



MusicCast 50

Wireless Streaming Speaker

WX-051

Owner's Manual

Before using this unit, be sure to read the "Safety Brochure."

MusicCast

EN

Table of contents

Introduction	3	Useful features	18
About this document	3	Favorites	18
Accessories	3	Alarm	19
Using the unit	4	Child lock function	21
Parts of the unit	5	Option settings	22
Top panel	5	Firmware updates	24
Rear panel	6	Using iPhone settings to connect to a network	25
Use MusicCast CONTROLLER to connect to a network	7	Troubleshooting	26
Play from an input source	8	General	26
Listening to music stored on the mobile device	8	Network	27
Listening to Internet radio	9	Bluetooth	29
Listening to streaming services	9	File formats, and devices/media supported by the unit	30
Listening to music stored on a media server	10	Specifications	31
Listening to music via AirPlay	11	Trademarks	32
Listening to music via Bluetooth	12		
Listening to music from external devices	14		
Pair the unit with MusicCast-enabled devices	15		
Configuring a MusicCast network	15		
Using two units (MusicCast Stereo function)	16		
Using the unit as a surround speaker (MusicCast Surround function)	17		

Introduction

About this document

This document explains all unit functions and operation in detail. The supplied Quick Manual provides brief instructions on connecting the unit to a network through the playing of music files stored on a mobile device. Keep the Quick Manual at hand for future reference.

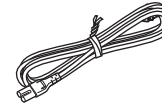
- In this document, smartphones and other mobile devices running the iOS or Android operating systems are collectively referred to as “mobile devices”.
- The term “iPhone” as used in this document also refers to “iPod touch” and “iPad” devices.
- Illustrations in this manual may differ slightly from the actual objects depicted.
- MusicCast CONTROLLER app screenshots in this document were captured on a device running the English version of iOS. Actual screen displays may differ depending upon the version of the app or iOS used.
- Symbols and conventions

Caution Indicates information that should be read before use to prevent failure or physical damage.

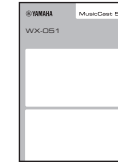
Note Indicates precautions and supplementary information that should be read before using the unit.

☞ References another page or pages that provide additional information.

Accessories



Power cord



Quick Manual



Safety Brochure

Using the unit

- This unit is a wireless streaming speaker that can be used with a home network or audio system to play audio from Internet radio, media server (computer or NAS), AirPlay or Bluetooth devices on the same network.
- The unit itself is small, yet it delivers the rich sound made possible with Yamaha's exclusive digital signal processor (DSP).
- The unit can be operated and a home audio network configured using the dedicated MusicCast CONTROLLER app. (⇨ p. 7 "Use MusicCast CONTROLLER to connect to a network")

♪ Use MusicCast CONTROLLER to configure a home audio network ♪

Play audio from an incredibly wide range of input sources with superior sound quality



External device



Bluetooth



AirPlay



Install



The unit



Computers (NAS)

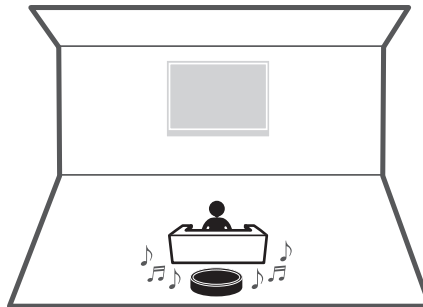


- Internet radio
- Streaming service

A wireless LAN router (access point) is required.

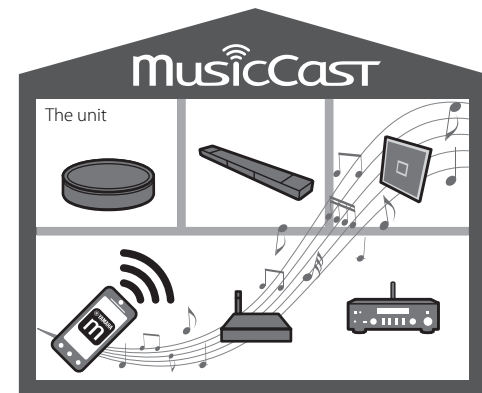
Using the unit as a surround sound speaker

The unit can be combined with a Yamaha amplifier or sound bar and act as a wireless surround sound speaker. (⇨ p. 17 "Using the unit as a surround speaker (MusicCast Surround function)")



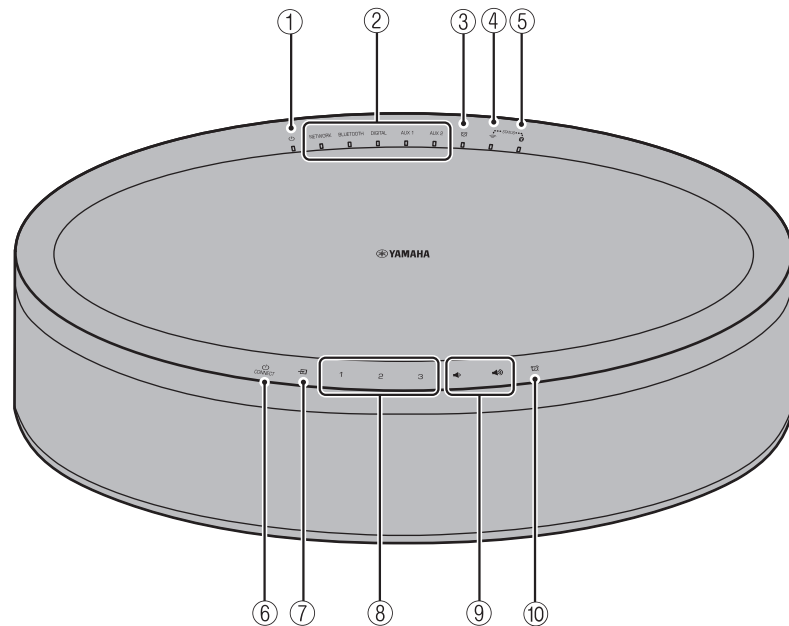
Combining with MusicCast-enabled devices


Listen to Internet radio stations in multiple rooms or play music files. Use MusicCast to enjoy music throughout the house. (⇨ p. 15 "Configuring a MusicCast network")



Parts of the unit


Top panel



③  Alarm indicator (☞ p. 19)


④  Wireless LAN indicator (☞ p. 23)

Glows steadily when the unit is wirelessly connected to a wireless LAN router. If the MusicCast Stereo or MusicCast Surround function is used, this indicator glows steadily although the unit is connected to a wireless LAN router using the network cable.

⑤  Bluetooth indicator (☞ p. 12, 23)

Control panel

The control panel is touch sensitive. Tap icons with your finger to control functions.

⑥  (Power)/CONNECT (☞ p. 7)


Auto standby

The unit will automatically enter standby mode (auto standby) if in any of the following situations:

- NETWORK or BLUETOOTH is selected as the input source, but no audio is played, and no operations are performed, for more than 20 minutes.
- DIGITAL, AUX 1 or AUX 2 is selected as the input source, but no operations are performed for more than 8 hours.

See "Option settings" (☞ p. 22) to disable the auto standby function.


Indicators


①  Power indicator (☞ p. 7)

Glows steadily when the unit is on.

