



R-N602

Network Receiver

Caution: Read this before operating your unit.

- 1 To assure the finest performance, please read this manual carefully. Keep it in a safe place for future reference.
- 2 Install this sound system in a well ventilated, cool, dry, clean place – away from direct sunlight, heat sources, vibration, dust, moisture, and/or cold. For proper ventilation, allow the following minimum clearances.
Top: 30 cm (11-3/4 in)
Rear: 20 cm (7-7/8 in)
Sides: 20 cm (7-7/8 in)
- 3 Locate this unit away from other electrical appliances, motors, or transformers to avoid humming sounds.
- 4 Do not expose this unit to sudden temperature changes from cold to hot, and do not locate this unit in an environment with high humidity (i.e. a room with a humidifier) to prevent condensation inside this unit, which may cause an electrical shock, fire, damage to this unit, and/or personal injury.
- 5 Avoid installing this unit where foreign objects may fall onto this unit and/or this unit may be exposed to liquid dripping or splashing. On the top of this unit, do not place:
 - Other components, as they may cause damage and/or discoloration on the surface of this unit.
 - Burning objects (i.e. candles), as they may cause fire, damage to this unit, and/or personal injury.
 - Containers with liquid in them, as they may fall and liquid may cause electrical shock to the user and/or damage to this unit.
- 6 Do not cover this unit with a newspaper, tablecloth, curtain, etc. in order not to obstruct heat radiation. If the temperature inside this unit rises, it may cause fire, damage to this unit, and/or personal injury.
- 7 Do not plug in this unit to a wall outlet until all connections are complete.
- 8 Do not operate this unit upside-down. It may overheat, possibly causing damage.
- 9 Do not use force on switches, knobs and/or cords.
- 10 When disconnecting the power cable from the wall outlet, grasp the plug; do not pull the cable.
- 11 Do not clean this unit with chemical solvents; this might damage the finish. Use a clean, dry cloth.
- 12 Only voltage specified on this unit must be used. Using this unit with a higher voltage than specified is dangerous and may cause fire, damage to this unit, and/or personal injury. Yamaha will not be held responsible for any damage resulting from use of this unit with a voltage other than specified.
- 13 To prevent damage by lightning, keep the power cord disconnected from a wall outlet or the unit during a lightning storm.
- 14 Do not attempt to modify or fix this unit. Contact qualified Yamaha service personnel when any service is needed. The cabinet should never be opened for any reasons.
- 15 When not planning to use this unit for long periods of time (i.e. vacation), disconnect the AC power plug from the wall outlet.
- 16 Be sure to read the “Troubleshooting” section in the owner’s manual on common operating errors before concluding that this unit is faulty.
- 17 Before moving this unit, press \odot downward to turn off this unit and then disconnect the AC power plug from the AC wall outlet.
- 18 Condensation will form when the surrounding temperature changes suddenly. Disconnect the power cable from the outlet, then leave this unit alone.
- 19 When using this unit for a long time, this unit may become warm. Turn the system off, then leave this unit alone for cooling.
- 20 Install this unit near the wall outlet and where the AC power plug can be reached easily.
- 21 The batteries shall not be exposed to excessive heat such as sunshine, fire or the like. When you dispose of batteries, follow your regional regulations.
- 22 Excessive sound pressure from earphones and headphones can cause hearing loss.

This unit is not disconnected from the AC power source as long as it is connected to the wall outlet, even if this unit itself is turned off by \odot . This state is called the standby mode. In this state, this unit is designed to consume a very small quantity of power.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

Do not use this unit within 22 cm (9 inches) of persons with a heart pacemaker implant or defibrillator implant.



This label is required to be attached to a product of which the temperature of the top cover may be hot during operation.

■ Notes on remote controls and batteries

- Do not spill water or other liquids on the remote control.
- Do not drop the remote control.
- Do not leave or store the remote control in the following conditions:
 - places of high humidity, such as near a bath
 - places of high temperatures, such as near a heater or stove
 - places of extremely low temperatures
 - dusty places
- Insert batteries according to the polarity markings (+ and -).
- Change all batteries if you notice the operation range of the remote control narrows.
- If the batteries run out, immediately remove them from the remote control to prevent an explosion or acid leak.
- If you find leaking batteries, discard the batteries immediately, taking care not to touch the leaked material. If the leaked material comes into contact with your skin or gets into your eyes or mouth, rinse it away immediately and consult a doctor. Clean the battery compartment thoroughly before installing new batteries.
- Do not use old batteries together with new ones. This may shorten the life of the new batteries or cause old batteries to leak.
- Do not use different types of batteries (such as alkaline and manganese batteries) together. Read the packaging carefully as these different types of batteries may have the same shape and color.
- Before inserting new batteries, wipe the battery compartment clean.
- Keep the batteries in a location out of reach of children. Batteries can be dangerous if a child were to put in his or her mouth.
- If the batteries grow old, the effective operation range of the remote control decreases considerably. If this happens, replace the batteries with new one as soon as possible.
- If you plan not to use the unit for a long period of time, remove the batteries from the unit. Otherwise, the batteries will wear out, possibly resulting in a leakage of battery liquid that may damage the unit.
- Do not throw away batteries with general house waste. Dispose of them correctly in accordance with your local regulations.

■ For U.K. customers

If the socket outlets in the home are not suitable for the plug supplied with this appliance, it should be cut off and an appropriate 3 pin plug fitted. For details, refer to the instructions described below.



The plug severed from the mains lead must be destroyed, as a plug with bared flexible cord is hazardous if engaged in a live socket outlet.

■ Special Instructions for U.K. Model

IMPORTANT

THE WIRES IN MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE:

Blue: NEUTRAL

Brown: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

Make sure that neither core is connected to the earth terminal of the three pin plug.

Information for Users on Collection and Disposal of Old Equipment and Used Batteries



These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste.



For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.



By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.



Pb

For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

[Information on Disposal in other Countries outside the European Union]

These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

Note for the battery symbol (bottom two symbol examples):

This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

We, Yamaha Music Europe GmbH hereby declare that this unit is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Yamaha Music Europe GmbH

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Bluetooth

- *Bluetooth* is a technology for wireless communication between devices within an area of about 10 meters (33 ft) employing the 2.4 GHz frequency band, a 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 communication is possible differs according to the distance between the communicating devices, the presence of obstacles, radio wave conditions and the type of equipment.
- Yamaha does not guarantee all wireless connections between this unit and devices compatible with *Bluetooth* function.

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ADDITIONAL INFORMATION

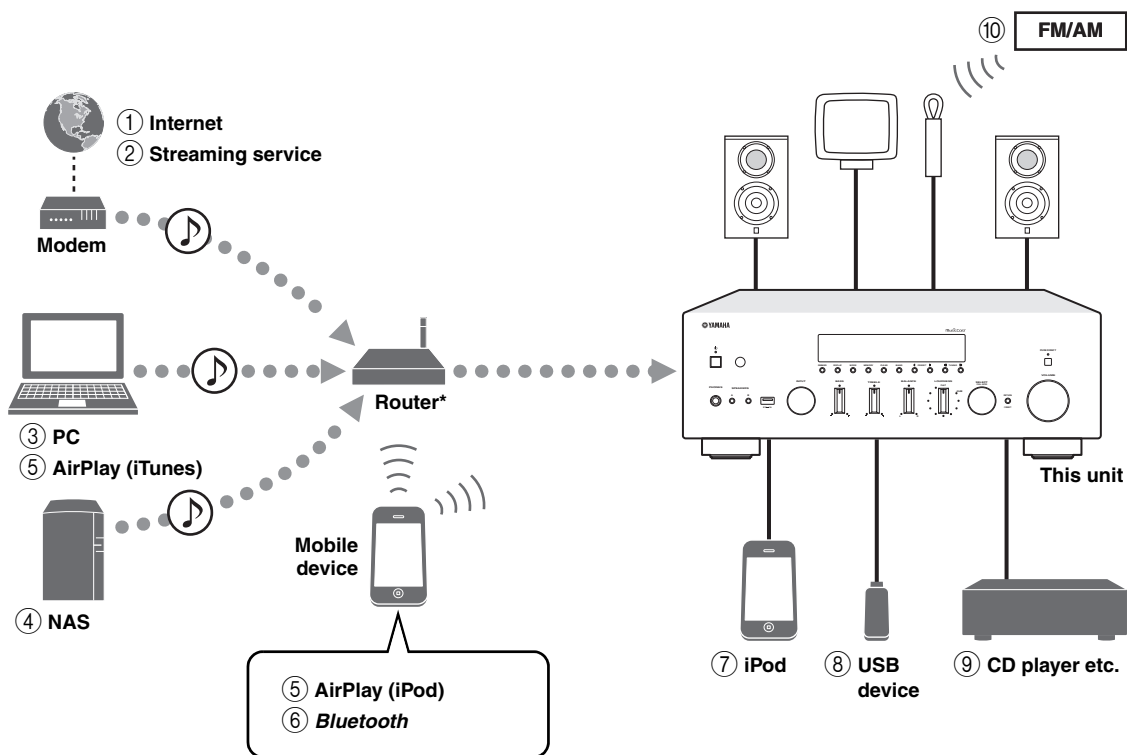
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- “Note” indicates precautions for use of the unit and its feature limitations. ≡ indicates supplementary explanations for better use.
- This manual explains operations using the supplied remote control.
- This manual describes all the “iPod” and “iPhone” as the “iPod”. “iPod” refers to “iPod” and “iPhone”, unless otherwise specified.
- 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.

What you can do with this unit

This unit is a network receiver compatible with a network source such as a media server and mobile device. It supports playback from not only analog sources such as a CD player but also *Bluetooth* devices and network streaming services.

Sources that can be played back on this unit



* You need a commercially available wireless router (access point) when you use a mobile device.

- ① Play back the Internet radio (p. 33)
- ② Play back the streaming service (see the supplement for each service.)
- ③ Play back music files stored on your PC (p. 30)
- ④ Play back music files stored on your NAS (p. 30)
- ⑤ Play back music files stored on your iPod/iTunes with AirPlay (p. 35)
- ⑥ Play back audio content from *Bluetooth* devices (p. 28)
- ⑦ Play back music files stored on your iPod (p. 39)
- ⑧ Play back music files stored on your USB device (p. 37)
- ⑨ Play back your external component (p. 11)
- ⑩ Listening to FM/AM radio (p. 24)



For details on connecting the external devices, see “Connections” (p. 11).

Mastering useful apps (MusicCast CONTROLLER)

You can operate and program the unit, or play streaming services via this unit, by installing the free dedicated MusicCast CONTROLLER app on a mobile device. For details, search for “MusicCast CONTROLLER” on the App Store or Google Play.

■ **MusicCast CONTROLLER capabilities**

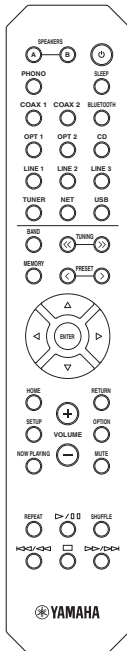
- Basic operations of the unit (turn on/standby, adjust volume and select input)
- Play songs stored on computers (servers)
- Select an Internet radio station
- Play music stored on mobile devices
- Play music on streaming service
- Distribute and receive audio between the unit and other Yamaha MusicCast supported devices

See MusicCast Setup Guide for details.

Supplied accessories

Check that the following accessories are supplied with the product.

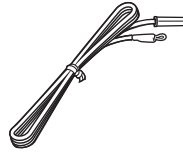
Remote control



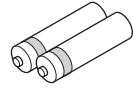
AM antenna



FM antenna



Batteries (x2) (AA, R6, UM-3)

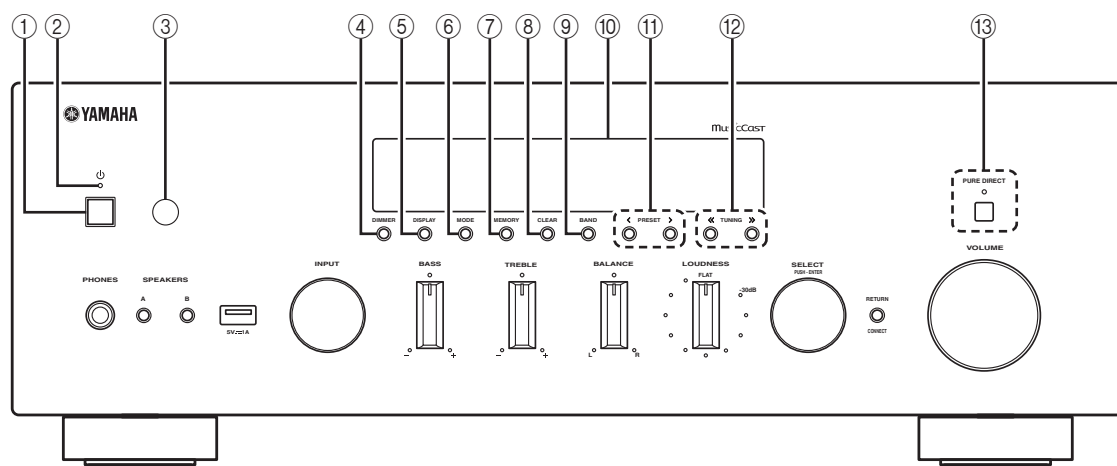


MusicCast Setup Guide



Controls and functions

Front panel



① **Power**

Turns on/off (standby) the unit.

② **STANDBY/ON indicator**

Lights up as follows:

Brightly lit: Power is on

Dimly lit: Standby mode

Note

In standby mode, this unit consumes a small amount of power to receive infrared signals from the remote control.

③ **Remote control sensor**

Receives infrared signals from the remote control.

④ **DIMMER**

Changes the brightness level of the front display. Choose brightness from 5 levels by pressing this button repeatedly.

⑤ **DISPLAY**

Selects the information displayed on the front display (p. 41).

⑥ **MODE**

Sets the FM band reception mode to automatic stereo or monaural (p. 24).

Switches the iPod operation modes (p. 40).

⑦ **MEMORY**

Registers the current FM/AM station as a preset when TUNER is selected as the input source (p. 25).

Registers the current playback song or streaming station as a preset when NET, USB (except iPod) are selected as the input source (p. 42).

⑧ **CLEAR**

Clears a FM/AM preset station when TUNER is selected as the input source (p. 26).

⑨ **BAND**

Switches between FM and AM (p. 24).

⑩ **Front display**

Shows information about the operational status of this unit.

⑪ **PRESET </>**

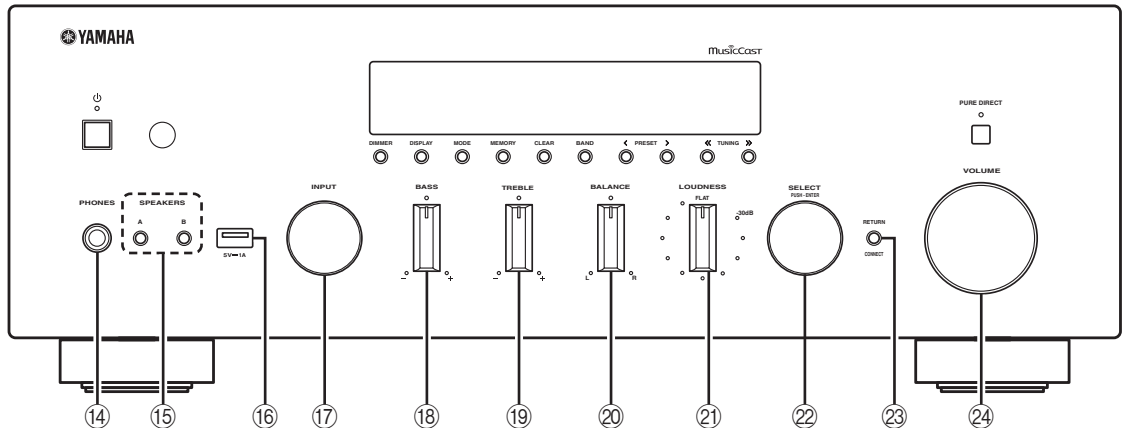
Recalls a preset FM/AM station (p. 26) or song/streaming station (p. 42).

⑫ **TUNING <</>>**

Selects the tuning frequency when TUNER is selected as the input source (p. 24).

⑬ **PURE DIRECT and indicator**

Allows you to listen to a source in the purest possible sound (p. 21). The indicator above it lights up and the front display turns off when this function is turned on.



14 PHONES jack

Outputs audio to your headphones for private listening.

