YAMAHA

Digital Sound Projector

YSP-2500
[YSP-CU2500 + NS-WSW120]

Owner's Manual

Read the supplied booklet "Safety Brochure" before using the unit.

English

CONTENTS

FEATURES

What you can do with this unit

Wireless subwoofer (the unit)

TV

Sound beams are reflected off walls using unique real surround sound formats and techniques, allowing listeners to enjoy their preferred acoustic environment.

- Automatically and quickly adjusts surround sound effects for the listening room setup (IntelliBeam) **➔ p. 32**
- Reproducing stereo or multichannel sounds with the sound fields like actual movie theaters and concert halls (CINEMA DSP) **➔ p. 40**
- Enjoying compressed music with enhanced sound (Compressed Music Enhancer) **➔ p. 45**
- Delivering sound to a specified location (Target playback mode) **➔ p. 44**

HDMI Control   Audio   Audio/Video

Audio

Sequential operation of a TV, AV receiver, and BD/DVD player (HDMI Control)
➔ p. 37

TV remote control

Control

HDMI Control

Audio

Center unit (the unit)

Audio/Video   HDMI Control   Audio/Video   HDMI Control   Audio/Video
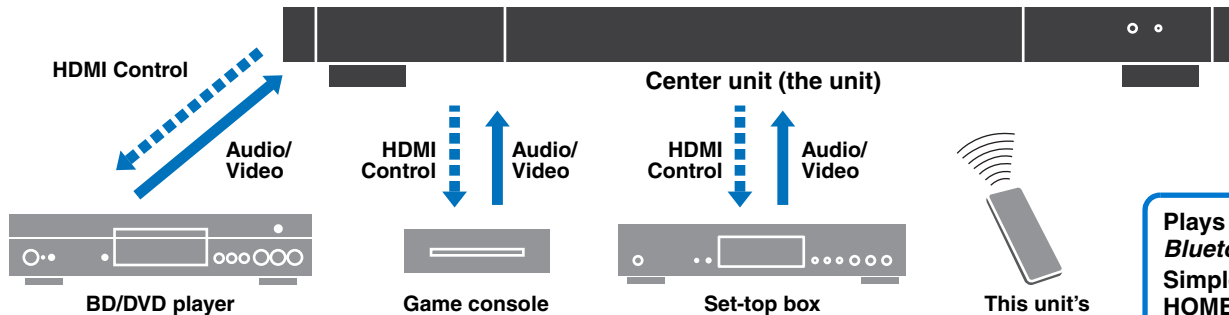
Bluetooth devices

BD/DVD player   **Game console**   **Set-top box**   **This unit's remote control**
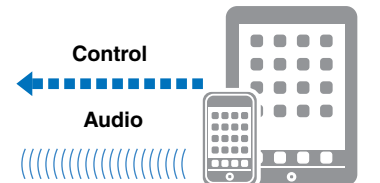
Plays back audio content from *Bluetooth*® devices **➔ p. 48**
Simple operation using the HOME THEATER CONTROLLER **➔ p. 50**

PREPARATIONS

About this manual

- In this manual, operations that can be performed using either the front panel keys or the remote control are explained using the remote control.

- 🔆 indicates supplementary explanations for better use.

- ❗ indicates precautions for use of the unit and its feature limitations.

Supplied accessories

Before connecting, make sure you have received all of the following items.

The YSP-2500

Center unit (YSP-CU2500)

Wireless subwoofer (NS-WSW120)

Supplied accessories

Remote control	Batteries (AAA, R03, UM-4) (x2)	Optical cable* (1.5 m (4.9 ft))	IntelliBeam microphone (6 m (19.7 ft))	Cardboard microphone stand	Non-skid pads (8 pcs)
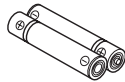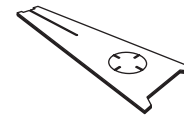
Owner's Manual CD-ROM
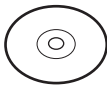
Quick Reference Guide

Safety Brochure

* (China model only) Instead of the optical cable, a coaxial digital audio cable is supplied.

Supplied accessories for SPM-K20

Spacers (x2)	Pads (x3)	Screws (M4, 22 mm) (x2)	Mounting template

🔆
- According to the connection, the supplied optical cable may not be needed.

Controls and functions

Center unit (front, top)

❶ **Remote control sensor**
Receives infrared signals from the remote control (p. 9).

❷ **Remote control sensor of a TV**
Receives infrared signals from the TV remote control when the TV Remote Repeater function is enabled (p. 15).

❸ **STATUS indicator**
Lights to show the system condition.
Glows green: Power on
Glows red: Power off (when the HDMI control or *Bluetooth* standby is activated)
Turns off: Power off

❹ **Front panel display**
Shows information about the operational status of this unit (p. 8).

❺ **PHONES jack**
For connecting the headphones (p. 44).

❻ **INTELLIBEAM MIC jack**
For connecting the supplied IntelliBeam microphone (p. 33).

❼ **INPUT key**
Selects the playback device (p. 39).

❽ **VOLUME (+/-) keys**
Adjusts the volume of the unit (p. 39).

❾ ⏻ **key**
Turns on/off the unit.

!

• When the unit is turned off, this unit consumes a small amount of power in order to search for HDMI signals or to receive infrared signals from the remote control.