② Input source indicators

Glows when an input source is selected.

⑦  (☞ p. 12, 14)

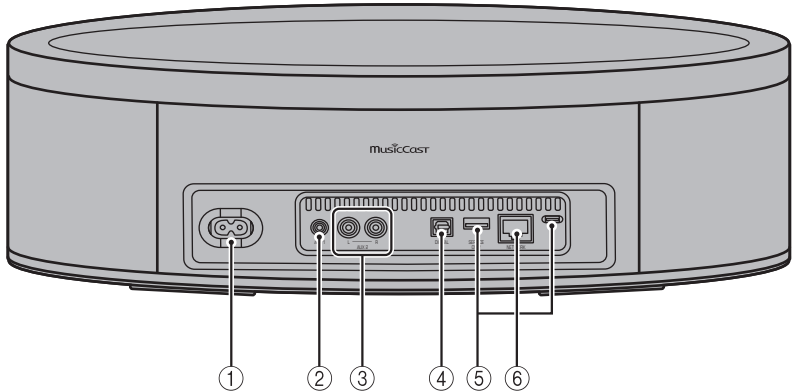
Switch the input source.
Each time  is tapped, the input source is switched as the following order.
NETWORK → BLUETOOTH → DIGITAL → AUX 1 → AUX 2

⑧ **1, 2, 3** (☞ p. 18)

⑨  , 
Adjust sound volume.

⑩  (☞ p. 19)
Set the alarm.

Rear panel

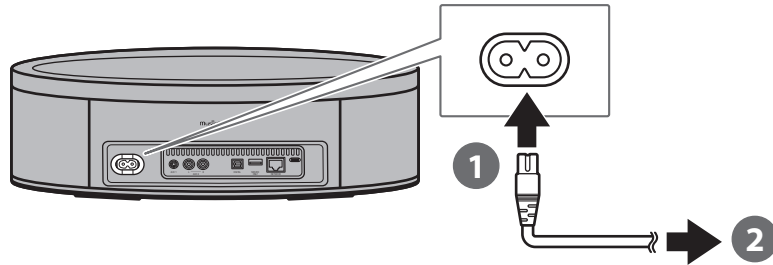


- ① Power connector (☞ p. 7)
- ② AUX 1 jack (Mini jack input) (☞ p. 14)
- ③ AUX 2 jack (RCA input) (☞ p. 14)
- ④ DIGITAL jack (Digital optical input) (☞ p. 14)
- ⑤ SERVICE ONLY jack
Use when the unit requires maintenances.
- ⑥ NETWORK jack (☞ p. 7)

Use MusicCast CONTROLLER to connect to a network

1 Connect the unit to an electrical outlet.

Connect the power cord (supplied) to the power connector on the unit, and then plug the power cord into an electrical outlet.



Note

When the power cord is plugged into an electrical outlet, touch-sensitive components on the unit will be adjusted. This adjustment takes approximately five seconds. Do not operate the unit while this adjustment is in progress to prevent the unit from malfunctioning.

2 Connect to a network.

Follow steps 1–3 at right to connect to a network.

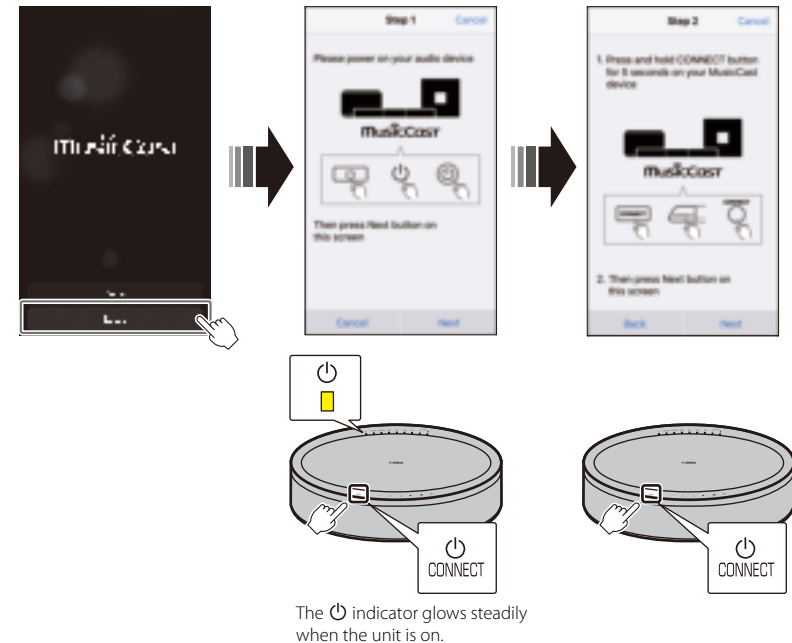
The unit can be connected to a network using either a wired or a wireless connection. A network cable (available separately) is required for a wired network connection.

Note

- For a wired network connection, connect a standard shielded twisted pair (STP) network cable (straight, category 5 or higher; sold separately) to the NETWORK jack on the rear panel.
- For more information on Internet connections, refer to the documentation provided with your network devices.

- Security software installed on your computer or network device settings (firewall, etc.) may prevent the unit from accessing your computer or Internet radio stations. If this occurs, modify security software or network device settings to permit access by the unit.

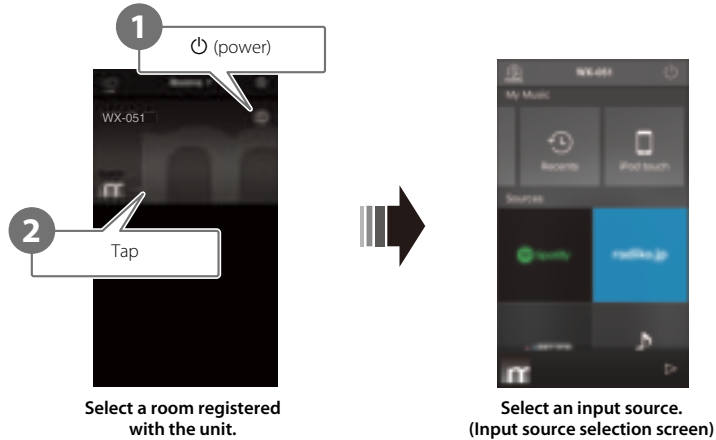
- 1 Download the MusicCast CONTROLLER app to your mobile device from the App Store or Google Play.
- 2 Use the app to configure network settings.



- 3 Follow the app's on-screen instructions to complete network settings.

Play from an input source

Use the MusicCast CONTROLLER app to play music. Select a room registered with the unit to open the input source selection screen. This screen provides access to various input sources.

