308 |
| Miraclebox | 02928 |
| Motorola | 00869 |
| Movistar | 02527 |
| Multichoice | 02059, 02060 |
| Mysat | 02738 |
| MySky Italia | 02467 |
| MySky New Zealand | 01356, 02211 |
| NEOTION | 01334 |
| Nova | 02475 |
| NTV Plus | 01307, 01692, 02443 |
| Octagon | 02928 |
| Openbox | 02928 |
| Opensat | 02957, 02719 |
| Opticum | 02957, 02797, 02932 |
| Orbitech | 01195, 01197 |
| Orton | 02957 |
| Pace | 01682, 01175, 02754, 02475, 02231, 01356, 02467, 02631, 02657, 03790, 01662, 02097, 02211, 02059, 02060, 02466, 02895 |
| Panasonic | 03099 |
| Philips | 01442, 02466, 00099, 02631 |
| Polsat | 02527 |
| Portugal Telecom | 02466 |
| PT | 02466 |
| Qwest | 01377 |
| Raduga TV | 02957 |
| RCA | 01442 |
| Rebox | 02928 |
| Ross | 02540 |
| SAB | 04197 |
| Sagem | 01692, 02553, 01307 |

| | |
|---|---|
| Sagemcom | 03789, 01692 |
| Samsung | 03063, 01442, 01682, 01989, 02467, 01377, 03266, 01662, 03784, 03838, 01693 |
| Sansui | 01545 |
| Sat Control | 01300 |
| Schwaiger | 02308, 00740, 02957 |
| SEG | 02034 |
| Set-One | 03240 |
| Sharp | 02034, 01935 |
| Shaw Direct | 00869 |
| Siemens | 01657 |
| SilverCrest | 02308, 02932 |
| Sky Austria | 02754, 02443 |
| Sky Brasil | 01377 |
| Sky Deutschland | 02754, 02443 |
| Sky Ireland | 01175, 01662 |
| Sky Italia | 02467, 01693 |
| Sky New Zealand | 02211, 01356 |
| SKY PerfecTV! | 03099 |
| Sky UK | 01175, 01662 |
| SkyCable | 01631, 01957 |
| Skylink | 02957, 01545, 02443, 02928, 01195, 01197 |
| Skymaster | 02932, 01545 |
| Skypex | 00740 |
| Skyplus | 00740, 01175, 01334 |
| Skytec | 02928 |
| Skyvision | 02797 |
| SkyWay | 02928 |
| Skyworth | 01631 |
| SL | 00740 |
| Smart | 03095, 01631 |
| Spiderbox | 03562 |
| Star Choice | 00869 |
| Starmax | 02638 |
| Stream System | 01300 |
| Strong | 03424, 01300, 02813, 01682, 02278 |
| Sunny | 01300 |
| TDS Telecom | 00775 |
| Teac | 01957 |
| Technicolor | 03790 |

| | |
|---|---|
| TechniSat | 01197, 01195, 03440 |
| Technotrend | 01429 |
| Techwood | 02034 |
| Telasat | 02466 |
| Telefonica | 01692, 02527 |
| TeleSAT | 02631, 02466 |
| Telestar | 02540, 01195, 01197 |
| TelkomVision | 04310 |
| TelSKY | 02540 |
| Telstra | 01356 |
| TELUS | 00775 |
| Thomson | 01662, 01175, 01935, 01307, 02160 |
| TiVo | 01377, 01442 |
| T-Mobile | 02631, 02443, 01545 |
| TNT SAT | 01692 |
| Topfield | 01545, 02838 |
| TPS | 01307 |
| Tricolor TV | 03064 |
| True Visions | 03784 |
| TV Cabo | 02160 |
| TV Vlaanderen | 02631, 02466 |
| TVA Digital | 02895 |
| TVonics | 01906 |
| UPC | 02443 |
| UPC Direct | 02443 |
| Vantage | 02797 |
| Vestel | 02231, 03517 |
| Via Embratel | 02796 |
| Viasat | 01682, 01197, 01195 |
| Vivo | 02895, 01692, 02527 |
| Vu+ | 03458, 02799, 03543 |
| Wisi | 00740, 02957 |
| Xoro | 02738, 02813, 03422 |
| Xtreme | 01300 |
| Xtrend | 03320 |
| Zehnder | 03422, 03424, 01777, 02034, 00740 |
| Ziggo | 02443 |
| Zircon | 02957 |

■ TV_DVD Combination

| | |
|---|---|
| AEG | 12197, 12239 |
| Affinity | 13870, 13717 |

| | |
|---|---|
| Akai | 12676, 13067, 12197 |
| Akura | 12289, 11983, 12239 |
| Alba | 12676, 13005, 13067, 12104 |
| Apollo | 12239 |
| Audiosonic | 12104, 11983 |
| Audiovox | 11769 |
| Azuki | 12239 |
| Baier | 12239 |
| Bauer | 12197 |
| Beko | 12239 |
| Black Diamond | 11037 |
| Blaupunkt | 12426 |
| Blue Sky | 11037 |
| BlueDiamond | 12426 |
| Bush | 13005, 12676, 11983, 12104, 10698, 11037 |
| Celcus | 12676 |
| cello | 12673 |
| Centrum | 11037 |
| Coby | 13627, 12315 |
| Crown | 11037 |
| Currys Essentials | 12486 |
| Curtis | 12855, 12466, 13895, 13636, 14035 |
| Dantax | 12676 |
| Denver | 12197, 13067, 12239 |
| DGM | 12239 |
| Digihome | 12676 |
| Digimate | 12239 |
| Digitrex | 13067 |
| diVision | 12197, 12239 |
| Dual | 12197, 12676, 11037 |
| Durabrand | 10171 |
| D-Vision | 12197 |
| Dynex | 12049 |
| Easy Living | 12104 |
| ECG | 12197, 12125 |
| Electrohome | 11670 |
| Element | 12964 |
| Elfunk | 11037 |
| Emerson | 11886, 11864, 11394, 10171 |
| e-motion | 12426 |
| Enox. | 12673 |