15 SPEAKERS A/B

Turns on or off the speaker set connected to the SPEAKERS A and/or SPEAKERS B terminals on the rear panel each time the corresponding button is pressed.

16 USB jack

For connecting a USB storage device (p. 37) or an iPod (p. 39).

17 INPUT selector

Selects the input source you want to listen to.

18 BASS +/- control

Increases or decreases the low frequency response. The center position produces a flat response (p. 22).

19 TREBLE +/- control

Increases or decreases the high frequency response. The center position produces a flat response (p. 22).

20 BALANCE control

Adjusts the sound output balance of the left and right speakers to compensate for sound imbalances caused by speaker locations or listening room conditions (p. 22).

21 LOUDNESS control

Retains a full tonal range at any volume level to compensate for the human ears' loss of sensitivity to high and low-frequency ranges at a low volume level (p. 22).

22 SELECT/ENTER (jog dial)

Turn the dial to select a numeric value or setting, and press the dial to confirm.

23 RETURN

Returns to the previous indication of the front display.

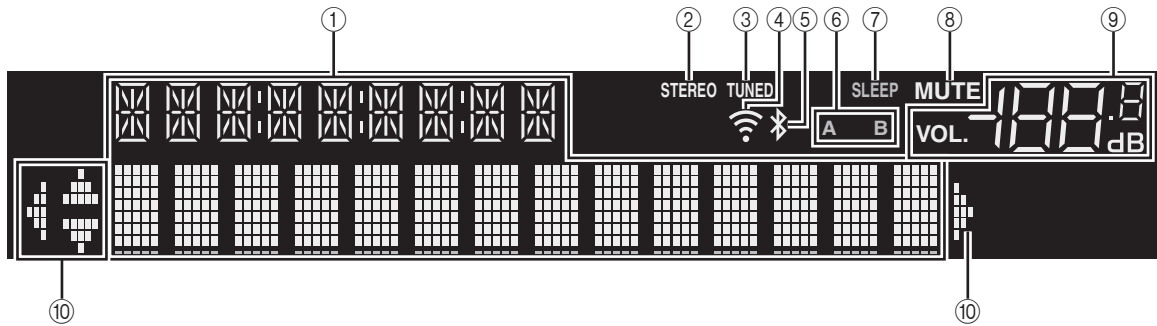
CONNECT

Use to control the unit using the dedicated MusicCast CONTROLLER app for mobile devices. See MusicCast Setup Guide for details.

24 VOLUME control

Increases or decreases the sound output level.

Front display



If the network connection is not set, turn the power ON to display “WAC” (Wireless Accessory Configuration) on the front panel and trigger an automatic iOS device search. See “Sharing the iOS device setting” (p. 16) for details on the iOS device and network connection.

① Information display

Displays the current status (such as input name). You can switch the information that is displayed when you press DISPLAY on the front panel (p. 41).

② STEREO

Lights up when the unit is receiving a stereo FM radio signal.

③ TUNED

Lights up when the unit is receiving an FM/AM radio station signal.

④ Signal strength indicator

Lights up when the unit connects to a wireless network or operates as an access point. The strength of the wireless network signal can be verified by the indicator status.

⑤ Bluetooth indicator

Lights up when the unit is connecting to a *Bluetooth* device.

⑥ Speaker indicators

“A” lights up when the SPEAKERS A output is enabled and “B” lights up when the SPEAKERS B output is enabled.

⑦ SLEEP

Lights up when the sleep timer is on.

⑧ MUTE

Blinks when audio is muted.

⑨ Volume indicator

Indicates the current volume.

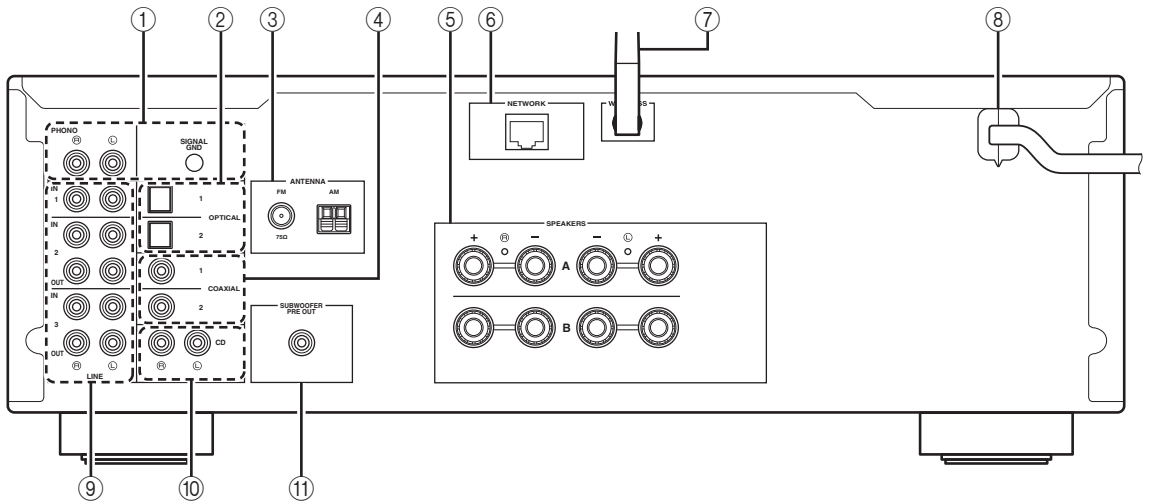
⑩ Cursor indicators

Indicate the remote control cursor keys currently operational.



You can change the brightness level of the front display by pressing DIMMER on the front panel (p. 5).

Rear panel



① PHONO jacks

For connecting to a turntable (p. 11).

② OPTICAL 1/2 jacks

For connecting to audio components equipped with optical digital output (p. 11).

③ ANTENNA terminals

For connecting to FM and AM antennas (p. 13).

④ COAXIAL 1/2 jacks

For connecting to audio components equipped with a coaxial digital output (p. 11).

⑤ SPEAKERS terminals

Used to connect speakers (p. 12).

⑥ NETWORK jack

For connecting to a network with a network cable (p. 14).

⑦ Wireless antenna

For connecting to a network device wirelessly (p. 14).

⑧ Power cable

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

⑨ LINE 1-3 jacks

For connecting to analog audio components (p. 11).

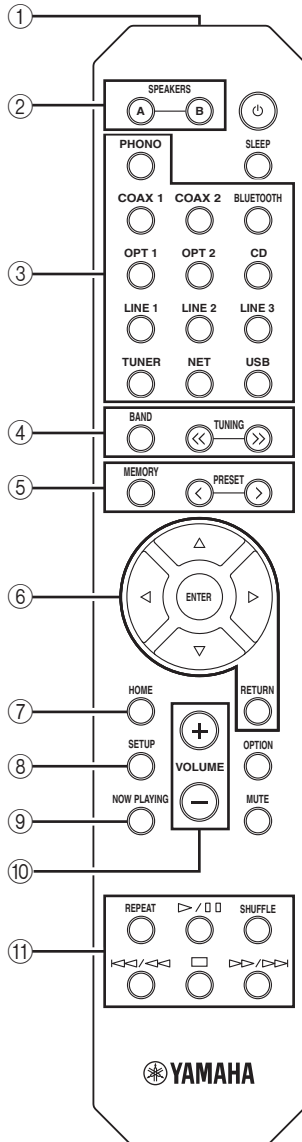
⑩ CD jacks

For connecting to a CD player (p. 11).

⑪ SUBWOOFER PRE OUT jack

For connecting to a subwoofer with built-in amplifier (p. 11).

Remote control



① Infrared signal transmitter

Sends infrared signals.

② SPEAKERS A/B

Turns on and off the set of speakers connected to the SPEAKERS A and/or SPEAKERS B terminals on the rear panel of this unit when the corresponding key is pressed.

③ Input selection keys

Select an input source for playback.

PHONO PHONO jacks

COAX 1/2 COAXIAL 1/2 jacks

BLUETOOTH Bluetooth connection

OPT 1/2 OPTICAL 1/2 jacks

CD CD jacks

LINE 1-3 LINE 1-3 jacks

TUNER FM/AM tuner

NET Network source (press repeatedly to select a desired network source)

USB USB jack (on the front panel)

④ Radio keys

Operate the FM/AM radio (p. 24).

BAND Switches between FM and AM.

TUNING <<>> Selects the radio frequency.

⑤ Preset keys

MEMORY Registers the current FM/AM station as a preset when TUNER is selected as the input source (p. 25).

Registers the current playback song or streaming station as a preset when NET, USB (except iPod) are selected as the input source (p. 42).

PRESET </> Recalls a preset FM/AM station (p. 26) or song/streaming station (p. 42).

⑥ Menu operation keys

Cursor keys Select a menu or a parameter.

(Δ / ∇ / \leftarrow / \rightarrow)

ENTER Confirms a selected item.

RETURN Returns to the previous state.

⑦ HOME

Moves up top level when selecting music files, folders, etc.

⑧ SETUP

Displays the "Setup" menu (p. 44).

⑨ NOW PLAYING

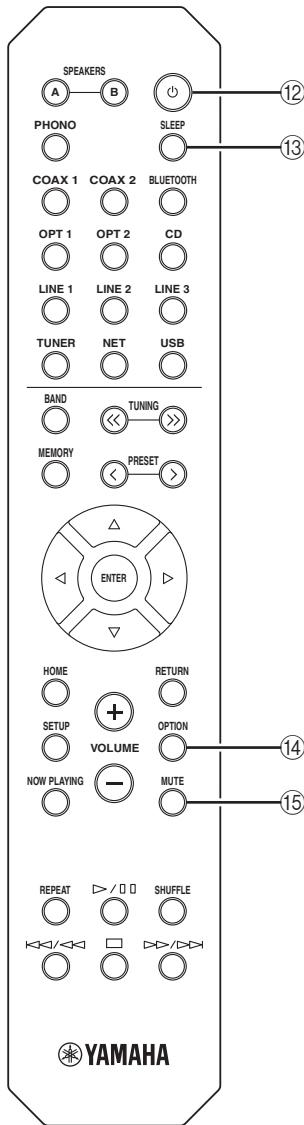
Displays music information when selecting music files, folders, etc.

⑩ VOLUME +/-

Adjust the volume.

⑪ Playback keys

Let you play back and perform other operations for network sources, Bluetooth devices and USB devices.



12 **⏻ (power)**

Turns on/off (standby) the unit.

13 **SLEEP**

Sets the sleep timer (p. 23).

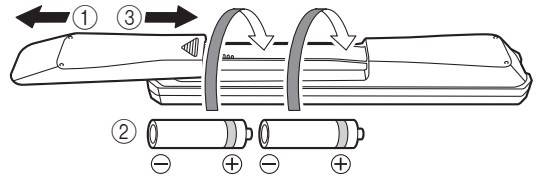
14 **OPTION**

Displays the “Option” menu (p. 43).

15 **MUTE**

Mutes the audio output.

■ **Installing batteries**

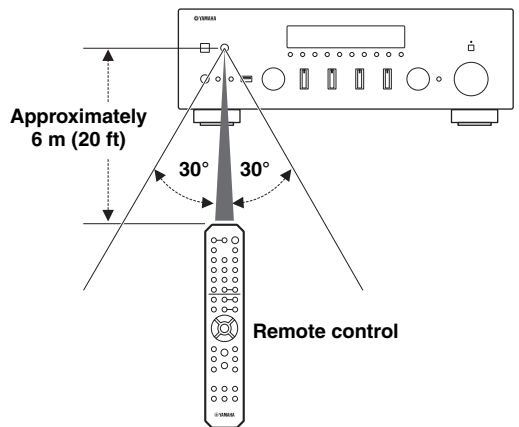


Notes

- Change all batteries if the operation range of the remote control narrows.
- Before inserting new batteries, wipe the compartment clean.

■ **Operation range**

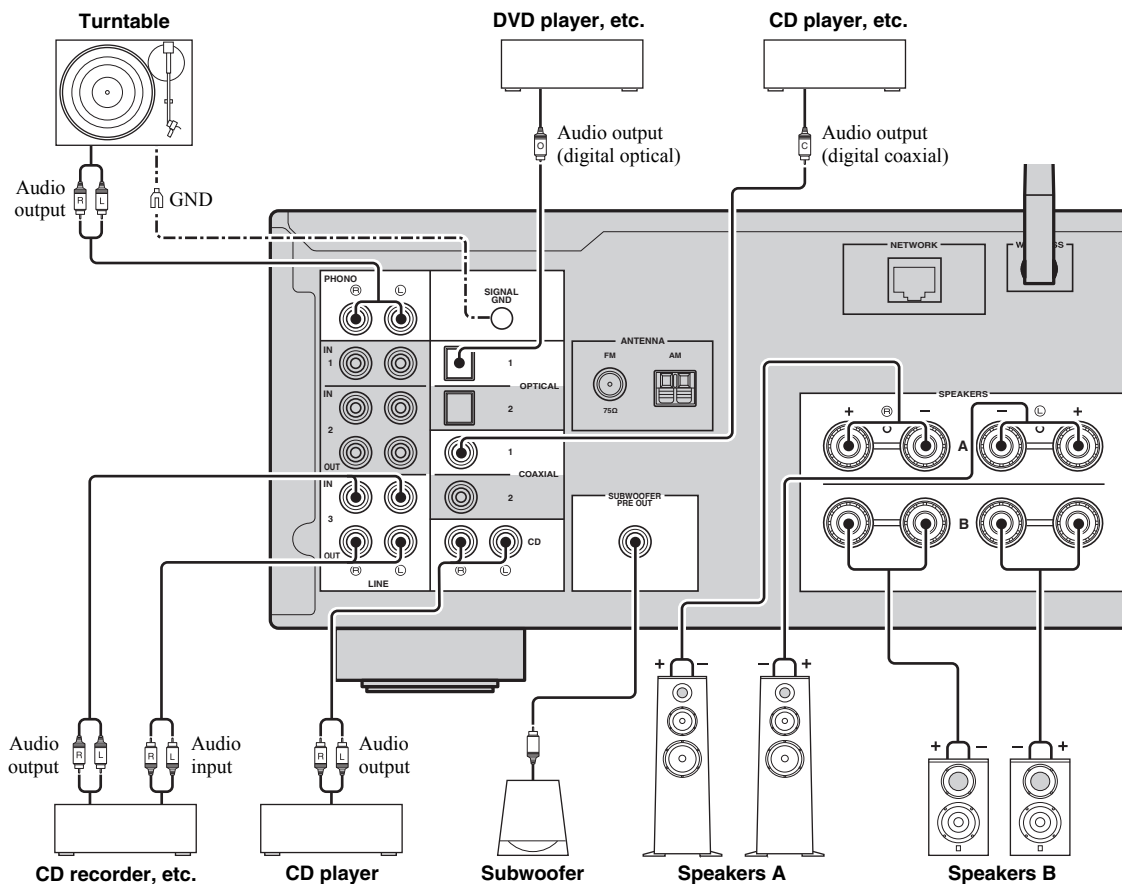
The remote controls transmit a directional infrared beam. Be sure to aim the remote controls directly at the remote control sensor on the front panel of this unit.



Connections

CAUTION

- Do not connect this unit or other components to the main power until all connections between components are complete.
- All connections must be correct: L (left) to L, R (right) to R, “+” to “+” and “-” to “-”. If the connections are faulty, no sound will be heard from the speakers, and if the polarity of the speaker connections is incorrect, the sound will be unnatural and lack bass. Refer to the owner’s manual for each of your components.
- Do not let bare speaker wires touch each other or any metal part of this unit. This could damage this unit and/or the speakers.
- Make sure to use RCA cables, optical cables to connect audio components.



Only PCM signals can be input to the digital (OPTICAL/COAXIAL) jacks of this unit.

- The PHONO jacks are designed for connecting a turntable with an MM cartridge.
- Connect your turntable to the GND terminal to reduce noise in the signal. However, for some turntables, you may hear less noise without the GND connection.

Note

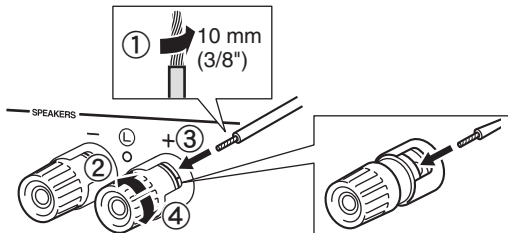
In order to prevent the audio signal from looping when an audio recording device is connected, the audio signal is not output from the LINE 2 (OUT) jacks when LINE 2 is selected. Similarly, the audio signal is not output from the LINE 3 (OUT) jacks when LINE 3 is selected.

