



**Front Surround System**

**YAS-706**

**[YAS-CU706 + NS-WSW121]**

**Owner's Manual**

musicCast

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Read the supplied booklet "Quick Start Guide" before using the unit.

**English**

**EN**

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## PREPARATION

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### About this manual

#### **NOTE**

This indicates precautions for use of the product and its feature limitations.

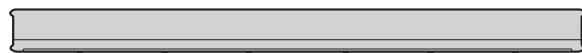
#### **HINT**

This indicates supplementary explanations for better use.

# Supplied items

Make sure you have received all of the following items.

## The YAS-706



Center unit (YAS-CU706)

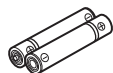


Wireless subwoofer (NS-WSW121)

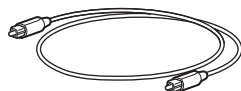
## Supplied accessories



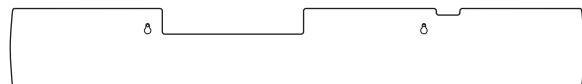
Remote control



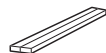
Batteries x 2 (AAA, R03, UM4)



Optical digital audio cable\* (1.5 m [4.9 ft])



Mounting template  
Use when mounting the center unit on a wall

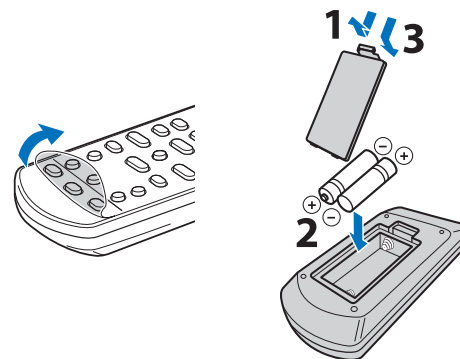


Spacers x 2  
Use when mounting the center unit on a wall

Cover (for the TV remote repeater)

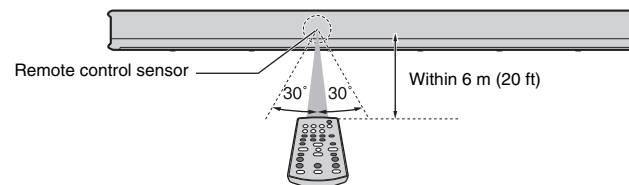
## Preparing the remote control

Peel off the protection sheet before use.



## Operating range of the remote control

Operate the remote control within the range as shown below. When the center unit is mounted on a wall, point the remote control at the remote control sensor on the top panel (p. 10).



- Owner's Manual CD-ROM
- Quick Start Guide
- MusicCast Setup Guide

\* The China model comes with a coaxial digital audio cable rather than an optical digital audio cable.

# Features

This front surround system is easily installed and has a built-in subwoofer for enjoying powerful and realistic sound with connection to a TV or other devices.

- **AIR SURROUND XTREME** 

Enjoy 7.1 channel surround sound, which creates a wide and deep soundstage, as if speakers are positioned not only in front of, but also to the left, right, and behind the listener.

- **Bass extension**

Enjoy powerful bass with Yamaha's exclusive bass boosting technology, Advanced Bass Extension Processing (p. 19).

- **Unrestricted playback of music over a network using MusicCast CONTROLLER** 

The free app for mobile devices\*, MusicCast CONTROLLER, allows you to listen to music stored on mobile devices such smartphones, or on servers, or to listen to Internet radio stations and many kinds of major streaming services (p. 26).

This app also allows you to distribute content to other MusicCast-enabled devices for synchronized playback.

The MusicCast CONTROLLER app can also be used to perform such tasks as selecting the input source and adjusting volume.

See the "MusicCast Setup Guide", or visit the Yamaha website for details.

Search for "MusicCast CONTROLLER" on the App Store or Google Play.

- **Transmission of 4K high dynamic range (HDR) video supported**

Enjoy high-resolution video from a cable or satellite set-top box, or a BD/DVD player. When a TV that supports Audio Return Channel (ARC) is used, this ARC-compatible unit can be connected to the TV via a single HDMI cable (p. 12).

- **HDMI control function**

Link functions of a TV and the unit are available using the TV's remote control (p. 22).

- **Clear voice**

This feature makes speech, such as dialog and narration, clearer (p. 19).

\* In this manual, iOS and Android mobile devices are collectively referred to as "mobile devices". The specific type of mobile device is noted in explanations as needed.

# Frequently asked questions

The following section covers popular functions and frequently asked questions about the unit.

**Q1** **Switching between remote controls is inconvenient. Can I use the TV's remote control to operate the unit?**

**A1** Yes. When the unit is connected to a TV via HDMI cable, the TV's remote control can be used to operate both the TV and the unit (p. 22).

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**Q2** **Can I improve the clarity of dialogue?**

**A2** Yes. Dialogue in movies, TV news, sports programs, etc., can be made clearer using the "clear voice" function (p. 19).

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**Q3** **Can I operate the unit using a smartphone?**

**A3** Yes. The unit can be operated with a smartphone or other mobile device using the free mobile device app, MusicCast CONTROLLER, installed on the device (p. 26).  
The MusicCast CONTROLLER app allows you to perform such tasks as turning the unit on or off, selecting the input source, and adjusting the volume.


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**Q4** **Can headphones be used?**

**A4** Yes. *Bluetooth* wireless headphones can be used (p. 25).

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**Q5** **Can sound playing via the unit be played on another audio device at the same time, or vice versa?**

**A5** Yes. Sound from one MusicCast-enabled audio device can be played on another MusicCast-enabled audio device at the same time. Note that all devices must support MusicCast.  
Tap  in the MusicCast CONTROLLER app's Rooms screen, and follow the on-screen instructions to set up the master room (the source device) and to link other rooms (devices to which audio is distributed) with the master room. Refer to the supplied MusicCast Setup Guide, or visit Yamaha's website for details.

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**Q6** **How can music content stored on a smartphone be played via the unit?**

**A6** Choose one of the following methods.

**Connecting via Bluetooth (p. 24)**

This method is useful for playing music content stored on a smartphone or other mobile device without connecting to a network.

**Playing music with AirPlay (p. 41)**

This method is useful for those using an iPhone or other iOS device.

**Playing music with the MusicCast CONTROLLER app (p. 42)**

This method is useful for playing music content stored on a smartphone or other mobile device on which the MusicCast CONTROLLER app is installed.

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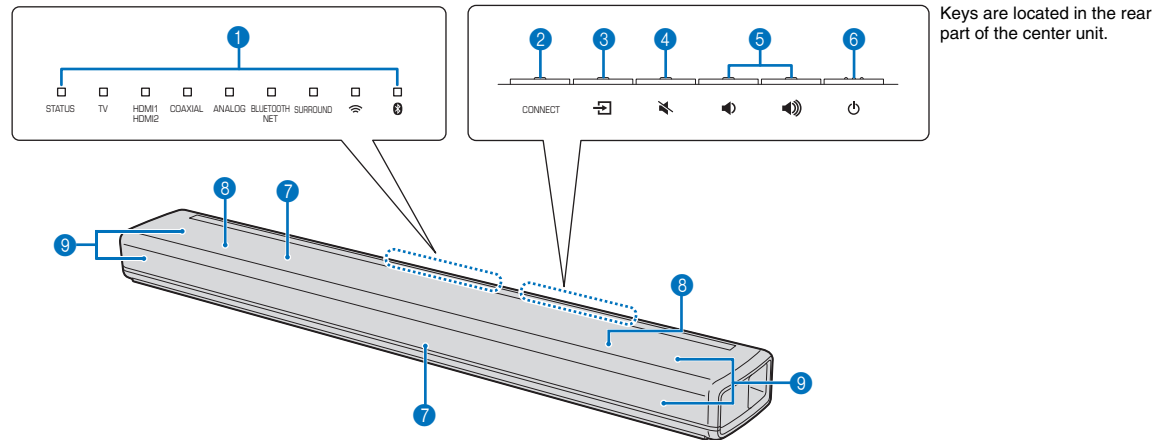
**Q7** **Can Internet radio be played?**

**A7** Yes. Use the MusicCast CONTROLLER app's Net Radio feature (p. 40).

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# Part names and functions

## Center unit (front panel/top panel)



### 1 Indicators

The indicators on the top panel flash or glow, to show the operation and setting status. In this manual, illustrations of the nine in-line indicators are used for explanation as necessary.

□ : Off      ■ : Glows      ☀ : Flashes

**Example:** When the STATUS indicator glows, and the ☀ indicator flashes

■ □ □ □ □ □ □ ☀ □

### 2 CONNECT key

Use to connect the unit to a network using the MusicCast CONTROLLER app (p. 27).

### 3 (input) key

Select an input source to be played back (p. 18).

### 4 (mute) key

Mute the audio output. Press the key again to unmute (p. 20).

### 5 (volume +/-) keys

Adjust the volume (p. 20).

### 6 (power) key

Turn on or off the unit (p. 18).

#### HINT

- The unit may automatically turn off when the auto power standby function is enabled (p. 50).

### 7 Remote control sensors

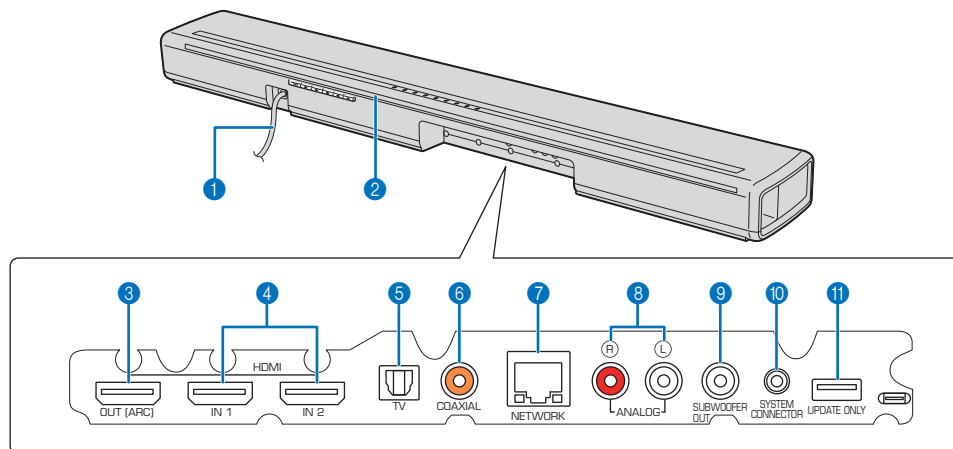
Receive infrared signals from the remote control of the unit (p. 3) or TV's remote control (p. 10). The remote control sensors are located on the front panel and on the top panel of the center unit (p. 10).

### 8 Dual built-in subwoofers

The built-in subwoofers are located in the top part of the center unit.

### 9 Speakers

## Center unit (rear panel)



### 1 Power cable

For connecting to an AC wall outlet (p. 14).

### 2 TV remote repeater

Used to transmit signals from the TV's remote control, received by the unit's remote control sensor, to the TV (p. 10).

### 3 HDMI OUT (ARC) jack

For connecting to an HDMI-compatible TV and outputting video/audio signals (p. 12).

### 4 HDMI IN 1 and 2 jacks

For connecting HDMI-compatible playback devices such as a BD/DVD player, a satellite and cable TV tuner, and a game console (p. 13).

### 5 TV input jack

For connecting to a TV with an optical digital audio cable (p. 12).

### 6 COAXIAL input jack

For connecting to a playback device, such as a Blu-ray Disc (BD) player, with a coaxial digital audio cable (p. 13).

### 7 NETWORK jack

For connecting to a network with a network cable (p. 26).

### 8 ANALOG input jacks

For connecting to an external device with a stereo cable (p. 12, 14).

### 9 SUBWOOFER OUT jack

For connecting to the supplied subwoofer using a wired connection (p. 15).

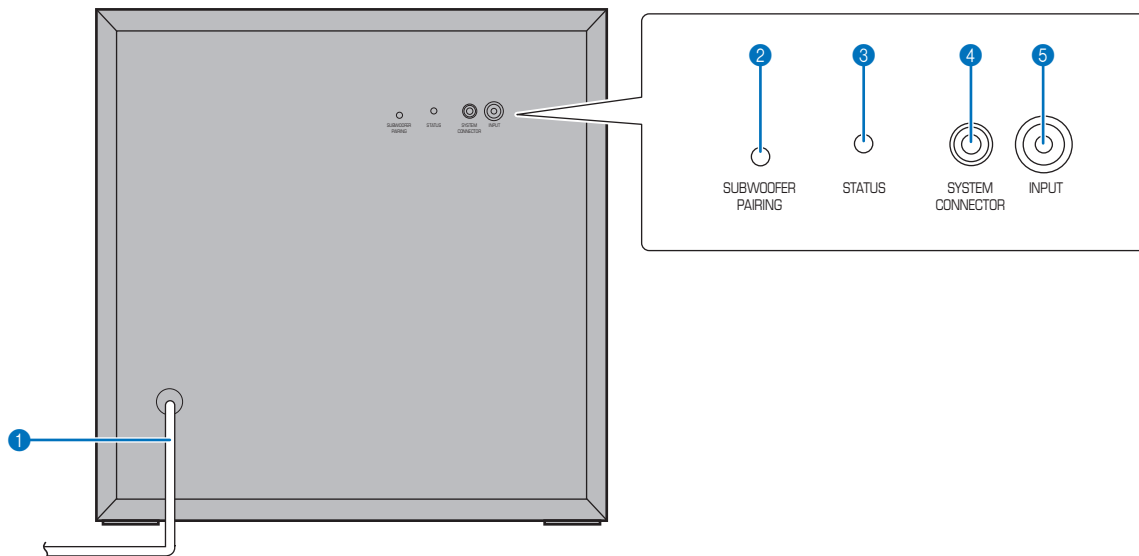
### 10 SYSTEM CONNECTOR jack

For connecting to the supplied subwoofer using a wired connection (p. 15).

### 11 UPDATE ONLY jack

Use to update this unit's firmware (p. 53).

## Subwoofer (rear panel)



### 1 Power cable

For connecting to an AC wall outlet (p. 14).

### 2 SUBWOOFER PAIRING key

Used to pair the center unit with the subwoofer manually (p. 62). Use a pin or other pointed object to press this key.

### 3 STATUS indicator

Shows subwoofer's connection status (p. 15).

Glow green: Power on

Glow red: Power off

### 4 SYSTEM CONNECTOR jack

For connecting to the center unit using a wired connection (p. 15).

### 5 INPUT jack

For connecting to the center unit using a wired connection (p. 15).

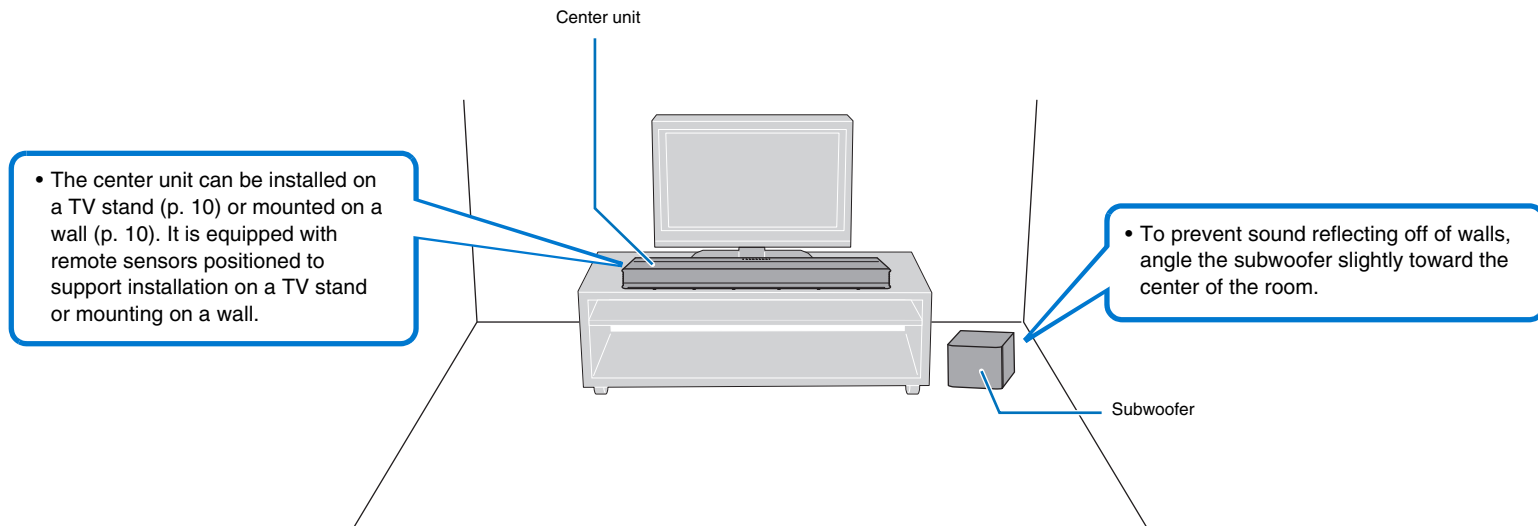


# Installation

Position the center unit and subwoofer as shown below with installation.

## Cautions

- Be sure to install the center unit on a large, stable stand where it does not fall subject to vibrations, such as from an earthquake, and where it is out of the reach of children.
- Do not stack the center unit and subwoofer directly on top of other playback devices, or vice versa. Doing so may cause a malfunction due to heat and vibrations.
- Do not hold the speaker portion (fabric parts) on the front and the top of the center unit.
- The center unit and subwoofer contain non-magnetic shielding speakers. Do not place magnetically sensitive items (hard disk drive, etc.) near the unit.
- Depending on your installation environment, it may be better to connect the unit and external devices before installing the unit.

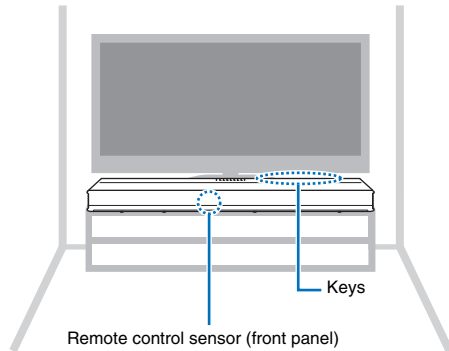


## Wireless connections

The center unit and subwoofer communicate wirelessly. Subwoofer performance may be affected if the subwoofer is placed on a metal rack, or if there is a metal plate between the subwoofer and the center unit. Use a wired connection to connect the subwoofer to the center unit if sounds are interrupted due to the installation condition (p. 15).

## Installing the center unit on a TV stand, etc.

Position the center unit so that the keys are on the far side of the center unit.

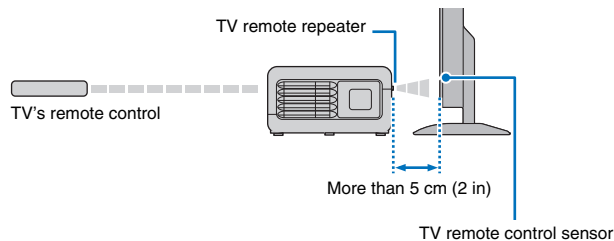


### About the TV remote repeater

The center unit receives signals from the TV's remote control via the remote control sensor located on the front panel. It then transmits these signals from the TV remote repeater located on the rear panel.