Center unit (back)
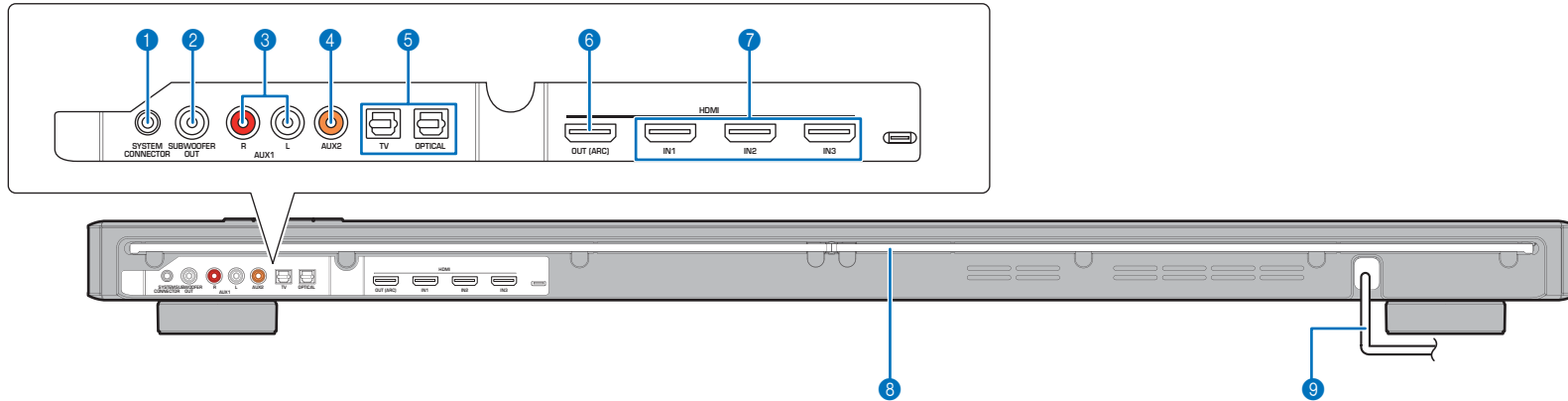
1 SYSTEM CONNECTOR jack
For connecting to the supplied subwoofer using a wired connection (p. 29).

2 SUBWOOFER OUT jack
For connecting to the supplied subwoofer using a wired connection (p. 29).

3 AUX1 analog input jacks
For connecting to a playback device equipped with the analog audio output jacks (p. 27).

4 AUX2 coaxial digital input jack
For connecting to a playback device equipped with a coaxial digital audio output jack (p. 27).

5 TV/OPTICAL jacks
For connecting to a playback device equipped with an optical digital audio output jack (p. 25, 26).

6 HDMI OUT (ARC) jack
For connecting to an HDMI-compatible TV and outputting video/audio signals (p. 25).

7 HDMI IN 1–3 jacks
For connecting an HDMI-compatible playback device such as a BD/DVD player, a satellite and cable TV tuner, and a game console (p. 26).

8 TV Remote Repeater
Receives signals from a TV remote control via the front of the center unit and transmits those signals to the TV when the TV Remote Repeater function is activated (p. 15).

9 Power cable
For connecting to an AC wall outlet (p. 28).

Front panel display
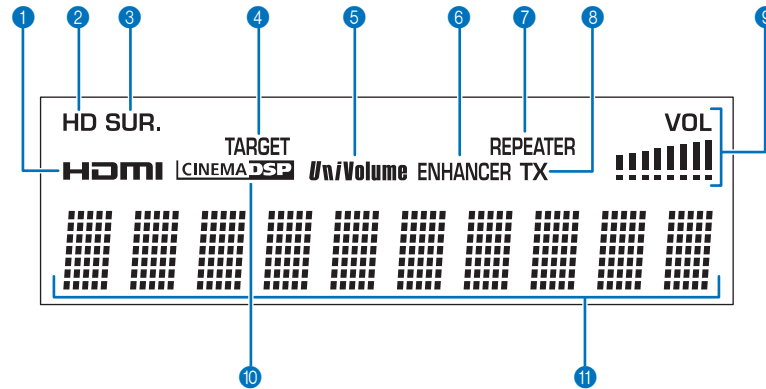
① HDMI indicator
Glows when HDMI signals are input.

② HD indicator
Glows when HD audio signals (Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio, DTS-HD High Resolution, DTS Express, or Multi-channel Linear PCM) are input.

③ SUR. indicator
Glows when multichannel audio signals are input.

④ TARGET indicator
Glows when target playback mode is enabled (p. 44).

⑤ UNIVOLUME indicator
Glows when the UniVolume function is enabled (p. 46).

⑥ ENHANCER indicator
Glows when the Compressed Music Enhancer function is enabled (p. 45).

⑦ REPEATER indicator
Glows when the TV Remote Repeater function is enabled (p. 15).

⑧ TX indicator
Glows while the wireless connection to the subwoofer is being established (p. 29).

⑨ VOL indicator
Indicates the current volume level (p. 39).

⑩ CINEMA DSP indicator
Glows when a CINEMA DSP program is selected (p. 40).

⑪ Multi information display
Displays an input source and surround information (p. 46). Displays settings and information as alphanumeric characters.

- Note that the front panel display turns off when the Eco function is enabled and remains off unless an operation is performed.
- "DIMMER" can adjust the brightness of the front panel display in the setup menu (p. 60).
- HD audio signals offer a higher quality sound than do conventional digital audio signals.

Remote control

Infrared signal transmitter
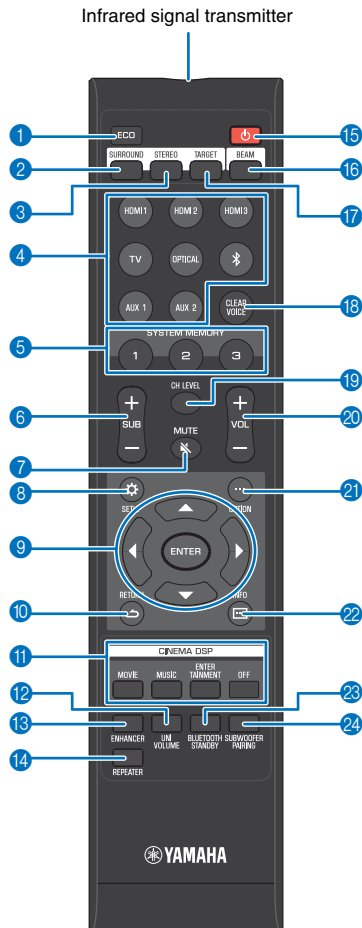
❶ ECO key
Turns the Eco function on or off (p. 46).