Connecting the speakers

■ Connecting speaker cables

Speaker cables have two wires. One is for connecting the negative (–) terminal of the unit and the speaker, and the other is for the positive (+) terminal. If the wires are colored to prevent confusion, connect the black wire to the negative and the other wire to the positive terminal.

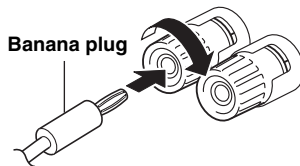
- ① Remove approximately 10 mm (3/8") of insulation from the ends of the speaker cable and twist the bare wires of the cable firmly together.
- ② Loosen the speaker terminal.
- ③ Insert the bare wires of the cable into the gap on the side (upper right or bottom left) of the terminal.
- ④ Tighten the terminal.



■ Connecting via banana plug

(Australia model only)

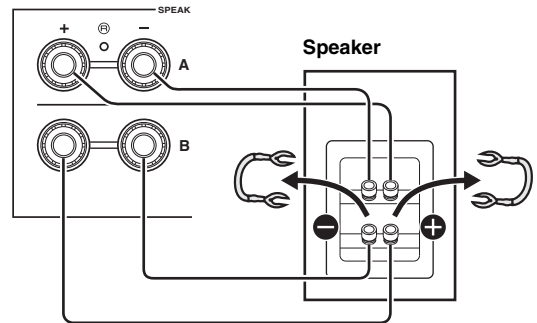
Tighten the knob and then insert the banana plug into the end of the corresponding terminal.



■ Bi-wire connection

Bi-wire connection separates the woofer from the combined midrange and tweeter section. A bi-wire compatible speaker has four binding post terminals. These two sets of terminals allow the speaker to be split into two independent sections. With these connections, the mid and high frequency drivers are connected to one set of terminals and the low frequency driver to another set of terminals.

This unit



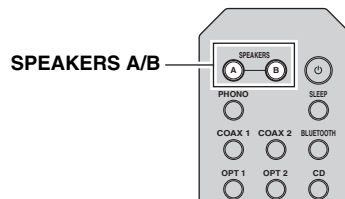
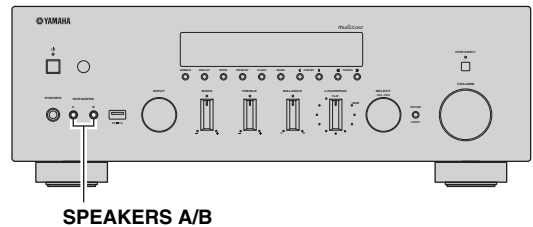
Connect the other speaker to the other set of terminals in the same way.

Note

When making bi-wire connections, remove the shorting bridges or cables on the speaker. Refer to the speakers' instruction manuals for more information.



To use the bi-wire connections, press SPEAKERS A and SPEAKERS B on the front panel or on the remote control so that both speaker indicators ("A" and "B") light up on the front display.



Connecting the FM and AM antennas

The antennas for receiving FM and AM broadcasts are included with this unit. In general, these antennas should provide sufficient signal strength. Connect each antenna correctly to the designated terminals.

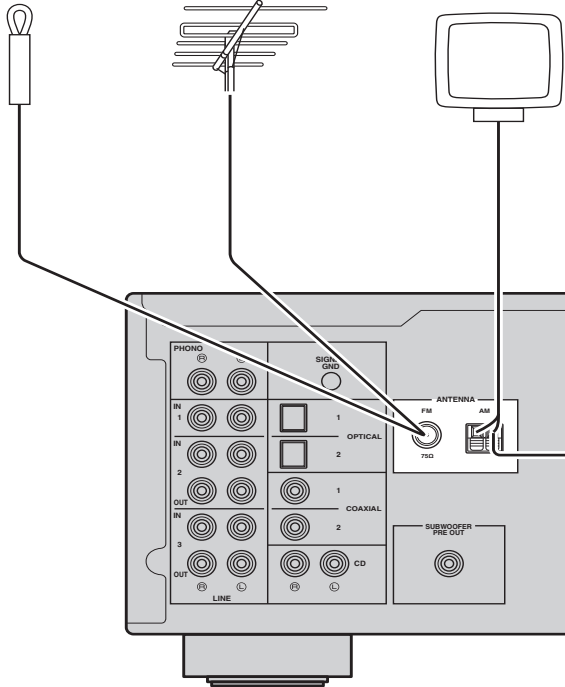
Note

If you experience poor reception quality, install an outdoor antenna. Consult the nearest authorized Yamaha dealer or service center about outdoor antennas.

FM antenna (included)

or

Outdoor FM antenna



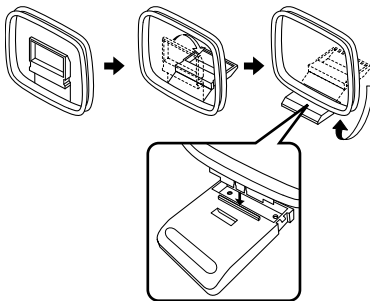
AM antenna (included)

- The AM antenna should always be connected, even if an outdoor AM antenna is connected to this unit.
- The AM antenna should be placed away from this unit.

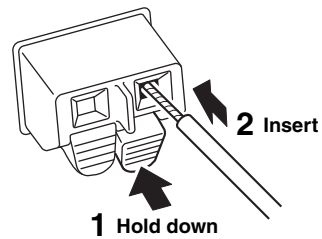
Outdoor AM antenna

Use 5 to 10 m of vinyl-covered wire extended outdoors from a window.

■ Assembling the supplied AM antenna

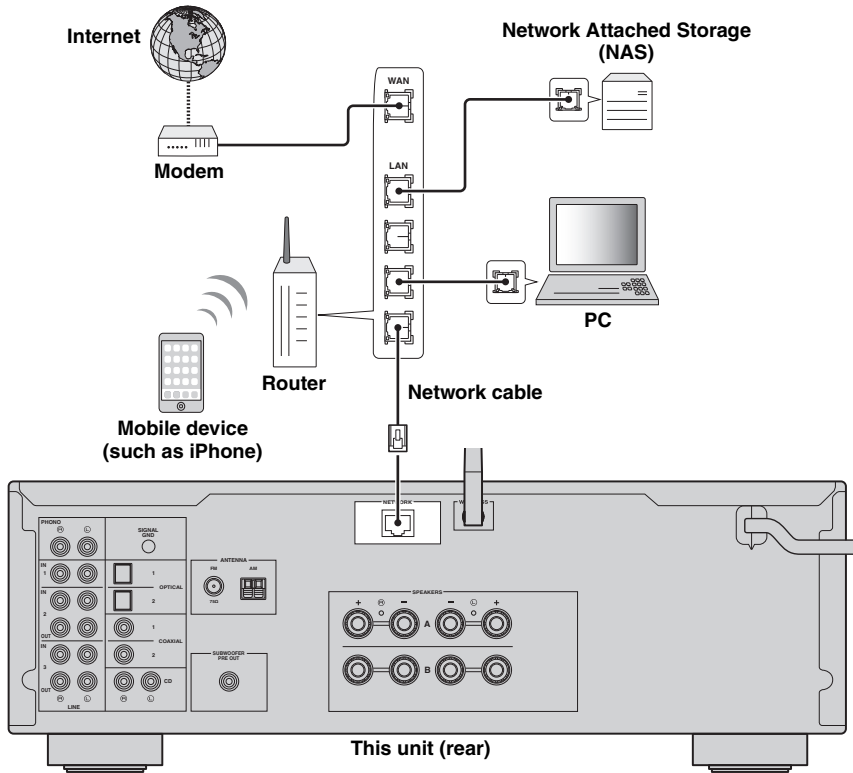


■ Connecting the wires of the AM antenna



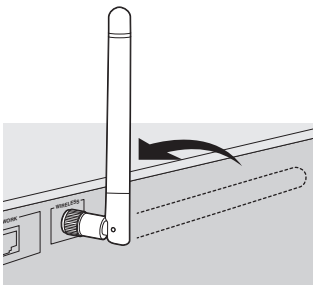
Connecting the network cable

Connect the unit to your router with a commercially-available STP network cable (CAT-5 or higher straight cable).



Preparing a wireless antenna

If you connect the unit wirelessly, erect the wireless antenna. For information on how to connect the unit to a wireless network, see “Connecting to network” (p. 15).

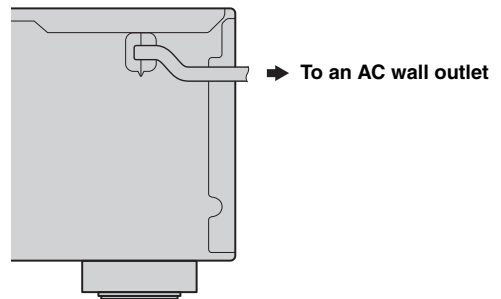


Note

Do not apply excessive force on the wireless antenna. Doing so may damage the antenna.

Connecting power cable

After all the connections are complete, plug in the power cable.



Connecting to network

There are several methods to connect the unit to a network. Select a connection method according to your environment.

Notes

- Some security software installed on your PC or the firewall settings of network devices (such as a router) may block the access of the unit to the network devices or the Internet. In these cases, configure the security software or firewall settings appropriately.
- Each server must be connected to the same subnet as the unit.
- To use the service via the Internet, broadband connection is strongly recommended.

When playing a high-resolution audio source via the network, we recommend connecting with a wired router for stable playback.

■ Connecting with the MusicCast CONTROLLER app

See MusicCast Setup Guide for details.

■ Connecting with the wired router

Connecting using the DHCP server function of the router



You can connect to the network by simply making a wired connection (p. 14)

■ Connecting with a wireless router (access point)

Connect to the network with the method listed below that corresponds to your environment.

Connecting using the Wi-Fi setting of the iOS device (iPhone / iPod touch)



Share the Wi-Fi setting of the iOS device (p. 16)

Connecting using WPS push button configuration on the wireless router (or access point)



Use the WPS push button configuration (p. 17)

Connecting with a wireless router (access point) without WPS push button configuration



Set the network connection manually (p. 18)

■ Connecting without a wired router or wireless router (access point)

Connecting wirelessly to a mobile device (Wireless Direct)



Connect wirelessly with Wireless Direct (p. 19)

Note

When the unit is connected to the network with Wireless Direct, it cannot connect to any other wireless router (access point). To play back contents from the Internet, connect this unit to a network with a wired router or wireless router (access point).

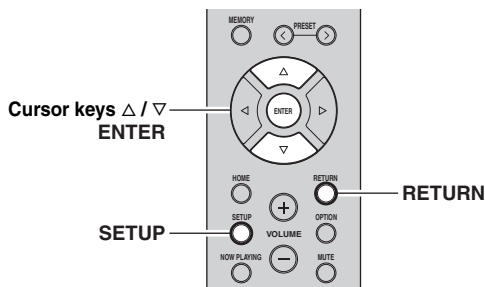
Sharing the iOS device setting

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

If the network connection is not set, when you turn on this unit, “WAC” (Wireless Accessory Configuration) appears on the front display, and search automatically iOS device. You can automatically share the network settings.



If the unit is already wire connected and also connected to a wireless network by another method, settings will not be shared automatically. To manually share the iOS device network settings, perform the following operation.



1 Press **⏻** to turn on this unit.

2 Press **SETUP**.

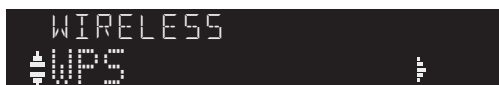
3 Use the cursor keys (**Δ / ▽**) to select “Network” and press **ENTER**.



To return to the previous state, press **RETURN**.

4 Use the cursor keys (**Δ / ▽**) to select “Connection” and press **ENTER**.

5 Use the cursor keys (**Δ / ▽**) to select “Wireless” and press **ENTER**.



6 Use the cursor keys (**Δ / ▽**) to select “Share Setting” and press **ENTER**.



7 Use the cursor keys (**Δ / ▽**) to select the desired connection method and press **ENTER**.

The following connection methods are available.

Wireless (WAC)	You can apply the connection settings on the iOS device to the unit using a wireless connection. For details, see “Sharing the iOS device setting wirelessly”. (You need iOS device with iOS 7 or later.)
USB Cable	You can apply the connection settings on the iOS device to the unit using a USB cable. For details, see “Sharing the iOS device setting using a USB cable”. (You need iOS device with iOS 5 or later.)

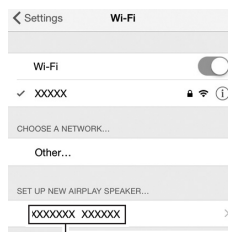
Note

When you select “Wireless (WAC)” as the connection method, all network settings are initialized.

Sharing the iOS device setting wirelessly

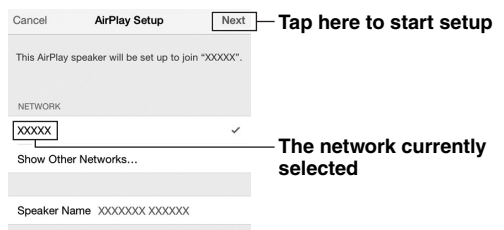
If you select “Wireless (WAC)” as the connection method, perform the network setting sharing operation on your iOS device. (The following procedure is a setup example for iOS 8.)

1 On the iOS device, select the unit as the AirPlay speaker in the Wi-Fi screen.



The name of this unit

2 Check the network currently selected and tap “Next”.



The network currently selected

When the sharing process finishes, the unit is automatically connected to the selected network (access point).

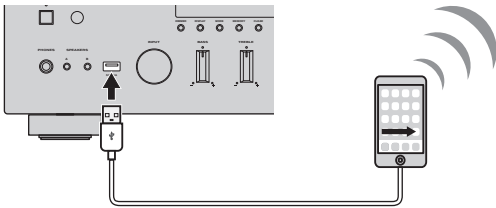
When the setting finishes, verify whether the unit is connected to a wireless network (p. 20).

■ Sharing the iOS device setting using a USB cable

If you select “USB Cable” as the connection method, follow the procedure below to share the iOS device setting with the unit.

1 Connect the iOS device to the USB jack, and disable the screen lock on the iOS device.

This unit (front)



2 Press ENTER.

3 Tap “Allow” in the message appeared on the iOS device.

When the connection process finishes, “Completed” appears on the front display.

When the setting finishes, verify whether the unit is connected to a wireless network (p. 20).

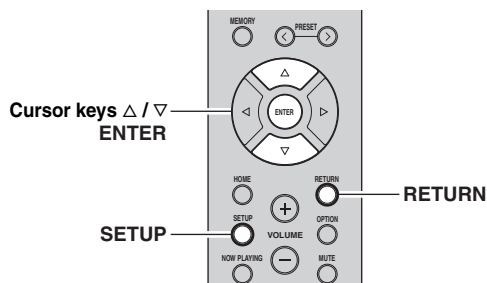
4 To exit from the menu, press SETUP.

Using the WPS push button configuration

You can easily set up a wireless connection with one push of the WPS button.

Note

This configuration does not work if the security method of your wireless router (access point) is WEP. In this case, use other connection method.



1 Press to turn on this unit.

2 Press SETUP.

3 Use the cursor keys (Δ / ∇) to select “Network” and press ENTER.



To return to the previous state, press RETURN.

4 Use the cursor keys (Δ / ∇) to select “Connection” and press ENTER.

5 Use the cursor keys (Δ / ∇) to select “Wireless” and press ENTER.



6 Press ENTER twice.

“Connecting” appears on the front display.

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

When the connection process finishes, “Completed” appears on the front display. When the setting finishes, verify whether the unit is connected to a wireless network (p. 20).

If “Not connected” appears, repeat from Step 1 or try another connection method.

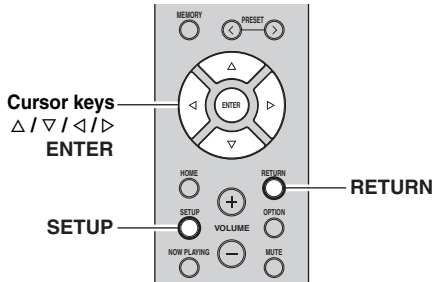
8 To exit from the menu, press SETUP.


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.

Set the wireless network connection manually

Before performing the following procedure, check the security method and security key on the wireless router (access point).