#### Caution

Position the center unit more than 5 cm (2 in) away from the TV to ensure proper transmission of signals from the remote control to the remote control sensor on the TV.



#### HINT

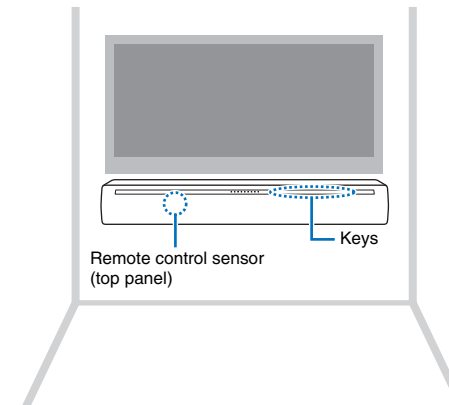
- This function is available only when the TV's remote control uses infrared signals.
- The TV's remote control can be used even when the unit is turned off as long as the unit's power cable is plugged into an AC wall outlet.

## Mounting the center unit on a wall

#### Cautions

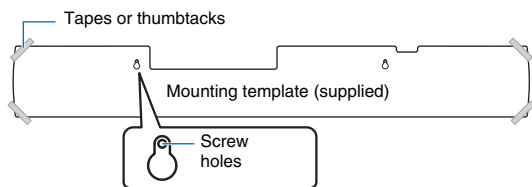
- When mounting the center unit on a wall, all installation work must be performed by a qualified contractor or dealer. The customer must never attempt to perform this installation work. Improper or inadequate installation could cause the center unit to fall, resulting in personal injury.
- To avoid falling the center unit, attach the center unit to a dry wall.
- Make sure you use commercially available screws that can support the weight of the installation (specified in Step 2 on the next page). Using clamps other than specified screws, such as short screws, nails, and two-sided tape, may cause the center unit to fall.
- Fix the cables in place where they will not become loose. If your foot or hand accidentally gets caught on a loose cable, the center unit may fall.
- Do not lean on the center unit or apply excessive force to the top of the unit. Doing so may cause the center unit to fall.
- Check that the center unit is fixed securely after the installation. Yamaha will bear no responsibility for any accidents caused by improper installations.

Mount the center unit on the wall so that the keys face upwards.

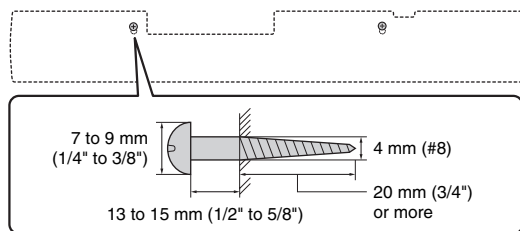


## How to mount the center unit on the wall

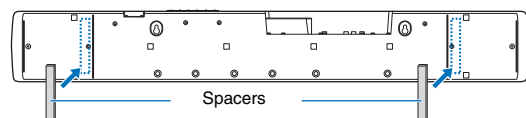
### 1 Attach the mounting template on a wall and mark for the screw holes.



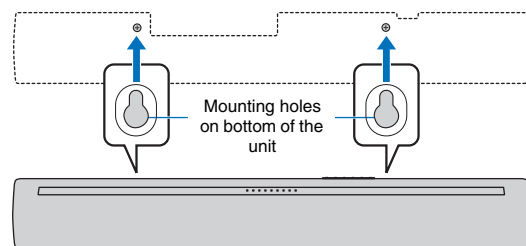
### 2 Remove the mounting template from the wall, then install commercially available screws (as illustrated below) at the points marked on the wall.



### 3 Peel off the backing paper from the spacers and attach the adhesive face to the center unit as illustrated below.

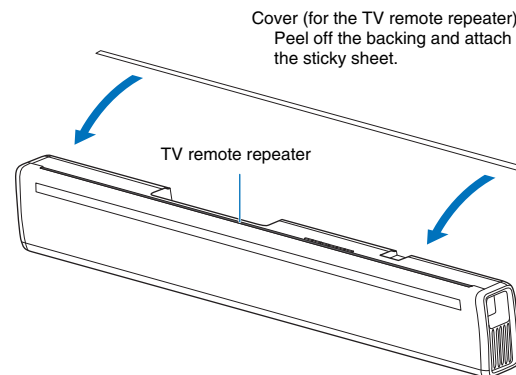


### 4 Hang the center unit on the screws.



## Using the supplied cover (for the TV remote repeater)

When the center unit is mounted on a wall, the TV remote repeater may appear white. If this presents a distraction while watching TV, attach the supplied cover to the TV remote repeater.



# Connecting the unit

## Connecting the unit to a TV

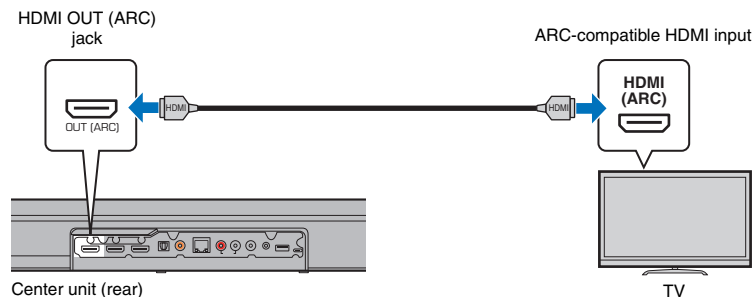
Connect a TV to the unit so that video input to the unit can be output to the TV. You can also enjoy playback of TV audio on the unit.

### HINT

- Use a 19-pin HDMI cable with the HDMI logo printed on it. A cable with a maximum length of 5 m (16 ft) is recommended to prevent degradation of signal quality.
- For playback of 3D and 4K video content, use a high-speed HDMI cable.
- This unit supports HDCP version 2.2, a copy protection technology. For playback of 4K video, connect the unit to the HDMI input jack (one compatible with HDCP 2.2) on an HDCP 2.2-compliant TV.
- To play 4K (4:4:4) video content, set "4K MODE" to "MODE 1" (p. 51).

## TVs that support Audio Return Channel (ARC)

Connect the TV to the unit with an HDMI cable (not supplied).



When connecting a TV that supports Audio Return Channel (ARC), enable the HDMI control function (p. 46).

### What is Audio Return Channel (ARC)?

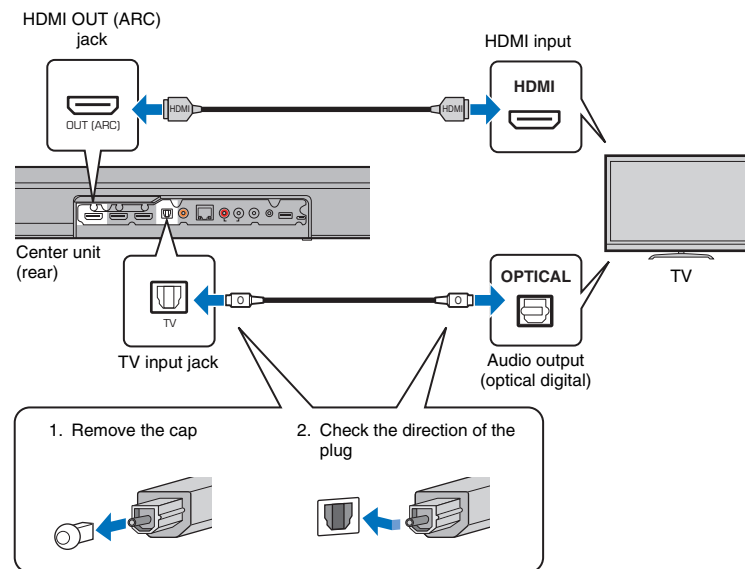
In order for the unit to play audio from a TV, the TV must usually be connected to the unit via an audio cable as well as an HDMI cable. If, however, the TV supports Audio Return Channel (ARC), TV audio signals can be input to the unit via the HDMI cable that outputs video signals from the unit to the TV.

### HINT

- Use an ARC-compatible HDMI cable.

## TVs that do not support Audio Return Channel (ARC)

Connect the TV to the unit with an HDMI cable (not supplied) and an optical digital audio cable.



TV audio will be output through the unit by switching the unit's input to TV using the TV key on the remote control.

### HINT

- If the TV has no optical jack

Connect the audio output jack on the TV to the ANALOG input jacks or COAXIAL input jack on the unit. TV audio will be output through the unit by switching the unit's input to ANALOG or COAXIAL using the ANALOG or COAXIAL key on the remote control accordingly.

## Connecting playback devices

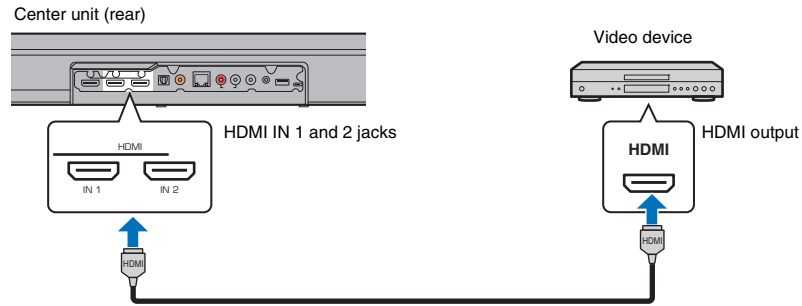
Connect video devices such as BD/DVD players, cable or satellite set-top boxes (STBs), and game consoles to the unit. Depending on the video/audio output jacks available on your video device, choose one of the following connections. We recommend using an HDMI connection if the video device has an HDMI output jack.

### HDMI connection

Connect a video device to the unit with an HDMI cable (not supplied).

#### NOTE

- This unit supports HDCP version 2.2, a copy protection technology.



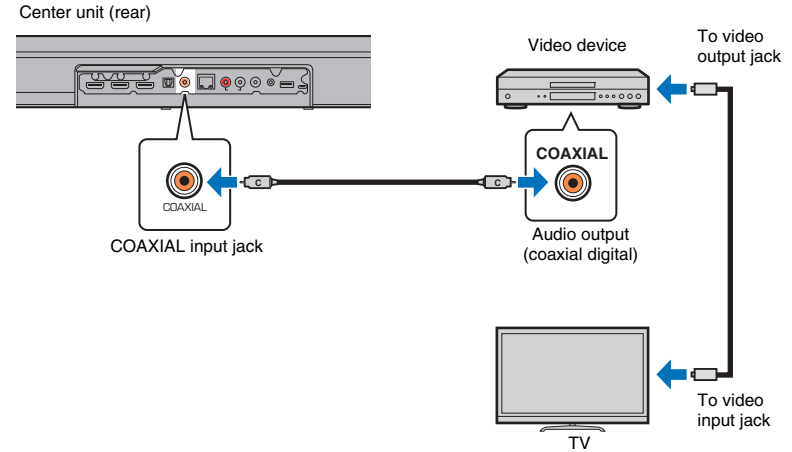
The audio/video played on the video device will be output through the unit by switching the unit's input to HDMI 1 or 2 using the HDMI 1 or 2 key on the remote control.

#### HINT

- Once the HDMI control function has been activated (p. 46), video and audio content from playback devices can be output from the TV even when this unit is off (HDMI signal pass-through).
- Use a 19-pin HDMI cable with the HDMI logo printed on it. A cable with a maximum length of 5 m (16 ft) is recommended to prevent degradation of signal quality.
- For playback of 3D and 4K video content, use a high-speed HDMI cable.

### Coaxial connection

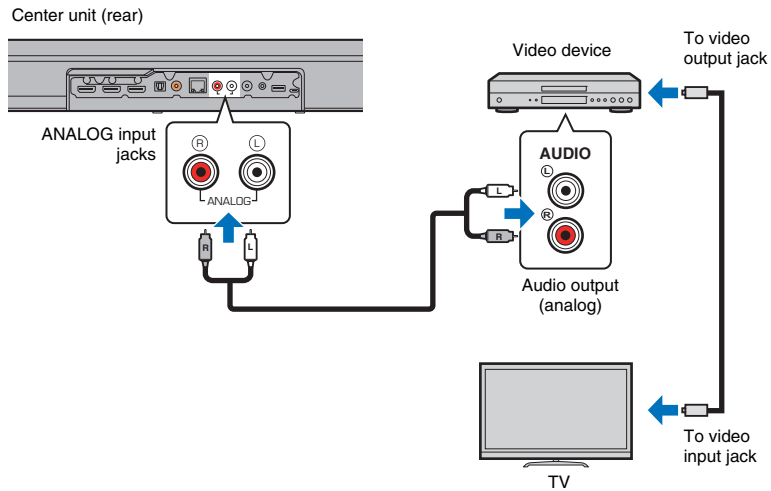
Connect a video device to this unit via a coaxial digital cable. Next, connect the video device's video output to the TV's video input.



The audio played on the video device will be output through the unit by switching the unit's input to COAXIAL using the COAXIAL key on the remote control.

## Analog connection

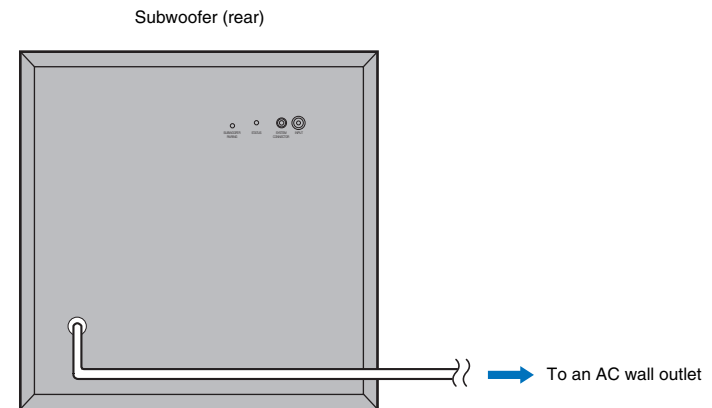
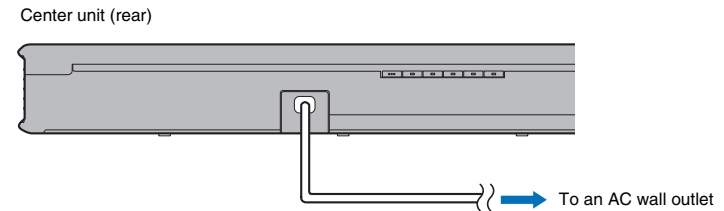
Connect a video device to this unit via a stereo cable (not supplied). Next, connect the video device's video output to the TV's video input.



The audio played on the video device will be output through the unit by switching the unit's input to ANALOG using the ANALOG key on the remote control.

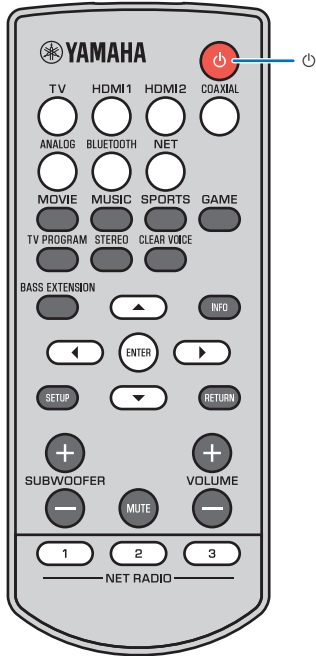
## Connecting the power cable

After all the connections are complete, plug in the power cable of the center unit and the subwoofer.



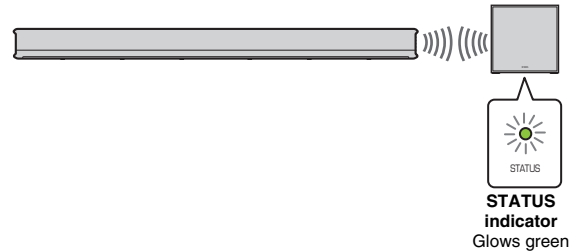
# Turning on the unit

This section explains initial setup of the unit, performed when it is turned on for the first time after purchase.



## 1 Press the key to turn on the unit.

When the center unit is turned on, the center unit and subwoofer are automatically connected via wireless connection. Once the connection has been successfully established, the STATUS indicator on the subwoofer glows as shown in the illustration below, and the unit is ready for play back.

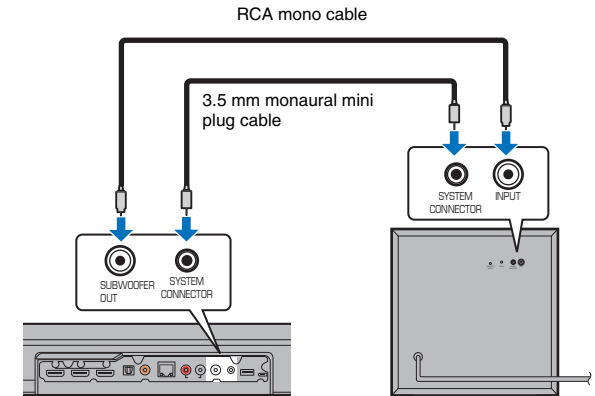


### NOTE

- If the STATUS indicator does not glow properly the first time the unit is turned on, pair the center unit and subwoofer manually. See "Pairing the center unit and subwoofer" (p. 62).

### Wired connection

If there is no sound coming from the subwoofer, or if sound is intermittent, due to the influence of radio waves from other devices, connecting the center unit and subwoofer via cables will solve the problem. Connect the center unit and subwoofer via an RCA mono cable (not supplied) and a 3.5 mm monaural mini plug cable (not supplied). A 3.5 mm monaural mini plug cable is required to turn the center unit and subwoofer on and off at the same time.



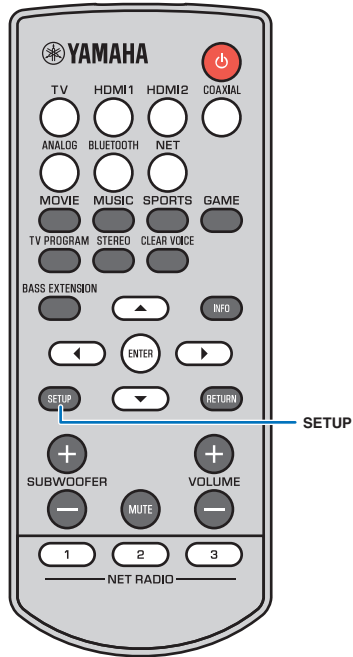
To connect the center unit and subwoofer using a wired connection, set "Bass Out" of "Subwoofer" in the setup menu to "Wired" (p. 45).

When the center unit is turned on, the subwoofer turns on and its STATUS indicator glows green.

### NOTE

- Be sure the center unit is turned off before connecting the subwoofer.
- The subwoofer supplied with the unit can only be connected.