❷ SURROUND key
Switches to surround playback mode (p. 40).

❸ STEREO key
Switches to stereo playback mode (p. 44).

❹ Input selector keys
Select the playback device (p. 39).

❺ SYSTEM MEMORY keys
Saves IntelliBeam measurements, speaker volume, and other settings (p. 47).

❻ SUB (+/-) key
Adjusts the volume of the subwoofer (p. 39).

❼ MUTE ( ) key
Mute the sound (p. 39).

❽ SETUP ( ) key
Displays the setup menu (p. 51).

❾ ▲/▼/◀/▶ keys, ENTER key
Change the setting (p. 51).

❿ RETURN ( ) key
Returns to the previous menu screen.

⓫ CINEMA DSP program keys
When playback is in surround playback mode, select the CINEMA DSP programs (p. 40).

⓬ UNIVOLUME key
Turns the UniVolume function on or off (p. 46).

⓭ ENHANCER key
Turns Compressed Music Enhancer to on or off (p. 45).

⓮ REPEATER key
Turns the TV Remote Repeater function on or off (p. 15).

⓯ key
Turns on/off the unit (p. 39).

⓰ BEAM key
Switches the sound beam output method (p. 42).

⓱ TARGET key
Switches to target playback mode (p. 44).

⓲ CLEAR VOICE key
Turns the CLEAR VOICE function on or off (p. 45).

⓳ CH LEVEL key
Adjusts the volume balance during playback (p. 45).

⓴ VOL (+/-) key
Adjusts the volume of the unit (p. 39).

㉑ OPTION ( ) key
Displays the option menu for each input source (p. 63).

㉒ INFO ( ) key
Switches the information display on the front panel (p. 46).

㉓ BLUETOOTH STANDBY key
Turns the *Bluetooth* standby mode on or off (p. 50).

㉔ SUBWOOFER PAIRING key
Used to pair the center unit with the subwoofer manually (p. 75).

Subwoofer

Front

Back
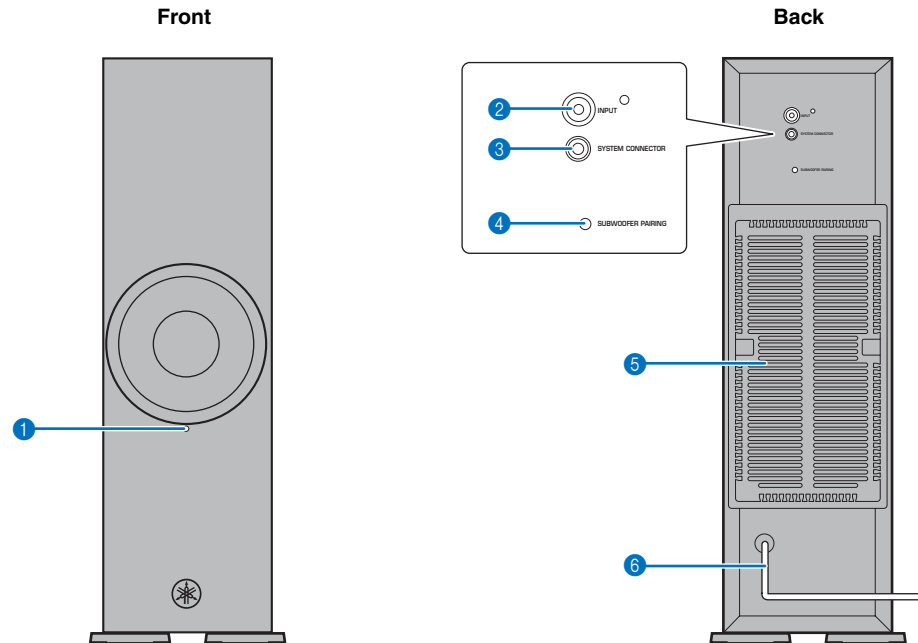
① Connection indicator
Shows subwoofer's connection status (p. 29).
Glows green: Power on
Glows red: Power off

② INPUT jack
For connecting to the center unit using a wired connection (p. 29).

③ SYSTEM CONNECTOR jack
For connecting to the center unit using a wired connection (p. 29).

④ SUBWOOFER PAIRING key
Used to pair the center unit with the subwoofer manually (p. 75). Use a pin or other pointed object to press this key.

⑤ Heat discharge unit
Discharges heat generated inside the subwoofer. Do not cover the heat discharge unit.

⑥ Power cable
For connecting to an AC wall outlet (p. 28).

Installation

This unit reflects sound beams off of walls to create the surround sound effect. The position of this unit in relation to both the listening position and walls is important to achieving the desired surround sound effects. When installing this unit on a rack behind which there is limited space, for example, it may be easier to connect external devices to this unit first. This will depend upon the installation location. See "Connections" (p. 24) for more information.

Notes
- Be sure to install this unit on a large, stable stand where it does not fall subject to vibrations, such as from an earthquake, and where it is out of the reach of children.
- The subwoofer speakers are not magnetically shielded. Do not install hard disk drives or similar devices near the subwoofer.
- Do not stack the center unit and subwoofer directly on top of other playback devices, or vice versa. Heat and vibrations may result in damage or malfunction.

▮ Recommended place for installation

- Install the center unit in the center of the left and right walls.
- Place the center unit on a TV stand in front of the TV*.
- This unit can be mounted on a wall using the optional Wall Mount Bracket SPM-K20 (p. 19).