- 1 Press **⏻** to turn on this unit.
 - 2 Press **SETUP**.
 - 3 Use the cursor keys (**△ / ▽**) to select “Network” and press **ENTER**.
-  To return to the previous state, press **RETURN**.
- 4 Use the cursor keys (**△ / ▽**) to select “Connection” and press **ENTER**.
 - 5 Use the cursor keys (**△ / ▽**) to select “Wireless” and press **ENTER**.
 - 6 Use the cursor keys (**△ / ▽**) to select “Manual Setting” and press **ENTER**.



- 7 Use the cursor keys (**△ / ▽**) to select “SSID” and press **ENTER**.



- 8 Use the cursor keys to enter the SSID on the wireless router (access point), and press **RETURN** to previous state.

Use the cursor keys (**◀/▶**) to move the edit position and the cursor keys (**△/▽**) to select a character.

- 9 Use the cursor keys (**△ / ▽**) to select “Security” and press **ENTER**.



- 10 Use the cursor keys (**◀/▶**) to select desired security method and press **RETURN**.

Settings

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

Note

If you select “None”, the connection may be insecure since the communication is not encrypted.

- 11 Use the cursor keys (**△ / ▽**) to select “Security Key” and press **ENTER**.



- 12 Use the cursor keys to enter the security key on the wireless router (access point), and press **RETURN** to previous state.

Use the cursor keys (**◀/▶**) to move the edit position and the cursor keys (**△/▽**) to select a character. You can insert / delete a character, by pressing **PRESET >** (insert) or **PRESET <** (delete).

- 13 Use the cursor keys (**△ / ▽**) to select “Connect[ENTER]” and press **ENTER** to save the setting.

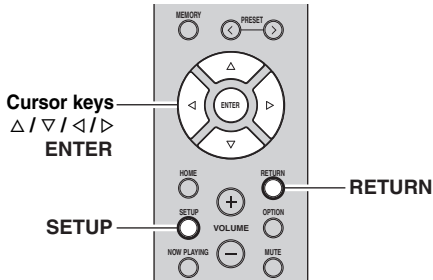
If “ERROR” appears, check the SSID and security key on the wireless router (access point) and repeat from Step 7.

If “ERROR” not appears, a connection is success. Verify whether the unit is connected to a wireless network (p. 20).

- 14 To exit from the menu, press **SETUP**.


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

Using Wireless Direct, this unit can operate as a wireless network access point that mobile devices can directly connect to.



Note

When the unit is connected to the network with Wireless Direct, it cannot connect to any other wireless router (access point). To play back contents from the Internet, connect this unit to a network with a wired router or wireless router (access point).

- 1 Press \odot to turn on this unit.
 - 2 Press SETUP.
 - 3 Use the cursor keys (Δ / ∇) to select "Network" and press ENTER.
-  To return to the previous state, press RETURN.
- 4 Use the cursor keys (Δ / ∇) to select "Connection" and press ENTER.
 - 5 Use the cursor keys (Δ / ∇) to select "WirelessDirect" and press ENTER.



- 6 Press ENTER to check the SSID on this unit, and press RETURN to previous state.
- 7 Use the cursor keys (Δ / ∇) to select "Security" and press ENTER.



- 8 Use the cursor keys ($\triangleleft / \triangleright$) to select desired security method and press RETURN.

Settings

None, WPA2-PSK (AES)

Note

If you select "None", the connection may be insecure since the communication is not encrypted.

- 9 Use the cursor keys (Δ / ∇) to select "Security Key" and press ENTER.



- 10 Use the cursor keys to enter the security key on this unit, and press RETURN to previous state.

Use the cursor keys ($\triangleleft / \triangleright$) to move the edit position and the cursor keys (Δ / ∇) to select a character. You can insert / delete a character, by pressing PRESET \triangleright (insert) or PRESET \triangleleft (delete).

- 11 Use the cursor keys (Δ / ∇) to select "Connect[Enter]" and press ENTER to save the setting.

The SSID and security key information is required for setup of a mobile device.

When you select the "SSID" in step 6, you can check the configured SSID on this unit. The SSID of this unit can be change by using cursor keys ($\Delta / \nabla / \triangleleft / \triangleright$).

- 12 Configure the Wi-Fi settings of a mobile device.

For details on settings of your mobile device, refer to the instruction manual of the mobile device.

- (1) Enable the Wi-Fi function on the mobile device.
- (2) Select the SSID of this unit from the list of available access points.
- (3) When you are prompted for a password, enter the security key displayed in Step 10.

If "ERROR" appears, check the security key on this unit and repeat Step 12.

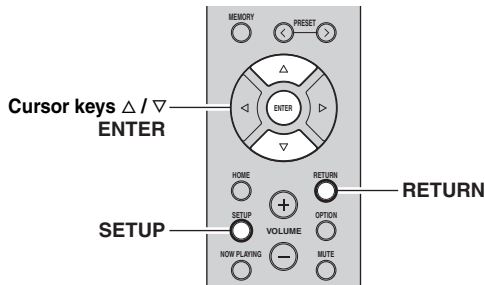
If "ERROR" not appears, a connection is success.


Verify whether the unit is connected to a wireless network (p. 20).

- 13 To exit from the menu, press SETUP.

Verify the network connection status

Perform the following procedure to verify the unit's connection to a network.



- 1 Press SETUP.**
 - 2 Use the cursor keys (Δ / ∇) to select "Network" and press ENTER.**
-  To return to the previous state, press RETURN.
- 3 Use the cursor keys (Δ / ∇) to select "Information" and press ENTER.**
 - 4 Use the cursor keys (Δ / ∇) to select "STATUS".**

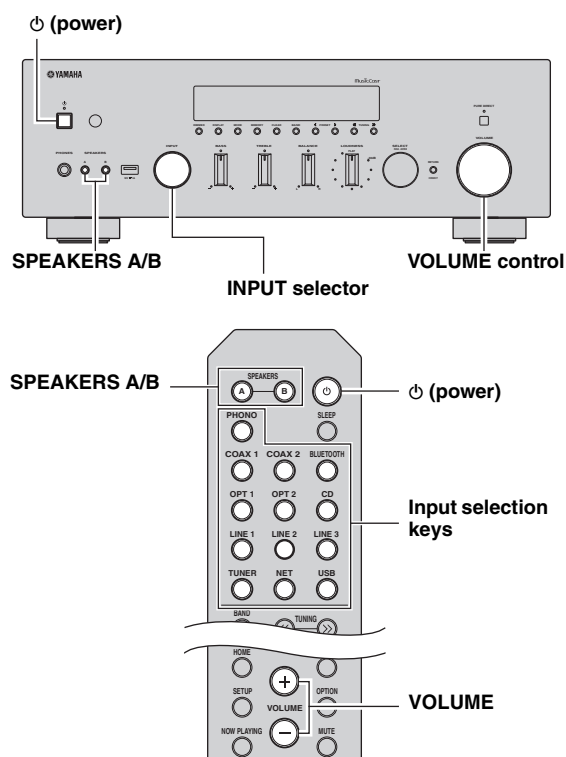


When "Connect" appears, the unit is connected to a network. If "Disconnect" appears, reset connection.

- 5 To exit from the menu, press SETUP.**

Playback

Playing a source



- 1 Press **power** to turn on this unit.
- 2 Rotate the **INPUT selector** on the front panel (or press one of the input selection keys on the remote control) to select the input source you want to listen to.
- 3 Press **SPEAKERS A** and/or **SPEAKERS B** on the front panel or on the remote control to select speakers A and/or speakers B. When speaker set A or speaker set B are turned on, “A” or “B” is displayed on the front display accordingly (p. 7).

Notes

- When one set of speakers is connected using bi-wire connections, or when using two sets of speakers simultaneously (A and B), make sure “A” and “B” are displayed on the front display.
- When listening with headphones, turn off the speakers.

- 4 Play the source.
- 5 Rotate the **VOLUME** control on the front panel (or press **VOLUME +/-** on the remote control) to adjust the sound output level.

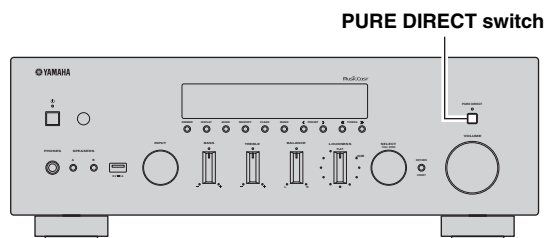


You can adjust the tonal quality by using the **BASS**, **TREBLE**, **BALANCE** and **LOUDNESS** controls or the **PURE DIRECT** switch on the front panel.

- 6 When you finish using, press **power** on the front panel to turn off the power. When you press **power** on the remote control, this unit set to standby mode.

Enjoying pure high fidelity sound (Pure Direct)

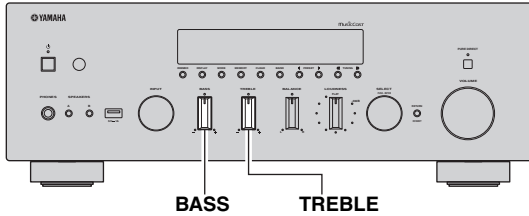
When the **PURE DIRECT** switch is turned on, routes input signals from your audio sources so that the input signals bypass the **BASS**, **TREBLE**, **BALANCE** and **LOUDNESS** controls, thus eliminating any alterations to the audio signals and creating the purest possible sound. The **PURE DIRECT** indicator lights up and the front display turns off after a few seconds.



Notes

- When the **PURE DIRECT** switch is turned on, the front display turns off.
- The **BASS**, **TREBLE**, **BALANCE**, and **LOUDNESS** controls do not function while the **PURE DIRECT** switch is turned on.

■ Adjusting the BASS and TREBLE controls



The BASS and TREBLE controls adjust high and low frequency response.

The center position produces a flat response.

BASS control

When you feel there is not enough bass (low frequency sound), rotate clockwise to boost. When you feel there is too much bass, rotate counterclockwise to suppress.

Control range: -10 dB to +10 dB (20 Hz)

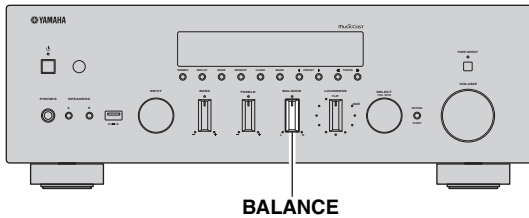
TREBLE control

When you feel there is not enough treble (high frequency sound), rotate clockwise to boost. When you feel there is too much treble, rotate counterclockwise to suppress.

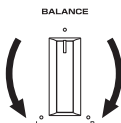
Control range: -10 dB to +10 dB (20 kHz)



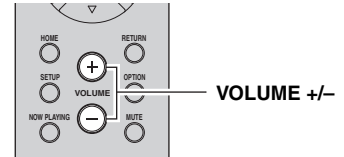
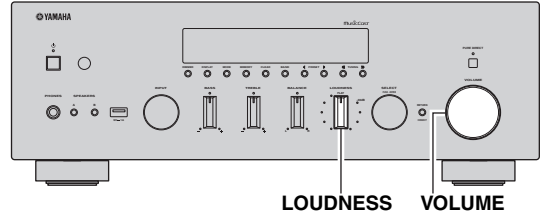
■ Adjusting the BALANCE control



The BALANCE control adjusts the sound output balance of the left and right speakers to compensate for sound imbalance caused by speaker locations or listening room conditions.



■ Adjusting the LOUDNESS control

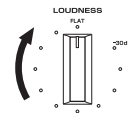


Retain a full tonal range at any volume level, thus compensating for the human ears' loss of sensitivity to high and low-frequency ranges at low volume.

CAUTION

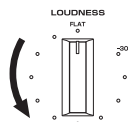
If the PURE DIRECT switch is turned on with the LOUDNESS control set at a certain level, the input signals bypass the LOUDNESS control, resulting in a sudden increase in the sound output level. To prevent your ears or the speakers from being damaged, be sure to press the PURE DIRECT switch after lowering the sound output level or after checking that the LOUDNESS control is properly set.

- 1 Set the LOUDNESS control to the FLAT position.



- 2 Rotate the VOLUME control on the front panel (or press VOLUME +/- on the remote control) to set the sound output level to the loudest listening level that you would listen to.

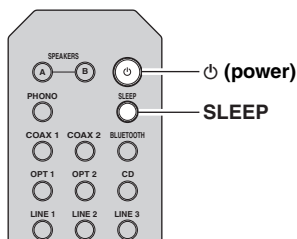
- 3 Rotate the LOUDNESS control until the desired volume is obtained.



After setting the LOUDNESS control, enjoy listening to music at your preferred volume level. If the effect of the LOUDNESS control setting is too strong or weak, readjust the LOUDNESS control.

Using the sleep timer

Use this feature to automatically set this unit to standby mode after a certain amount of time. The sleep timer is useful when you are going to sleep while this unit is playing or recording a source.

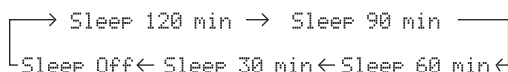


Note

The sleep timer can only be set with the remote control.

1 Press SLEEP repeatedly to set the amount of time before this unit is set to standby mode.

Each time you press SLEEP, the front display changes as shown below.




The SLEEP indicator blinks while setting the amount of time for the sleep timer.



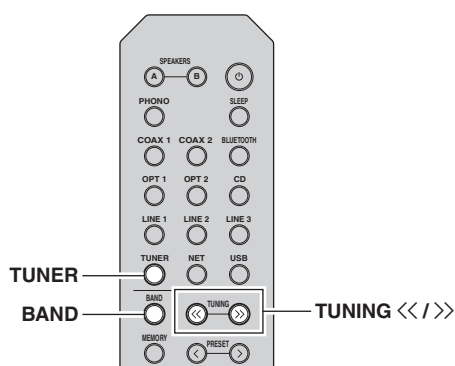
If the sleep timer is set, the SLEEP indicator on the front display lights up.



- To disable the sleep timer, select “Sleep Off”.
- The sleep timer setting can also be canceled by pressing  (power) to set this unit to standby mode.

Listening to FM/AM radio

FM/AM tuning



- 1** Press **TUNER** to select “TUNER” as the input source.
- 2** Press **BAND** repeatedly to select the reception band (FM or AM).
- 3** Press and hold **TUNING <</>>** for more than **1 second to begin tuning.**
Press **>>** to tune in to a higher frequency.
Press **<<** to tune in to a lower frequency.

The frequency of the received station is shown in the front display.

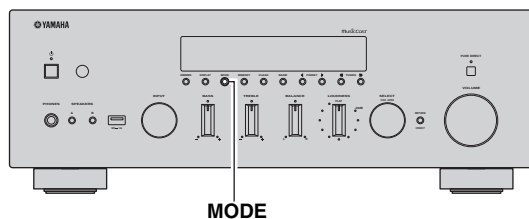
If a broadcast is being received, “TUNED” indicator on the front display will be lit. If a stereo broadcast is being received, the “STEREO” indicator will also lit.



- If the station signals are weak, tuning search does not stop at the desired station.
- When the signal reception for an FM radio station is unstable, switching to monaural may improve it.

Improving FM reception (FM mode)

If the signal from the station is weak and the sound quality is not good, set the FM band reception mode to monaural mode to improve reception.



- 1** Press **MODE** repeatedly to select “Stereo” (automatic stereo mode) or “Mono” (monaural mode) when this unit is tuned in to an FM radio station.

When Mono is selected, FM broadcasts will be heard in monaural sound.

Note

The STEREO indicator on the front panel lights up while listening to a station in stereo mode.

Automatic preset tuning (FM stations only)

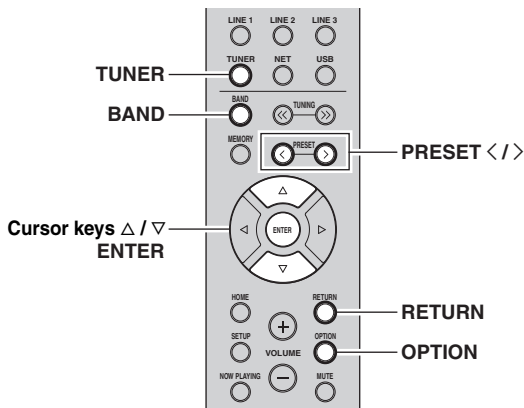
You can use the automatic preset tuning function to automatically register FM stations as presets. This function enables this unit to automatically tune in to FM stations that have a strong signal and register up to 40 of those stations in order. You can then easily recall any preset station by selecting its preset number.