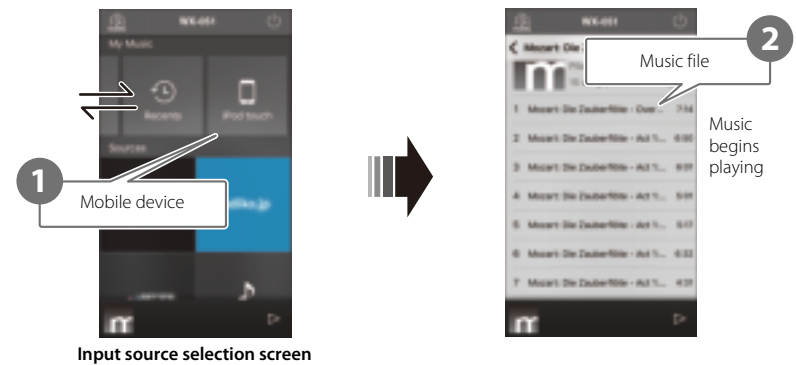


Listening to music stored on the mobile device

Play music files stored on the mobile device to which the MusicCast CONTROLLER app has been installed.

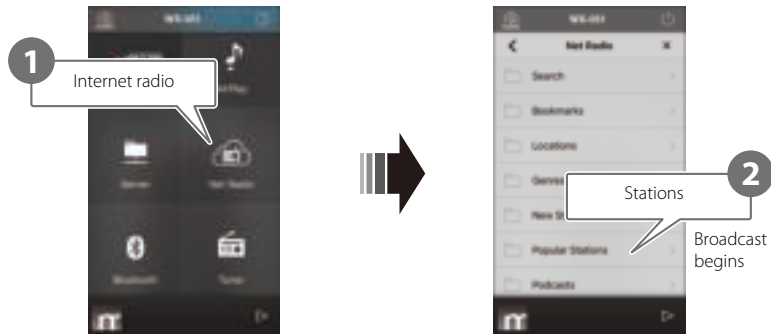
Note

The types (formats) of audio files that can be played vary by mobile device. See documentation provided with your mobile device for information on the supported file formats.



Listening to Internet radio

Listen to radio broadcasts from around the world that are distributed via the Internet.



Input source selection screen

Note

- Some Internet radio stations may not be available, or may be available only during certain hours.
- This service may be terminated without prior notice.
- This function uses airable.Radio's extensive catalog. "airable" is a service of Tune In GmbH.

Listening to streaming services

A streaming service can be heard using the MusicCast CONTROLLER app. On the MusicCast CONTROLLER screen, select the room registered with the unit, and select the streaming service to be tuned into by its station name. For details, see the MusicCast CONTROLLER app.

Note

- Service is limited to certain areas.
- Services supported with the unit may not be available depending upon some regions where the unit is purchased.
- Service may change or be discontinued without notice.
- After registering the unit in the MusicCast CONTROLLER app, the streaming service can be used. For details, see "Use MusicCast CONTROLLER to connect to a network" (p. 7).
- For details on music streaming services, see the supplements for streaming services. Access the Yamaha Downloads site to download the supplement.
<https://download.yamaha.com/>

Listening to music stored on a media server

Music files stored on a computer or network attached storage (NAS) device on the same network as the unit can be played. In such instances, the computer (or NAS) serves as a media server.

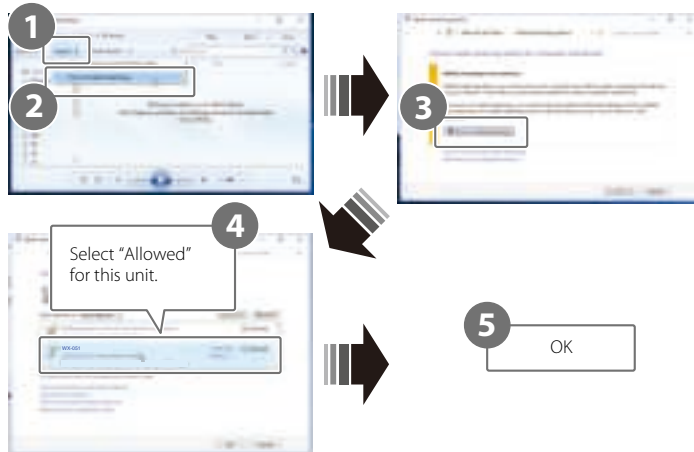
Note

- Connect the unit and computer (or NAS) to the same wireless LAN router (access point).
- For information on music files that can be played using the unit, see "File formats, and devices/media supported by the unit" (⇨ p. 30).

1 Configure media sharing.

Media sharing must be enabled to play music stored on the media server (computer or NAS). The following instructions use Windows Media Player 12 as an example. Follow the on-screen instructions, as shown below, to configure media sharing.

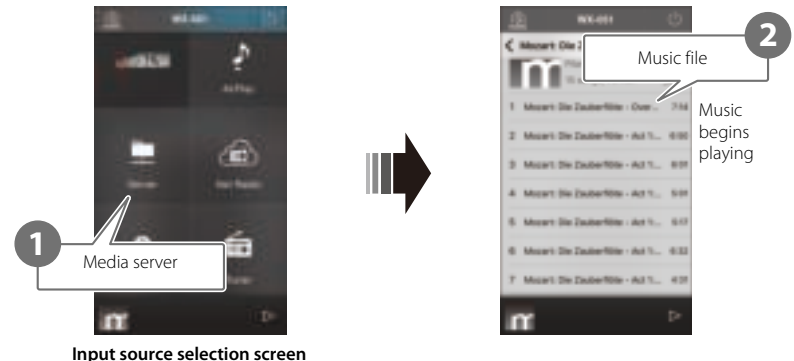
Windows Media Player 12



Note

- Windows Media Player 12 screenshots were captured using a computer with an English interface.
- If the media server (computer or NAS) uses an application other than Windows Media Player to play audio, see documentation supplied with the computer (or NAS) or the software application for instructions on enabling media sharing.
- For details on media sharing, see Windows Media Player's help.

2 Play a music file.



Listening to music via AirPlay

Music files in iTunes, or stored on an iPhone, can be played using the AirPlay function.

Note

- Connect the unit, computer (or NAS), and iPhone to the same wireless LAN router (access point).
- For information on iPhone compatibility, see “File formats, and devices/media supported by the unit” (⇨ p. 30).

1 Start iTunes, or display the iPhone’s music playback screen.

When iTunes, or the iPhone, recognizes the unit, the AirPlay icon will be displayed on the screen.

iTunes



iPhone (iOS 11)



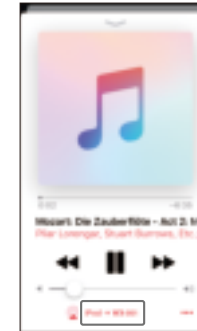
Note

If the icon is not displayed, check to see that the unit and the computer (or iPhone) are correctly connected to the wireless LAN router.

2 Click or tap the AirPlay icon in iTunes or on the iPhone, and select the unit (a room registered with the unit) as the audio output destination.

3 Play a music file.

The unit’s input source changes to AirPlay, and music will begin playing.




Listening to music via Bluetooth

The unit can be used to play music from a Bluetooth device, such as a mobile device or digital music player.

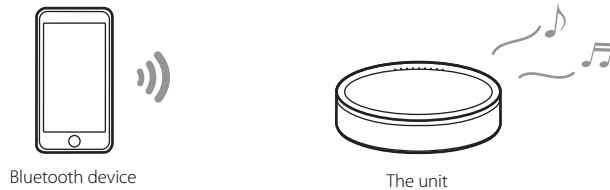
For more information regarding Bluetooth, see documentation provided with Bluetooth devices.