* Use the TV Remote Repeater function if the center unit obstructs the remote control sensor on the TV (p. 15).

If the center unit cannot be installed on a TV stand because the stand is too high, the height of the center unit can be adjusted (p. 16).

- The listening position (such as sofa, etc.) should be located at the front of the center unit.
- The distance between the listening position and the center unit should be more than 1.8 m (6 ft).

Center unit

Subwoofer

- To prevent sound reflecting off of walls, angle the subwoofer slightly toward the center of the room.
- When installing the subwoofer on a rack, be sure the rack is strong enough to support the subwoofer and that it leaves sufficient space for heat discharge.
- The subwoofer can also be placed on its side (p. 18).

- To achieve desired surround sound effects, be sure that obstacles such as furniture may not obstruct the path of sound beams (p. 12).

❑ Wireless connections

The center unit and subwoofer communicate wirelessly. Subwoofer performance may be affected if the subwoofer is placed on a metal rack, or if there is a metal plate between the subwoofer and the center unit. Use a wired connection to connect the subwoofer to the center unit if sounds are interrupted due to the installation condition (p. 29).

Example for installing the unit

This unit outputs sound beam as shown in the illustrations below. Install this unit where there are no obstacles such as furniture obstructing the path of sound beams. Otherwise, the desired surround sound effects may not be achieved.

You may install this unit in parallel with the wall or in the corner.

Parallel installation

Install this unit in the exact center of the wall when it is measured from the left and right corners.

Corner installation

Install this unit in the corner at a 40° to 50° angle from the adjacent walls.

Parallel installation (with 5 Beam)

Objects, such as furniture
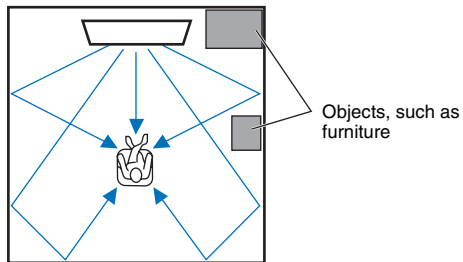
Corner installation (with Stereo + 3 Beam)

40° to 50°

Objects, such as furniture
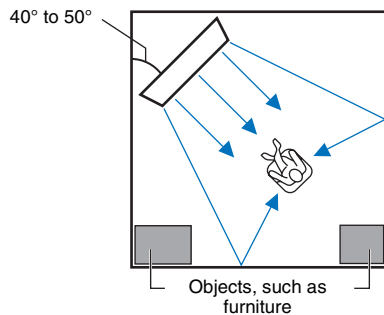
Parallel installation

Install this unit as close to the exact center of the wall as possible.
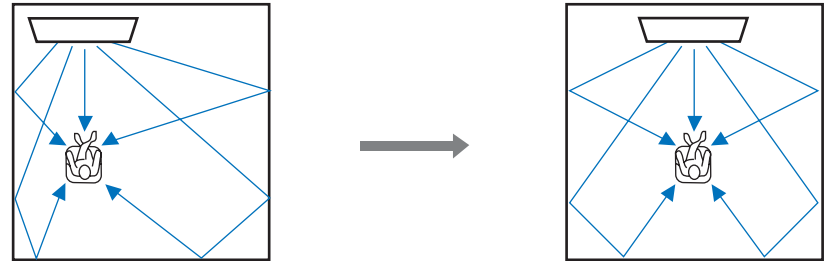
Ideal installation condition

Install this unit as close to the exact front of your normal listening position as possible.

The distance between listening position and the unit should be more than 1.8 m (6 ft).

More than 1.8 m (6 ft)

More than 1.8 m (6 ft)
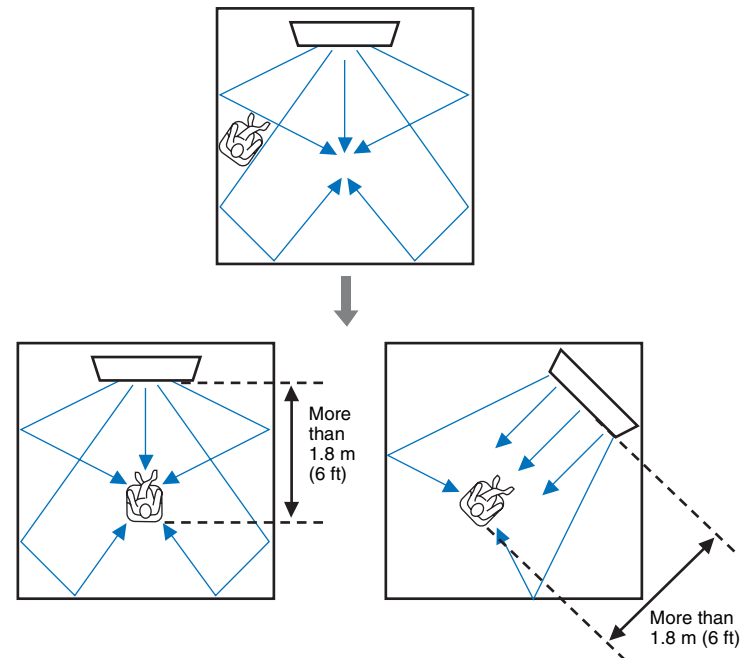
Installing in a non-square room

Install this unit so that the sound beams can be reflected off the walls.