Notes

- If a station is registered to a preset number that already has a station registered to it, the previously registered station is overwritten.
- If the station you want to register is weak in signal strength, try using the manual preset tuning method.



- FM stations registered as presets using the automatic preset registration feature will be heard in stereo.
- (U.K. model only)
Only Radio Data System broadcasting stations are registered automatically by the Auto Preset function.



- 1 Press **TUNER** to select “TUNER” as the input source.
- 2 Press **OPTION** on the remote control. The “Option” menu is displayed (p. 43).
- 3 Press **Δ / ▽** to select “Auto Preset”, and then press **ENTER**.



Preset number Frequency

This unit starts scanning the FM band about 5 seconds later from the lowest frequency upwards. To begin scanning immediately, hold down **ENTER**.

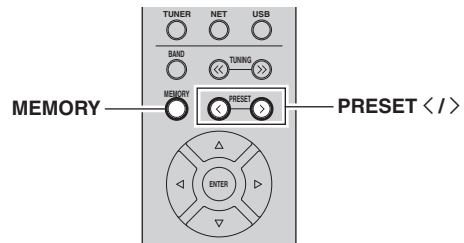


- Before scanning begins, you can specify the first preset number to be used by pressing **PRESET </>** or cursor key (**Δ/▽**) on the remote control.
- To cancel scanning, press **BAND** or **RETURN**.

When scanning is complete, “FINISH” is displayed and then the display returns to original state.

Manual tuning preset

Select a radio station manually and register it to a preset number. You can then easily recall any preset station by selecting its preset number.



- 1 Follow “FM/AM tuning” (p.24) to tune into the desired radio station.
- 2 Hold down **MEMORY** for more than 2 seconds. The first time that you do register a station, the selected radio station will be registered to the preset number “01”. Thereafter, each radio station you select will be registered to the next empty (unused) preset number after the most recently registered number.



Preset number



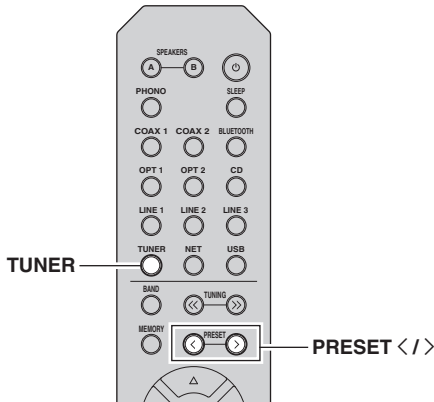
To select a preset number for registering, press **MEMORY** once after tuning into the desired radio station, press **PRESET </>** to select a preset number, and then press **MEMORY** again.



“Empty” (not in use) or the frequency currently registered

Recalling a preset station

You can recall preset stations that were registered using automatic station preset or manual station preset.



1 Press **TUNER** to select “TUNER” as the input source.

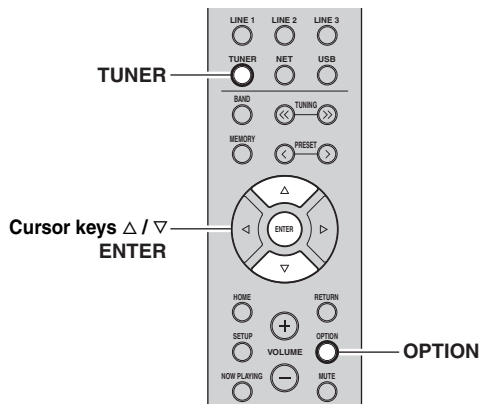
2 Press **PRESET </>** to select a preset number.



- Preset numbers to which no stations are registered are skipped.
- “No Presets” is displayed if no stations are registered.

Clearing a preset station

Clear radio stations registered to the preset numbers.



1 Press **TUNER** to select “TUNER” as the input source.

2 Press **OPTION**.

3 Use the cursor keys to select “Clear Preset” and press **ENTER**.



4 Use the cursor keys (Δ / ▽) to select a preset station to be cleared and press **ENTER**.



Preset station to be cleared

If the preset station is cleared, “Cleared” appears and then the next in-use preset number is displayed.



5 Repeat step 4 until all desired preset stations are cleared.

6 To exit from the “Option” menu, press **OPTION**.



You can clear a preset station from the front panel.

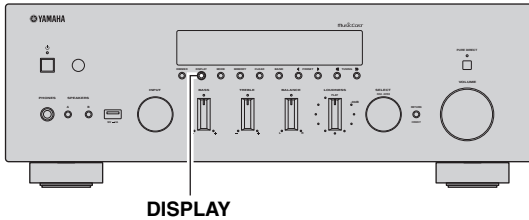
- (1) Press **CLEAR** on the front panel.
- (2) Press **PRESET </>** to select the preset station that you want to clear.
- (3) Press **SELECT/ENTER** or **CLEAR** to clear the preset station.

Radio Data System tuning

(U.K. model only)

Radio Data System is a data transmission system used by FM stations in many countries. The unit can receive various types of Radio Data System data, such as “Program Service”, “Program Type”, “Radio Text” and “Clock Time”, when it is tuned into a Radio Data System broadcasting station.

■ Displaying the Radio Data System information



1 Tune into the desired Radio Data System broadcasting station.



We recommend using “Auto Preset” to tune into the Radio Data System broadcasting stations (p. 24).

2 Press DISPLAY.

Each time you press the key, the displayed item changes.



Item name

About 3 seconds later, the corresponding information for the displayed item appears.



Information

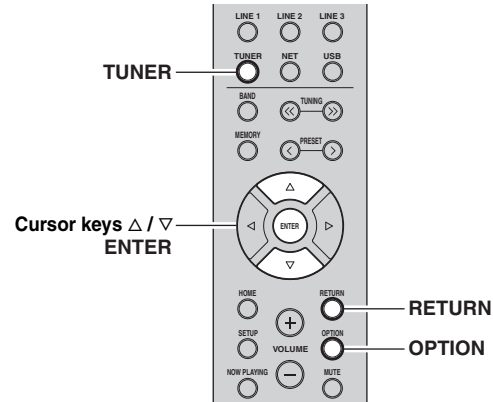
Program Service	Program service name
Program Type	Current program type
Radio Text	Information on the current program
Clock Time	Current time
Frequency	Frequency

Note

“Program Service”, “Program Type”, “Radio Text”, and “Clock Time” are not displayed if the radio station does not provide the Radio Data System service.

■ Receiving traffic information automatically

When “TUNER” is selected as the input source, the unit automatically receives traffic information. To enable this function, follow the procedure below to set the traffic information station.



1 When “TUNER” is selected as the input source, press OPTION.

2 Use the cursor keys to select “TrafficProgram” and press ENTER.

The traffic information station search will start in 5 seconds. Press ENTER again to start the search immediately.



- To search upward/downward from the current frequency, press the cursor keys (Δ/∇) while “READY” is displayed.
- To cancel the search, press RETURN.
- Texts in parentheses denote indicators on the front display.

The following screen appears for about 3 seconds when the search finishes.



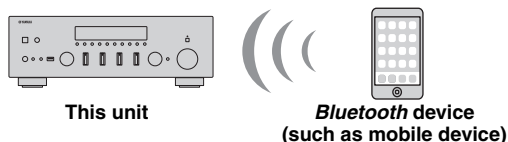
Traffic information station (frequency)

Note

“TP Not Found” appears for about 3 seconds when no traffic information stations are found.

Playing back music via *Bluetooth*

You can play back music files stored on a *Bluetooth* device (such as mobile device) on the unit. Please also refer to the owner's manual of your *Bluetooth* device.



Notes

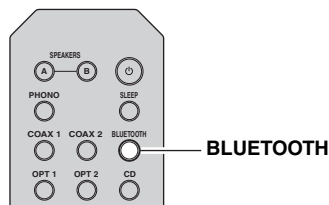
- To use the *Bluetooth* function, set “Bluetooth” (p. 46) in the “Setup” menu to “On”.
- A *Bluetooth* device may not be detected by the unit or some feature may not be compatible, depending on the model.



You can transmit audio to *Bluetooth* speakers or headphones using the MusicCast CONTROLLER app. To transmit audio, set “Audio Send” (p. 46) in the “Setup” menu to “On”. The audio output can only be selected from the MusicCast CONTROLLER app.

Connecting a *Bluetooth* device (pairing)

When connecting a *Bluetooth* device to the unit for the first time, the pairing operation is required to perform. Pairing is an operation that registers the *Bluetooth* devices with each other beforehand. Once pairing has been completed, subsequent reconnection will be easy even after the *Bluetooth* connection is disconnected.



1 Press BLUETOOTH to select “Bluetooth” as the input source.

If another *Bluetooth* device is already connected, disconnect the *Bluetooth* connection before you perform a pairing operation.

2 Turn on the *Bluetooth* function of the *Bluetooth* device.

3 On the *Bluetooth* device, select the unit's model name from the available device list.

After pairing has been completed and the unit is connected to the *Bluetooth* device, “Connected” appears on the front display, and *Bluetooth* indicator will be light up.



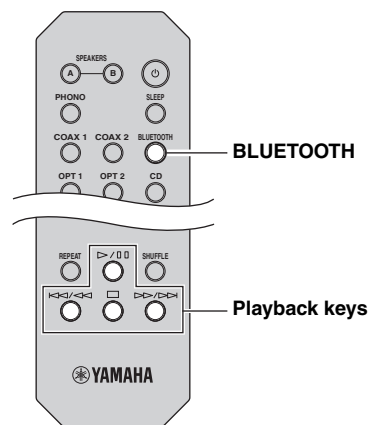
- If the pass key is required, enter the number “0000”.
- Complete a pairing procedure within 5 minutes.
- If no *Bluetooth* devices are found, “Not found” appears.

Playing back *Bluetooth* device contents

Connect a paired *Bluetooth* device and start playback.

Check the following beforehand:

- Pairing has been completed.
- *Bluetooth* function on the *Bluetooth* device is turned on.



1 Press BLUETOOTH to select “Bluetooth” as the input source.



If the unit detects the *Bluetooth* device previously connected, the unit automatically connects to the *Bluetooth* device after Step 1. To establish another *Bluetooth* connection, first disconnect the current *Bluetooth* connection.

2 Operate the *Bluetooth* device to establish a *Bluetooth* connection.

Select the unit's model name from the *Bluetooth* device list on your device.

When a connection is established, *Bluetooth* indicator on the front display will be light up.



If you cannot connect the *Bluetooth* device, please perform pairing again.

3 Operate the *Bluetooth* device to play back music.



You can use the playback keys on the remote control to control playback.

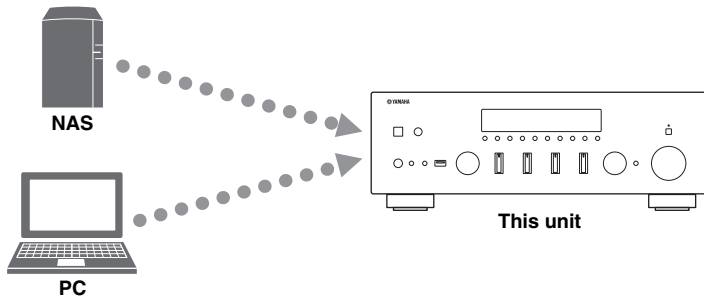
Disconnecting a Bluetooth connection

Follow one of the procedures below to disconnect a *Bluetooth* connection.

- Turn off the *Bluetooth* function on the *Bluetooth* device.
- Hold down BLUETOOTH on the remote control for at least 3 seconds.
- Select “Disconnect” in “Audio Receive” (p. 46) in the “Setup” menu, and then press ENTER.
- Select an input source other than “Bluetooth” on the unit.

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

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



Notes

- To use this function, the unit and your PC/NAS must be connected to the same router (p. 14). You can check whether the network parameters (such as the IP address) are properly assigned to the unit in “Information” (p.45) in the “Setup” menu.
- The unit supports playback of WAV (PCM format only), AIFF, MP3, WMA, MPEG-4 AAC, FLAC, ALAC and DSD files.
- The unit is compatible with sampling rates of up to 192 kHz for WAV, AIFF and FLAC files, 96 kHz for ALAC files, and 48 kHz for other files.
- The unit is compatible with 2.8 MHz/5.6 MHz (1 bit) DSD files.
- Digital Rights Management (DRM) contents cannot be played back.
- To play back music files, the server software installed on the PC/NAS must support the music file formats that you want to play back.



You can connect up to 16 media servers to this unit.

Setting the media sharing of music files

To play back music files in your computer with this unit, you need to make the media sharing setting between the unit and computer (Windows Media Player 11 or later). In here, setting with Windows Media Player in Windows 7 is taken as an example.

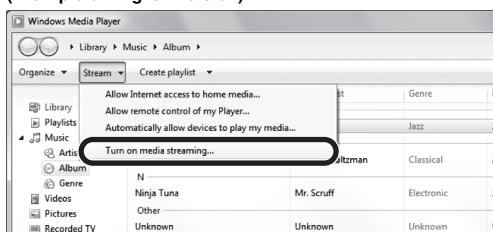
■ When using Windows Media Player 12

1 Start Windows Media Player 12 on your PC.

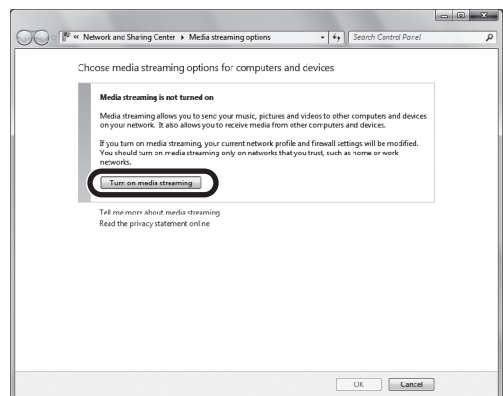
2 Select “Stream”, then “Turn on media streaming.”

The control panel window of your PC appears.

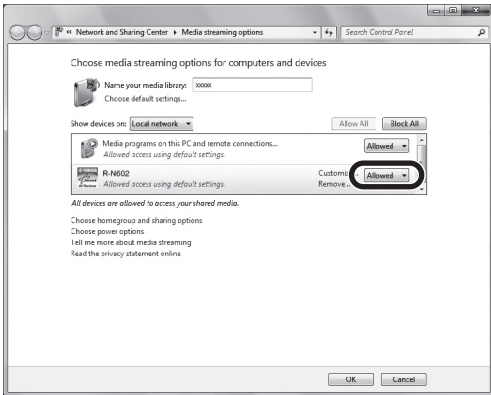
(Example of English version)



3 Click “Turn on media streaming.”



- Select “Allowed” from the drop-down list next to the unit’s model name.



- Click “OK” to exit.

■ When using Windows Media Player 11

- Start Windows Media Player 11 on your PC.

- Select “Library” then “Media Sharing”.

- Check the “Share my media to” box, select the unit’s icon, then click “Allow”.

- Click “OK” to exit.

■ When using a PC or a NAS with other DLNA server software installed

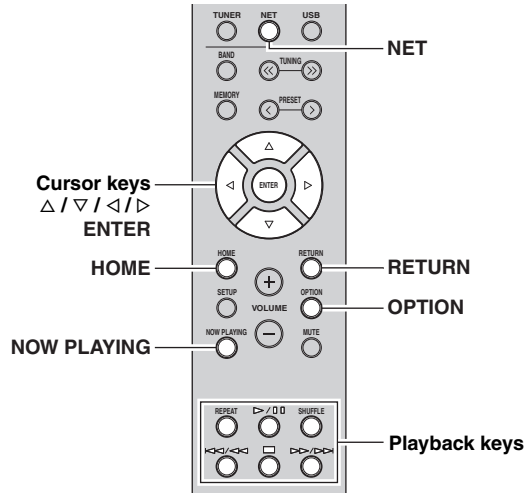
Refer to the instruction manual for the device or software and configure the media sharing settings.

Playback of PC music contents

Follow the procedure below to operate the PC music contents and start playback.

Note

“_” (underscore) will be displayed for characters not supported by the unit.



- Press NET repeatedly to select “Server” as the input source.



- Use the cursor keys (Δ / ▽) to select a music server and press ENTER.



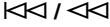
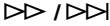
- Use the cursor keys to select an item and press ENTER.

If a song is selected, playback starts and the playback information is displayed.



- If playback of a music file selected from the unit is ongoing on your PC, the playback information is displayed.
- You can register the current playback song as a preset (p. 42).
- If you press the DISPLAY on the front panel repeatedly, you can switch the playback information on the front display (p. 41).