Note

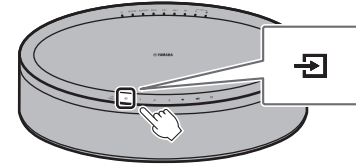
- If one or more Bluetooth devices has been connected to the unit before, the unit will automatically connect to the last connected device when Bluetooth is enabled. Terminate this connection to connect a new device.
- Tap and hold  on the unit for at least three seconds to terminate the Bluetooth connection.

Listening to music on a Bluetooth device

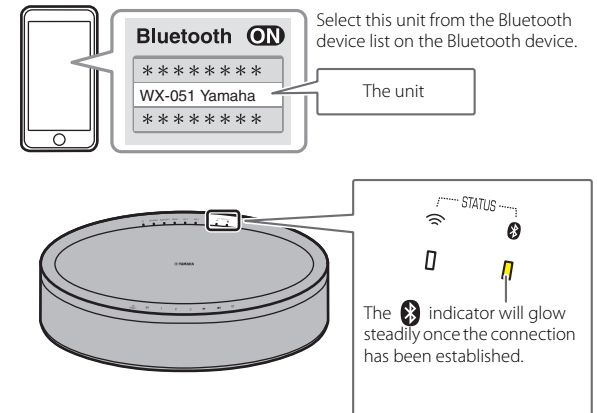
Audio from a Bluetooth device can be played over a wireless connection.



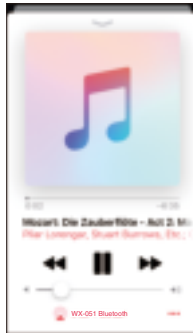
1 Select Bluetooth as an input source.



2 Connect a Bluetooth device to the unit.



3 Play a music file.



Note

If a Bluetooth connection is not established, delete the unit's registration from the Bluetooth device, and then try to repeat steps **1-2**.

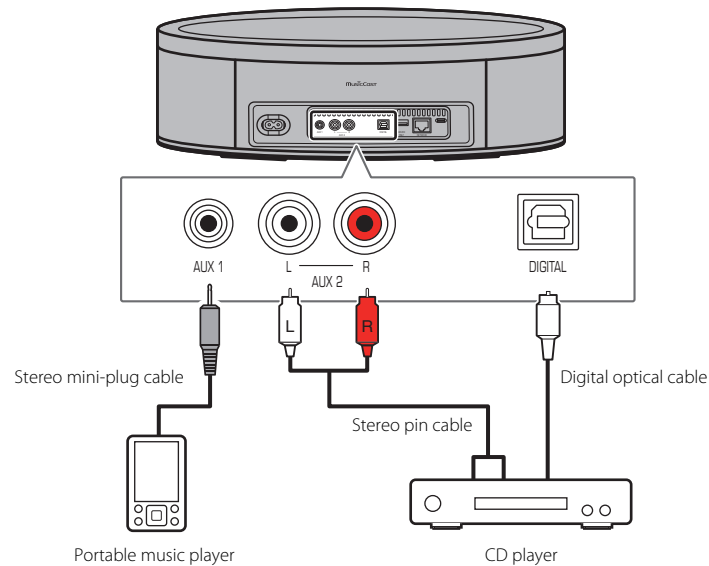
Listening to music from external devices

Music played on an external device such as a CD player can be heard through this unit.

Note

- Lower the volume sufficiently on the unit and external device before connection. Otherwise, the volume may be unexpectedly loud when music begins playing.
- Connect the external devices to the unit's jacks properly (☞ p. 6). See documentation supplied with the external devices for more information.

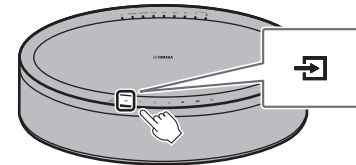
- 1 Unplug the power cord from the electrical outlet, and connect the external devices to the unit.**



Use cables sold separately for connections.

- 2 Plug the power cord into an electrical outlet, and turn on the unit.**

- 3 Select DIGITAL, AUX 1, or AUX 2 as an input source.**

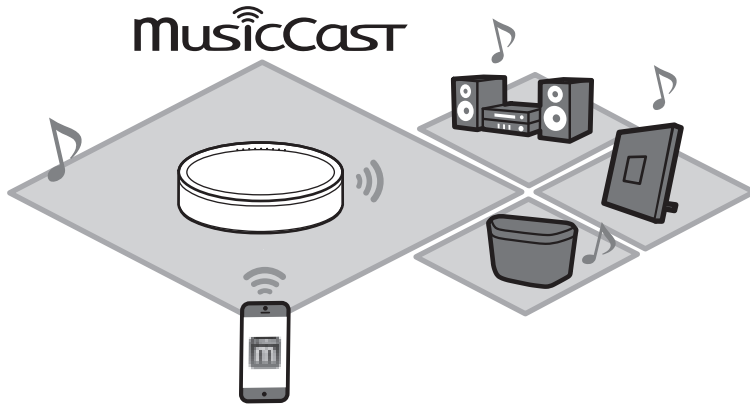


- 4 Play the external device connected to the unit.**

See documentation supplied with the external device regarding playback.

Pair the unit with MusicCast-enabled devices

Multiple units can be used, or the unit can be paired with other MusicCast-enabled devices, to enjoy higher quality audio. A home audio network can be configured using MusicCast CONTROLLER.



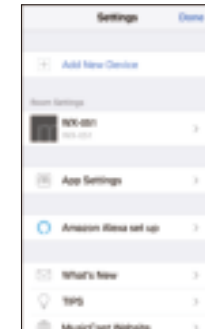
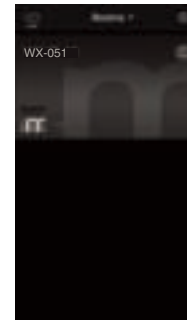
Configuring a MusicCast network

Register the unit with the MusicCast CONTROLLER app, and then register other MusicCast-enabled devices with the app.

Note

To register the unit with the app, see "Use MusicCast CONTROLLER to connect to a network" (p. 7).

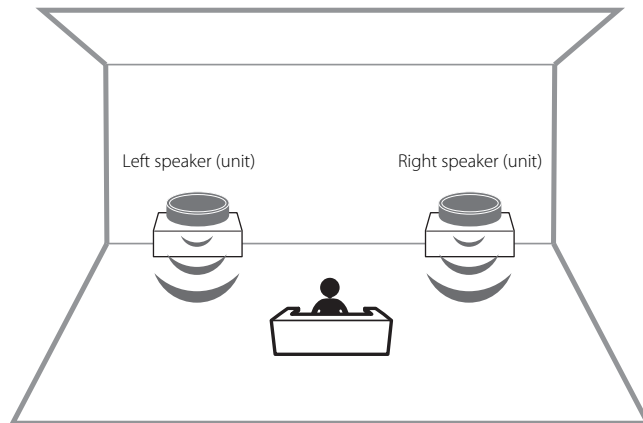
- 1 Tap  (Settings).
- 2 Follow the on-screen instructions to register MusicCast-enabled devices.