## Displaying the menu screen on the TV

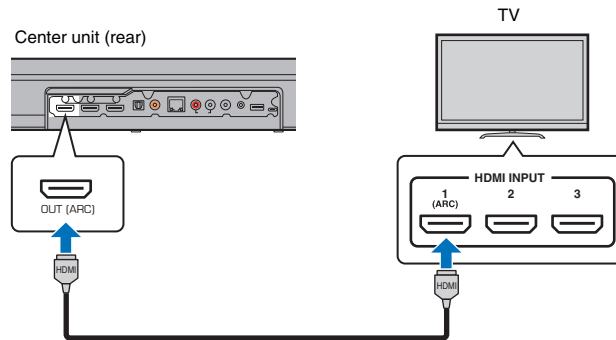
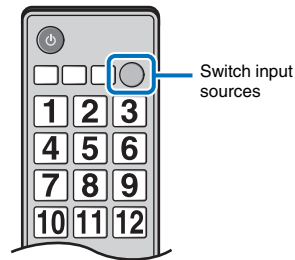


Visual operation of this unit is possible by displaying its menu screen on the TV.

Turn on the unit and the TV, and then use the input button on the TV's remote control to switch input so that video input from this unit is displayed.

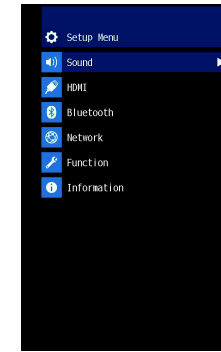
When this unit and the TV are connected as shown below, select "HDMI 1" using the TV's remote control.

TV remote control (example)




## The menu display

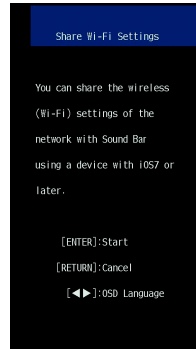
The menu is displayed on the TV screen when the SETUP key is pressed. When the TV is receiving HDMI signals, the menu is superimposed over video content. Press the SETUP key a second time to cancel menu display.






## Screen displayed on a TV when the unit is turned on

When the unit is turned on for the first time after purchase, the screen shown below will be displayed on the TV and the  indicator will be flashing.



Follow the on-screen instructions to use an iOS device (iPhone, etc.) to connect the unit to a wireless network (p. 41). Connecting the unit to a wireless network is simpler when the MusicCast CONTROLLER app installed on your mobile device is used. Press the RETURN key to cancel this screen, and then refer to p. 27.

### **HINT**

- This screen will not be displayed and the  indicator will not be flashing if the unit is connected to a router via its NETWORK jack (wired connection).

## Selecting a language for menu display


- 1 Turn the unit and TV on.
- 2 Switch the TV's input to display video input from this unit (p. 16).
- 3 Press and hold the SETUP key until the “OSD Language” menu appears on the TV.



### **HINT**

#### **When the menu is not displayed**

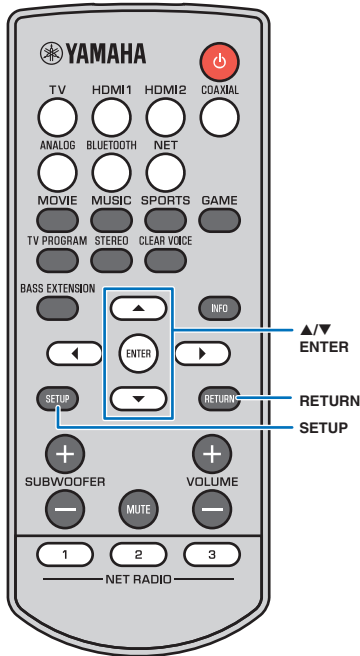
- Confirm the following cases.
  - The HDMI input jack of your TV and the HDMI OUT (ARC) jack of the unit are connected.
  - The input of your TV is set to “HDMI 1” (example).

- 4 Use the  key to select the desired language and press the ENTER key.

#### **Settings**

ENGLISH (default), FRANÇAIS, ESPAÑOL

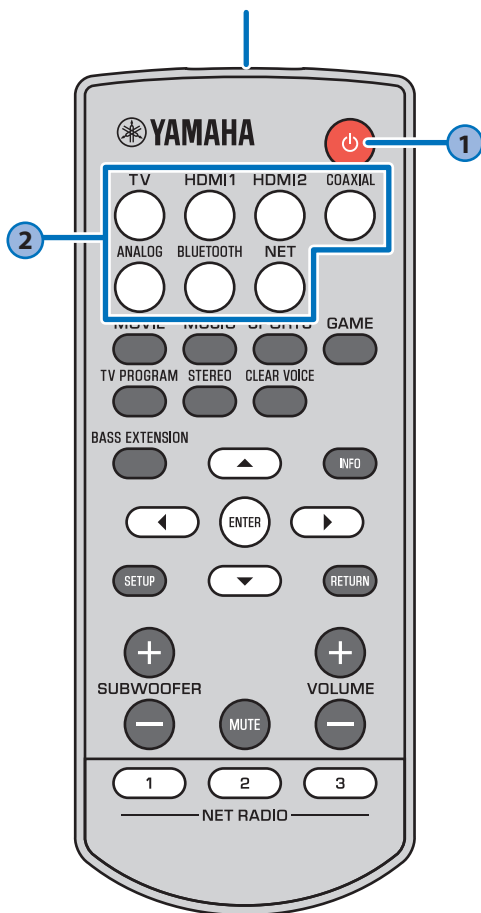
- 5 Press the SETUP key to exit the setup menu.



# Operations

## Remote control signal transmitter

Transmits infrared signals.



1

### ⏻ (power) key

Turns on or off the unit.

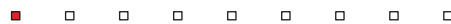
#### Turned on



The indicator for the last input source selected glows.

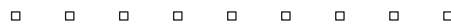
Indicates the surround setting, and network (p. 26) or *Bluetooth* (p. 24) connection status.

#### Turned off (when the HDMI control function (p. 46) or network standby function (p. 49) is enabled)



Glow (red)

#### Turned off



2

### Input keys

Select an input source to be played back.

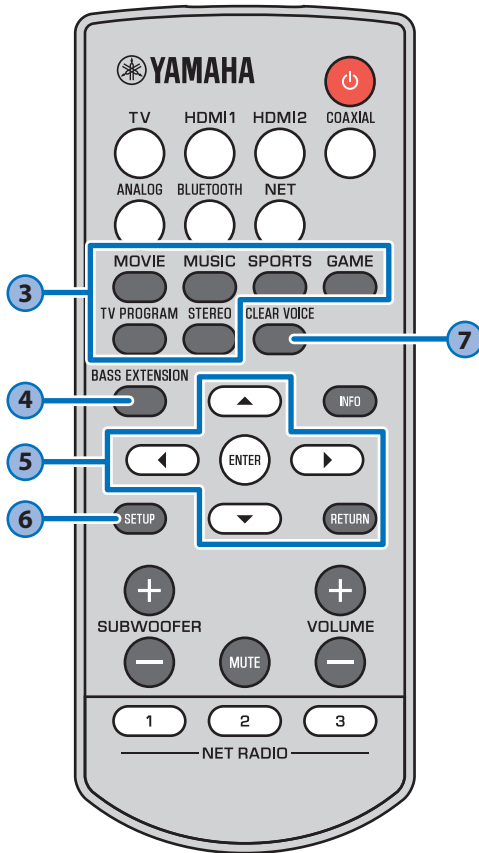
- TV** ..... TV audio or sound from a device connected to the unit's TV input jack
- HDMI 1, HDMI 2** ..... Sound from a device connected to the HDMI IN 1 or HDMI IN 2 jack
- COAXIAL** ..... Sound from a device connected to the COAXIAL input jack
- ANALOG** ..... Sound from a device connected to the ANALOG input jacks
- BLUETOOTH** ..... Sound from a *Bluetooth* connected device
- NET** ..... Audio acquired via a network  
The last audio source listened to is selected when the NET key is pressed.

The indicator for the selected input source glows.  
(Example: when TV is selected)



### HINT

- To play sound from the device connected to the TV or to watch video from the device, set the TV's input source to the playback device.
- For playback from a *Bluetooth* device, refer to page 24. For audio playback via a network, refer to pages 39 to 42.



**3**

### Surround program keys and STEREO key

Select surround playback using the MOVIE, MUSIC, SPORTS, GAME or TV PROGRAM key, or select stereo (2 channels) playback using STEREO key. When a surround program (MOVIE, MUSIC, SPORTS, GAME, or TV PROGRAM) is selected, you can enjoy a realistic sound effect using Yamaha's exclusive AIR SURROUND XTREME.

#### MOVIE, MUSIC, SPORTS, GAME, or TV PROGRAM

.....  SURROUND Glows (surround playback)

STEREO.....  SURROUND Off (stereo playback)

#### HINT

- Dolby Pro Logic II is used when 2-channel stereo signal is played with a surround program other than MUSIC.

**4**

### BASS EXTENSION key

Enable/disable the bass extension function. When this function is enabled, you can enjoy a powerful bass sound with the Yamaha original bass boost technology "Advanced Bass Extension Processing."



Enabled: Flashes three times and goes out  
Disabled: Flashes once and goes out

**5**

### ▲/▼/◀/▶ keys, ENTER key, RETURN key

Use to configure the setup menu.

**6**

### SETUP key

Display the setup menu on the TV.

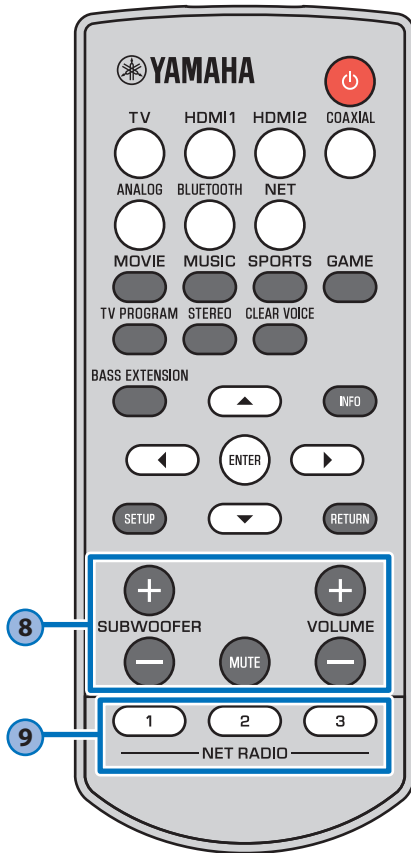
**7**

### CLEAR VOICE key

Enable/disable the clear voice function. When this function is enabled, human voices such as lines in movies and TV shows, or news and sport commentary, are played clearly.



Enabled: Flashes three times and goes out  
Disabled: Flashes once and goes out



8

### SUBWOOFER (+/-) keys

Adjust the volume of the subwoofer.



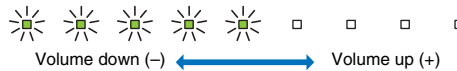
### MUTE key

Mute the audio output. Press the key again to unmute.



### VOLUME (+/-) keys

Adjust the volume of the unit.



9

### NET RADIO (1-3) keys

Assign audio input via a network (Internet radio stations, music files stored on media servers, etc.) to the NET RADIO key.

#### Assign a station

- 1 Play the desired Internet radio station (p. 39 to 42).
- 2 Hold down the NET RADIO 1, 2, or 3 key for more than 3 seconds.

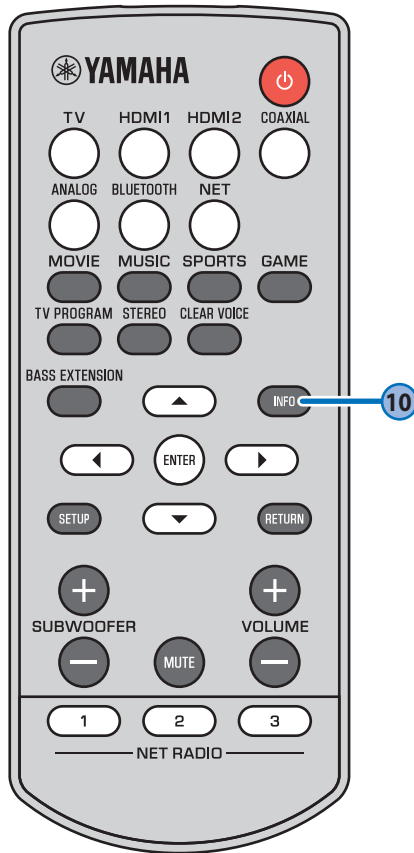


#### Tune-in to an assigned Internet radio station

- 1 Press the NET RADIO 1, 2, or 3 key to which the desired Internet radio station has been assigned.

#### HINT

- When an Internet radio station is assigned to the NET RADIO 1, 2, or 3 key on the remote control, the same station is also registered with No. 1, 2, or 3 in the MusicCast CONTROLLER app's "Favorites". When an Internet radio station is registered with No. 1, 2, or 3 in "Favorites" with the MusicCast CONTROLLER app, the same station is also assigned to the NET RADIO 1, 2, or 3 key on the remote control.



# 10

## INFO key

While the INFO key is held down, status, including the type of audio signal being input and whether the clear voice function is enabled or disabled, can be confirmed by the glowing of indicators.

### Type of audio signal being input

TV audio input signal with the ARC function activated



DTS digital surround, DTS 96/24, DTS Express, DTS-HD High Resolution, or DTS-HD Master Audio



Dolby Digital, Dolby Digital Plus, or Dolby TrueHD



**Dolby Pro Logic II is used (when 2-channel stereo signal is played with a surround program other than MUSIC)**



### HINT

- The unit is able to play the following types of audio signal. The indicators do not glow when analog or PCM audio signal is input.
 

– Analog signal	– Dolby TrueHD	– DTS Express
– PCM (2 channels, multi-channels)	– DTS digital surround	– DTS-HD High Resolution
– Dolby Digital	– DTS 96/24	– DTS-HD Master Audio
– Dolby Digital Plus		

### Unit functions and positioning

The bass extension function is enabled



The clear voice function is enabled



When positioned on top of something, such as a TV stand



When mounted on a wall



## Operating the unit by TV's remote control (HDMI control)

The HDMI control function (link function) coordinates operation of a TV and the unit so that the unit can be operated using the TV's remote control. When a TV is connected to the unit with an HDMI cable (p. 12), the TV's remote control can be used to perform the following operations.

### Coordinated functions via the TV remote control

Remote control of TV (Example)

#### 1. Turn on/off

Both the TV and this unit turn on/off at the same time.

#### 2. Switch input sources

- The unit's input source switches accordingly when the TV's input source is switched.

Examples

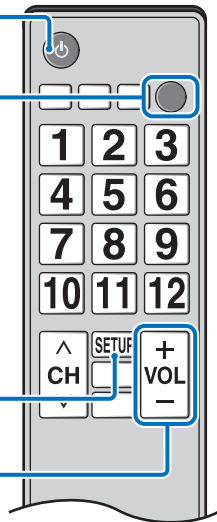
- When a TV program is selected on the TV, the unit's audio input source is switched to the HDMI OUT (ARC) jack using the ARC function or TV jack.
- When a BD/DVD player is connected to the HDMI IN 1–2 jack on the unit, the unit's input source switches to HDMI when the BD/DVD player is selected with the TV's remote control.

- The input source can be switched while the unit is off.

#### 3. Switch the audio output device (TV or this unit (amplifier))

#### 4. Adjust volume

This unit's volume can be adjusted when the TV's audio output is set to this unit (amplifier).



### HINT

- Even if your TV supports the HDMI control function, some functions may not be available. For details, refer to documentation supplied with your TV.
- We suggest using devices (TV, BD/DVD player, etc.) from the same manufacturer.

#### If the unit cannot be operated with the TV's remote control

Confirm the settings are properly configured as described below.

- The HDMI control function of this unit is enabled (p. 46).
- The HDMI control function is enabled on the TV.

#### Examples of TV settings

- From the setup menu on your TV, select "Link setting" → "HDMI control setting", then set a setting such as "HDMI control function" to "ON".
- Set audio output to any option other than TV.

If the unit cannot be operated with the TV's remote control even after the settings described above have been applied correctly:

- Turn off this unit and the TV, and then turn them back on again.
- Disconnect the power cable of the unit and external devices connected to the unit via HDMI cable. Plug them in again after about 30 seconds.

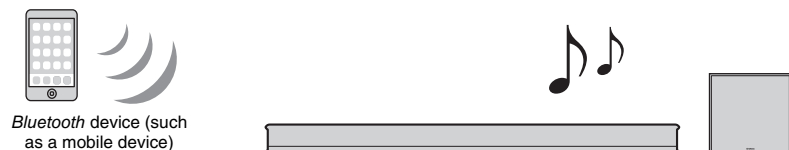
# Wireless playback of audio via *Bluetooth* connection

The unit can be used to receive and play audio from a *Bluetooth* device, and to transmit audio for playback on a *Bluetooth* device.

See documentation supplied with your *Bluetooth* device for more information.

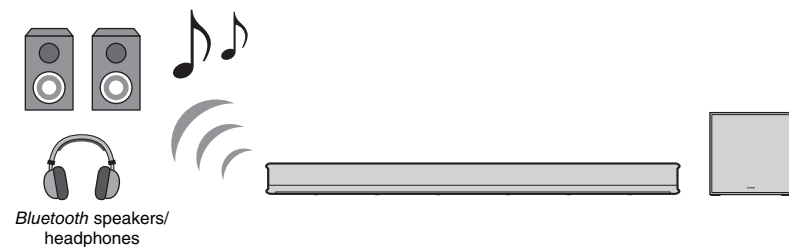
## Receiving audio from a *Bluetooth* device

Audio from a *Bluetooth* device, such as a mobile device or a digital music player, can be played over a wireless connection.



## Transmitting audio to a *Bluetooth* device

Use *Bluetooth* wireless headphones and the like to listen to audio.



### NOTE

- Audio cannot be received by the unit from mobile devices and the like, and transmitted to speakers or headphones at the same time.

### HINT

- "Bluetooth" in the setup menu must be set to "On" (default; p. 46) to use *Bluetooth* functions.
- A *Bluetooth* device that has been assigned a passkey (PIN) other than "0000" cannot be connected to the unit.
- Be sure that the *Bluetooth* device is no farther than 10 m (33 ft) from the unit when connecting the two.
- Refer to "Bluetooth" (p. 58) in "Troubleshooting" if a *Bluetooth* connection cannot be established.
- Adjust the *Bluetooth* device's volume as needed.

## Listening to the sound from a *Bluetooth* device (Receiving)

Audio from a *Bluetooth* device, such as a mobile device or a digital music player, can be played over a wireless connection.

### NOTE

- Adjust the volume level of the *Bluetooth* device as required.
- When the network standby function (p. 49) is enabled, the unit turns on with operation of the *Bluetooth* device.

### 1 Press the **BLUETOOTH** key on the unit's remote control to select *Bluetooth* as the input source.

The **BLUETOOTH/NET** indicator on the unit glows green.



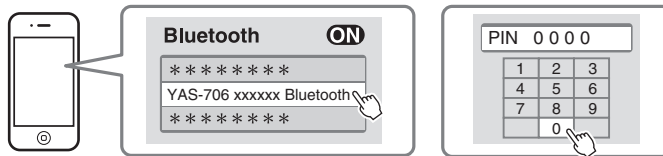
If a *Bluetooth* device has been connected before, the unit will connect to the last connected device when the **BLUETOOTH** key is pressed. Terminate this connection to connect a new device.