Use the following remote control keys to control playback.

Keys		Function
Cursor keys		Select a music file or folder.
ENTER		Starts playback if pressed while content is selected. Moves down one level if pressed while a folder is selected.
RETURN		Moves up one level.
Playback keys		Stops/resumes playback.
		Stops playback.
		Skips forward/backward. (while holding down) Searches forward/backward.
		Skips forward/backward. (while holding down) Searches forward/backward.
HOME		Displays the root directory of the music server.
NOW PLAYING		Displays information about the song that's playing.



You can also use a DLNA-compatible Digital Media Controller (DMC) to control playback. For details, see “DMC Control” (p.45).

■ Repeat/shuffle settings

You can configure the repeat/shuffle settings for the playback of PC music content.

1 When the input source is “Server,” press REPEAT or SHUFFLE on the playback key repeatedly to select the playback method.

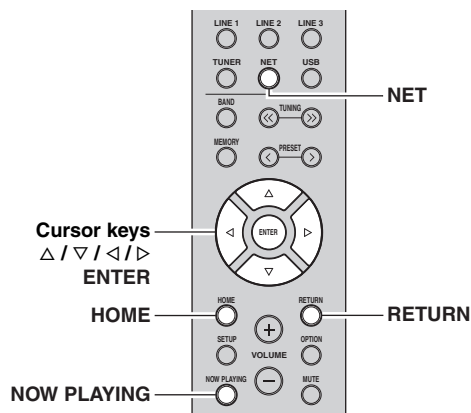
Playback keys	Setting	Function
REPEAT	Off	Turns off the repeat function.
	One	Plays back the current song repeatedly.
	All	Plays back all songs in the current album (folder) repeatedly.
SHUFFLE	Off	Turns off the shuffle function.
	On	Plays back songs in the current album (folder) in random order.

Listening to Internet radio

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

Notes

- To use this function, the unit must be connected to the Internet (p. 14). You can check whether the network parameters (such as the IP address) are properly assigned to the unit in “Information” (p.45) in the “Setup” menu.
- 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.



1 Press NET repeatedly to select “Net Radio” as the input source.

The station list appears on the front display.



2 Use the cursor keys to select an item and press ENTER.

If an Internet radio station is selected, playback starts and the playback information is displayed.



Use the following remote control keys to control playback.

Keys	Function
Cursor keys	Select the Internet radio station or category such as the genre.
ENTER	Starts playback if pressed while an Internet radio station is selected. Moves down one level if pressed while a category is selected.
RETURN	Moves up one level.
Playback keys	<input type="checkbox"/> Stops playback.
HOME	Displays the top categories if pressed during playback.
NOW PLAYING	Displays the playback information for the Internet radio station.



- You can register the current playback station as a preset (p. 42).
- If you press the DISPLAY on the front panel repeatedly, you can switch the playback information on the front display (p. 41).
- Some information may not be available depending on the station.

Registering favorite Internet radio stations (bookmarks)

By registering your favorite Internet radio stations to “Bookmarks”, you can quickly access to them from the “Bookmarks” folder in the front display.

1 Select any of Internet radio stations on the unit.

This operation is necessary to register the radio station for the first time.

2 Check the vTuner ID of the unit.

You can find the vTuner ID (MAC address of the unit) in “Information” (p. 45) in the “Setup” menu.

3 Access the vTuner website (<http://radio.vtuner.com/>) with the web browser on your PC and enter the vTuner ID.

You can switch the language.



Enter the vTuner ID in this area.



To use this feature, you need to create your personal account. Create your account using your e-mail address.

4 Register your favorite radio stations.

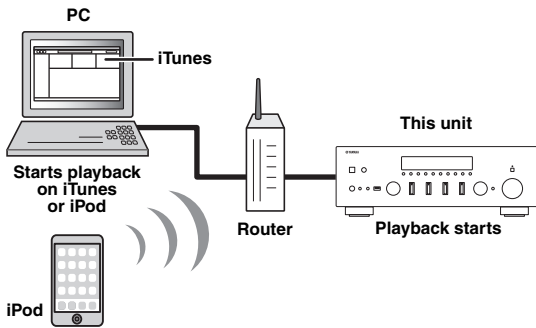
Click the “Add” icon (♥+) next to the station name.



To remove the station from the “Bookmarks” folder, select “Bookmarks” in the Home screen, and then click the “Remove” icon (♥-) next to the station name.

Playing back iPod/iTunes music via a network (AirPlay)

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



Note

To use this function, the unit and your PC or iPod must be connected to the same router (p. 14). You can check whether the network parameters (such as the IP address) are properly assigned to the unit in “Information” (p.45) in the “Setup” menu.

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. (as of August 2015)

Playback of iPod/iTunes music contents

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

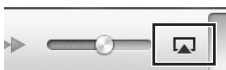
1 Turn on the unit, and start iTunes on the PC or display the playback screen on the iPod.

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

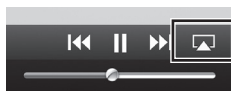


For iPods using iOS 7/8, AirPlay icon is displayed in Control Center. To access Control Center, swipe up from the bottom of the screen.

iTunes (example)



iPod iOS6 (example)



iPod iOS7/iOS8 (example)



Note

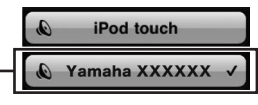
If the icon does not appear, check whether the unit and PC/iPod are connected to the router properly.

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

iTunes (example)



iPod (example)



Network name of the unit

3 Select a song and start playback.

The unit automatically selects “AirPlay” as the input source and starts playback. The playback information is displayed on the front display.



- If you press the DISPLAY on the front panel repeatedly, you can switch the playback information on the front display (p. 41).
- You can turn on the unit automatically when starting playback on iTunes or iPod by setting “Standby (Network Standby)” (p.45) in the “Setup” menu to “On”.
- You can edit the network name (the unit’s name on the network) displayed on iPod/iTunes in “Network Name” (p.46) in the “Setup” menu.
- You can adjust the unit’s volume from the iPod/iTunes during playback.

CAUTION

When you use iPod/iTunes 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 iPod/iTunes immediately.

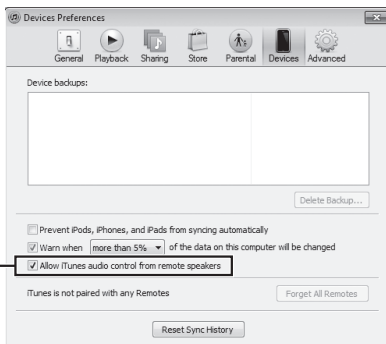
Use the following remote control keys to control playback.

Keys		Functions
Playback keys	▷ / ⏸	Stops/resumes playback.
	◻	Stops playback.
	⏮ / ⏪	Skips forward/backward.
	⏩ / ⏭	
	REPEAT	Changes the Repeat settings.
	SHUFFLE	Changes the Shuffle settings.

Note

To control iTunes playback with the remote control of the unit, you need to configure the iTunes preferences to enable iTunes control from remote speakers in advance.

iTunes (example of English version)



Playing back music stored on a USB storage device

You can play back music files stored on a USB storage device on the unit. Refer to the instruction manuals for the USB storage device for more information.

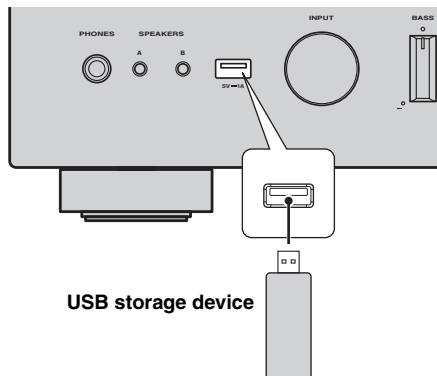
Notes

- The unit supports USB mass storage class devices (e.g., flash memories or portable audio players) using FAT16 or FAT32 format.
- The unit supports WAV (PCM format only), AIFF, MP3, WMA, MPEG-4 AAC, FLAC, ALAC and DSD files.
- The unit is compatible with sampling rate of up to 192 kHz for WAV, AIFF and FLAC files, 96 kHz for ALAC files, and 48 kHz for other files.
- The unit is compatible with 2.8 MHz/5.6 MHz (1 bit) DSD files.
- Do not connect devices other than USB mass storage class devices (such as USB chargers or USB hubs), PCs, card readers, an external HDD, etc.
- USB devices with encryption cannot be used.
- Digital Rights Management (DRM) contents cannot be played back.
- Some features may not be compatible, depending on the model or manufacturer of the USB storage device.

Connecting a USB storage device

1 Connect the USB storage device to the USB jack.

This unit (front)



USB storage device



If the USB storage device contains many files, it may take time to load the them. In this case, "Loading..." appears in the front display.

Notes

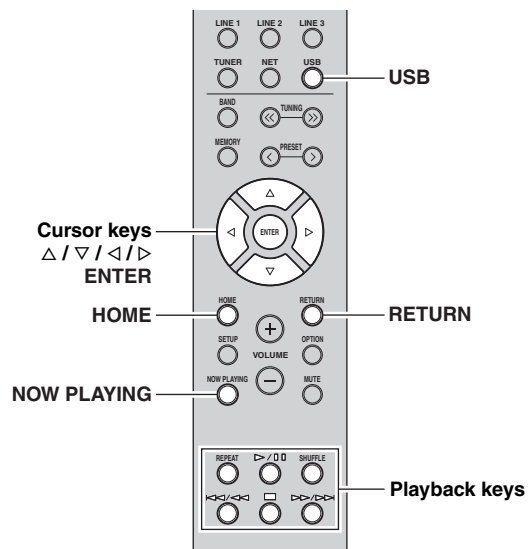
- Disconnect the USB storage device from the USB jack when it is not in use.
- Stop playback of the USB storage device before disconnect it from the USB jack.
- You cannot connect the PC to the USB jack of the unit.

Playback of USB storage device contents

Follow the procedure below to operate the USB storage device contents and start playback.

Note

"_" (underscore) will be displayed for characters not supported by the unit.



1 Press USB to select "USB" as the input source.



2 Use the cursor keys to select an item and press ENTER.

If a song is selected, playback starts and the playback information is displayed.



- You can register the current playback song as a preset (p. 42).
- If you press the DISPLAY on the front panel repeatedly, you can switch the playback information on the front display (p. 41).

Use the following remote control keys to control playback.

Keys	Function
Cursor keys	Select a music file or folder.
ENTER	Starts playback if pressed while a music file is selected. Moves down one level if pressed while a folder is selected.
RETURN	Moves up one level.
Playback keys	Stops/resumes playback.
	Stops playback.
	Skips forward/backward.
	Skips forward/backward.
HOME	Displays the root directory of the USB device.
NOW PLAYING	Displays information about the song that's playing.

Repeat/shuffle settings

You can configure the repeat/shuffle settings for playback of USB storage device contents.

1 If the input source is "USB," press REPEAT or SHUFFLE on the playback keys repeatedly to select the playback method.

Playback keys	Setting	Function
REPEAT	Off	Turns off the repeat function.
	One	Plays back the current song repeatedly.
	All	Plays back all songs in the current album (folder) repeatedly.
SHUFFLE	Off	Turns off the shuffle function.
	On	Plays back songs in the current album (folder) in random order.

Playing back iPod music

You can play back iPod music on the unit using a USB cable supplied with the iPod.

Note

An iPod may not be detected by the unit or some features may not be compatible, depending on the model or software version of the iPod.

Made for

- iPod touch (2nd, 3rd, 4th and 5th generation)
- iPod nano (2nd, 3rd, 4th, 5th, 6th and 7th generation)
- iPhone 6, iPhone 6 Plus, iPhone 5s, iPhone 5c, iPhone 5, iPhone 4S, iPhone 4, iPhone 3GS, iPhone 3G (as of August 2015)

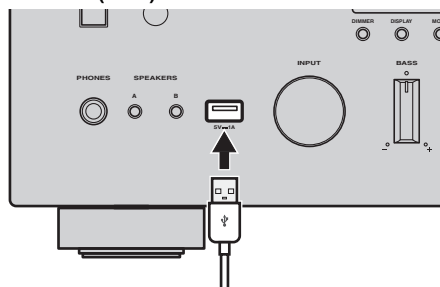
Connecting an iPod

Connect your iPod to the unit with the USB cable supplied with the iPod.

1 Connect the USB cable to the iPod.

2 Connect the USB cable to the USB jack.

This unit (front)



If "Standby (Network Standby)" (p.45) in the "Setup" menu is set to "On" or "Auto", the iPod will continue to charge up to 4 hours if the unit goes into standby mode while the iPod is charging.

Note

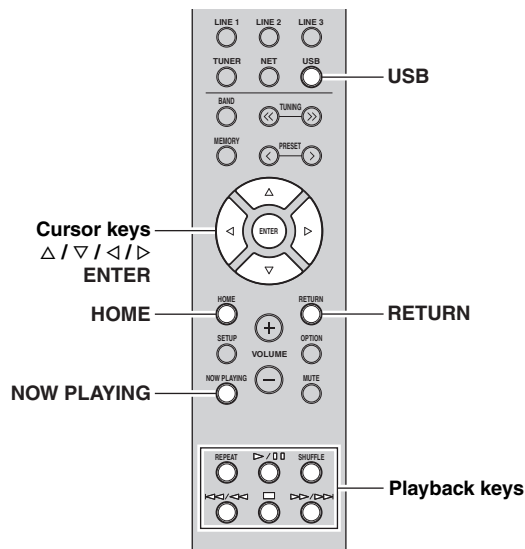
Disconnect the iPod from the USB jack when it is not in use.

Playback of iPod content

Follow the procedure below to operate the iPod contents and start playback.

Note

"_" (underscore) will be displayed for characters not supported by the unit.



1 Press **USB** to select "USB" as the input source.





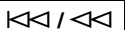
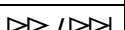
2 Use the cursor keys to select an item and press **ENTER**.

If a song is selected, playback starts and the playback information is displayed.



- If you press the DISPLAY on the front panel repeatedly, you can switch the playback information on the front display (p. 41).
- To operate the iPod manually to select content or control playback, switch to the simple play mode (p. 40).

Use the following remote control keys to control playback.

Keys	Function
Cursor keys	Select a music file, album or genre.
ENTER	Starts playback if pressed while a music file is selected. Moves down one level if pressed while an album or genre is selected.
RETURN	Moves up one level.
Playback keys	 Starts/resumes playback.
	 Stops playback.
	 Skips forward/backward. (while holding down) Searches forward/backward.
	 Skips forward/backward. (while holding down) Searches forward/backward.
HOME	Displays the top menu of the iPod.
NOW PLAYING	Displays information about the song that's playing.

■ Operating the iPod itself or remote control (simple play)

1 Press MODE on the front panel to switch to the simple play mode.



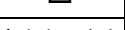
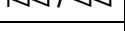
Between the simple play mode, only the input name is displayed on the front display. If you confirm the playback information, see the iPod screen.



If you want to exit the simple play mode, press MODE again.

2 Operate your iPod itself or the remote control to start playback.

Use the following remote control keys to control playback on the simple play mode.

Operational remote control keys	Function
Cursor keys	Select an item.
ENTER	Confirms the selection.
RETURN	Returns to the previous state.
Playback keys	 Starts playback or stops playback temporarily.
	 Stops playback.
	 Skips forward/backward. (while holding down) Searches forward/backward.
	 Skips forward/backward. (while holding down) Searches forward/backward.

■ Repeat/shuffle settings

You can configure the repeat/shuffle settings of your iPod.

1 If the input source is “USB,” press REPEAT or SHUFFLE on the playback keys repeatedly to select the playback method.

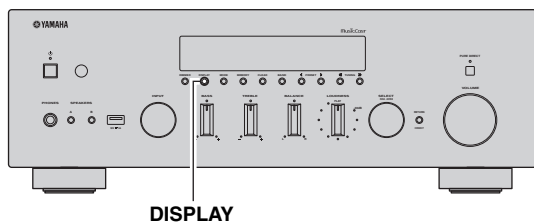
Playback keys	Setting	Function
REPEAT	Off	Turns off the repeat function.
	One	Plays back the current song repeatedly.
	All	Plays back all songs repeatedly.
SHUFFLE	Off	Turns off the shuffle function.
	Songs	Plays back songs in random order.
	Albums	Plays back albums in random order.



The operation or display of repeat/shuffle may differ, depending on the type or software version of iPod used.

Switching information on the front display

When you select a network source or USB as the input source, you can switch playback information on the front display.