Using two units (MusicCast Stereo function)

Although this unit is a stereo speaker, two units can be used together as stereo speakers, that give you the feeling of being at a live performance, by assigning and positioning one unit as the left speaker and the other as the right speaker.

When using this function, update the firmware for the units to the latest versions (☞ p. 24 “Firmware updates”).



- 1** Register the first and second units with the same location on the MusicCast CONTROLLER app (☞ p. 15 “Configuring a MusicCast network”).
- 2** Follow the app’s on-screen instructions to complete the settings.

Note

- When the MusicCast Stereo function is used, one unit is set as the “Pairing Master” and the other as the “Pairing Device”. The “Pairing Device” only supports the following operations.
 - Turning the units on and off
 - Adjusting the volume
- When the MusicCast Stereo function is used, the option settings available are “Initialize the unit” (☞ p. 22) and “Enable/disable the child lock function” (☞ p. 23).

Connecting the unit to a subwoofer on the same network

The unit can be connected to a MusicCast-enabled network subwoofer for more dynamic bass.

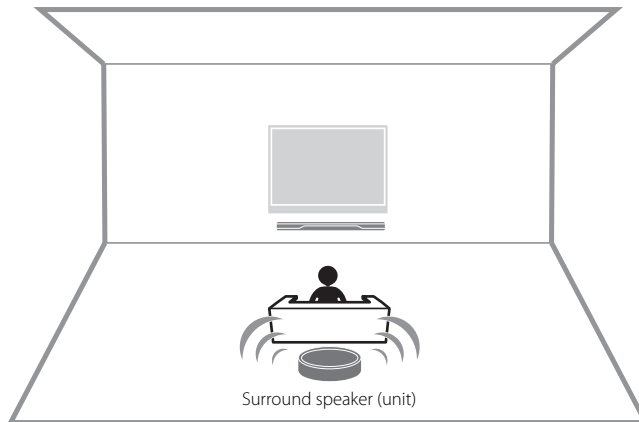
Follow the MusicCast CONTROLLER app’s on-screen instructions to register the unit and a MusicCast-enabled network subwoofer with the same location. (☞ p. 7 “Use MusicCast CONTROLLER to connect to a network”)

Refer to documentation provided with the network subwoofer for more information.

Using the unit as a surround speaker (MusicCast Surround function)

MusicCast Surround-enabled devices such as AV Receivers or Sound Bars can be paired with the unit to enjoy multi-channel audio.

When using this function, update the firmware for the unit and MusicCast Surround-enabled devices to the latest versions (☞ p. 24 “Firmware updates”). See documentation provided with external devices for information on firmware updates.



- 1 Register the unit and a MusicCast Surround-enabled AV Receiver or Sound Bar with the same location on the MusicCast CONTROLLER app** (☞ p. 15 “Configuring a MusicCast network”).
- 2 Follow the app’s on-screen instructions to complete the settings.**

Note

- The following functions and operations are not available when the unit is used as a surround sound speaker.
 - Favorites function
 - Alarm function
 - Volume adjustment
 - The volume is adjusted to match the volume level specified with the AV Receiver or Sound Bar.
 - Option settings other than “Initialize the unit” (☞ p. 22) and “Enable/disable the child lock function” (☞ p. 23).
- Two units can be used as the surround speakers. Position one unit at left and the other at right of the listening position.

Useful features


Favorites

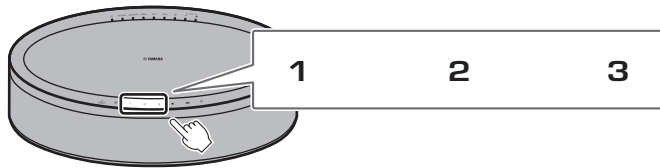
Favorite songs, Internet radio stations, and such can be registered as favorites with the unit and with the MusicCast app. Once registered, favorites can easily be selected for listening. Up to three favorite contents can be registered with the unit. Up to 40 favorite contents can be registered with the MusicCast CONTROLLER app. The following input sources can be registered.

- Media servers (computers or NAS) containing music files, Internet radio stations, and streaming services
- Bluetooth

Register favorites with the unit

- 1 Use the MusicCast CONTROLLER app to play the input source to be registered.**
- 2 Press and hold **1**, **2**, or **3** on the unit for at least three seconds during playback.**

The  indicator flashes three times, and the input source is assigned to that favorites number.

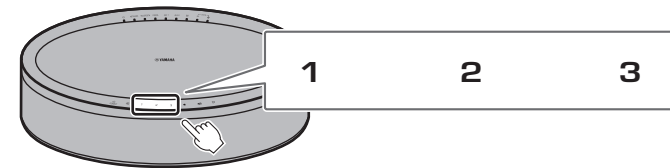


Note

Favorites assigned to **1**, **2** and **3** on the unit will also be assigned to MusicCast CONTROLLER app "Favorites" 1, 2, and 3. If favorite 1, 2, or 3 is changed with either the unit or the MusicCast CONTROLLER app, the corresponding favorite will also be automatically changed with the other.

Play favorite input sources

Tap **1**, **2** or **3** on the unit.



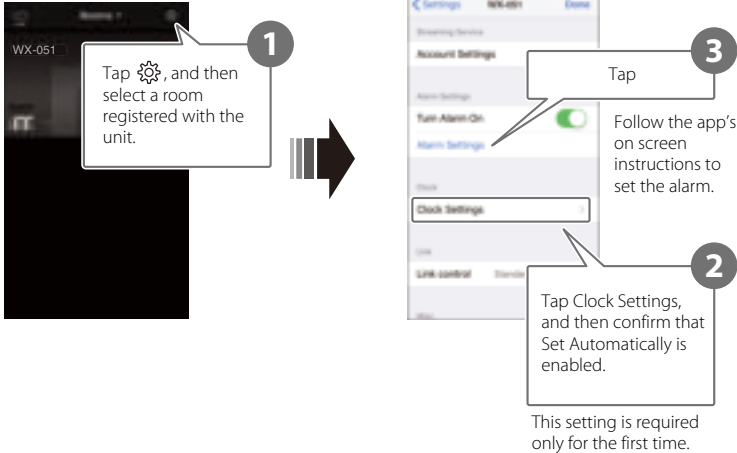
Alarm

The MusicCast CONTROLLER app can be used to set the alarm. The alarm can sound as beeps, or as network content played from a media server (computer or NAS) or Internet radio station, for example.

Alarm type	
Three alarm types—music, beeps, combination of music and beeps—are available.	
Music only	Music begins playing at the specified time. The volume starts low and gradually increases.
Music + beeps	Music begins playing at low volume three minutes prior to the specified time, increasing gradually. Beeps begin sounding over the music at the specified time.
Beeps only	Beeps begin sounding at the specified time.

Set the alarm



1 Use the MusicCast CONTROLLER app to set the alarm.

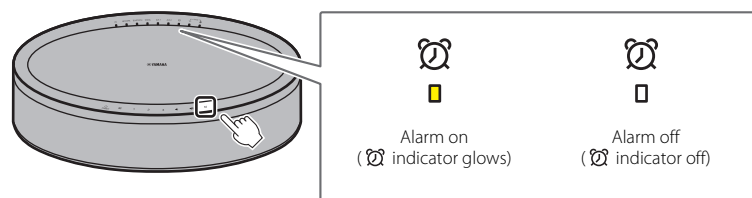


Note


No alarm will sound if "Music only" is selected for the alarm type and the specified network content is unavailable for some reason. Therefore, selecting "Music + beeps" or "Beeps" only is recommended for important alarms.