### 2 Enable the *Bluetooth* function on the *Bluetooth* device.

### 3 Select “YAS-706 xxxxxx Bluetooth”\* in the *Bluetooth* device list on the device.

\* If the unit is registered as a MusicCast-enabled device (p. 27), the room name (network name) is displayed.

If a passkey (PIN) is required, enter the number “0000”.

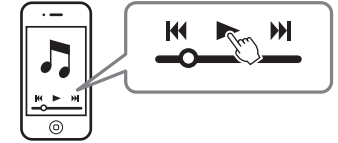


When the connection is established, the  indicator on the unit glows.




The  indicator or a completion message is displayed on the *Bluetooth* device.

### 4 Play back a song on the *Bluetooth* device.

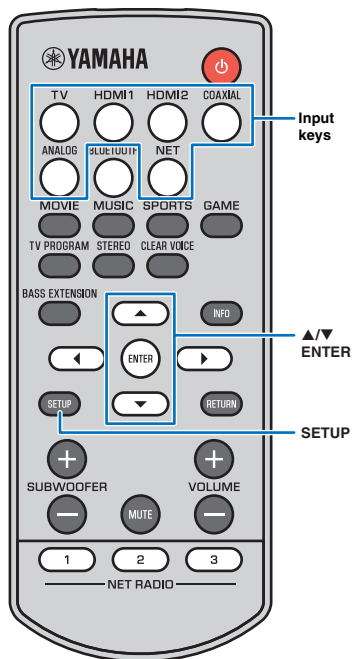


## Terminating *Bluetooth* connection

Perform one of the following operations to terminate *Bluetooth* connection. The  indicator on the unit turns off when the connection is terminated.

- Turn off the *Bluetooth* function on the *Bluetooth* device.
- Press the **BLUETOOTH** key on the unit's remote control for more than 3 seconds.
- Switch the unit's input source to any input source other than *Bluetooth*.
- Turn off the unit.





## Using wireless headphones to listen to audio (Transmitting)

*Bluetooth* wireless headphones can be used to listen to audio played via the unit.

### NOTE

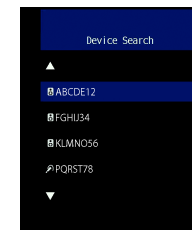
- Use a *Bluetooth* device that supports the A2DP profile.
- Audio input using AirPlay, or from a *Bluetooth* device, cannot be transmitted to other *Bluetooth* devices for playback.


### HINT

- Audio will also be output from the unit.
- The MusicCast CONTROLLER app installed on your mobile device (p. 26) can also be used to transmit audio to a *Bluetooth* device.

- 1 Turn on the *Bluetooth* device.
- 2 Select the input source (other than *Bluetooth*) with the input keys.
- 3 Press the **SETUP** key.  
The setup menu is displayed on the TV screen.
- 4 Use the ▲/▼ keys to select “**Bluetooth**”, and then press the **ENTER** key.
- 5 Use the ▲/▼ keys to select “**Transmission**”, and then press the **ENTER** key.
- 6 Use the ▲/▼ keys to select “**On**”, and then press the **ENTER** key.
- 7 Use the ▲/▼ keys to select “**Device Search**”, and then press the **ENTER** key.

- 8 Use the ▲/▼ keys to select a *Bluetooth* device, and then press the **ENTER** key.



When a connection is established, the  indicator on the unit glows.




- 9 Play an audio source, and enjoy music via the *Bluetooth* device.

### HINT

- “Not found” is displayed on the screen with step 8 if the unit was unable to find a device to which to connect.
- “No Device Name” replaces the device name on the screen with step 8 if the unit is unable to recognize the name of the device.

## Terminating *Bluetooth* connection

Perform one of the following operations to terminate *Bluetooth* connection.

The  indicator on the unit turns off when the connection is terminated.

- **Terminate *Bluetooth* connection from the *Bluetooth* device, or turn off the *Bluetooth* device.**
- **Set “Transmission” in the setup menu to “Off”.**
- **Press the **BLUETOOTH** key on the unit’s remote control for more than 3 seconds.**
- **Turn off the unit.**

# Networks

## Network functions and the MusicCast CONTROLLER app

A network connection allows you to listen to Internet radio stations or music streaming services, and to use AirPlay to play music files, or to play music files stored on your computer (media server) via this unit.

Most playback requires the “MusicCast CONTROLLER” app for mobile devices. Install and use the MusicCast CONTROLLER app on your mobile device to play music files.

Proceed from network connection to playback in the following sequence.

1 Choose a wired network connection (p. 26) or a wireless network connection (p. 27).



2 Use the MusicCast CONTROLLER app to connect the unit to a network, and register the unit as a MusicCast-enabled device (p. 27).



3 Use the MusicCast CONTROLLER app to play music over a network\* (p. 39 to 42).

\* AirPlay can be used to play music files without using the MusicCast CONTROLLER app.

### NOTE

- To use network function, the unit, your PC and mobile device must be connected to the same router. Make sure whether the network parameters (such as the IP address) are properly assigned to the unit in “Information” (p. 47) in the setup menu.
- When using a multiple SSID router, access to the unit might be restricted depending on the SSID to connect. Connect the unit and mobile device to the same SSID.
- Some security software installed on your computer, or network device settings (such as a firewall), may block the unit’s access to your computer or Internet radio stations. Should this occur, change security software and/or network device settings.
- A network connection cannot be established if the MAC address filter on your router is enabled. Check your router’s settings.
- To configure your router’s subnet mask manually, apply the same subnet used by this unit to all devices.
- Use of a broadband connection is recommended when using Internet services.

### HINT

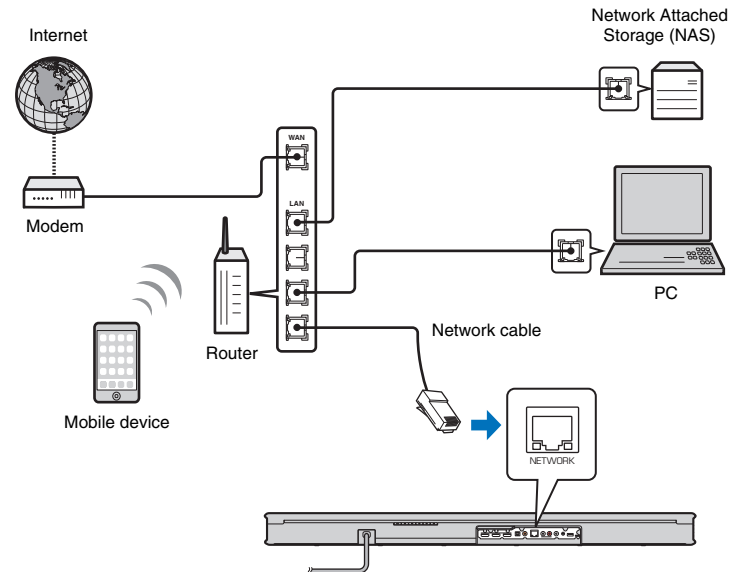
- If your router supports DHCP, network settings for the unit need not be configured. Network parameters (such as the IP address) will be assigned automatically. If your router does not support DHCP, or if you prefer to configure network parameters manually, you must configure network settings yourself (p. 48).

## Connecting to a network

Choose a wired or wireless network connection based on your network environment.

### Wired network connections

To use a wired network connection, connect the unit to a router via an STP network cable (category 5 or higher straight cable; not supplied).



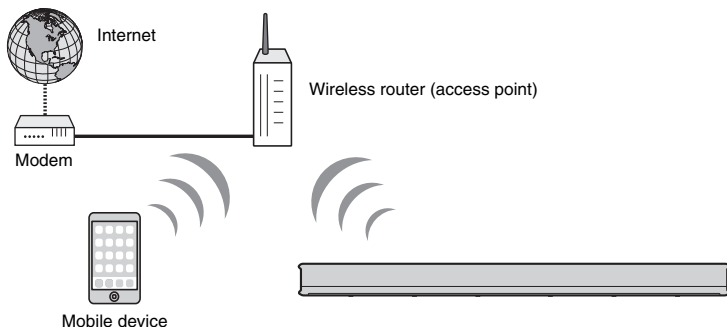
### HINT


- If the unit is already connected to a wireless network and you would like to switch to a wired connection, change “Network” in the setup menu to “Wired”.

## Wireless network connections

Connect the unit to a wireless router (access point) to use a network.  
Refer to the following for instructions on connecting to a wireless router (access point).

- Using the MusicCast CONTROLLER app (p. 27)
- Using connection methods other than the MusicCast CONTROLLER app (p. 30 to 36)



The  indicator on the unit glows when the unit is connected to a wireless network.



### NOTE

- You cannot use the wireless network connection simultaneously with the wired network connection or Wireless Direct (p. 37).
- If the unit and the wireless router (access point) are too far apart, the unit may not connect to a wireless router (access point). In such case, place them close to each other.

### HINT

- If the unit will not be connected to a wireless router (access point), Wireless Direct (p. 37) can be used to connect the unit directly to a mobile device to control the unit using the MusicCast CONTROLLER app installed on that mobile device.

## Connecting with the MusicCast CONTROLLER app (registering the unit as a MusicCast-enabled device)

Install the MusicCast CONTROLLER app on your mobile device to connect the unit to a network and register it as a MusicCast-enabled device.

### HINT

- Confirm that your mobile device is connected to your home router before beginning.
- This section uses MusicCast CONTROLLER app screens displayed in English on an iPhone as examples.
- MusicCast CONTROLLER app screens and menu labels are subject to change without prior notice.

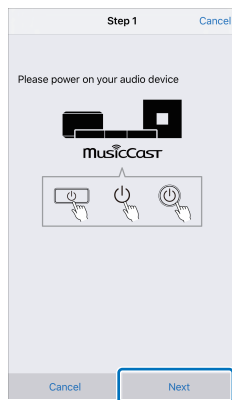
### 1 Install the MusicCast CONTROLLER app on your mobile device, and open the app.

Search for “MusicCast CONTROLLER” on the App Store or Google Play.

### 2 Tap “Setup”.



### 3 Turn on the unit, and then tap “Next”.

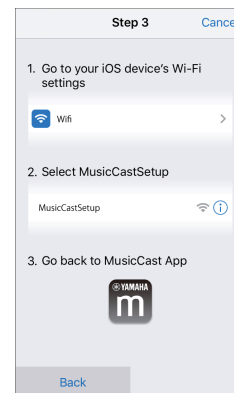


### 4 Hold down the CONNECT key on the unit until the indicator on the unit starts flashing.

### 5 Follow the on-screen instructions to configure network settings.

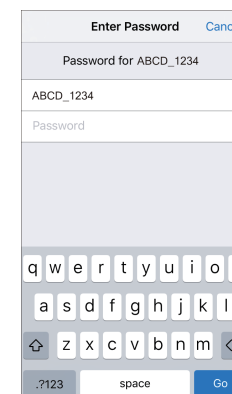
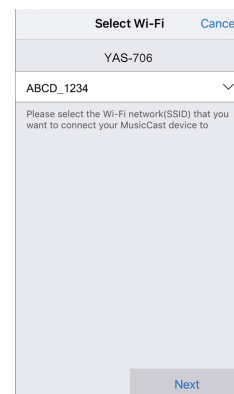
#### HINT

- When a screen like that below is displayed, follow the on-screen instructions to configure network settings.



- Use the Home button on your mobile device to return to the Home screen.
- Select “Wi-Fi” from “Settings”.
- Select “MusicCastSetup” from “CHOOSE A NETWORK...”.
- Use the Home button to return to the MusicCast CONTROLLER app.

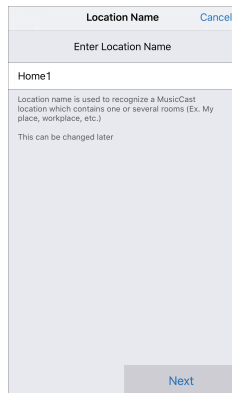
- When a screen like that at left below is displayed, select the network to which the unit will be connected and enter the router’s password (encryption key). The router’s password (encryption key) is often noted on the router itself. Refer to documentation supplied with the router for details.



## 6 To register the unit as a MusicCast-enabled device, configure the following items.

- Location name (“home”, “John’s house”, etc.)
- Name and photo of the room where the unit is installed


The location name, and the name and photo of the room where the unit is installed can be changed later.

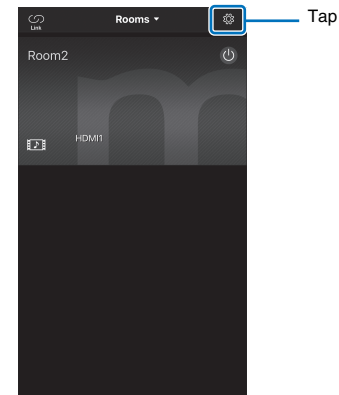


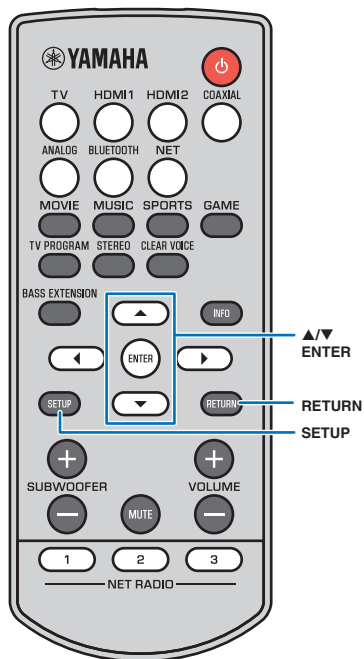
The screenshot shows a configuration screen titled "Location Name" with a "Cancel" button in the top right. Below the title is a text input field labeled "Enter Location Name" containing the text "Home1". A small "Home" icon is visible to the left of the text. Below the input field, there is explanatory text: "Location name is used to recognize a MusicCast location which contains one or several rooms (Ex. My place, workplace, etc.)" and "This can be changed later". A "Next" button is located at the bottom right of the screen.

Network connection with the MusicCast CONTROLLER app is now complete, and the unit has been registered as a MusicCast-enabled device.

### HINT

- If a different MusicCast-enabled device is already registered with the MusicCast CONTROLLER app, tap  (Setup) in the room selection screen, and then select “Add New Device” to add the unit to the app.





## Using connection methods other than the MusicCast CONTROLLER app (wireless network)

Use the setup menu on the unit to connect to a wireless network without using the MusicCast CONTROLLER app.

- Sharing the iOS device setting (p. 30)
- Using the WPS push button configuration (p. 31)
- Searching for a wireless router (access point) (p. 32)
- Setting up the wireless connection manually (p. 34)
- Using the WPS PIN code (p. 36)

### NOTE

- Once the unit has been connected to a wireless network using any of the methods described above, network settings will change when connection to a wireless network is established with the MusicCast CONTROLLER app.
- AirPlay is the only network function that can be used without the MusicCast CONTROLLER app.

## Sharing the iOS device setting

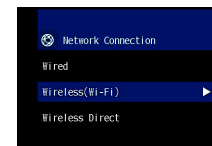
You can easily setup a wireless connection by applying the connection settings on iOS devices (such as an iPhone). Before proceeding, confirm that your iOS device is connected to a wireless router (access point).

### NOTE

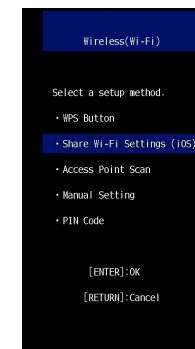
- You need iOS device with iOS 7 or later.
- The connection settings on iOS devices cannot be applied to the unit to establish a wireless connection if your wireless router (access point) uses WEP encryption. See “Searching for a wireless router (access point)” (p. 32) to establish a connection.

- 1 Press the key to turn on this unit.
- 2 Turn on the TV and switch the TV input to display video from the unit (HDMI OUT jack; p. 16).
- 3 Press the SETUP key.  
The setup menu is displayed on the TV screen.
- 4 Use the keys to select “Network”, and press the ENTER key.
- 5 Use the keys to select “Network Connection”, and press the ENTER key.

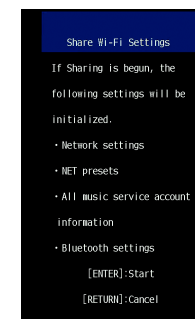
- 6 Use the keys to select “Wireless (Wi-Fi)”, and press the ENTER key.



- 7 Use the keys to select “Share Wi-Fi Settings”, and press the ENTER key.

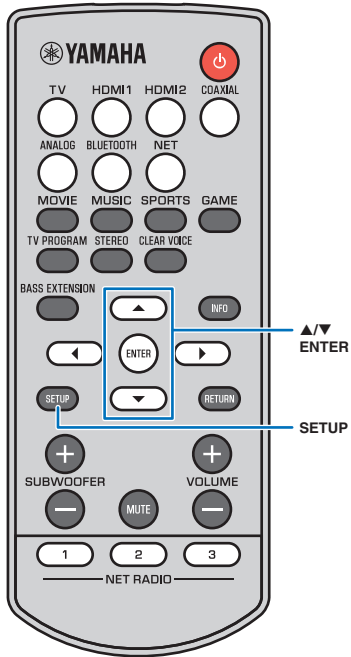


- 8 When the following screen is displayed, press the ENTER key.



### HINT

- The settings to be deleted (initialized) will be displayed. If you do not want to delete these settings, press the RETURN key to terminate the connection.



**9** When the following screen is displayed, press the **ENTER** key.

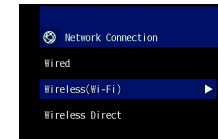


**10** Display the Wi-Fi setup screen on the iOS device and select the unit from “**SETUP A NEW AIRPLAY SPEAKER...**”. Follow the on-screen instructions displayed on the iOS device.

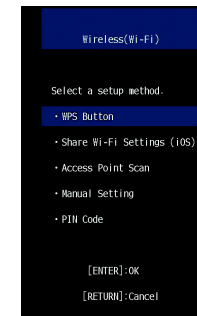
## Using the WPS push button configuration

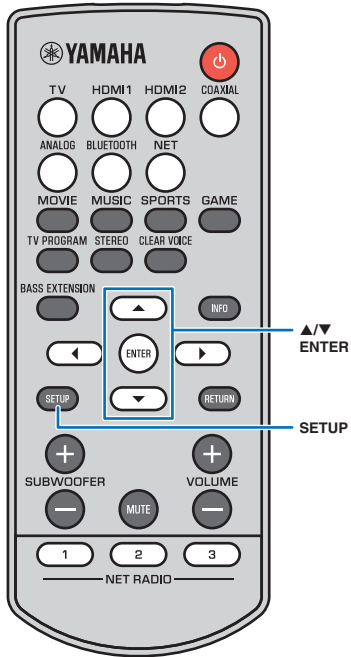
A wireless connection can be established by pressing WPS button on the wireless router (access point).

- 1** Press the key to turn on this unit.
- 2** Turn on the TV and switch the TV input to display video from the unit (HDMI OUT jack; p. 16).
- 3** Press the **SETUP** key.  
The setup menu is displayed on the TV screen.
- 4** Use the **▲/▼** keys to select “**Network**”, and then press the **ENTER** key.
- 5** Use the **▲/▼** keys to select “**Network Connection**”, and then press the **ENTER** key.
- 6** Use the **▲/▼** keys to select “**Wireless (Wi-Fi)**”, and then press the **ENTER** key.