1 Press DISPLAY.

Each time you press the key, the displayed item changes.



About 3 seconds later, the corresponding information for the displayed item appears.



Input source	Item
Bluetooth Server AirPlay USB (include iPod)	Track (song title), Artist (artist name), Album (album name), Time
Net Radio	Track (song title), Album (album name), Time, Station (station name)

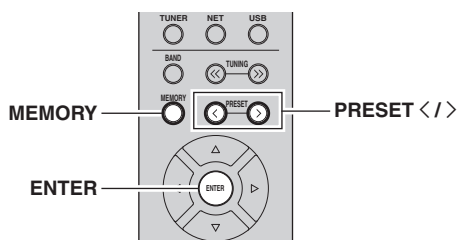
Registering the current playback song/station (Preset function)

When you select network sources and USB as the input source, you can register the current playback song or streaming station as a preset up to 40.

You can then easily recall any preset song/station by selecting its preset number.

The following input sources can be set as presets.

Server, Net Radio, USB (except iPod) and streaming services.



Recalling a preset

- 1 Select the input source you want to recall the preset.
- 2 Press PRESET </> to select a preset number.
- 3 Press ENTER to recall preset.

Registering to a preset

- 1 Playback a song or streaming station you want to register.

- 2 Hold down MEMORY for more than 3 seconds.

The first time that you register a song/station, the selected song/station will be registered to the preset number "01". Thereafter, each song/station you select will be registered to the next empty (unused) preset number after the most recently registered number.

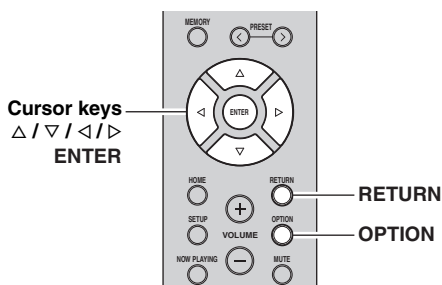


To select a preset number for registering, press PRESET </> or the cursor keys (</>).

- 3 Press MEMORY again to register preset.

Configuring playback settings for different playback sources (Option menu)

You can configure separate playback settings for different playback sources. This menu allows you to easily configure settings during playback.



1 Press OPTION.



2 Use the cursor keys to select an item and press ENTER.

To return to the previous state during menu operations, press RETURN.

3 Use the cursor keys (</>) to select a setting.

4 To exit from the menu, press OPTION.

Option menu items

Available items vary depending on the selected input source.

Item	Function	Page
Volume Trim	Corrects volume differences between input sources.	43
Signal Info	Displays information about the audio signal.	43
Auto Preset	Automatically registers FM radio stations with strong signals as presets.	24
Clear Preset	Clear radio stations registered to preset numbers.	26
TrafficProgram	Automatically searches for a traffic information station.	27
Vol.Interlock (Volume interlock)	Enables/Disables volume controls from iTunes/iPod via AirPlay.	43

■ Volume Trim

Corrects volume differences between input sources. If you are bothered by volume differences when switching between input sources, use this function to correct it.



This setting is applied separately to each input source.

Setting range

-10.0 dB to 0.0 dB to +10.0 dB (0.5 dB increments)

Default

0.0 dB

■ Signal Info

Displays information about audio signal.

Choices

FORMAT	Audio format of the input signal
SAMPL	The number of samples per second of the input digital signal



To switch the information on the front display, press the cursor keys (Δ / ▽) repeatedly.

■ Vol.Interlock (Volume interlock)

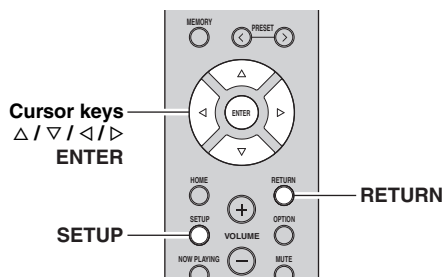
Enables/disables volume controls from iTunes/iPod via AirPlay.

Settings

Off	Disables volume controls from iTunes/iPod.
Ltd (default)	Enables volume controls from iTunes/iPod within the limited range (-80.0 dB to -20.0 dB and mute).
Full	Enables volume controls from iTunes/iPod in the full range (-80.0 dB to +16.5 dB and mute).

Configuring various functions (Setup menu)

You can configure the unit's various functions.



1 Press SETUP.



2 Use the cursor keys (Δ / ▽) to select a menu.



3 Press ENTER.



4 Use the cursor keys (◀ / ▶) to select a setting and press ENTER.



To return to the previous state during menu operations, press RETURN.

5 Exit from the menu, press SETUP.

Setup menu items

Menu item	Function	Page	
Network	Connection	Selects the network connection method.	45
	Information	Displays the network information on the unit.	45
	IP Address	Configures the network parameters (such as IP address).	45
	DMC Control	Selects whether to allow a DLNA-compatible Digital Media Controller (DMC) to control playback.	45
	Standby (Network Standby)	Selects whether to enable/disable the function that turns on the unit from other network devices.	45
	Network Name	Edits the network name (the unit's name on the network) displayed on other network devices.	46
	Update (Network Update)	Updates the firmware via the network.	46
Bluetooth	On/Off	Enables/disables the <i>Bluetooth</i> functions.	46
	Standby (Bluetooth Standby)	Selects whether to enable/disable the function that turns on the unit from <i>Bluetooth</i> devices (<i>Bluetooth</i> standby).	46
	Audio Receive	Receives audio settings from the <i>Bluetooth</i> device.	46
	Audio Send	Transmit audio from the unit to <i>Bluetooth</i> speakers or headphones.	46
Max Volume	Sets the maximum volume to prevent excessive loudness.	47	
Initial Volume	Sets the initial volume for when this receiver is turned on.	47	
AutoPowerStdby (Auto Power Standby)	Sets the amount of time for the auto standby function.	47	
ECO Mode	Enables/disables the eco mode (power saving mode).	47	

Network

Configures the network settings.

■ Connection

Selects the network connection method.

Wired	Select this option when you want to connect the unit to a network with a commercially-available network cable (p. 15).
Wireless	Select this option when you want to connect the unit to a network via the wireless router or access point (p. 16, 17, 18).
WirelessDirect	Select this option when you want to connect a mobile device to the unit directly. For details on settings, see “Connecting a mobile device to the unit directly (Wireless Direct)” (p. 19).
Extend	Displays connection method of the MusicCast Network.

■ Information

Displays the network information on the unit.

NewFwAvailable	Appears if an update for this unit’s firmware is available (p. 50).
STATUS	The connection status of the network.
MC NET	Status of the MusicCast Network. If “Ready” appears, you can use the MusicCast CONTROLLER app.
MAC	Displays MAC address of the unit. MAC address will vary depending on the connection method (wired LAN connection or wireless LAN / Wireless Direct connection).
SSID	(When using wireless LAN connection or Wireless Direct) The SSID of this unit on the wireless network.
IP	IP address
SUBNET	Subnet mask
GATEWAY	The IP address of the default gateway
DNS P	The IP address of the primary DNS server
DNS S	The IP address of the secondary DNS server
VTUNER	The ID of the Internet radio (vTuner)

■ IP Address

Configures the network parameters (such as IP address).

DHCP

Select whether to use a DHCP server.

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

Manual network settings

- 1 Set “DHCP” to “Off”.
- 2 Use the cursor keys (Δ / ∇) to select a parameter type.

IP	Specifies an IP address.
SUBNET	Specifies a subnet mask.
GATEWAY	Specifies the IP address of the default gateway.
DNS P	Specifies the IP address of the primary DNS server.
DNS S	Specifies the IP address of the secondary DNS server.

- 3 Use the cursor keys (\triangleleft / \triangleright) to select the edit position.



(Example: IP address setting)

Use the cursor keys (\triangleleft / \triangleright) to switch between segments (Address1, Address2...) of the address.

- 4 Use the Cursor keys (Δ / ∇) to change a value.

- 5 To exit from the menu, press SETUP.

■ DMC Control

Selects whether to allow DLNA-compatible Digital Media Controller (DMC) to control playback.

Disable	Does not allow DMCs to control playback.
Enable (default)	Allows DMCs to control playback.



A Digital Media Controller (DMC) is a device that can control other network devices through the network. When this function is enabled, you can control playback of the unit from DMCs (such as Windows Media Player 12) on the same network.

■ Standby (Network Standby)

Selects whether the unit can be turned on from other network devices (network standby).

Off	Disables the network standby function.
On	Enables the network standby function. (The unit consumes more power than when “Off” is selected.)
Auto (Default)	Enables the network standby function. The unit is set to the power saving mode when the unit is disconnected from the network.

■ Network Name

Edits the network name (the unit's name on the network) displayed on other network devices.

1 Select "Network Name".



2 Press ENTER twice to enter the name edit display.



3 Use the cursor keys (◀/▶) to move the edit position and the cursor keys (△/▽) to select a character.



You can insert / delete a character, by pressing PRESET > (insert) or PRESET < (delete).

4 To confirm the new name, press ENTER.

5 To exit from the menu, press SETUP.

■ Update (Network Update)

Updates the firmware via the network.

Perform Update	Starts the process to update the unit's firmware. For details, see "Updating the unit's firmware via the network" (p. 50).
Version	Displays the version of the firmware installed on the unit.
ID	Displays the system ID number.

Bluetooth

Configures the *Bluetooth* settings.

■ On/Off

Enables/disables the *Bluetooth* function (p. 28).

Off	Disables the <i>Bluetooth</i> function.
On (Default)	Enables the <i>Bluetooth</i> function. Immediately after selecting the "On", output of the network source is paused.

■ Standby (*Bluetooth Standby*)

Selects whether to enable/disable the function that turns on the unit from *Bluetooth* devices (*Bluetooth standby*). If this function is set to "On", the unit automatically turns on when a connect operation is performed on the *Bluetooth* device.

Off	Disables the <i>Bluetooth standby</i> function.
On (Default)	Enables the <i>Bluetooth standby</i> function. (The unit consumes more power than when "Off" is selected.)



This setting is not available when "Standby (Network Standby)" (p. 45) is set to "Off".

■ Audio Receive

Receives audio settings from the *Bluetooth* device.

Disconnect	Disconnects the connected <i>Bluetooth</i> device. To disconnect the <i>Bluetooth</i> device, press ENTER on the remote control.
-------------------	--

■ Audio Send

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

Off (Default)	Audio can not be transmitted.
On	Enables audio transmission. Specify the audio transmission settings using the dedicated MusicCast CONTROLLER app for mobile devices.

Max Volume

Sets the maximum volume to prevent excessive loudness.

Setting range

-30 dB to +15.0 dB / +16.5 dB (5 dB step)

Default

+16.5 dB

Initial Volume

Sets the initial volume when the receiver is turned on.

Setting range

Off, Mute, -80.0 dB to +16.5 dB (0.5 dB Step)

Default

Off

AutoPowerStdby (Auto Power Standby)

Enables/disables the auto-standby function. If you do not operate the unit for the specified time, the unit will automatically go into standby mode.

Off	Does not set the unit to standby mode automatically.
On	Sets the unit to standby mode automatically. While NET, BLUETOOTH or USB is selected as the input source, the unit will switch to standby mode if the selected source is not played back for 20 minutes. For all input sources, the unit will switch to standby mode if it is not operated for 8 hours.



- (U.K. model) Set to “On” by default.
- (Australia model) Set to “Off” by default.
- Just before the unit enters standby mode, “AutoPowerStdby” appears and then countdown starts in the front display.

ECO Mode

Enables/disables the eco (power saving) mode. When the eco mode is enabled, you can reduce the unit’s power consumption.

The new setting will take effect after the unit is restarted. Be sure to press ENTER to restart the unit after selecting a setting.

Off (default)	Disables the eco mode.
On	Enables the eco mode.

Note

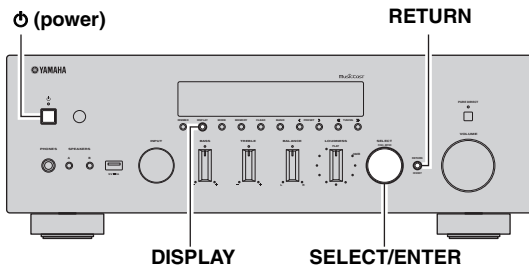
When “ECO Mode” is set to “On”, the front display may become dark.

Configuring the system settings (ADVANCED SETUP menu)

Configure the system settings of the unit while viewing the front display.

1 Turn off the unit.

2 While holding down RETURN on the front panel, press ϕ (power).



3 Rotate SELECT/ENTER to select an item.

4 Press SELECT/ENTER to select a setting.

5 Press ϕ (power) to set the unit to turn off and turn it on again.

The new settings take effect.

ADVANCED SETUP menu items

Item	Function	Page
SP IMP.	Changes the speaker impedance setting.	48
REMOTE ID	Selects the unit's remote control ID.	48
INIT	Restores the default settings.	48
UPDATE	Updates the firmware.	49
VERSION	Checks the version of firmware currently installed on the unit.	49

Changing the speaker impedance setting (SP IMP.)

SP IMP. : 8Ω MIN

Change the unit's speaker impedance settings depending on the impedance of the speakers connected.

Settings

4 Ω MIN	Select this option when you connect speakers with an impedance of 4 ohms to less than 8 ohms to the unit.
8 Ω MIN (Default)	Select this option when you connect speakers with an impedance of 8 ohms or more to the unit.

Selecting the remote control ID (REMOTE ID)

REMOTE ID : AUTO

When using multiple receivers in the same room, setting the remote control ID of this unit to ID1 (and setting the another receiver to other than ID1) can prevent interference from other remote controls.

Settings

ID1, AUTO (default)

Restoring the default settings (INIT)

INIT : CANCEL

Restores the default settings for the unit.

Choices

ALL	Restores the default settings for the unit.
NETWORK	Initialize all of the network, Bluetooth and USB settings. When performing the initialization, the preset (p. 42) registered by NET/USB input will be cleared.
CANCEL	Does not perform an initialization.

Updating the firmware (UPDATE)

UPDATE NETWORK

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. For details, refer to the information supplied with updates.

■ Firmware update procedure

Do not perform this procedure unless firmware update is necessary. Also, make sure you read the information supplied with updates before updating the firmware.

- 1 Press **SELECT/ENTER** repeatedly to select **“USB”** or **“NETWORK”** and press **DISPLAY** to start firmware update.

Choices

USB	Update the firmware using a USB memory device.
NETWORK	Update the firmware via the network.



If the unit detects newer firmware over the network, “NewFwAvailable” appears as the “Information” menu item in “Network”. In this case, you can also update the unit’s firmware by following the procedure in “Updating the unit’s firmware via the network” (p. 50).

Checking the firmware version (VERSION)

VERSION: XX.XX

Check the version of firmware currently installed on the unit.



- You can also check the firmware version in “Update (Network Update)” (p. 46) in the “Setup” menu.
- It may take a while until the firmware version is displayed.

Updating the unit's firmware via the network

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.

Notes

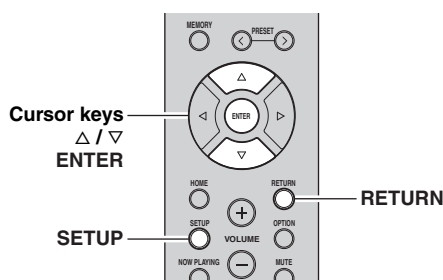
- Do not operate the unit or disconnect the power cable or network cable during firmware update. Firmware update takes about 20 minutes or more (depending on your Internet connection speed).
- If the unit is connected to the wireless network via a wireless network adapter, network update may not be possible depending on the condition of the wireless connection. In this case, update the firmware using the USB memory device (p. 49).



You can also update the firmware using the USB memory device from the "ADVANCED SETUP" menu (p. 49).

7 If "UPDATE SUCCESS" appears on the front display, press (power) on the front panel.

The firmware update is complete.



1 Press SETUP.

2 Use the cursor keys (Δ / ▽) to select "Network" and press ENTER.

3 Use the cursor keys (Δ / ▽) to select "Information" and press ENTER.

If new firmware is available, "NewFwAvailable" appears on the front display.



4 Press RETURN to return the previous state.

5 Use the cursor keys (Δ / ▽) to select "Update" and press ENTER.



6 To start the firmware update, press ENTER.

The unit will restart and the firmware update starts.



To cancel the operation without updating the firmware, press SETUP.