2 Tap on the unit.

The  indicator glows steadily and the alarm is turned on.
Alarm status alternates between on and off each time  is tapped.



Note

Alarm settings are retained when the alarm is turned off. When  is tapped to turn on the alarm, the last alarm setting specified is applied.

Stop the alarm

Tap any of the icons on the unit's control panel while the alarm is sounding to stop the alarm.

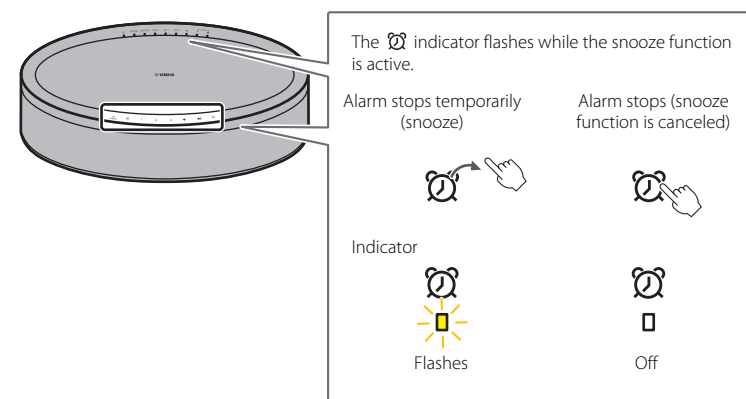
Note

If the alarm is not stopped manually, it will stop automatically after one hour has passed.

Snooze function

The MusicCast CONTROLLER app can be used to set the snooze function, which stops the alarm and sets it to sound again five minutes later.

When this function is enabled, the alarm will stop and then go off again five minutes later when any of the icons on the control panel is tapped. To stop the alarm completely, press and hold any of the icons on the control panel for at least five seconds.



Note

When "Music + beeps" is selected as the alarm type, tapping any of the icons on the control panel while the alarm is sounding will stop only the beeps. Tap any of the icons again to stop the music as well. Note that the alarm will sound again five minutes later. To stop both the music and beeps completely, press and hold any of the icons on the control panel for at least five seconds.

Child lock function

This unit is equipped with a child lock function. When the child lock function is enabled, some control panel operations are disabled to prevent unintended or accidental operation.

This function is disabled by default. When the child lock function is enabled, only the following functions can be operated via the control panel. Use the MusicCast CONTROLLER app to operate other functions.



When the unit is in standby mode

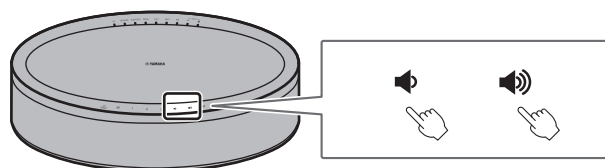
- turn on the unit
- configure options (⇨ p. 22)

When the unit is on

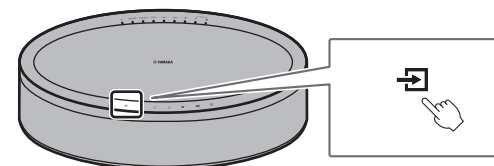
- set the unit to standby mode
- stop the alarm

Enabling/disabling the child lock function

- 1 Tap and hold  and  on the control panel simultaneously for at least five seconds when the unit is in standby mode.**



- 2 Tap and hold  at least three seconds.**



The AUX 1 and AUX 2 indicators will flash three times, and the child lock function will be enabled.



To disable the child lock function, repeat steps **1** and **2**.

The AUX 1 and AUX 2 indicators will flash twice, and the child lock function will be disabled.

Note





If no operations are performed for ten seconds or more after performing step **1**, the unit will revert to standby mode without enabling/disabling the child lock function. Proceed from step **1** again to enable/disable the child lock function.


Option settings

The following options can be changed when the unit is in option setting mode. To set the unit to option setting mode, tap and hold  and  on the control panel simultaneously for at least five seconds when the unit is in standby mode.

Note

- If no operations are performed for ten seconds or more, option setting mode will be cancelled.
- The option settings available when the MusicCast Stereo function or MusicCast Surround function is used, or when a MusicCast-enabled network subwoofer is connected to the unit are "Initialize the unit" and "Enable/disable the child lock function".







Setting menu	Default	Instructions
Initialize the unit	—	Tap and hold  /CONNECT on the control panel for at least three seconds. The  indicator will flash twice, and the unit will be initialized.
Enable/disable Network standby*	Enabled	Tap and hold 1 on the control panel for at least three seconds. The NETWORK indicator will flash twice, and this function will be disabled. Repeating this operation alternately enables and disables this function. When this function is enabled, the NETWORK indicator will flash three times.
Enable/disable Auto standby	Enabled	Tap and hold 2 on the control panel for at least three seconds. The  indicator will flash twice, and this function will be disabled. Repeating this operation alternately enables and disables this function. When this function is enabled, the  indicator will flash three times.

* This option enables or disables network operations when the unit is in standby mode. When network standby mode is disabled, network operations are terminated while the unit is in standby mode. Further, a special "eco standby" mode that minimizes power consumption is enabled. The following operation and functions are not available in eco standby mode. To perform or use them, tap /CONNECT on the unit to turn on the unit.

- Using the MusicCast CONTROLLER app to turn on the unit
- AirPlay
- Bluetooth
- MusicCast Stereo/MusicCast Surround function



With an advanced energy saving design, this product achieves a low power consumption of not more than two watts when in Network Standby mode

Setting menu	Default	Instructions
Enable/disable Wireless LAN	Enabled	<p>Tap and hold 3 on the control panel for at least three seconds.</p> <p>The  indicator will flash twice, and the wireless LAN function will be disabled. Repeating this operation alternately enables and disables this function.</p> <p>When this function is enabled, the  indicator will flash three times. Be sure to configure network settings using the MusicCast CONTROLLER app to connect the unit to a network (⇨ p. 7).</p>
Enable/disable Bluetooth	Enabled	<p>Tap and hold  on the control panel for at least three seconds.</p> <p>The  indicator will flash twice, and Bluetooth will be disabled. Repeating this operation alternately enables and disables this function.</p> <p>When this function is enabled, the  indicator will flash three times.</p>
Enable/disable the child lock function	Disabled	<p>Tap and hold  for at least three seconds.</p> <p>The AUX 1 and AUX 2 indicators will flash three times, and this function will be enabled. Repeating this operation alternately enables and disables this function.</p> <p>When this function is disabled, the AUX 1 and AUX 2 indicators will flash twice.</p>

Firmware updates

The unit's firmware can be updated if it is connected to the Internet. When new firmware is released, a notice is displayed by the MusicCast CONTROLLER app. Follow the app's on-screen instructions to update the unit's firmware.

Update progress indicators


Update progress can be confirmed using the indicators on the unit.