- 7** Use the **▲/▼** keys to select “**WPS Button**”, and then press the **ENTER** key.





## 8 Push the WPS button on the wireless router (access point).

When a connection has been established, “Completed” will be displayed on the TV screen.

If “Not connected” is displayed, press the ENTER key to repeat the procedure beginning with step 6, or see the information below to try another connection method.

### NOTE

- The WPS button cannot be used to establish a wireless connection if your wireless router (access point) uses WEP encryption, or if the router’s MAC address filter is enabled. See “Searching for a wireless router (access point)” (p. 32) to establish a connection.
- The WPS button cannot be used to establish a wireless connection if your wireless router (access point) is configured so that it does not broadcast its SSID. See “Setting up the wireless connection manually” (p. 34) to establish a connection.

## 9 Press the SETUP key to exit the setup menu.

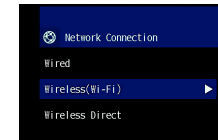
### About WPS

WPS (Wi-Fi Protected Setup) is a standard established by the Wi-Fi Alliance, which allows easy establishment of a wireless home network.

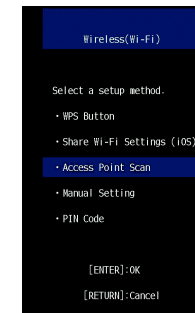
## Searching for a wireless router (access point)

Find and connect to a nearby wireless router (access point).

- 1 Press the key to turn on this unit.
- 2 Turn on the TV and switch the TV input to display video from the unit (HDMI OUT jack; p. 16).
- 3 Press the SETUP key.  
The setup menu is displayed on the TV screen.
- 4 Use the ▲/▼ keys to select “Network”, and then press the ENTER key.
- 5 Use the ▲/▼ keys to select “Network Connection”, and then press the ENTER key.
- 6 Use the ▲/▼ keys to select “Wireless (Wi-Fi)”, and then press the ENTER key.

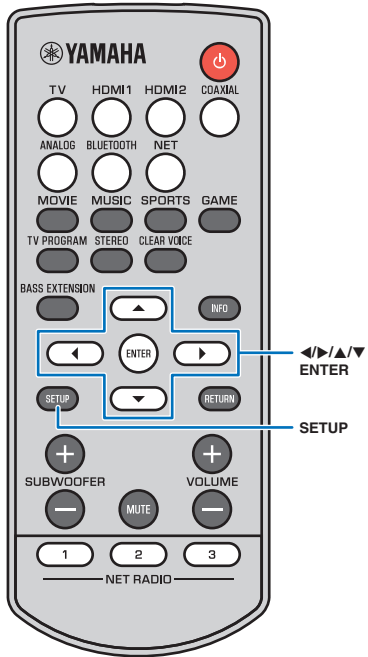


- 7 Use the ▲/▼ keys to select “Access Point Scan”, and then press the ENTER key.



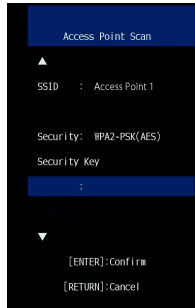
The list of available access points appears on the TV screen.





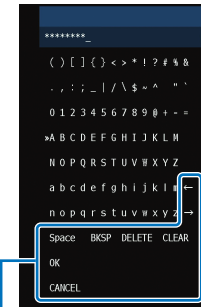
**8** Use the ▲/▼ keys to select the desired access point and press the ENTER key.

The wireless connection setting screen appears on the TV.



**9** Press the ENTER key.

**10** Use the ◀/▶/▲/▼ and ENTER keys to enter the security key.



- [←]/[→]: Move the cursor left and right.
- [Space]: Enter a space.
- [BKSP]: Delete the character to the left of the selected one.
- [DELETE]: Delete the selected character.
- [CLEAR]: Delete all characters entered.
- [CANCEL]: Cancel character entry, and return to the previous screen.

Once the security key been entered, select “OK”, and then press the ENTER key. The screen will return to that displayed in step 8.

**11** Use the ▲/▼ keys to select “Connect” and press the ENTER key to start the connection process.

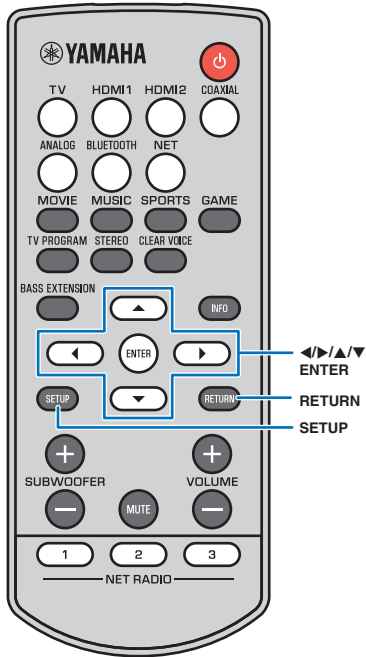
When a connection has been established, “Completed” will be displayed on the TV screen.

If “Not connected” is displayed, press the ENTER key to repeat the procedure beginning with step 6, or see the information below to try another connection method.

**NOTE**

- “Access Point Scan” cannot be used to establish a wireless connection if your wireless router (access point) is configured so that it does not broadcast its SSID. See “Setting up the wireless connection manually” (p. 34) to establish a connection.

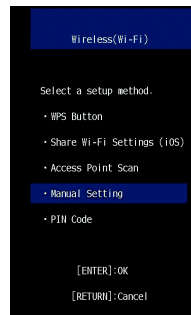
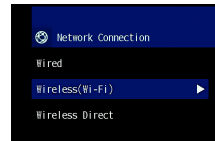
**12** Press the SETUP key to exit the setup menu.



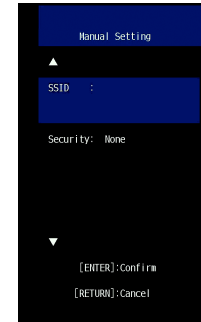
## Setting up the wireless connection manually

Setup the SSID (network name), encryption method and security for your network manually.

- 1 Press the key to turn on this unit.
- 2 Turn on the TV and switch the TV input to display video from the unit (HDMI OUT jack; p. 16).
- 3 Press the **SETUP** key.  
The setup menu is displayed on the TV screen.
- 4 Use the keys to select “Network”, and then press the **ENTER** key.
- 5 Use the keys to select “Network Connection”, and then press the **ENTER** key.
- 6 Use the keys to select “Wireless (Wi-Fi)”, and then press the **ENTER** key.
- 7 Use the keys to select “Manual Setting”, and then press the **ENTER** key.



- 8 Use the keys to select “SSID”.

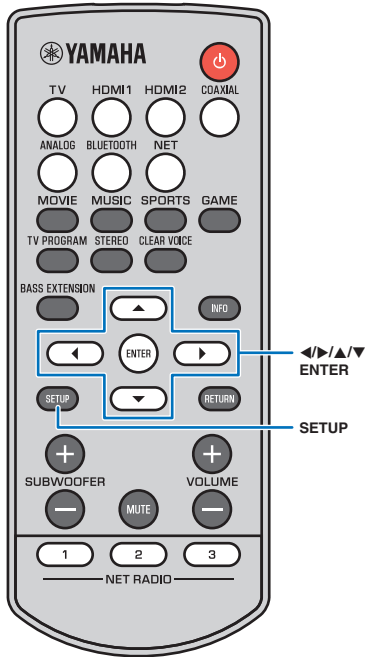


- 9 Use the / keys and the **ENTER** key to enter the SSID of the access point.



- [←]/[→]: Move the cursor left and right.
- [Space]: Enter a space.
- [BKSP]: Delete the character to the left of the selected one.
- [DELETE]: Delete the selected character.
- [CLEAR]: Delete all characters entered.
- [CANCEL]: Cancel character entry, and return to the previous screen.

Once the security key been entered, select “OK”, and then press the **ENTER** key. The screen will return to that displayed in step 8.



- 10** Use the ▲/▼ keys to select “Security” and the ◀/▶ keys to select the encryption method.

**Settings**

None, WEP, WPA2-PSK (AES), Mixed Mode

**NOTE**

- As communications are not encrypted when “None” is selected, selecting this option poses the risk that third parties may access the unit without your permission.

- 11** Use the ▲/▼ keys to select “Security Key” and press the ENTER key.

**HINT**

- If you select “None” in step 10, this item is not available.

- 12** Use the ◀/▶/▲/▼ and ENTER keys to enter the security key.

If you select “WEP” in step 10, enter either 5 or 13 character string, or 10 or 26 hexadecimal (base 16) keys.

If you select the method other than “WEP”, enter either 8 to 63 character string, or 64 hexadecimal (base 16) keys.

**HINT**

- Hexadecimal (base 16) keys use combinations of the numbers 0 through 9 and the letters a through f. Letters are not case sensitive.



- [←][→]: Move the cursor left and right.
- [Space]: Enter a space.
- [BKSP]: Delete the character to the left of the selected one.
- [DELETE]: Delete the selected character.
- [CLEAR]: Delete all characters entered.
- [CANCEL]: Cancel character entry, and return to the previous screen.

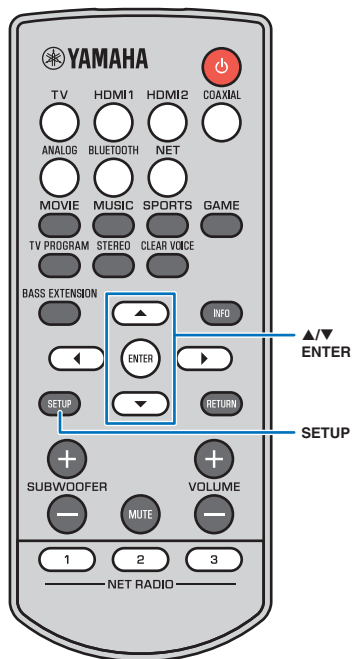
Once the security key been entered, select “OK”, and then press the ENTER key. The screen will return to that displayed in step 8.

- 13** Use the ▲/▼ keys to select “Connect” and press the ENTER key to start the connection process.

When a connection has been established, “Completed” will be displayed on the TV screen.

If “Not connected” is displayed, press the ENTER key to repeat the procedure beginning with step 6.

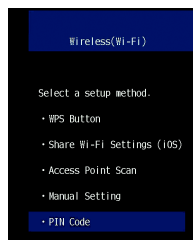
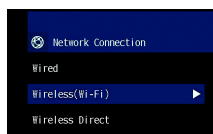
- 14** Press the SETUP key to exit the setup menu.



## Using the WPS PIN code

Register the unit's PIN code with your wireless router (access point) to establish a connection. This procedure applies if your wireless router (access point) supports the WPS PIN feature.

- 1** Press the key to turn on this unit.
- 2** Turn on the TV and switch the TV input to display video from the unit (HDMI OUT jack; p. 16).
- 3** Press the **SETUP** key.  
The setup menu is displayed on the TV screen.
- 4** Use the keys to select "Network", and then press the **ENTER** key.
- 5** Use the keys to select "Network Connection", and then press the **ENTER** key.
- 6** Use the keys to select "Wireless (Wi-Fi)", and then press the **ENTER** key.
- 7** Use the keys to select "PIN Code", and then press the **ENTER** key.



The list of available access points appears on the TV screen.

- 8** Use the keys to select the desired access point and press the **ENTER** key.

The PIN code of the unit appears on the TV screen.



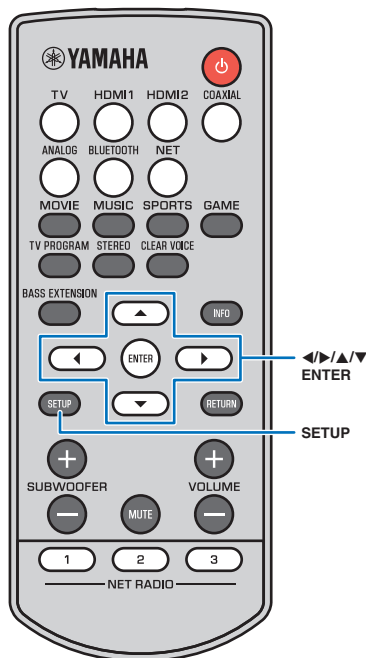
- 9** Enter the unit's PIN code into the wireless router (access point).  
For details on settings, refer to documentation supplied with the wireless router (access point).
- 10** Press the **ENTER** key to start the connection process.  
When a connection has been established, "Completed" will be displayed on the TV screen. If "Not connected" is displayed, press the **ENTER** key to repeat the procedure beginning with step 6, or see the information below to try another connection method.

### NOTE

- The PIN code cannot be used to establish a wireless connection if your wireless router (access point) uses WEP encryption, or if the router's MAC address filter is enabled. See "Searching for a wireless router (access point)" (p. 32) to establish a connection.

- 11** Press the **SETUP** key to exit the setup menu.

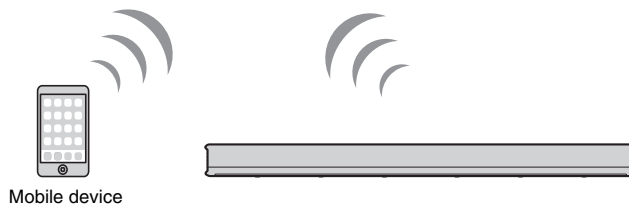
## Connecting a mobile device to the unit directly (Wireless Direct)



Connect a mobile device directly to the unit without using a wireless router (access point).






Wireless Direct supports the following.



- Operation of the unit using a mobile device to which the dedicated MusicCast CONTROLLER app has been installed.
- Use of AirPlay to play music files stored on an iOS device.



### NOTE

- You cannot use Wireless Direct simultaneously with the wired network connection (p. 26) or the wireless network connection (p. 27).
- When Wireless Direct is enabled, the mobile device and the unit cannot connect to the Internet. Therefore, you cannot use any kind of Internet service such as Internet radio.

- 1 Press the  key to turn on this unit.**
- 2 Turn on the TV and switch the TV input to display video from the unit (HDMI OUT jack; p. 16).**
- 3 Press the SETUP key.**  
The setup menu is displayed on the TV screen.
- 4 Use the /  keys to select “Network”, and then press the ENTER key.**
- 5 Use the /  keys to select “Network Connection”, and then press the ENTER key.**

- 6 Use the /  keys to select “Wireless Direct”, and then press the ENTER key.**



- 7 Use the /  keys to select “Security” and the /  keys to select the encryption method.**



### Settings

None, WPA2-PSK (AES)

In most cases, “WPA2-PSK (AES)” should be selected. If your mobile device does not support “WPA2-PSK (AES)”, select “None”.

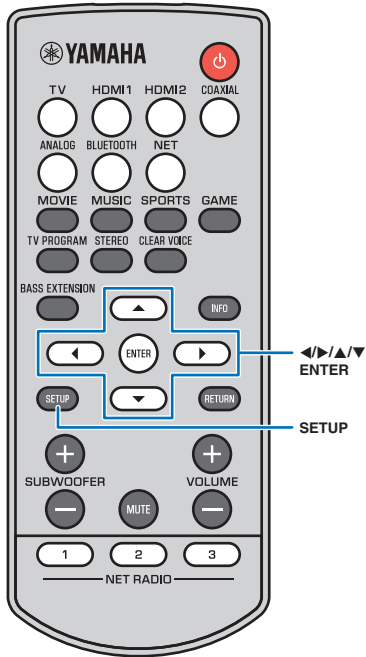
### NOTE

- As communications are not encrypted when “None” is selected, selecting this option poses the risk that third parties may access the unit without your permission.

- 8 Use the /  keys to select “Security Key” and press the ENTER key.**

### HINT

- If you select “None” in step 7, this item is not available.

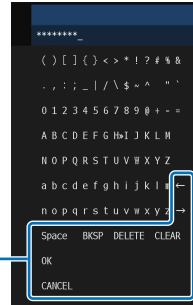


## 9 Use the ◀/▶/▲/▼ and ENTER keys to enter the security key.

Enter either 8 to 63 character string, or 64 hexadecimal (base 16) keys.

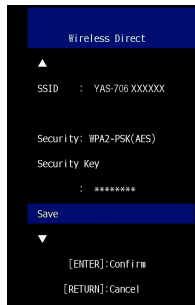
### HINT

- Hexadecimal (base 16) keys use combinations of the numbers 0 through 9 and the letters a through f. Letters are not case sensitive.



- [←]/[→]: Moves the cursor left and right.
- [Space]: Enter a space.
- [BKSP]: Delete the character to the left of the selected one.
- [DELETE]: Delete the selected character.
- [CLEAR]: Delete all characters entered.
- [CANCEL]: Cancel character entry, and return to the previous screen.

Once the security key been entered, select “OK”, and then press the ENTER key. The screen below will be displayed.



### HINT

- Before proceeding to the next step, record the following information. These information will be needed to configure the Wi-Fi setting of a mobile device.
  - SSID displayed on the TV screen
  - Security key you have just entered

## 10 Use the ▲/▼ keys to select “Save” and press the ENTER key to save the setting.

This completes the settings and “Set the mobile device.” will be displayed on the TV screen. The unit functions as an access point.

Next, configure the Wi-Fi settings of a mobile device.

## 11 Configure the Wi-Fi settings of a mobile device.

For details on settings of your mobile device, refer to documentation supplied with the mobile device.

- Enable the Wi-Fi function on the mobile device.
- Select the SSID displayed in step 9 from the list of available access points.
- When you are prompted for a password, enter the security key displayed in step 9.

## 12 Press the SETUP key to exit the setup menu.

## Playing back music stored on media servers (PCs/NAS)

You can play back music files stored on your PC or DLNA-compatible NAS via the unit.

### NOTE

- The audio may be interrupted while using the wireless network connection. In this case, use the wired network connection.

### Supported File formats

File	Sampling frequency (kHz)	The number of channels	Gapless playback
WAV*	32 to 192	2	✓
MP3	8 to 48	2	—
WMA	8 to 48	2	—
MPEG-4 AAC	8 to 48	2	—
FLAC	32 to 192	2	✓
ALAC	32 to 96	2	✓
AIFF	32 to 192	2	✓

\* Linear PCM format only

### NOTE

- To play back FLAC files stored on a PC or NAS, you need to install server software that supports sharing of FLAC files via DLNA on your PC or use a NAS that supports FLAC files.
- Digital Rights Management (DRM) contents cannot be played back.

## Media sharing setup

To play back music files stored on your PC or DLNA-compatible NAS, first you need to configure the media sharing setting on each music server.

### For a PC with Windows Media Player installed

This unit supports Windows Media Player 11 or later. This section explains Windows Media Player 12 setup as an example.

### NOTE

- Operation may vary depending upon your PC or settings. Refer to documentation provided by your PC's manufacturer or Windows Media Player Help for details.

- 1 Start Windows Media Player 12 on your PC.
- 2 Select "Stream", then "Turn on media streaming".
- 3 Click "Turn on media streaming".
- 4 Select "Allowed" from the drop-down list next to the unit's model name.
- 5 Click "OK" to exit.