Troubleshooting

Refer to the chart below if this unit does not function properly. If the problem you are experiencing is not listed below or if the instructions below do not help, set this unit to standby mode, disconnect the power cable, and contact the nearest authorized Yamaha dealer or service center.

■ General

Problem	Cause	Remedy	See page
The power does not turn on.	The protection circuitry has been activated three times consecutively. If the unit is in this condition, the standby indicator on the unit blinks when you try to turn on the power.	As a safety precaution, capability to turn on the power is disabled. Contact your nearest Yamaha dealer or service center to request repair.	—
	The power cable is not connected or the plug is not completely inserted.	Connect the power cable firmly.	—
	The protection circuitry has been activated because of a short circuit, etc.	Check that the speaker wires are not touching each other and then turn the power of this unit back on.	12
	The internal microcomputer has frozen, due to an external electric shock (such as lightning or excessive static electricity) or to a drop in the power supply voltage.	Turn OFF the Φ (Power) on the front panel and turn it ON again after at least 15 seconds elapse. (If the problem persists, disconnect the power cable from the AC wall outlet and plug it again.)	—
The power does not turn off.	The internal microcomputer has frozen, due to an external electric shock (such as lightning or excessive static electricity) or to a drop in the power supply voltage.	Turn OFF the Φ (Power) on the front panel and turn it ON again after at least 15 seconds elapse. (If the problem persists, disconnect the power cable from the AC wall outlet and plug it again.)	—
No sound.	Incorrect input or output cable connections.	Connect the cables properly. If the problem persists, the cables may be defective.	11
	No appropriate input source has been selected.	Select an appropriate input source with the INPUT selector on the front panel (or one of the input selection key on the remote control).	21
	The SPEAKERS A/B switches are not set properly.	Turn on the corresponding SPEAKERS A or SPEAKERS B.	21
	Speaker connections are not secure.	Secure the connections.	11
	Output has been muted.	Turn off the mute.	9
	The Max volume or Initial volume setting is set too low.	Check the settings for “Max Volume” and “Initial Volume” in the “Setup” menu.	47
	The component corresponding to the selected input source is turned off or is not playing.	Turn the component on and make sure it is playing.	—
	The audio output of a device connected to a digital audio input (COAXIAL/OPTICAL jacks) is set to other than PCM.	Set the audio output of the connected device to PCM.	—
The sound suddenly goes off.	The protection circuitry has been activated because of a short circuit, etc.	Set the speaker impedance to match your speakers.	48
		Check that the speaker wires are not touching each other and then turn the power of this unit back on.	12
	This unit has become too hot.	Make sure the openings on the top panel are not blocked.	—
	The auto power standby function has turned this unit off.	Change the auto power standby (“AutoPowerStdby” in the “Setup” menu) to turn off.	47

Problem	Cause	Remedy	See page
Only the speaker on one side can be heard.	Incorrect cable connections.	Connect the cables properly. If the problem persists, the cables may be defective.	11
	Incorrect setting for the speaker balance.	Set the BALANCE control to the appropriate position.	22
There is a lack of bass and no ambience.	The + and – wires are connected in reverse at the amplifier or the speakers.	Connect the speaker wires to the correct + and – phase.	12
A “humming” sound can be heard.	Incorrect cable connections.	Connect the audio plugs firmly. If the problem persists, the cables may be defective.	11
	No connection from the turntable to the GND terminal.	Make the GND connection between the turntable and this unit.	11
The volume level is low while playing a record.	The record is being played on a turntable with an MC cartridge.	The turntable should be connected to this unit through the MC head amplifier.	—
The sound is degraded when listening with the headphones connected to the CD player or the tape deck connected to this unit.	The power of this unit is turned off, or this unit is set to standby mode.	Turn on the power of this unit.	—
The sound level is low.	The loudness control function is operating.	Turn down the volume, set the LOUDNESS control to the FLAT position, and then adjust the volume again.	22

■ Tuner

Problem		Cause	Remedy	See page
FM	FM stereo reception is noisy.	The particular characteristics of the FM stereo broadcasts being received may cause this problem when the transmitter is too far away or the antenna input is poor.	Check the antenna connections. Try using a high-quality directional FM antenna.	13
			Switch to monaural mode.	24
	There is distortion, and clear reception cannot be obtained even with a good FM antenna.	There is multipath interference.	Adjust the antenna position to eliminate the multipath interference.	—
	The desired station cannot be tuned in with the automatic tuning method.	The signal is too weak.	Try using a high-quality directional FM antenna.	13
Try using the manual tuning method.			24	
FM/AM	NO PRESETS is displayed.	No preset stations are registered.	Register stations you want to listen to as preset stations before operation.	24
AM	The desired station cannot be tuned in with the automatic tuning method.	The signal is weak or the antenna connections are loose.	Tighten the AM antenna connections and orient it for the best reception.	—
			Try using the manual tuning method.	24
	Automatic station preset does not work.	Automatic station preset is not available for AM stations.	Use manual station preset.	25
	There are continuous crackling and hissing noises.	The noises may result from lightning, fluorescent lamps, motors, thermostats or other electrical equipment.	Try using an outdoor antenna and a ground wire. This will help somewhat, but it is difficult to eliminate all noise.	—
	There are buzzing and whining noises.	A TV set is being used nearby.	Move this unit away from the TV set.	—

■ **Bluetooth**

Problem	Cause	Remedy	See page
A Bluetooth connection cannot be established.	The <i>Bluetooth</i> function of the unit is disabled.	Enable the <i>Bluetooth</i> function in the “Setup” menu.	46
	Another <i>Bluetooth</i> device is already connected to the unit.	Terminate the current <i>Bluetooth</i> connection and then establish a new connection.	46
	The unit and the <i>Bluetooth</i> device are too far apart.	Move the <i>Bluetooth</i> device closer to the unit.	—
	There is a device (such as microwave oven and wireless LAN) that outputs signals in the 2.4 GHz frequency band nearby.	Move the unit away from those devices.	—
	The <i>Bluetooth</i> device does not support A2DP.	Use a <i>Bluetooth</i> device that supports A2DP.	—
	Since this unit has been paired with more than 20 <i>Bluetooth</i> devices, pairing information has been deleted.	Try pairing again. This unit can be paired with a maximum total of 20 <i>Bluetooth</i> devices for reception and transmission. When the 21st device is registered, the least frequently used pairing information is deleted.	28
No sound is produced, or the sound is interrupted during playback.	The volume of the <i>Bluetooth</i> device is set too low.	Turn up the volume of the <i>Bluetooth</i> device.	—
	The <i>Bluetooth</i> device is not set to send audio signals to the unit.	Switch the audio output of the <i>Bluetooth</i> device to the unit.	—
	The <i>Bluetooth</i> connection has been terminated.	Establish a <i>Bluetooth</i> connection between the <i>Bluetooth</i> device and the unit again.	28
	The unit and the <i>Bluetooth</i> device are too far apart.	Move the <i>Bluetooth</i> device closer to the unit.	—
	There is a device (such as microwave oven and wireless LAN) that outputs signals in the 2.4 GHz frequency band nearby.	Move the unit away from those devices.	—

■ USB and network

Problem	Cause	Remedy	See page
The unit does not detect the USB device.	The USB device is not connected to the USB jack securely.	Turn off the unit, reconnect your USB device, and turn the unit on again.	—
	The file system of the USB device is not FAT16 or FAT32.	Use a USB device with FAT16 or FAT32 format.	—
Folders and files in the USB device cannot be viewed.	The data in the USB device is protected by the encryption.	Use a USB device without an encryption function.	—
The network feature does not function.	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. 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.	45
The unit cannot connect to the Internet via a wireless router (access point).	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.	—
Wireless network is not found.	Microwave ovens or other wireless devices in your neighborhood might disturb the wireless communication.	Turn off these devices.	—
	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).	—
The unit does not detect the PC.	The media sharing setting is not correct.	Configure the sharing setting and select the unit as a device to which music contents are shared.	30
	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 and your router settings, and then connect the unit and the PC to the same network.	14
The files in the media server (PCs/NAS) cannot be viewed or played back.	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. For information about the file formats supported by the unit, see “Playing back music stored on media servers (PCs/NAS)”.	30
The Internet radio cannot be played.	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 of 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.	—
The iPod does not recognize the unit when using AirPlay.	The unit is connected to a multiple SSID router.	Access to the unit might be restricted by the network separation function on the router. Connect the iPod to the SSID which can access the unit.	—
Firmware update via the network is failed.	It may not be possible depending on the condition of the network.	Update the firmware via the network again or use a USB memory device.	49

■ **Remote control**

Problem	Cause	Remedy	See page
The remote control does not work nor function properly.	Wrong distance or angle.	The remote control will function within a maximum range of 6 m (20 ft) and no more than 30 degrees off-axis from the front panel.	10
	Direct sunlight or lighting (from an inverter type of fluorescent lamp, etc.) is striking the remote control sensor of this unit.	Reposition this unit.	—
	The batteries are weak.	Replace all batteries.	—

Error indications on the front display

Message	Cause	Remedy
Access denied	Access to the PC is denied.	Configure the sharing settings and select the unit as a device to which music contents are shared (p. 30).
Access error	The unit cannot access the USB device.	Turn off the unit and reconnect your USB device. If the problem persists, try another USB device.
	The unit cannot access the iPod.	Turn off the iPod and turn it on again.
	The connected iPod is not supported by the unit.	Use an iPod supported by the unit (p. 39).
	There is a problem with the signal path from the network to the unit.	Make sure your router and modem are turned on. Check the connection between the unit and your router (or hub) (p. 14).
Check SP Wires	The speaker cables short circuit.	Twist the bare wires of the cables firmly and connect to the unit and speakers properly.
No content	There are no playable files in the selected folder.	Select a folder that contains files supported by the unit.
Please wait	The unit is preparing for connecting to the network.	Wait until the message disappears. If the message stays more than 3 minutes, turn off the unit and turn it on again.
Unable to play	The unit cannot play back the songs stored on the iPod for some reason.	Check the song data. If it cannot be played on the iPod itself, the song data or storage area may be defective.
	The unit cannot play back the songs stored on the PC for some reason.	Check if the format of files you are trying to play is supported by the unit. For information about the formats supported by the unit, see “Playing back music stored on media servers (PCs/NAS)” (p. 30). If the unit supports the file format, but still cannot play back any files, the network may be overloaded with heavy traffic.
Version error	Firmware update is failed.	Update the firmware again.

Trademarks



“Made for iPod” and “Made for iPhone” mean that an electronic accessory has been designed to connect specifically to iPod or iPhone, respectively, and has been certified by the developer to meet Apple performance standards.

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Bluetooth protocol stack (Blue SDK)

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MusicCast is a trademark or registered trademark of Yamaha Corporation.

Specifications

Network

- Input jack: NETWORK x 1 (100Base-TX/10Base-T)
- PC client function
- Compatible with DLNA ver. 1.5
- AirPlay supported
- Internet radio
- Streaming service
- Wi-Fi function
 - Capable of WPS
 - Capable of sharing with iOS devices by wireless connection and USB connection
 - Capable of direct connection with mobile device
 - Available security method: WEP, WPA2-PSK (AES), Mixed Mode
 - Radio frequency band: 2.4 GHz
 - Wireless network standard: IEEE 802.11 b/g/n

Bluetooth

- Source function
 - This unit to sink device (ex. *Bluetooth* headphone)
 - Supported codec SBC
- Sink function
 - Source device to this unit (ex. smartphone/tablet)
 - Supported codec SBC, AAC
- Capable of play/stop operation from sink device
- *Bluetooth* version Ver. 2.1+EDR
- Supported profile A2DP, AVRCP
- Wireless output *Bluetooth* Class 2
- Maximum communication distance 10 m (33 ft) without interference

USB

- Input jack: USB x 1 (USB2.0)
- Capable of iPod, mass storage class USB memory
- Current supply capacity: 1.0 A

Audio

- Minimum RMS output power (20 Hz to 20 kHz, 0.04% THD, 8 Ω) 80 W + 80 W
- Dynamic power per channel (IHF) (8/6/4/2 Ω) 105/125/150/178 W
- Maximum power per channel (1 kHz, 0.7% THD, 4 Ω) [U.K. and Europe models] 105 W
- IEC power (1 kHz, 0.04% THD, 8 Ω) [U.K. and Europe models] 84 W
- Power band width (main L/R) (0.06%THD 40.0 W, 8Ω) 10 Hz to 50 kHz
- Damping factor (SPEAKERS A) 1 kHz, 8 Ω 150 or more
- Maximum effective output power (JEITA) (1 kHz, 10% THD, 8 Ω) [Asia and General models] 115 W
- Input sensitivity/input impedance
 - PHONO (MM) 3.5 mV/47 kΩ
 - CD, etc. 200 mV/47 kΩ
- Maximum input signal
 - PHONO (MM) (1 kHz, 0.003% THD) 60 mV or more
 - CD, etc. (1 kHz, 0.5% THD) 2.2 V or more
- Output level/output impedance
 - CD, etc. (input 1 kHz, 200 mV)
 - OUT 200 mV/1.1 kΩ
 - SUBWOOFER PRE OUT 4.0 V / 1.2 kΩ
 - (Cut off frequency) 90 Hz
 - PHONES (8 Ω load) 410 mV/470 Ω
- Frequency response
 - CD, etc. (20 Hz to 20 kHz) 0 ± 0.5 dB
 - CD, etc. (10 Hz to 100 kHz, PURE DIRECT on) 0 ± 1.0 dB

- RIAA equalization deviation
 - PHONO (MM) ± 0.5 dB
- Total harmonic distortion
 - PHONO (MM) to OUT (20 Hz to 20 kHz, 3 V) 0.025% or less
 - CD, etc. to SPEAKERS (20 Hz to 20 kHz, 40.0 W, 8 Ω) 0.015% or less
- Signal to noise ratio (IHF-A Network)
 - PHONO (MM) (input shorted, 5 mV) 87 dB or more
 - CD, etc. (input shorted, 200 mV) 100 dB or more
- Residual noise (IHF-A network) 30 μV
- Channel separation
 - CD, etc. (5.1 kΩ input shorted, 1/10 kHz) 65/50 dB or more
- Tone control characteristics
 - BASS
 - Boost/cut (20 Hz) ± 10 dB
 - Turnover frequency 350 Hz
 - TREBLE
 - Boost/cut (20 kHz) ± 10 dB
 - Turnover frequency 3.5 kHz
- Continuous loudness control
 - Attenuation 1 kHz -30 dB
- Gain tracking error (+16.5 to -80 dB) 0.5 dB or less
- Digital input (OPTICAL/COAXIAL)
 - Support audio sample rate 32/44.1/48/88.2/96/176.4/192 kHz

FM

- Tuning range
 - [U.S.A. and Canada models] 87.5 to 107.9 MHz
 - [Asia and General models] 87.5/87.50 to 108.0/108.00 MHz
 - [U.K., Europe, Korea, Australia models] 87.50 to 108.00 MHz
- 50 dB quieting sensitivity (IHF, 1 kHz, 100% MOD.)
 - Mono 3.0 μV (20.8 dBf)
- Signal to noise ratio (IHF)
 - Mono/stereo 65 dB/64 dB
- Harmonic distortion (1 kHz)
 - Mono/stereo 0.5%/0.6%
- Antenna input 75 W unbalanced

AM

- Tuning range
 - [U.S.A. and Canada models] 530 to 1710 kHz
 - [Asia and General models] 530/531 to 1710/1611 kHz
 - [U.K., Europe, Korea, Australia models] 531 to 1611 kHz

General

- Power supply
 - [U.S.A. and Canada models] AC 120 V, 60 Hz
 - [General model] AC 110-120/220-240 V, 50/60 Hz
 - [Korea model] AC 220 V, 60Hz
 - [Australia model] AC 240 V, 50 Hz
 - [U.K. and Europe models] AC 230 V, 50 Hz
 - [Asia model] AC 220-240 V, 50/60 Hz
- Power consumption 190 W
- Off mode 0.1 W
- Standby power consumption (reference data) 0.1 W
- Network Standby on
 - Wired 1.7 W
 - Wireless (Wi-Fi/Wireless Direct/*Bluetooth*) 1.8 W/1.9 W/1.6 W
- Maximum power consumption (1 kHz, 8 Ω, 10% THD) [U.K., Australia, Asia and General models] 380 W
- Dimensions (W × H × D) 435 × 151 × 392 mm (17-1/8" × 6" × 15-7/16")
- Weight 9.8 kg (21.6 lbs)

* Specifications are subject to change without notice.

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