Status	Indicators
Update in progress	<p>The Bluetooth, Wi-Fi, or STATUS indicator will flash as the update progresses.</p>
Update completed successfully	<p>Glow steadily</p> <p>When the update has been successfully completed, the unit will automatically turn off and then on again.</p>
Update failed	<p>Indicators will flash or glow depending upon the cause of the failure.</p> <p>Unplug the power cord from the electrical outlet, plug it in again, and try to update the unit's firmware again.</p>

Note

- Do not attempt to operate the unit, or disconnect the power cord or network cable while firmware is being updated.
- Insufficient Internet speed or other wireless network issues may cause a firmware update to fail.

Using iPhone settings to connect to a network

When the unit is turned on for the first time after purchase or after initializing the unit, the  indicator on the unit flashes, and the unit will automatically begin searching for an iOS device such as an iPhone. Network settings from your iOS device can be applied to the unit for easy connection to an existing wireless network.

- Download and install the MusicCast CONTROLLER app to your iOS device to take full advantage of all the features this unit offers (☞ p. 7).
- iOS device network settings cannot be automatically applied to the unit (this feature) when a network cable is connected to the unit.

Note

- Be sure that the iOS device is connected to the wireless LAN router (access point).
- An iOS device running iOS 7.1 or later is required.
- iOS device network settings cannot be applied to the unit to establish a wireless connection if the wireless LAN router uses WEP encryption.

1 While the indicator is flashing, open the iOS device's Wi-Fi settings, and then specify this unit as the AirPlay speaker.

iOS 11 (English interface)



Name of the unit

2 Choose the wireless network (access point) to which the unit will be connected.

Once network settings have been successfully shared, the unit will automatically connect to the selected wireless network.




Tap here to start setup

Selected network

Troubleshooting

Refer to the table below if the unit fails to function properly. If the problem is not listed, or if the symptoms persist after following the instructions provided, turn off the unit, disconnect the unit from the electrical outlet, and contact your nearest authorized Yamaha dealer or service center.

General

Problem	Cause	Solution
The unit is not on. The touch sensors do not respond.	A touch sensor was tapped or touched inadvertently while the unit was starting up (a period of approx. five seconds after the power cable is plugged into an electrical outlet).	Avoid tapping or inadvertently touching the touch sensors while the unit is starting up. Do not attempt to turn on the unit until start-up is complete (⇨ p. 5).
The unit turns off as soon as it is powered on. The unit does not operate properly.	The power cord is not properly connected.	Be sure that the power cord is firmly inserted into the power connector jack on the unit and the electrical outlet.
The unit cannot be operated.	The internal microcomputer has frozen due to an external electrical shock (lightning, excessive static electricity, etc.) or a drop in power supply voltage.	Unplug the unit from the electrical outlet, wait for at least 30 seconds, and then plug the unit into the electrical outlet again.
No sound comes from the unit.	An input source has not been properly selected.	Use the MusicCast CONTROLLER app or  on the unit's control panel to select an input source (⇨ p. 8).
	The external devices are not firmly connected to the AUX 1, AUX 2, or DIGITAL jack.	Confirm the external devices are firmly connected to the unit's jacks. If there are no problems with connection, check that cables may be damaged.
	The volume level is set to the minimum level or volume is muted.	Increase the volume.
Interference from nearby electronic equipment is producing noise.	The unit is too close to other electronic equipment.	Position the unit farther away from other electronic equipment.

Network

Problem	Cause	Solution
Cannot configure connection using the MusicCast CONTROLLER app.	The mobile device is not connected to the wireless LAN router (access point).	Connect the mobile device to the wireless LAN router, and then use MusicCast CONTROLLER to configure connection settings.
	The unit is turned off.	Turn on the unit.
The MusicCast CONTROLLER app does not recognize the unit.	The unit and the mobile device are not on the same network.	Confirm network connections and wireless LAN router settings, and then connect the unit and mobile device to the same network.
	A wireless LAN router that supports multiple SSIDs is used.	The router's network splitter may be blocking access to the unit. When connecting a mobile device, use an SSID that is able to access to the unit. Try connecting to the primary SSID.
The network feature does not function.	Network information (IP address) has not been properly obtained.	Enable the DHCP server function on the router.
	The unit is starting up (a period of approx. 20 seconds after the power cable is plugged into an electrical outlet).	Do not attempt to operate the unit until start-up is complete.
	An IPv6-only router is being used.	Use an IPv4-compatible router.
Files on the media server (computer or NAS) are not displayed (do not play).	The file format is not supported by the unit or the media server (computer or NAS).	Be sure to use a file format that is supported by both the unit and the media server. For information on music files supported by this unit, see "File formats, and devices/media supported by the unit" (☞ p. 30).
The MusicCast CONTROLLER app does not recognize the media server (computer or NAS).	Media server sharing settings are not correct.	Configure sharing settings to allow the unit access to folders on the media server (☞ p. 10).
	Security software installed on your media server is blocking access by the unit.	Confirm settings for security software installed on the media server.
	The unit and the media server are not connected to the same network.	Confirm network connections and wireless LAN router settings, and then connect the unit and media server to the same network.

Problem	Cause	Solution
Unable to play Internet radio.	The selected Internet radio station is currently offline.	The radio station may be experiencing problems with their network, may not be broadcasting, or their services may have been terminated. Try to play the station later or select another station.
	The selected Internet radio station is currently broadcasting silence.	Some Internet radio stations broadcast silence at certain times of the day. When this occurs, there are no problems with reception, but no sound plays. Try the station later or select another station.
	Access to the network is restricted by network device (wireless LAN router, etc.) firewall settings.	Check device firewall settings. Internet radio can be played only through the port specified by each radio station. The port number varies depending on the radio station.
Firmware update failed.	The network connection is unstable.	Try again later.
The unit is unable to connect to the Internet via a wireless LAN router (access point).	The wireless LAN router is turned off.	Turn on the wireless LAN router.
	The unit and the wireless LAN router are too far apart.	Place the unit and the wireless LAN router closer to each other.
	There is an obstacle between the unit and the wireless LAN router.	Move the unit and the wireless LAN router to a location with a direct line of sight (no obstacles) between the two.
	The unit's wireless LAN function is disabled.	Enable the unit's wireless LAN function (☞ p. 23).
The MusicCast CONTROLLER app does not detect a wireless network.	A device that operates in the 2.4 GHz band (microwave oven, wireless network device, etc.) is interfering with wireless communication.	Turn off the offending device, or move it farther away from the unit and the wireless LAN router.
	Access to the network is restricted by the wireless LAN router's (access point's) firewall settings.	Confirm wireless LAN router firewall settings.
My iPhone does not recognize the unit when using AirPlay.	A wireless LAN router that supports multiple SSIDs is used.	The router's network splitter may be blocking access to the unit. When connecting a mobile device, use an SSID that is able to access to the unit. Try connecting to the primary SSID.