### For a PC or a NAS with other DLNA server software installed


Refer to documentation supplied with the device or software and configure the media sharing settings.

## Playing music files

Use the MusicCast CONTROLLER app (p. 27) installed on your mobile device to play music files.

### NOTE

- Register the unit as a MusicCast-enabled device (p. 27) before playing music files.

- 1 Use the MusicCast CONTROLLER app to select the unit's room (Room1, etc.).
- 2 Tap  (Server).
- 3 Follow the on-screen instructions to select a song.

### HINT

- When a music file is registered with No. 1, 2, or 3 in "Favorites" with the MusicCast CONTROLLER app, the registered music file can be played with the NET RADIO 1, 2, or 3 key on the remote control.

## Listening to Internet radio

You can listen to Internet radio stations from all over the world.

### NOTE

- You may not be able to receive some Internet radio stations.
- The unit uses the vTuner Internet radio station database service. This service may be discontinued without notice.

## Playback of Internet radio

Use the MusicCast CONTROLLER app (p. 27) installed on your mobile device to select an Internet radio station.

### NOTE


- Register the unit as a MusicCast-enabled device (p. 27) before listening to Internet radio.

- 1 Use the MusicCast CONTROLLER app to select the unit's room (Room1, etc.).**
- 2 Tap  (Net Radio).**
- 3 Select a station from "Locations", "Genres", etc.**

### HINT

- When an Internet radio station is registered with No. 1, 2, or 3 in "Favorites" with the MusicCast CONTROLLER app, the registered Internet radio station can be played with the NET RADIO 1, 2, or 3 key on the remote control.

## Using the MusicCast CONTROLLER app to bookmark a station

- 1 Select the desired Internet radio station.**
- 2 Tap  in the playback screen, and then tap "Add Bookmark".**



### HINT

- You can use the Web browser on your PC to access the vTuner website (<http://radio.vtuner.com/>) and edit bookmarks.
- When the vTuner website is accessed, a dialog in which the unit's vTuner ID can be entered is displayed. Confirm the unit's vTuner ID from "Network" of "Information" in the setup menu beforehand (p. 47)

## Tuning into registered Internet radio stations

- 1 Tap "Bookmarks", and then tap "My\_Favorites" to select the desired Internet radio station.**

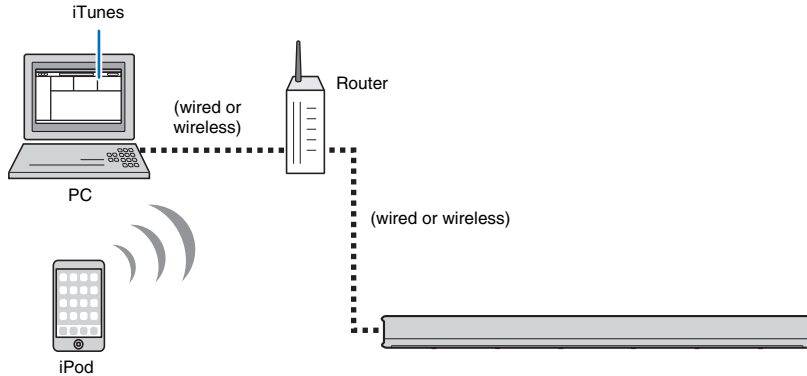


## Playing back music with AirPlay

The AirPlay function allows you to play back iTunes or iPod music on the unit via network.

### HINT



- This section describes “iPod touch”, “iPhone” and “iPad” as the “iPod”. “iPod” refers to “iPod touch”, “iPhone” and “iPad”, unless otherwise specified.




### NOTE

- AirPlay works with iPhone, iPad, and iPod touch with iOS 4.3.3 or later, Mac with OS X Mountain Lion or later, and Mac and PC with iTunes 10.2.2 or later.

### HINT

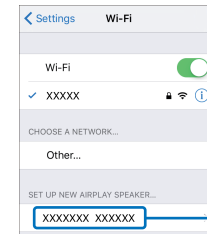
- When the unit is turned on for the first time after purchase, the  indicator flashes slowly and the “Share Wi-Fi Settings” screen is displayed on the TV. While the  indicator is flashing and the screen is displayed, network settings from your iOS device (an iPhone, etc.) can be applied to the unit to connect the unit to a wireless network.

The  indicator does not flash and the screen is not displayed if the unit’s NETWORK jack is connected to a router using a cable (wired connection).



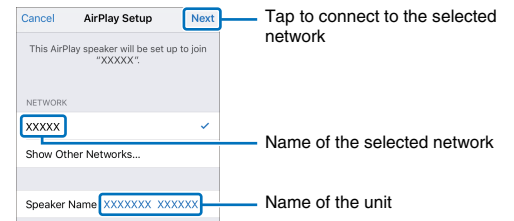
Display Wi-Fi settings on the iOS device and select the unit from “SETUP A NEW AIRPLAY SPEAKER...”.

Example



When the following screen is displayed, select the network (access point) to which the unit will be connected.

Example




### NOTE

- If the unit is connected to a network using the MusicCast CONTROLLER app (p. 27), network settings will be changed to those of the MusicCast CONTROLLER app.

## Playback of iTunes/iPod music contents

Follow the procedure below to play back iTunes/iPod music contents on the unit.

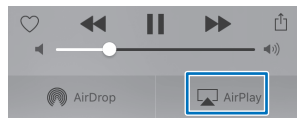
### 1 Turn on the unit, and start iTunes on the PC or display the playback screen on the iPod.

If the iTunes/iPod recognizes the unit, the AirPlay icon (  ) appears.

iTunes (example)



iPod (example)

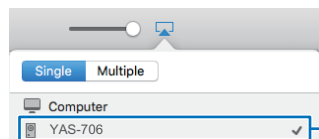


#### NOTE

- If the icon does not appear, check whether the unit and PC/iPod are connected to the router properly.

### 2 On the iTunes/iPod, click (tap) the AirPlay icon and select the unit as the audio output device.

iTunes (example)



iPod (example)



The unit

### 3 Select a song and start playback.

To operate playback, use the Music app on the iPod or iTunes on the PC.

#### HINT

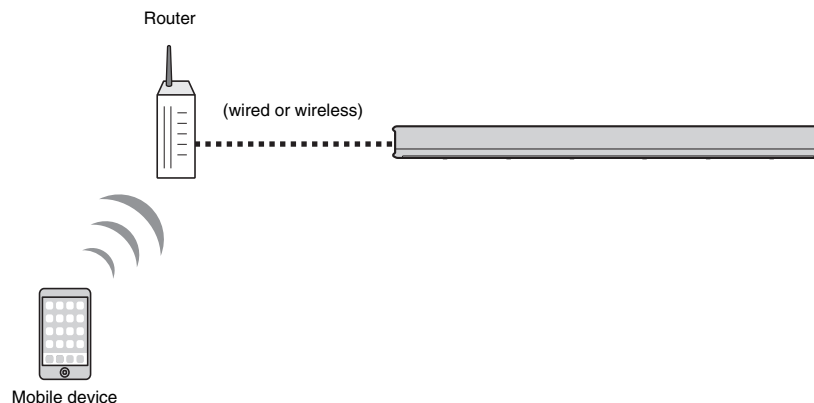
- When the network standby function (p. 49) is enabled, the unit automatically turns on when iTunes/iPod playback begins.
- You can adjust the unit's volume from the iTunes/iPod during playback.

#### Caution

When you use iTunes/iPod controls to adjust volume, the volume may be unexpectedly loud. This could result in damage to the unit or speakers. If the volume suddenly increases during playback, stop playback on the iTunes/iPod immediately.

## Playing back music stored on mobile devices

Use this function to play music stored on your mobile device over a network.



## Using a mobile device to play songs

Use the MusicCast CONTROLLER app (p. 27) installed on your mobile device to operate playback.

#### NOTE

- Register the unit as a MusicCast-enabled device (p. 27) before playing music files.

### 1 Use the MusicCast CONTROLLER app to select the unit's room (Room1, etc.).

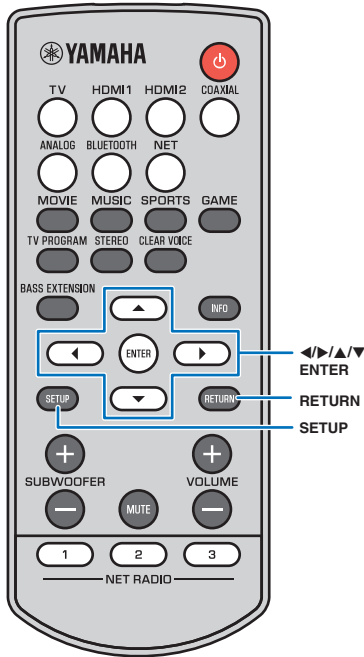
### 2 Tap .

### 3 Select a song from "Playlists", "Artists", etc.

#### Caution

When you use mobile device controls to adjust volume, the volume may be unexpectedly loud. This could result in damage to the unit or speakers. If the volume suddenly increases during playback, stop playback on the mobile device immediately.

# Settings



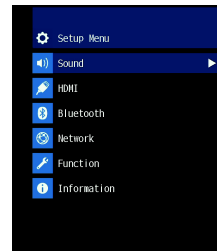
## Setup menu

A variety of settings for this unit can be specified and adjusted from the setup menu. Among the options available are the sound beam output method for optimal surround sound effects, channel volume control, and HDMI settings.

The setup menu is displayed on, and operated from, the TV screen. See “Displaying the menu screen on the TV” (p. 16) for instructions on displaying the setup menu on the TV.

## Setting the setup menu

- 1 Press the **SETUP** key.

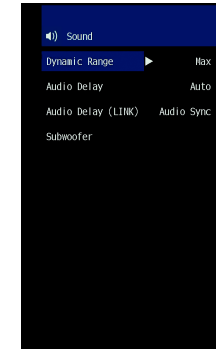


### NOTE

- Hold down the **SETUP** key to display “OSD Language” directly on the screen (p. 17, 49).
- If an update for the unit’s firmware is available, an envelope icon (✉) will be displayed in the setup menu (p. 52).

- 2 Press the **▲/▼** key to select a menu and then press the **ENTER** key or **▶** key.

Repeat these steps to display the desired menu.



Press the **◀** key or **RETURN** key to return to the previous menu.

- 3 Press the **▲/▼** key to change the setting value of each menu.
- 4 Press the **SETUP** key again to exit the setup menu.

## Setup menu list

Menu	Settings	Function	Page	
Sound	Dynamic Range	Specify dynamic range.	45	
	Audio Delay	Specify audio output timing.	45	
	Audio Delay (LINK)	Audio Sync, Lip Sync	Specify audio output timing when distributing sound from the unit to other MusicCast-enabled devices.	45
	Subwoofer	Bass Out	Specify whether the subwoofer will be connected via a wired or wireless connection.	45
Pairing		Manually pair the center unit with the subwoofer.	45	
HDMI	HDMI Control	Turn HDMI control on or off.	46	
	HDMI Audio Out	Choose whether HDMI audio input is played via this unit or the TV.	46	
Bluetooth	Bluetooth	Enable/disable the <i>Bluetooth</i> functions.	46	
	Transmission	Turn the function that transmits audio to a <i>Bluetooth</i> device, such as <i>Bluetooth</i> speakers, on or off.	46	
	Device Search	Search for the <i>Bluetooth</i> device, such as <i>Bluetooth</i> speakers, to which audio will be transmitted.	46	
	MAC Address	Display the MAC address for the <i>Bluetooth</i> connection.	46	
Network	Information	Display the unit's network information.	47	
	Network Connection	Select the network connection method.	47	
	IP Address	DHCP, IP Address, Subnet Mask, Default Gateway, DNS Server (P), DNS Server (S)	Configure the network parameters (such as IP address).	48
	MAC Address Filter	Filter, MAC Address 1–10	Set the MAC address filter to limit access to the unit from other network devices.	48
	Network Standby		Enable/disable the function that turns on the unit from other network devices.	49
	Network Update	Perform Update	Update the firmware via the network.	49
	Function	Dimmer	Adjust the brightness of the indicators.	49
OSD Language		Changes the language used for menus displayed on the TV screen.	49	
Auto Power Standby		Enable/disable the function that turns off the unit automatically.	50	
Information	Audio	Display audio input signal information.	50	
	Video	Display video input signal information.	50	
	System	Display this unit's firmware version.	50	

## Sound

### Dynamic Range



Adjust this unit's dynamic range (difference between maximum and minimum volumes).

#### Settings

Min/Auto	Min: Sets dynamic range at a level that supports comfortable listening at low volumes. Auto: Sets dynamic range in accordance with information received from input signal.
Standard	The dynamic range recommended for regular home use.
Max (default)	Outputs sound without adjusting the dynamic range of the input signals.

### Audio Delay



TV images sometimes lag behind the sound. You can use this function to delay the sound output to synchronize it with the video image.

#### NOTE

- "Audio Delay" is not available when all of the following conditions are met.
  - "Audio Delay (LINK)" (p. 45) is set to "Audio Sync".
  - Sound (an input source other than BLUETOOTH or NET) is distributed from this unit to other MusicCast-enabled devices.
  - "Link Control" is set to "Standard (default)" or "Speed Boost" with the MusicCast CONTROLLER app.

#### Adjustable range

HDMI1, 2, TV, COAXIAL, ANALOG	Auto* (default), 0 ms to 500 ms, 5 ms increments
-------------------------------------	--

\* When "Auto" is selected, output timing is automatically adjusted. This setting is only available when the TV connected via HDMI cable supports the audio delay automatic adjustment feature.

## Audio Delay (LINK)



Specify whether or not the unit's sound output timing is synchronized with other MusicCast-enabled devices when sound is distributed from this unit to other MusicCast-enabled devices.

#### NOTE

- This setting can only be configured when "Link Control" is set to "Standard (default)" or "Speed Boost" with the MusicCast CONTROLLER app.

#### Settings

Audio Sync (default)	Output timing is synchronized with other MusicCast-enabled devices (to which sound from this unit is distributed).
Lip Sync	Output timing is adjusted in accordance with the "Audio Delay" setting (p. 45). Select this option if you notice a deviation in timing between audio and video playing on a TV or BD/DVD player.

## Subwoofer



Apply subwoofer settings, such as the connection method.

### • Bass Out

Specify how the subwoofer is connected.

#### Settings

Wireless (default)	Select to connect the center unit and subwoofer wirelessly.
Wired	Select to connect the center unit and subwoofer via the subwoofer cable (RCA mono cable) and system control cable (3.5 mm monaural mini plug cable).

### • Pairing

Manually pair the center unit with the subwoofer. After "Pairing" is selected, press the SUBWOOFER PAIRING button on the subwoofer for three seconds. For details, refer to "Pairing the center unit and subwoofer" (p. 62).

#### HINT

- "Pairing" can be selected when "Bass Out" is set to "Wireless".

## HDMI

Use to configure the settings related to HDMI signals and the HDMI control function.

### HDMI Control



Turn HDMI control function (p. 22) on or off.

#### Settings

Off	Disable the control function. The standby power consumption of this unit decreases.
On (default)	Enable the control function.

#### HINT

- Set the HDMI control function to “On” when a TV that supports audio return channel (ARC) is used (p. 12), or when using the HDMI signal pass-through function (p. 13).

### HDMI Audio Out

This setting can be configured only when “HDMI Control” is set to “Off”.



Use to select a device to play HDMI audio input signal.

#### Settings

AMP (default)	Play HDMI audio input signal from the unit.
TV	Play HDMI audio input signal from the TV connected to the HDMI OUT (ARC) jack on the unit. The unit cannot be used to adjust volume.

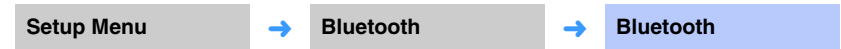
#### HINT

- When “HDMI Control” is set to “On”, select the audio output device based on the settings configured for the TV connected to this unit.
- HDMI video signals input to one of the HDMI IN jacks of this unit are always output from the HDMI OUT (ARC) jack of this unit.

## Bluetooth

Configures the *Bluetooth* settings.

### Bluetooth

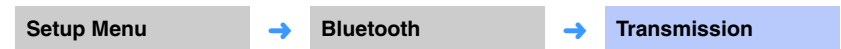


Enables/disables the *Bluetooth* function.

#### Settings

Off	Disable the <i>Bluetooth</i> function.
On (default)	Enable the <i>Bluetooth</i> function.

### Transmission

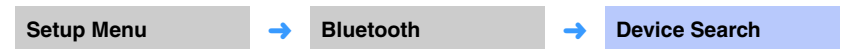


Transmit audio from the unit to *Bluetooth* speakers or headphones.

#### Settings

Off (default)	Audio can not be transmitted.
On	Audio input to the unit can be transmitted to <i>Bluetooth</i> speakers or headphones.

### Device Search



Select the *Bluetooth* speakers or headphones to which audio will be transmitted, and connect the unit to the speakers or headphones wirelessly.

### MAC Address



Display the MAC address for the *Bluetooth* connection.

# Network

Configures the network settings.

## Information



Display the network information on the unit.

### HINT

- The options displayed vary according to the type of network connection (Wired/Wireless (Wi-Fi)/Wireless Direct).

Status	The connection status of the NETWORK jack
Connection	Connection method
MC Network	The connection status of MusicCast Network
SSID	The access point to which the unit is connected
Security	The encryption method for your network
MAC Address	MAC address (Ethernet/Wi-Fi)
IP Address	IP address
Subnet Mask	Subnet mask
Default Gateway	The IP address of the default gateway
DNS Server (P)	The IP address of the primary DNS server
DNS Server (S)	The IP address of the secondary DNS server
vTuner ID	The ID of the Internet radio (vTuner)

# Network Connection



Select the network connection method.

## Settings

Wired	Select this option when connecting the unit to a network with a network cable (not supplied).
Wireless (Wi-Fi)	Select this option when connecting the unit to a network via the wireless router (access point).
Wireless Direct	Select this option when connecting a mobile device to the unit directly.

## IP Address



Configure the network parameters (such as IP address).

### • DHCP

Select whether to use a DHCP server.

#### Settings

Off	The DHCP server is not used. Configure the network parameters manually. For details, see “Manual network settings”.
On (default)	The DHCP server is used to automatically obtain the unit’s network parameters (such as IP address).

#### Manual network settings

**1** Set “DHCP” to “Off”.

**2** Use the ▲/▼ keys to select a parameter type.

IP Address	Specify an IP address.
Subnet Mask	Specify a subnet mask.
Default Gateway	Specify the IP address of the default gateway.
DNS Server (P)	Specify the IP address of the primary DNS server.
DNS Server (S)	Specify the IP address of the secondary DNS server.

**3** Use the ◀/▶ keys to move the edit position and the ▲/▼ keys to select a value.

**4** Press the ENTER key.

## MAC Address Filter



The MAC address filter limits network devices that can be used to operate the unit. When operating the unit via an app on a mobile device, specify the MAC address of the device.

#### HINT

- Operation of the AirPlay function (p. 41) or DLNA-compatible device (p. 39) is not limited by this setting.

### • Filter

Enable/disable the MAC address filter.