| | |
|---|---|
| Essentials | 12486 |
| Favi | 13382 |
| Ferguson | 13005, 12426, 11037, 12676 |
| Finlux | 12676 |
| Funai | 11394 |
| Goodmans | 11983, 11037, 11687, 12676, 12426 |
| Gran Prix | 12197 |
| Grundig | 12239, 12125, 12676 |
| Haier | 11753, 12309, 13429, 11749, 11983 |
| Hantarex | 12197 |
| Hikona | 11983 |
| Hisense | 13519 |
| Hitachi | 12676, 11037, 11667 |
| Hyundai | 12676 |
| Ingo Devices | 12239 |
| Insignia | 12049 |
| iSymphony | 13429 |
| Jay-tech | 13067 |
| JMB | 12676 |
| JTC | 13067 |
| JVC | 12271, 11670, 11774, 12676, 11601 |
| Kuppersbusch | 12676 |
| Lenco | 12676, 11983 |
| LG | 11860, 11423 |
| Linetech | 12676 |
| Linsar | 12676 |
| Logik | 13432, 13005, 12486, 11037, 11687 |
| Luxor | 12676, 11037 |
| Magnavox | 12372, 11866, 11454 |
| Marks & Spencer | 12673 |
| Mascom | 12197 |
| Matsui | 12486, 12676, 11037 |
| Medion | 12676, 12239, 13067 |
| Memorex | 11670 |
| Memory | 11983 |
| MTlogic | 12104 |
| Murphy | 12673 |
| Mx Onda | 11983 |
| Naxa | 12104, 13382 |
| Neon | 12673 |
| Nikkei | 12197 |

| | |
|---|---|
| Nimbro | 12104 |
| Nordmende | 13835 |
| OK. | 13434, 12676 |
| OKI | 12676 |
| Orava | 11037 |
| Orion | 11037, 12676 |
| Otic | 11983 |
| Palsonic | 13067 |
| Panasonic | 11291, 12170, 11636, 11480 |
| Panavox | 13835 |
| Philips | 13614, 12800, 10556, 11454, 11394, 12372 |
| PHOENIX Apollo | 12239 |
| Polaroid | 11769, 11523, 12676 |
| Powerpoint | 10698 |
| Prima | 11753 |
| Pro Vision | 12197 |
| ProLine | 12676 |
| Proscan | 12256, 13895, 13636 |
| Prosonic | 12676, 12197 |
| QuantumFX | 12337 |
| RCA | 12187, 12746, 12932, 11447, 12247, 13382 |
| RefleXion | 12239 |
| Reoc | 12197 |
| Saba | 12676 |
| Saga | 12197 |
| Salora | 12197, 12676, 12239 |
| Sandstrom | 12197 |
| Sansui | 11670, 13564 |
| Sanyo | 12676, 13488 |
| Sceptre | 12528, 12337 |
| Schaub Lorenz | 12197, 12289 |
| Scott | 11983 |
| SEG | 12673, 11037 |
| Sencor | 12197 |
| Sharp | 10818, 12676, 12360 |
| Shinelco | 12104 |
| Shivaki | 12197 |
| Skyworth | 12963 |
| Soniq | 12493, 13005 |
| Sontech | 11983 |

| | |
|---|---|
| Sony | 12778, 10000 |
| Soundwave | 11037, 12673 |
| SOVOS | 12239 |
| Supersonic | 11753, 12104 |
| Swisstec | 12106, 12104 |
| Sylvania | 11886, 11864, 11394, 10171 |
| Tauras | 12197 |
| Teac | 10698, 11983, 13005 |
| Technica | 11037, 12426 |
| Technical | 12676 |
| Technika | 12426, 12197, 12106, 11983, 13005 |
| Techwood | 12676 |
| Telefunken | 12239, 10698, 12676 |
| Teletech | 11037 |
| Tesco | 12426 |
| Tevion | 12426 |
| Thomson | 12675, 10625, 13047 |
| Toshiba | 13323, 12676, 11524, 11656 |
| TVE | 12239 |
| UMC | 12426, 12106 |
| United | 11037, 11983 |
| VD-Tech | 13067 |
| Venturer | 13005 |
| Vestel | 11037 |
| Viewsonic | 12049 |
| Viore | 13429, 12352, 12104, 13382, 13118 |
| VisionPlus | 12426 |
| Walker | 12676 |
| Waltham | 11037 |
| Weltstar | 11037 |
| Westinghouse | 11712 |
| Wharfedale | 11983 |
| Xiahua | 11753 |
| Xiron | 11983, 11037 |
| Xoceco | 11753 |
| Xogego | 11753 |
| Xoro | 13067 |
| Zenith | 10000, 10178 |
| Xogego | 11753 |
| Xoro | 13067 |
| Zenith | 10000, 10178 |

SN 29402837HTML