Bluetooth

Problem	Cause	Solution
Unable to connect the unit to a Bluetooth device.	The Bluetooth device does not support the Advanced Audio Distribution Profile (A2DP).	Use a Bluetooth device that supports A2DP.
	The passkey for devices such as a Bluetooth adapter is not "0000".	Use a Bluetooth device with a passkey of "0000."
	The unit and the Bluetooth device are too far apart.	Move the Bluetooth device closer to the unit.
	A device that operates in the 2.4 GHz band (microwave oven, wireless network device, etc.) is interfering with wireless communication.	Move the unit and Bluetooth device farther away from the device. If the wireless LAN router supports the 5 GHz band, connect network devices to the network using the 5 GHz band.
	The unit is already connected to another Bluetooth device.	Terminate the current Bluetooth connection, and then connect to the new device.
	The unit's Bluetooth function is disabled.	Enable the unit's Bluetooth function (⇨ p. 23).
No sound is played, or sound is interrupted during playback.	The Bluetooth connection has been terminated.	Establish the Bluetooth connection again (⇨ p. 12).
	The unit and the Bluetooth device are too far apart.	Move the Bluetooth device closer to the unit.
	A device that operates in the 2.4 GHz band (microwave oven, wireless network device, etc.) is interfering with wireless communication.	Move the unit and Bluetooth device farther away from the device. If the wireless LAN router supports the 5 GHz band, connect network devices to the network using the 5 GHz band.
	The Bluetooth device is not configured to transmit audio signal to this unit.	On the Bluetooth device, select this unit as the audio output destination.
	The volume level on the Bluetooth device is set too low.	Increase the volume on the Bluetooth device.

File formats, and devices/media supported by the unit

This unit supports the following file formats, devices, and media.

File formats

File	Sampling frequency	Quantization bitrate (bits)	Bitrate	No. channels	Gapless playback
WAV	32/44.1/48/				
(Linear PCM format only)	88.2/96/176.4/192 kHz	16/24	—	2	✓
MP3	32/44.1/48 kHz	—	up to 320 kbps	2	—
WMA	32/44.1/48 kHz	—	up to 320 kbps	2	—
MPEG-4 AAC	32/44.1/48 kHz	—	up to 320 kbps	2	—
FLAC	32/44.1/48/88.2/96/176.4/192 kHz	16/24	—	2	✓
ALAC	32/44.1/48/88.2/96 kHz	16/24	—	2	✓
AIFF	32/44.1/48/88.2/96/176.4/192 kHz	16/24	—	2	✓

- The file formats that can be played may vary depending upon the software installed on media servers (computer or NAS). For details, refer to the documentation provided with media server software.
- Digital Rights Management (DRM) content cannot be played.

AirPlay devices

Supports iOS 7 or later for setup using Wireless Accessory Configuration.

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

Made for:

iPhone X, iPhone 8 Plus, iPhone 8, iPhone 7 Plus, iPhone 7, iPhone SE, iPhone 6s Plus, iPhone 6s, iPhone 6 Plus, iPhone 6, iPhone 5s, iPhone 5c, iPhone 5, iPhone 4s
iPad Pro (10.5"), iPad Pro (12.9") 2nd Generation, iPad Pro (12.9") 1st Generation, iPad Pro (9.7"), iPad mini 4, iPad Air 2, iPad mini 3, iPad Air, iPad mini 2, iPad mini, iPad (5th generation), iPad (4th generation), iPad (3rd generation), iPad 2
iPod touch (6th generation), iPod touch (5th generation)
(as of May 2018)

Bluetooth devices

This unit supports Bluetooth devices that use the Advanced Audio Distribution Profile (A2DP). Yamaha does not guarantee that the unit can be connected to all Bluetooth devices.

Specifications

Player

Input	
Digital	Digital optical jack
AUX 1	3.5 mm stereo mini jack Maximum Input Signal: 1.4 V
AUX 2	Stereo L/R; RCA jacks Maximum Input Signal: 2.3 V

Network	
Ethernet interface	100 Base-TX/10 Base-T
Internet radio	airable.radio service supported
Supported file format	WAV, MP3, WMA, MPEG-4 AAC, FLAC, ALAC, AIFF
AirPlay	AirPlay supported

Wi-Fi	
Wireless LAN standards	IEEE 802.11 a/b/g/n/ac* * 20 MHz channel bandwidth only
Radio frequency	2.4 GHz, 5 GHz
Available security method	WEP, WPA2-PSK (AES), Mixed Mode

Bluetooth

Bluetooth version	Bluetooth Ver. 4.2
Supported profile	A2DP (Advanced Audio Distribution Profile) AVRCP (Audio/Video Remote Control Profile)
Compatible codec	SBC, AAC
RF output power	Bluetooth Class 2
Maximum communication range	10 m (33 ft) (without interference)

General

Power voltage/frequency	U.S.A. and Canada models	AC 120 V, 60 Hz	
	Taiwan model	AC 110 to 120 V, 50/60 Hz	
	Other models	AC 100 to 240 V, 50/60 Hz	
Power consumption	20 W		
Standby power consumption	Network standby off/ Bluetooth standby off	0.3 W	
	Network standby on	Wired	1.6 W
		Wireless (Wi-Fi)	1.7 W
	Bluetooth	1.5 W	
Maximum Output power	35 W + 35 W (6 Ω, 1 kHz, 10 % THD)		
Driver unit	3 cm soft dome tweeter x 2, 10 cm woofer x 2		
Weight	4.5 kg (9.9 lbs)		
Dimensions (W x H x D)	400 x 121 x 200 mm (15-3/4 x 4-3/4 x 7-7/8 inch)		

The contents of this manual apply to the latest specifications as of the publishing date. To obtain the latest manual, access the Yamaha website then download the manual file.

Trademarks



The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Yamaha Corporation is under license.

Windows™

Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

Internet Explorer, Windows Media Audio and Windows Media Player are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

Android™ Google Play™

Android and Google Play are trademarks of Google LLC.



The Wi-Fi CERTIFIED™ Logo is a certification mark of Wi-Fi Alliance®.

Explanations regarding GPL

This product utilizes GPL/LGPL open-source software in some sections. You have the right to obtain, duplicate, modify, and redistribute this open-source code only. For information on GPL/LGPL open source software, how to obtain it, and the GPL/LGPL license, refer to the Yamaha Corporation website (<https://download.yamaha.com/sourcecodes/musiccast/>).

Licenses

For information on the licenses of the third-party software in this product, refer to the following.

[http://\(IP address of this product*\)/licenses.html](http://(IP address of this product*)/licenses.html)

* IP address of this product is checked with MusicCast CONTROLLER.



MusicCast is a trademark or registered trademark of Yamaha Corporation.



Yamaha Eco-Label is a mark that certifies products of high environmental performance.



App Store is a service mark of Apple Inc.

Use of the Works with Apple badge means that an accessory has been designed to work specifically with the technology identified in the badge and has been certified by the developer to meet Apple performance standards.

Apple, iPad, iPad Air, iPad Pro and iPhone are trademarks of Apple Inc., registered in the U.S. and other countries.

YAMAHA CORPORATION

10-1 Nakazawa-cho, Naka-ku, Hamamatsu, 430-8650 Japan

Yamaha Global Site
<http://www.yamaha.com/>

Yamaha Downloads
<http://download.yamaha.com/>

Manual Development Group
© 2018 Yamaha Corporation

Published 05/2018 KSES-B0

WX-051OM/EN