#### Settings

Off (default)	Disable the MAC address filter.
On	Enable the MAC address filter. In “MAC Address 1–10”, specify the MAC addresses of the network devices that will operate the unit.

### • MAC Address 1–10

Specify the MAC addresses (up to 10) of the network devices that will operate the unit when “Filter” is set to “On”.

**1** Use the ▲/▼ keys to select an MAC address number (1 to 10).

**2** Use the ◀/▶ keys to move the edit position and the ▲/▼ keys to select a value.

**3** Press the ENTER key.



## Network Standby



Turn the function that controls the unit's power (Network Standby) when a mobile device or *Bluetooth* device is operated on or off.

### Settings

Off	Disable the network standby function.
On (default)	Enable the network standby function. <ul style="list-style-type: none"><li>• When the unit is turned off, it will turn on with the following playback operations.<ul style="list-style-type: none"><li>– Play back with AirPlay</li><li>– Music files stored on a DLNA-compliant network attached storage (NAS) unit are played</li></ul></li><li>• The unit can also be turned on and off using the MusicCast CONTROLLER app installed on your mobile device.</li></ul> <p>When a <i>Bluetooth</i> device is connected to this unit while it is off, this unit turns on.</p>

### HINT

- The unit consumes more power when it is off with the network standby function enabled than it does when it is off with this function disabled.

## Network Update



Update the firmware via the network.

### Perform Update

This option is available after a new firmware has been released. For details, see “Updating the unit's firmware” (p. 52).

## Function

### Dimmer



Adjust the brightness of the indicators. The smaller the value, the dimmer the indicators.

### Settings

-2 (off), -1 (dim; default), 0 (bright)

### HINT

- Indicators glow brightly just after operation and change to the specified brightness after a few seconds.

### OSD Language



Use to select the language used for menus displayed on the TV screen.

### Settings

ENGLISH (default)	Menus are displayed in English.
FRANÇAIS	Menus are displayed in French.
ESPAÑOL	Menus are displayed in Spanish.

### HINT

- Hold down the SETUP key to display “OSD Language” directly on the TV screen.
- The settings may be changed automatically when using the TV which supports the HDMI control function.

## Auto Power Standby

Setup Menu



Function



Auto Power Standby

Enabling the auto power standby function prevents the unit from remaining on when not in use.

### Settings

Off (default)	Disable the auto power standby function.
On	<p>Enable the auto power standby function.</p> <p>The unit automatically turns off in any of the following situations.</p> <ul style="list-style-type: none"><li>– No operations for 8 hours</li><li>– No audio input and no operations for 20 minutes when HDMI 1-2, BLUETOOTH or NET is selected as the input source.</li></ul>

The auto power standby function can also be configured without using the setup menu. Follow the procedure below.

- 1 Turn off the unit.
- 2 Hold down the  key and press the  key on the unit.



The auto power standby function is enabled or disabled, and the unit turns on. For several seconds immediately after the unit is turned on, the indicator shows auto power standby function status.



Off (enabled), glows (disabled)

## Information

Display information for the audio and video signal input to this unit.

### Audio

Setup Menu



Information



Audio

The following information on the current audio input signal is displayed.

Format	Digital audio format
Number of channels	<p>The number of channels contained within the input signal—front/surround/low field effects (LFE). Example: “3/2/0.1” means signal contains 3 front channels, 2 surround channels, and LFE.</p> <p>If the signal contains channels other than front, surround, and LFE, the total number of channels may be displayed. Example: “5.1ch”</p>
Sampling frequency	The sampling frequency of the digital input signal
Bit rate	The per-second bit rate of the input signal

#### HINT

- The audio bit rate may not be displayed for some input signals.

### Video

Setup Menu



Information



Video

The following information on the current video input signal is displayed.

Type	HDMI or DVI
Resolution	Video signal resolution

### System

Setup Menu



Information



System


Display the version of firmware currently installed on this unit.

## Configuring 4K video mode

When playing 4K video, select Mode 1 or Mode 2 according to the video signal format.

Mode 1*	4K (60 Hz/50 Hz) signals are input and output in 4:4:4, 4:2:2, or 4:2:0 format. Depending upon the device connected or the HDMI cable used, video may not be displayed correctly. Should this occur, select Mode 2.
Mode 2 (default)	4K (60 Hz/50 Hz) signals are input and output in 4:2:0 format.

\* When Mode 1 is selected, use a high-speed HDMI cable that supports bandwidth of 18 Gbps.

- 1 Turn off the unit.
- 2 Hold down the CONNECT key and press the  key on the unit.



The selected 4K video mode (Mode 1 or Mode 2) is enabled, and the unit turns on. The indicator shows that Mode 1 or Mode 2 has been enabled for several seconds immediately after the unit turns on.



## Updating the unit's firmware

New firmware that provides additional features or product improvements will be released as needed. If the unit is connected to the Internet, you can download the firmware via the network and update it.

The unit's firmware can be updated as follows.

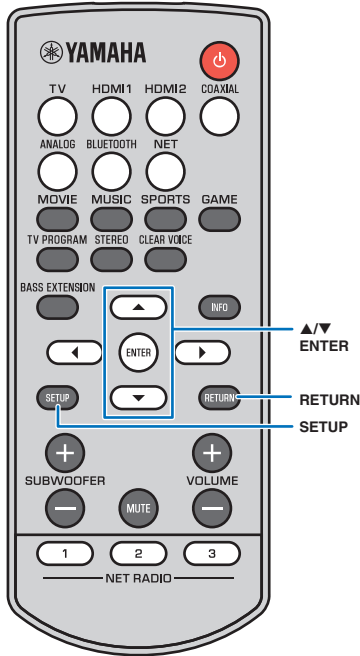
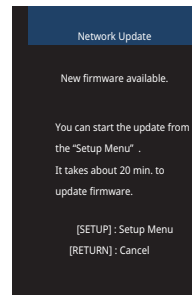
- Update firmware from "Network Update" in the setup menu. To perform the procedure, your TV must be connected to the unit via HDMI.
- Update firmware using the dedicated MusicCast CONTROLLER app installed on a mobile device. Follow MusicCast CONTROLLER guides to operate the app and update the firmware.

### Cautions

- Do not operate the unit or disconnect the power cable or network cable during firmware update.
- If the Internet connection speed is slow, or the unit is connected to the wireless network, network update may not be possible depending on the condition of the network connection. Should this occur, try again at a later time.
- For details on update, visit the Yamaha website.

## Using "Network Update" in the setup menu to update firmware

When the unit is turned on for the first time after a new version of the unit's firmware has been released, a message indicating that a firmware update is available will be displayed on the TV screen.



### HINT

- To update the firmware later, press the RETURN key when the "Network Update" screen is displayed on the TV screen.

- 1 Press the **SETUP** key.
- 2 Use the **▲/▼** keys to select "Network", and then press the **ENTER** key.
- 3 Use the **▲/▼** keys to select "Network Update", and then press the **ENTER** key.
- 4 Press the **ENTER** key.

The TV screen goes black and firmware update begins. Update progress can be confirmed using the indicators on the unit.



If the update is completed successfully, all indicators on the unit will flash.



- 5 Press the **⏻** key on the unit.





The firmware update is complete.

### NOTE

- If the firmware update fails, the indicator at far right on the unit will flash blue. Press the **⏻** key to turn unit off and then on again, and repeat the procedure from step 1 again. If the update fails again, check the network connection.

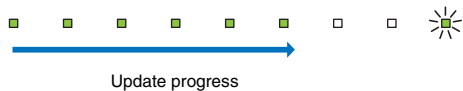
## Updating firmware with connection of a USB flash drive

Download the latest firmware version from the Yamaha website to a USB flash drive, which can then be used to update the unit's firmware. See information provided when updating firmware for details.

- 1 Save this unit's firmware to a USB flash drive.
- 2 Turn off the unit.
- 3 Connect the USB flash drive to the UPDATE ONLY jack on the unit's rear panel.
- 4 Hold down the  key and press the  key.



The firmware update begins. Update progress can be confirmed using the indicators on the unit.



If the update is completed successfully, all indicators on the unit will flash.




- 5 Press the  key on the unit.




The firmware update is complete.

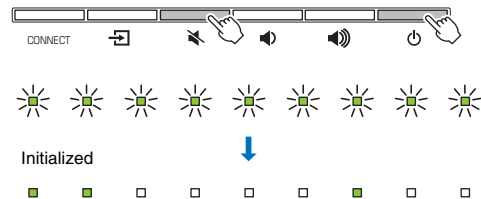
### NOTE

- If the firmware update fails, the indicator at far right on the unit will flash blue. Press the  key to turn unit off and then on again, and repeat the procedure from step 1 again. If the firmware update fails again, confirm the USB flash drive is correctly connected to the UPDATE ONLY jack.

## Initializing the unit

Follow the procedure below to initialize the unit.

- 1 Turn off the unit.
- 2 Hold down the  key and press the  key on the unit until all indicators flash.




# Troubleshooting

Refer to the table below when the unit does not function properly. If the problem you are experiencing is not listed below or if the instructions below do not help, turn off the unit, disconnect the power cable, and contact the nearest authorized Yamaha dealer or service center.

First, check the following:

- ① **The power cables of the unit, TV and playback devices (such as BD/DVD players) are connected to AC wall outlets securely.**
- ② **The unit, TV and playback devices (such as BD/DVD players) are turned on.**
- ③ **The connectors of each cable are securely inserted into jacks on each device.**

## Power and system

Problem	Cause	Remedy
<b>The power turns off suddenly.</b>	When the auto power standby function is enabled, the unit automatically turns off in any of the following situations: - No operations have been performed for 8 hours - HDMI 1–2, BLUETOOTH, or NET is selected as the input source, but no audio has been input to the unit or no operations have been performed with the unit for more than 20 minutes.	Turn on the unit again. If the auto power standby function is not used, disable the function (p. 50).
	The protection circuitry has been activated. (The STATUS indicator on the center unit flashes.)	After confirming that all connections are made properly, turn on the unit again. If the power still turns off frequently, unplug the power cable from the AC wall outlet and contact the nearest authorized Yamaha dealer or service center.
<b>The power cannot be turned on.</b>	The protection circuitry has been activated three times consecutively. (If you try to turn on the power in this condition, the STATUS indicator on the center unit will flash.)	To protect the product, the power cannot be turned on. Unplug the power cable from the AC wall outlet and contact the nearest authorized Yamaha dealer or service center.
<b>All indicators go out although the unit is turned on (it may seem that the unit is turned off).</b>	The unit is configured so that indicators do not glow or flash unless the unit is being operated.	Select the desired brightness from “Dimmer” in the setup menu (p. 49).
<b>The unit does not function correctly.</b>	The internal microcomputer is frozen, due to an external electric shock (such as lightning or excessive static electricity) or to a drop in the power supply voltage.	Hold down the  key on the unit for more than 10 seconds to turn on the unit. (If the problem persists, unplug the power cable from the AC wall outlet and plug it again.)
<b>The unit turns on by itself.</b>	Another <i>Bluetooth</i> device is being operated nearby.	Terminate <i>Bluetooth</i> connection with the unit (p. 24).
<b>The TV’s 3D glasses do not work.</b>	The unit is blocking the TV’s 3D glasses transmitter.	Confirm the position of the TV’s 3D glasses transmitter, and position the unit so that it does not obstruct the transmitter.

## Audio

Problem	Cause	Remedy
<b>No sound.</b>	Another input source is selected.	Select an appropriate input source (p. 18).
	The mute function is activated.	Cancel the mute function (p. 20).
	The volume is too low.	Turn up the volume (p. 20).
	The power cable of the unit is not connected properly.	Make sure that the power cable of the unit is connected to an AC wall outlet securely (p. 12).
	Input jacks on a playback device are connected.	Connect the input jack on the unit and the output jack on the playback device.
	Signals that the unit cannot play back are being input.	Change the digital audio output setting on the playback device to PCM, Dolby Digital or DTS Digital Surround.
	"HDMI Audio Out" is set to "TV".	Set to "AMP" (p. 46).
	"HDMI Control" is set to "Off".	When connecting ARC (Audio Return Channel) supported TV and this unit using an HDMI cable only, set "HDMI Control" to "On" (p. 46). To use this unit with "HDMI Control" set to "Off", connect the TV's audio output jack to this unit's TV (optical digital) input jack via the optical digital audio cable (p. 12).
	Sound from an HDMI control-enabled TV is set for output from the TV's built-in speakers.	Use the TV's HDMI settings to set audio output to any option other than the TV's built-in speakers.
	No sound is coming from the subwoofer.	Refer to the "No sound is coming from the subwoofer." and "The volume of the subwoofer is low." problems (p. 56).
<b>The volume decreases when the unit is turned on.</b>	The automatic volume adjustment function is activated. To prevent excessive loudness, the unit automatically controls its volume within a certain level when the unit is turned on.	Turn up the volume as required (p. 20).
<b>No surround effect.</b>	Stereo playback is selected.	Select surround playback (p. 19).
	The volume is too low.	Turn up the volume (p. 20).
	The TV or playback device is set to output 2 channel audio (such as PCM) only.	Change the digital audio output setting on the TV or playback device to BitStream.
	Sound is also heard from the TV built-in speakers.	Set the TV volume to minimum (p. 12).
	The listening position is too close to the unit.	The listening position should be at some distance from the unit.
<b>Noise is heard.</b>	The unit is too close to another digital or high-frequency device.	Move those devices away from the unit.

Problem		Cause	Remedy
<b>No sound is coming from the subwoofer.</b>	<b>Wired/Wireless</b>	The AC power supply cable of the subwoofer is not firmly connected to the AC wall outlet.	Connect the AC power supply cable firmly to the AC wall outlet.
	<b>Wired/Wireless</b>	The volume of the subwoofer is low.	Increase the volume of the subwoofer with the SUBWOOFER + key on the remote control (p. 20).
	<b>Wired/Wireless</b>	The subwoofer's built-in protective circuit was activated. (The STATUS indicator on the subwoofer glows orange.)	Disconnect the power cable, and contact your nearest Yamaha dealer or service center to request repair.
	<b>Wired</b>	"Bass Out" of "Subwoofer" is set to "Wireless".	Set it to "Wired" (p. 45).
	<b>Wired</b>	The system control cable (3.5 mm monaural mini plug cable) and subwoofer cable (RCA mono cable) are not connected firmly.	Connect the cables firmly.
	<b>Wireless</b>	Conditions for wireless communications are not good, and the center unit and the subwoofer are not connected. (The STATUS indicator on the subwoofer flashes green, or glows red.)	<p>Move the subwoofer closer to the center unit. If the problem persists, move the subwoofer to a location where its STATUS indicator steadily glows green.</p> <p>If there are obstacles such as metal furniture obstructing communications between the center unit and the subwoofer, rearrange the furniture or reposition the subwoofer.</p> <p>If there are devices such as microwave ovens or wireless network devices that emit electromagnetic waves, move the center unit and the subwoofer away from these devices.</p> <p>Use cables to connect the subwoofer to the center unit (p. 15).</p>
	<b>Wireless</b>	The center unit is not paired with the subwoofer. (The STATUS indicator on the subwoofer flashes or glows red.)	<p>Move the subwoofer closer to the center unit to improve conditions for wireless communications, and pair the two (p. 62). If the indicator on the subwoofer does not glow green steadily after pairing, the unit may be malfunctioning. Disconnect the power cable and contact your nearest Yamaha dealer or service center to request repairs.</p>
<b>Wireless</b>	"Bass Out" of "Subwoofer" is set to "Wired".	Set to "Wireless" (p. 45).	
<b>The volume of the subwoofer is low.</b>	<b>Wired/Wireless</b>	The volume of the subwoofer is low.	Increase the volume of the subwoofer with the SUBWOOFER + key on the remote control (p. 20).
	<b>Wired/Wireless</b>	Content from an input source with a limited support for low tones is playing.	Play content from an input source with broader support for low tones to see if volume is still low.
	<b>Wired/Wireless</b>	_____	Move or reposition the subwoofer (p. 9).
	<b>Wired/Wireless</b>	A subwoofer other than that supplied with this unit is connected.	This unit supports the supplied subwoofer NS-WSW121 only.
<b>Sound from the subwoofer is intermittent.</b>	<b>Wired</b>	Cables used to connect the subwoofer to the center unit are not connected firmly.	Connect the cables firmly (p. 15).
	<b>Wireless</b>	Wireless communication conditions are not good, and the center unit and the subwoofer are not connected steadily.	<p>Move the subwoofer closer to the center unit. If the problem persists, move the subwoofer to a location where its STATUS indicator steadily glows green.</p> <p>If there are obstacles such as metal furniture obstructing communication between the center unit and the subwoofer, rearrange the furniture and the subwoofer.</p> <p>If there are devices such as microwave ovens or wireless network devices that emit electromagnetic waves, move the center unit and the subwoofer away from these devices.</p>



## Audio/Video

Problem	Cause	Remedy
<b>The image is not displayed on TV screen.</b>	The HDMI cable is not securely connected.	Connect the HDMI cable properly (p. 12, 13).
<b>Menu screen of this unit is not displayed.</b>	4K mode is not properly configured.	Select Mode 1 or Mode 2 in accordance with the 4K signal format (p. 51).
<b>A digital or high-frequency equipment produces noises.</b>	The input switch of TV is not set correctly.	Set the TV's input source to this unit (p. 16).
<b>The HDMI control function does not work properly.</b>	The unit may be placed close to digital equipment or high-frequency equipment.	Move the equipment away from the unit.
	"HDMI Control" is set to "Off".	Set "HDMI Control" to "On" (p. 46).
	The HDMI control function is disabled on your TV.	Refer to documentation supplied with your TV and check the setting.
	The number of the connected HDMI devices exceeds the limit.	Disconnect some of the HDMI devices.
	Amplifiers (AV amplifiers, sound bars, etc.) other than the unit are connected to the TV or a playback device with an HDMI cable.	Connect only this unit to the TV or a playback device for use as an amplifier.
<b>When the unit is turned off, video and/or audio from a playback device are not output to the TV.</b>	"HDMI Control" is set to "Off".	Set "HDMI Control" to "On" (p. 46).
<b>Audio delay control function is not effective even "Audio Delay" is set to "Auto".</b>	The TV does not support the audio delay auto adjustment feature.	Adjust timing of sound output manually from "Audio Delay" in the setup menu (p. 45).

## Remote control

Problem	Cause	Remedy
<b>The unit cannot be operated using the remote control.</b>	The unit is out of the operating range.	Use the remote control within the operating range (p. 3).
	The batteries are weak.	Replace with new batteries (p. 3).
	The remote control sensor of the unit is exposed to direct sunlight or strong lighting.	Adjust the lighting angle, or reposition the unit.
<b>The TV cannot be operated when the TV's remote control is pointed toward the unit's remote sensor.</b>	The unit and TV are too far apart (or too close), preventing proper operation of the unit's TV remote repeater function.	Position the unit so that it is more than 5 cm (2 in) away from the TV (p. 10).
	There are obstacles between the unit and the TV (cables, etc.), preventing proper operation of the unit's TV remote repeater function.	Remove obstacles between the unit and the TV.
	The TV's remote control does not use infrared signals.	The unit's TV remote repeater function cannot be used. Reposition the unit so that it does not obstruct the remote control sensor on the TV, and point the TV's remote control at the remote control sensor on the TV to control the TV.
	Signals transmitted from the TV's remote control and the unit's TV remote repeater interfere with each other, making it difficult for the TV to receive signals.	