Irregularly shaped rooms with solid walls on all sides
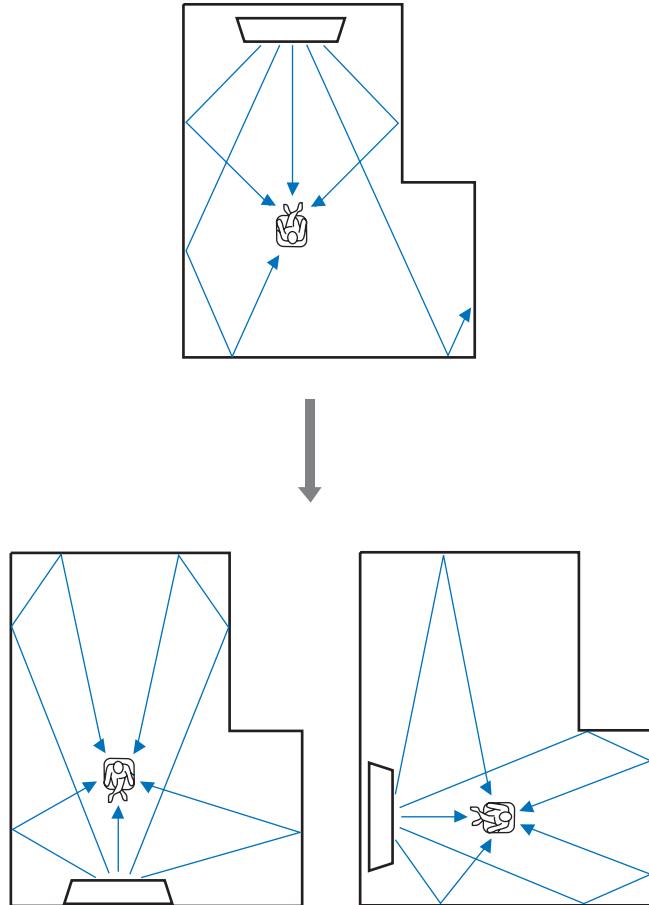
Irregularly shaped rooms that are open to a hallway on one side
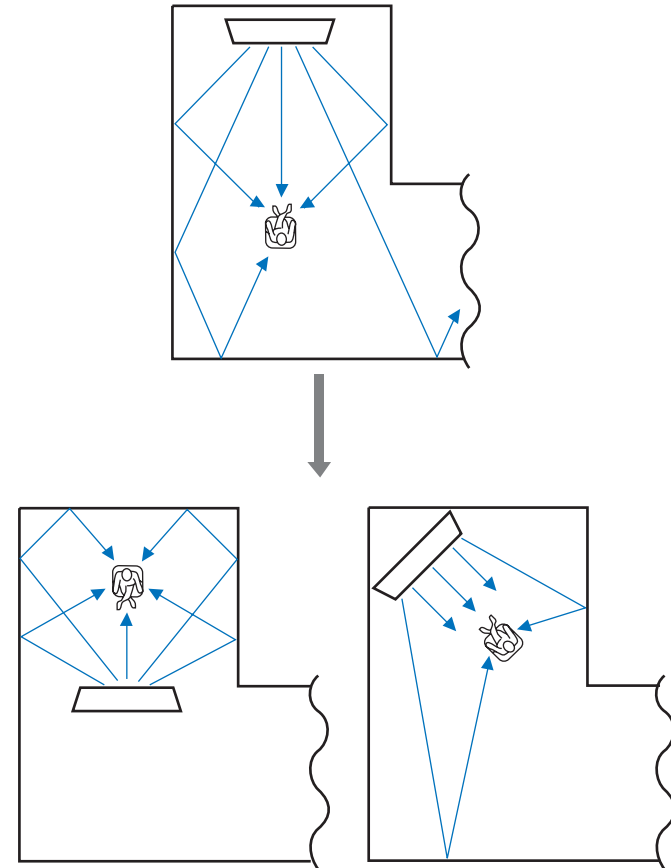
• If this unit cannot be repositioned, or the listening position cannot be changed, the optional YRB-100 sound reflection board may be installed for a better surround sound experience (p. 73).

Example for installing the unit in living room

• As sound beams normally pass through tables, tables are not obstacles. And a cupboard installed facing the wall reflects sounds.

• In a case of the listening room as shown in the illustration below, adjusting the position of the right channel after AUTO SETUP (p. 32) enables to achieve more desired surround sound effects (p. 55).

• As the curtains absorb sounds, the sound features of the listening room is different from the case with the curtain opened and the case with the curtain closed. Using saving settings function enables to save the best settings for each case of listening room (p. 47).

Objects, such as furniture
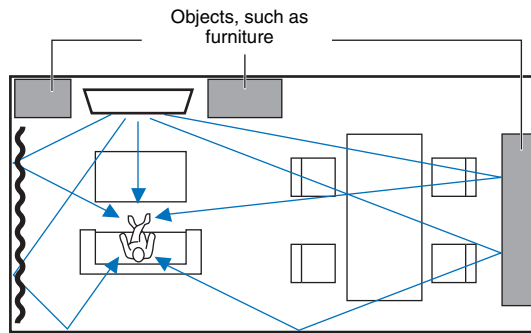
Unrecommended listening environments

This unit creates surround sound by reflecting projected sound beams off the walls of your listening room. The surround sound effects produced by this unit may not be sufficient when this unit is installed in the following locations.

• Rooms with walls inadequate for reflecting sound beams

• Rooms with acoustically absorbent walls

• Rooms with measurements outside the following range:
  W (3 to 7 m (10 to 23 ft)) × H (2 to 3.5 m (7 to 11.5 ft)) × D (3 to 7 m (10 to 23 ft))

• Rooms where objects such as furniture are likely to obstruct the path of sound beams

• Rooms with less than 1.8 m (6 ft) from the listening position to this unit

• Rooms where the listening position is close to the walls

• Rooms where the listening position is not in front of this unit

Enjoying surround effects regardless of conditions (My Surround)

The My Surround function creates rich surround sound effects in rooms with less than optimal surround sound conditions. See "Switching between audio output methods for surround playback" (p. 42, 43) for more information.

If the TV remote control does not work properly after the center unit is installed (TV Remote Repeater function)

When the TV Remote Repeater function is enabled, the unit receives TV remote control signals at the TV remote control sensor (on front) and transmits the signals from the TV Remote Repeater (on rear). This function is useful when you cannot operate your TV from the remote control because the remote control sensor of the TV is blocked by the unit.

!

• This function can be used while the TV remote control is using infrared signals.

TV remote control sensor

TV remote control
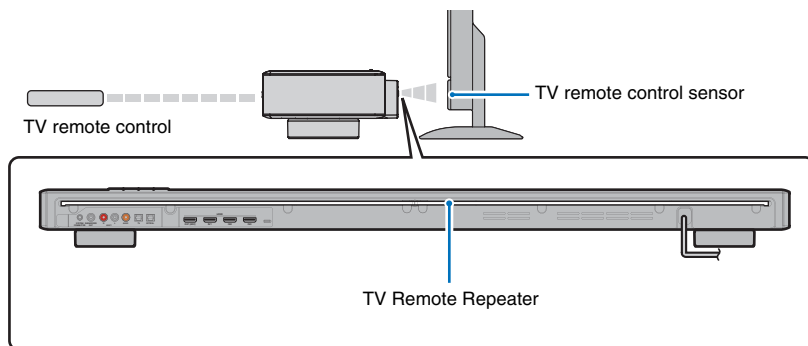
TV Remote Repeater

1 **Turn on the unit.**

2 **Hold down the REPEATER key on the supplied remote control for more than 3 seconds to enable the TV Remote Repeater function.**

The REPEATER indicator on the front panel display will glow.

Disabling the TV Remote Repeater function

Hold down the REPEATER key on the supplied remote control for more than 3 seconds.

Adjusting the height of the center unit

Turn the legs counter-clockwise to increase the height of the center unit if necessary. Use the arrows (△) on the bottom of the left and right legs, and the scale on the insides of these legs, to confirm that the legs are positioned at the same height.

Adjustable range: 22 to 35 mm (7/8 to 1-3/8 in)

Scale
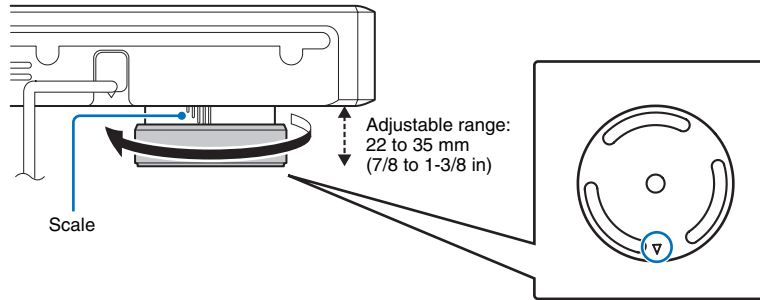
❑ Removing the legs

If the center unit obstructs the remote control sensor on the TV or signal transmitter for 3D glasses, remove the legs to decrease the height of the center unit.

The legs consist of components (inner legs) that are fixed to the center unit with screws, and components (outer legs) that can be removed by rotating them.

1 **Remove the outer legs.**

Keep turning the outer legs counter-clockwise to remove them.
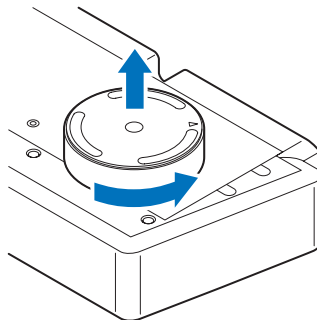
2 **Remove the inner legs.**

Use a screwdriver to remove the screws.
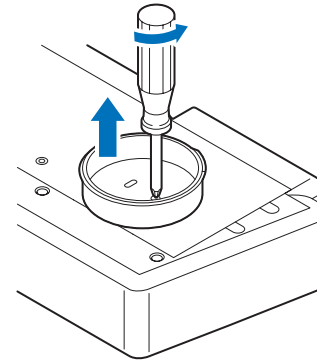
3 **Attach the one of the four supplied non-skid pads at each of the four corners on the bottom of the center unit.**

An example of pad positioning is shown in the illustration below.

!
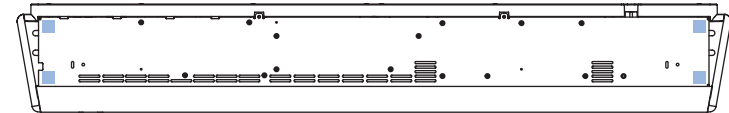
• Store the legs and screws in a safe place out of the reach of children for later use and to prevent children from accidentally swallowing screws.

❏ **Attaching the legs**

1 **Attach the innter legs.**

Position the inner legs so that the arrow (△) on them points toward the rear side, and insert the protrusions into the slots on the center unit.
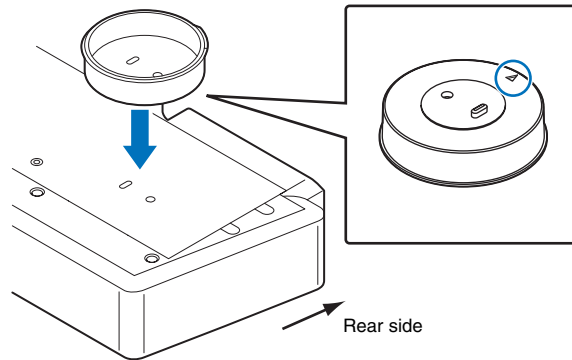
Rear side

Use a screwdriver to tighten the screws and lock the inner legs in place.
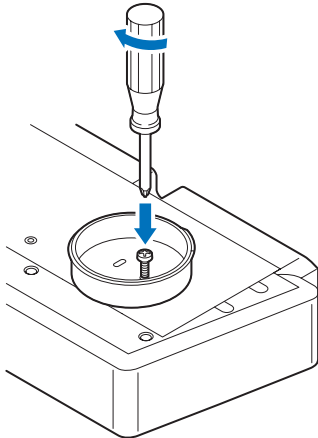
2 **Attach the outer legs.**