## Bluetooth

### Receiving

Problem	Cause	Remedy
<b>Unable to connect the unit to a <i>Bluetooth</i> device.</b>	"Bluetooth" is set to "Off".	Set it to "On" (p. 46).
	<i>Bluetooth</i> is not selected as the input source.	Select <i>Bluetooth</i> as the input source (p. 24).
	Another <i>Bluetooth</i> device is connected.	Terminate the current <i>Bluetooth</i> connection, and connect to the device from which audio should be received (p. 24).
	A <i>Bluetooth</i> adaptor, etc. that you want to connect to the unit has a password other than "0000".	Use a <i>Bluetooth</i> adaptor, etc. whose password is "0000" (p. 24).
	The device does not support A2DP.	Connect to a <i>Bluetooth</i> audio device that supports A2DP.
	The unit and device are too far apart.	Position the <i>Bluetooth</i> device so that it is less than 10 m (33 ft) from this unit and connect the device to this unit.
	There is a device (microwave oven, wireless LAN, etc.) outputs signals in the 2.4 GHz frequency band nearby.	Move this unit away from the device that is emitting radio frequency signals.
<b>No sound is heard or the sound is intermittent via the unit.</b>	The device is not set to send <i>Bluetooth</i> audio signals to the unit.	Check that the <i>Bluetooth</i> function of the device is set properly.
	Playback on the device has not been performed.	Perform playback on the device.
	The device's volume is set to minimum.	Turn up the volume level on the device.
	The unit and device are too far apart.	Move the <i>Bluetooth</i> device so that it is less than 10 m (33 ft) from this unit.
	There is a device (microwave oven, wireless LAN, etc.) outputs signals in the 2.4 GHz frequency band nearby.	Move this unit away from the device that is emitting radio frequency signal.
	The <i>Bluetooth</i> connection of the unit with the device is disconnected.	Perform <i>Bluetooth</i> connection operations again (p. 24).

## Transmitting

Problem	Cause	Remedy
<b>Cannot make the unit connected to the <i>Bluetooth</i> device.</b>	"Bluetooth" is set to "Off".	Set it to "On" (p. 46).
	"Transmission" is set to "Off".	Set it to "On" (p. 46).
	Another <i>Bluetooth</i> device is connected.	Terminate the current <i>Bluetooth</i> connection, and connect to the device to which audio should be transmitted (p. 25).
	The device does not support A2DP.	Connect to a <i>Bluetooth</i> audio device that supports A2DP.
	The unit and device are too far apart.	Position the <i>Bluetooth</i> device so that it is less than 10 m (33 ft) from this unit and connect the device to this unit.
	There is a device (microwave oven, wireless LAN, etc.) outputs signals in the 2.4 GHz frequency band nearby.	Move this unit away from the device that is emitting radio frequency signals.
<b>No sound is heard or the sound is intermittent via the <i>Bluetooth</i> device.</b>	The device is not set to receive <i>Bluetooth</i> audio signals from the unit.	Check that the <i>Bluetooth</i> function of the device is set properly.
	The device's volume is set to minimum.	Turn up the volume level on the device.
	The sound to be transmitted is not playing.	Play sound on the device selected with the input key (p. 25).
	The unit and device are too far apart.	Move the <i>Bluetooth</i> device so that it is less than 10 m (33 ft) from this unit.
	There is a device (microwave oven, wireless LAN, etc.) outputs signals in the 2.4 GHz frequency band nearby.	Move this unit away from the device that is emitting radio frequency signals.
	The <i>Bluetooth</i> connection of the unit with the device is disconnected.	Perform <i>Bluetooth</i> connection operations again (p. 25).
Attempted to establish a connection during playback with AirPlay.	Playback with AirPlay cannot be transmitted. Terminate AirPlay playback and try again to establish a connection (p. 41).	

## Network

Problem	Cause	Remedy
<b>The network feature does not function.</b>	The network parameters (IP address) have not been obtained properly.	Enable the DHCP server function on your router and set "DHCP" in the setup menu to "On" on the unit (p. 48). If you want to configure the network parameters manually, check that you are using an IP address which is not used by other network devices in your network.
<b>"Not connected" is displayed with "Wireless (Wi-Fi)" configuration; unable to connect to wireless router (access point).</b>	The wireless router's MAC address filter is enabled.	A connection cannot be established if the wireless router's MAC address filter is enabled. Check wireless router (access point) settings and try a different connection method (p. 48).
<b>"Not connected" is displayed with "Wireless (Wi-Fi)" configuration using the WPS function ("WPS Button" and "PIN Code") and "Access Point Scan"; unable to connect to wireless router (access point).</b>	The wireless router (access point) does not broadcast its SSID.	A connection cannot be established if the wireless router (access point) is configured so that it does not broadcast its SSID. Check wireless router (access point) settings and try a different connection method (p. 31, 36).
<b>"Not connected" is displayed with "Wireless (Wi-Fi)" configuration using the WPS function ("WPS Button" and "PIN Code"); unable to connect to wireless router (access point).</b>	The wireless router (access point) uses WEP encryption.	A connection cannot be established using the WPS function. Try a different connection method (p. 31, 36).
<b>Playback stops unexpectedly and files cannot be played continuously.</b>	The folder contains some files that cannot be played via the unit.	Delete or move files (including video or hidden files) that cannot be played via the unit from the folder.
<b>The unit does not detect the PC.</b>	The media sharing setting is not correct.	Configure the sharing setting and select the unit as a device to which music contents are shared (p. 39).
	Some security software installed on your PC is blocking the access of the unit to your PC.	Check the settings of security software installed on your PC.
	The unit and PC are not in the same network.	Check the network connections of the unit and PC, and then connect the unit and the PC to the same network.
	The MAC address filter is enabled on the unit.	In "MAC Address Filter" in the setup menu, disable the MAC address filter or specify the MAC address of your PC to allow it to access to the unit (p. 48).
<b>The files in the PC cannot be viewed or played back.</b>	The files are not supported by the unit or the media server.	Use the file format supported by both the unit and the media server (p. 39).

Problem	Cause	Remedy
<b>The Internet radio cannot be played.</b>	The selected Internet radio station is currently not available.	There may be a network problem at the radio station, or the service may have been stopped. Try the station later or select another station.
	The selected Internet radio station is currently broadcasting silence.	Some Internet radio stations broadcast silence at certain times of the day. Try the station later or select another station.
	Access to the network is restricted by the firewall settings of your network devices (such as the router).	Check the firewall settings of your network devices. The Internet radio can be played only when it passes through the port designated by each radio station. The port number varies depending on the radio station.
<b>The dedicated apps for mobile device does not detect the unit.</b>	The MAC address filter is enabled on the unit.	In "MAC Address Filter" in the setup menu, disable the MAC address filter or specify the MAC address of your mobile device to allow it to access to the unit (p. 48).
	The unit and mobile device are not in the same network.	Check the network connections and your router settings, and then connect the unit and mobile device to the same network.
<b>Firmware update via the network (Network Update) fails.</b>	It may not be possible depending on the condition of the network.	Update the firmware via the network (Network Update) again or use a USB flash drive (p. 52).
<b>The iPod does not recognize the unit when using AirPlay.</b>	The unit and iPod/mobile device are connected to different SSIDs on the same access point.	Check the network connections for the unit and your mobile device, and connect them to the same SSID.
<b>The app installed on a mobile device does not recognize the unit.</b>		
<b>The unit cannot connect to the Internet via a wireless router (access point).</b>	The wireless router (access point) is turned off.	Turn on the wireless router (access point).
	The unit and the wireless router (access point) are too far apart.	Place the unit and the wireless router (access point) closer to each other.
	There is an obstacle between the unit and the wireless router (access point).	Move the unit and the wireless router (access point) in a location where there are no obstacles between them.
<b>Wireless network is not found.</b>	There is a device (microwave oven, wireless LAN, etc.) outputs signals in the 2.4 GHz frequency band nearby.	Move this unit away from the device that is emitting radio frequency signals.
	Access to the network is restricted by the firewall settings of the wireless router (access point).	Check the firewall setting of the wireless router (access point).

## Pairing the center unit and subwoofer

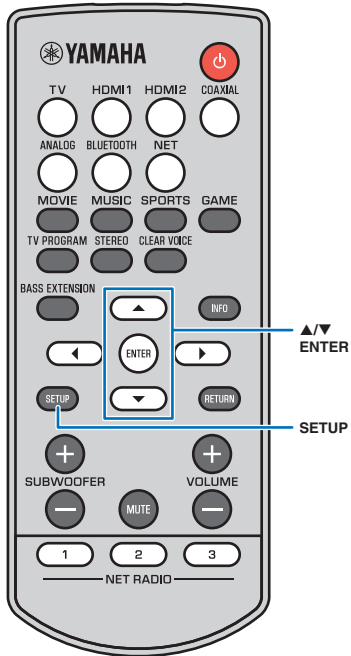
### NOTE

- Be sure that “Bass Out” of “Subwoofer” in the setup menu is set to “Wireless” (p. 45).

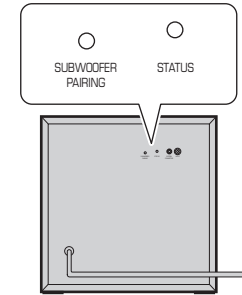
Pairing is the process of establishing a wireless connection between the center unit and subwoofer.

When the center unit is turned on for the first time, the center unit and subwoofer are usually paired automatically. If a problem occurs (e.g., the STATUS indicator on the subwoofer does not glow green), follow the instructions below to pair the center unit and subwoofer manually.

- 1 Turn on the center unit.**
- 2 Press the SETUP key.**
- 3 Use the ▲/▼ keys to select “Sound”, and then press the ENTER key.**
- 4 Use the ▲/▼ keys to select “Subwoofer”, and then press the ENTER key.**
- 5 Use the ▲/▼ keys to select “Pairing”, and then press the ENTER key.**



- 6 Use an object with a fine point, such as a pin, to hold down the SUBWOOFER PAIRING button on the subwoofer for more than 3 seconds.**



Rear panel of the subwoofer

The subwoofer’s STATUS indicator will rapidly blink green. Once pairing has been completed and the link between the center unit and subwoofer has been re-established, the STATUS indicator will glow green. “Completed” appears on the TV screen.

### HINT

- If “Not connected” is displayed on the TV screen or the subwoofer’s STATUS indicator does not glow green after 30 seconds have passed, repeat the procedure from step 2. If the problem persists, refer to “No sound is coming from the subwoofer.” in “Troubleshooting” (p. 56).

# Specifications

## YAS-CU706

Item		Specifications
Amplifier Section	Maximum Output Power	Front L/R 50 W x 2 ch
		Tweeter 5 W x 2 ch
		Subwoofer 100 W
Front L/R Section	Type	Acoustic suspension type
	Driver	5.5 cm (2-1/8") cone non-magnetic shielding type x 2
	Frequency Response	220 Hz to 4 kHz
	Impedance	6Ω
Tweeter Section	Type	—
	Driver	Tweeter 19 mm (3/4") balanced dome magnetic shielding type x 4 (2 in use at any particular time)
	Frequency Response	4 kHz to 23 kHz
	Impedance	8Ω
Subwoofer Section	Type	Bass reflex type
	Driver	7.5 cm (3") cone non-magnetic shielding type x 2
	Frequency Response	100 Hz to 220 Hz
	Impedance	6Ω
Decoder	Supported audio signal	Dolby Digital, Dolby Digital Plus, Dolby True HD DTS, DTS96/24, DTS Express, DTS-HD High Resolution / Master Audio PCM (2-channel, Multi-channel)
Input Jacks	HDMI	2 (HDMI IN 1–2)
	Digital (Optical)	1 (TV)
	Digital (Coaxial)	1 (COAXIAL)
	Analog (RCA/stereo)	1 pair (ANALOG)
Output Jack	HDMI	1 (HDMI OUT (ARC))
	Analog (RCA/monaural)	1 (SUBWOOFER OUT)
	System connection	1 (SYSTEM CONNECTOR)
Other Jacks	USB	1 (UPDATE ONLY)
	LAN	1 (NETWORK)

Item		Specifications
Network	Ethernet standard: 100BASE-T/10BASE-T	
	Supported codecs	WAV (PCM format only) /AIFF/FLAC: up to 192 kHz ALAC: up to 96 kHz MP3/WMA/MPEG-4 AAC: up to 48 kHz
	Compatible with DLNA ver. 1.5 AirPlay supported Internet Radio	
Wireless LAN (Wi-Fi)	Wireless LAN Standards	IEEE802.11b/g/n
	Radio Frequency Band	2.4 GHz
	WPS (Wi-Fi Protected Setup)	Push-Button-Method, PIN Method
	Security Type	WEP, WPA2-PSK (AES), Mixed Mode
Bluetooth	Bluetooth version	Ver. 2.1 +EDR
	Radio Frequency Band	2.4 GHz
	Supported profiles	A2DP, AVRCP
	Supported codecs	Receiving: SBC, AAC Transmitting: SBC
	Wireless output	Bluetooth Class 2
	Maximum communication distance	Approx. 10 m (33 ft) (without obstructions)
	Supported content protection method	SCMS-T (receiving)

Item		Specifications
General	Power Supply	U.S.A. and Canada models: AC 120 V, 60Hz Taiwan model: AC 110 - 120 V, 50/60Hz China model: AC 220V, 50Hz Other models: AC 220 - 240 V, 50/60Hz
	Power Consumption	38 W
	Standby Power Consumption	HDMI Control Off, Network Standby Off: 0.3 W HDMI Control On, Network Standby Off: 1.0 W HDMI Control Off, Network Standby On (Wired/Wi-Fi/Wireless Direct/Bluetooth): 1.9/2.0/2.0/1.7 W HDMI Control On, Network Standby On: 2.5 W
	Dimensions (W x H x D)	950 x 72 x 131 mm (37-3/8" x 2-7/8" x 5-1/8") (installing the unit in front of a TV, etc.) 950 x 131 x 80 mm (37-3/8" x 5-1/8" x 3-1/8") (mounting the unit on a wall, with spacer)
	Weight	5.4 kg (11.9 lbs)

## NS-WSW121

Item		Specifications
Amplifier section	Output power	75 W (100 Hz, 6 Ω, 10% T.H.D)
	Dynamic power	130 W
Speaker section	Driver	14 cm (5-1/2 in) cone non-magnetic shielding type x 1
	Frequency response	40 Hz to 100 Hz
Input jacks	Analog (RCA/monaural)	1 (INPUT)
		1 (SYSTEM CONNECTOR)
Wireless function	Radio frequency band	2.4 GHz
	Maximum communication distance	10 m (33 ft) (without obstructions)
General	Power supply	U.S.A. and Canada models: AC 120 V, 60 Hz Taiwan model: AC 110–120 V, 60 Hz Australia model: AC 240 V, 50 Hz China model: AC 220 V, 50 Hz Korea model: AC 220 V, 60 Hz Asia model: AC 220–240 V, 50/60 Hz
	Power consumption	75 W
	Standby Power Consumption	1.5 W (Wireless)
		1.5 W (Wired)
	Dimensions (W x H x D)	295 x 297 x 307 mm (11-5/8 x 11-3/4 x 12-1/8 in)
Weight	9.1 kg (20 lbs)	



## HDMI signal

### • Audio signals

Audio signal types	Audio signal formats	Compatible media
2ch Linear PCM	2ch, 32–192 kHz, 16/20/24 bit	CD, DVD-Video, DVD-Audio, etc.
Multi-ch Linear PCM	8ch, 32–192 kHz, 16/20/24 bit	DVD-Audio, Blu-ray disc, HD DVD, etc.
Bitstream (SD Audio)	Dolby Digital, DTS	DVD-Video, etc.
Bitstream (HD Audio)	Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio, DTS-HD High Resolution Audio, DTS Express	Blu-ray disc, HD DVD

### **HINT**

- Refer to documentation supplied with the playback device, and set the device appropriately.
- When CPPM copy-protected DVD-Audio is played back, video and audio signals may not be output depending on the type of the DVD player.
- This unit is not compatible with HDCP-incompatible HDMI or DVI devices. Refer to documentation supplied with the HDMI or DVI device for HDCP compatibility.
- To decode audio bitstream signals on this unit, set the input source device appropriately so that the device outputs the bitstream audio signals directly (does not decode the bitstream signals on the device). Refer to documentation supplied with the device for details.

### • Video signals

This unit is compatible with the following video signals.

- Deep Color
- x.v.Color
- 3D video signal
- High Dynamic Range (HDR) video

This unit is compatible with the following resolutions.

- VGA
  - 720p/60 Hz, 50 Hz
- 480i/60 Hz
  - 1080i/60 Hz, 50 Hz
- 480p/60 Hz
  - 1080p/60 Hz, 50 Hz, 30 Hz, 25 Hz, 24 Hz
- 576i/50 Hz
  - 4K (4:4:4, 4:2:2, 4:2:0)/60 Hz, 50 Hz, 30 Hz, 25 Hz, 24 Hz
- 576p/50 Hz
  - 4K (4:4:4, 4:2:2, 4:2:0)/60 Hz, 50 Hz, 30 Hz, 25 Hz, 24 Hz

### **HINT**

- The resolution of transmitted video signal varies according to specifications of the TV connected to this unit.

## Digital audio signal

### • Optical/coaxial

Audio signal types	Audio signal formats	Compatible media
2ch Linear PCM	2ch, 32–96 kHz, 16/20/24 bit	CD, DVD-Video, DVD-Audio, etc.
Bitstream	Dolby Digital, Dolby Digital EX, DTS, DTS-ES	DVD-Video, etc.

### • HDMI (ARC)

Audio signal types	Audio signal formats	Compatible media
2ch Linear PCM	2ch, 32–192 kHz, 16/20/24 bit	TV
Bitstream	Dolby Digital Plus, Dolby Digital, DTS	TV

The contents of this manual apply to the latest specifications as of the publishing date.

To obtain the latest manual, access the Yamaha website then download the manual file.



This system is equipped with Yamaha's AIR SURROUND XTREME virtual sound technology that achieves superior positional, high-grade 7.1 channel surround sound using the sound bar.

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### Bluetooth

*Bluetooth* is a technology for wireless communication employing the 2.4 GHz frequency band, which can be used without a license.

### Handling Bluetooth communications

- The 2.4 GHz band used by *Bluetooth* compatible devices is a radio band shared by many types of equipment. While *Bluetooth* compatible devices use a technology minimizing the influence of other components using the same radio band, such influence may reduce the speed or distance of communications and in some cases interrupt communications.
- The speed of signal transfer and the distance at which communications is possible differs according to the distance between the communicating devices, the presence of obstacles, radio wave conditions and type of equipment.
- Yamaha does not guarantee all wireless connections between this unit and devices compatible with *Bluetooth* function.



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### Bluetooth protocol stack (Blue SDK)

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