Position the outer legs so that the arrow (△) on them points towards the rear side, and turn them clockwise to attach them.
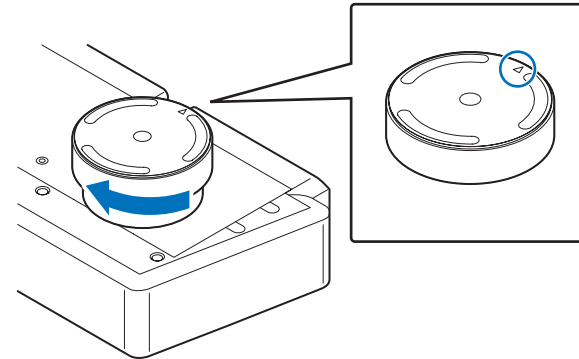
Positioning the subwoofer on its side

The subwoofer can be laid on its side when positioned on a rack.

1 **Remove the legs and washers attached to the bottom of the subwoofer.**

Use a screwdriver to remove screws.

Leg
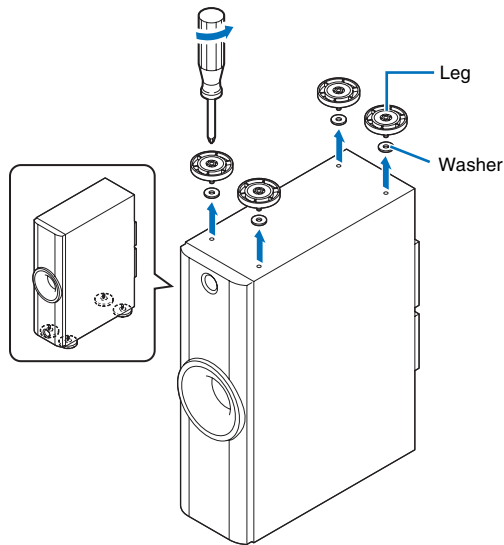
Washer

> • Store the legs, screws, and washers in a safe place out of the reach of children for later use and to prevent children from accidentally swallowing screws or washers.

2 **Place the subwoofer on its side as shown in the illustration, and attach each of the four supplied pads at each of the four corners.**
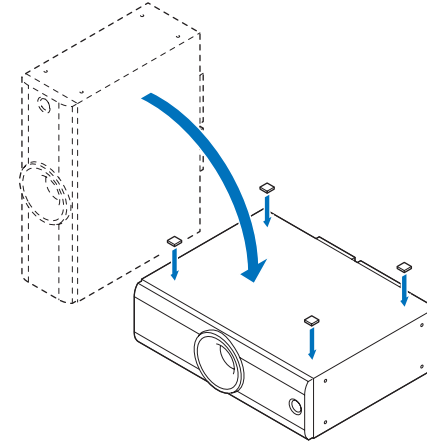
3 **Position the subwoofer as shown in the illustration.**
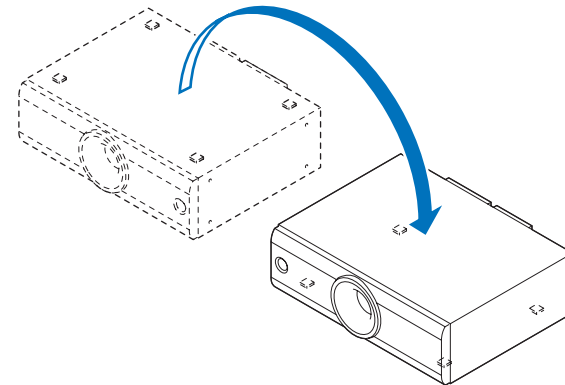
Mounting the center unit on a wall

If your TV is mounted on a wall, the optional Wall Mount Bracket SPM-K20 can be used to mount this unit on the wall under the TV.

See "Dimensions" (p. 22) for this unit and SPM-K20 dimensions.

!

- Be sure to read "SAFETY INSTRUCTIONS" in the Installation Manual supplied with the SPM-K20 before mounting it.
- The template and screws supplied with the SPM-K20 are not used with this unit.
- SPM-K20 may not be available in some countries or regions.

- Space between this unit and the wall is limited. Therefore, use of a flexible HDMI cable, or right-angle connector, (neither supplied) is strongly recommended.

Flexible HDMI cable or right-angle connector

YSP-CU2500

SPM-K20   28 mm

10.8 mm
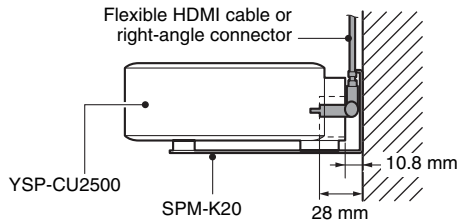
❑ Mounting the SPM-K20

Be sure that there is enough space on the wall to mount the wall mount bracket and this unit. Follow the instructions below to mount both.

1 Attach the three supplied pads to the wall mount bracket as shown in the illustration.
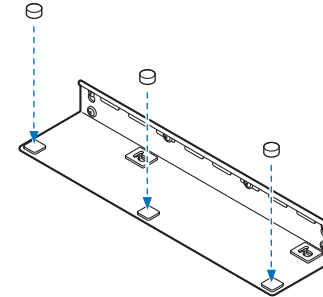
Follow instructions provided from this page through page 22.

2 Attach the template supplied with this unit to the wall and use a thumbtack or pin to mark the position where screws will be inserted in the wall.
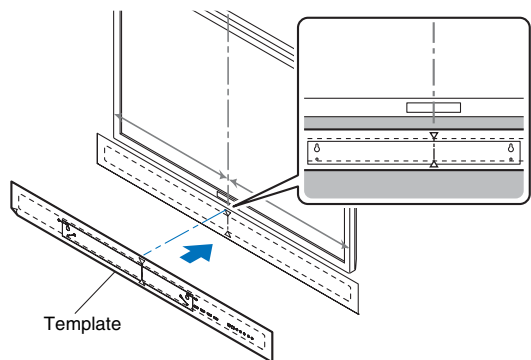
Template

Attach the template to the wall so that the center of the template is aligned with the center of the TV.
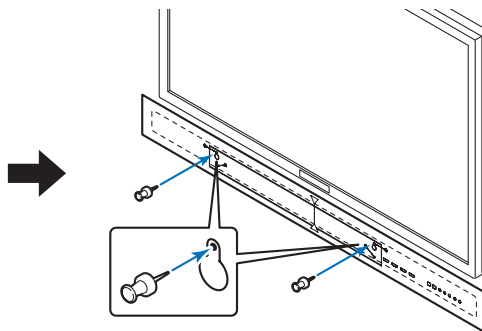
The wall mount bracket is designed to be offset slightly to the right of the center of this unit.
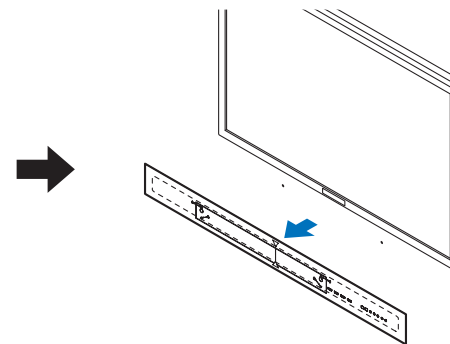
Once screw position has been marked, remove the template.

3 Mount the wall mount bracket on the wall.
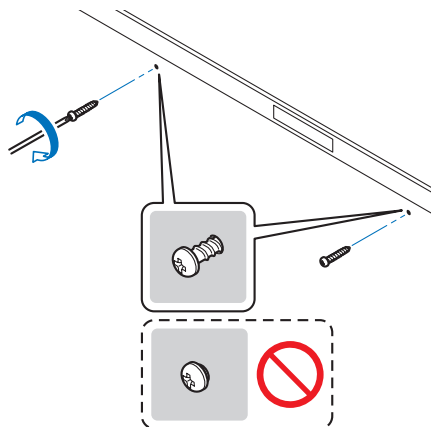
Screw self-tapping screws (not supplied) partway into the wall where marked using the template.
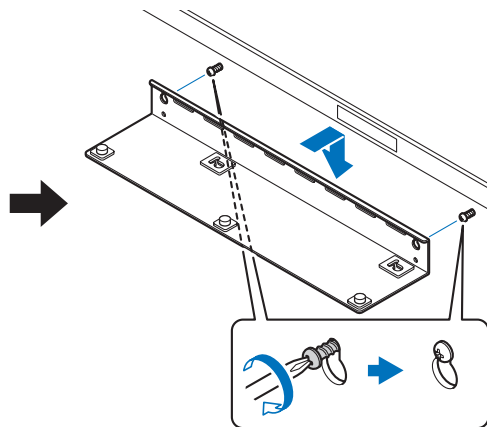
Mount the wall mount bracket on these screws, and then tighten the screws.
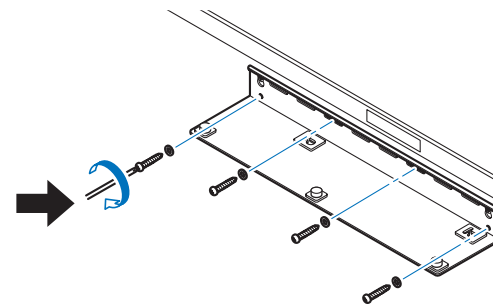
Screw self-tapping screws, at least six including the two previously used, into as many holes around the outer edges of the wall mount bracket as possible to ensure sufficient strength.

!

• Be sure that screws are inserted in a sturdy portion of the wall or pillar. Do not mount the bracket on a wall made of materials such as mortar or veneer, which may chip or peel. If screws fall out, the wall mount bracket will also fall, resulting in damage or injury.

25 mm or more   25 mm or more

Beam, etc.   Beam, etc.

Drywall
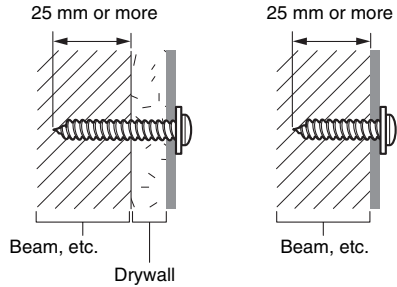
4 **Attach the spacer supplied with this unit to the bottom of this unit using the screws also supplied with this unit.**

Screw

Spacer
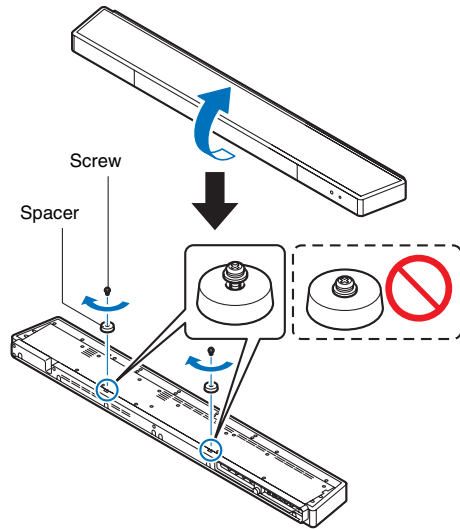
Do not tighten the screws until this unit has been mounted on the wall mount bracket.

5 **Connect commercial cables to this unit.**

Flexible HDMI cable or right-angle connector
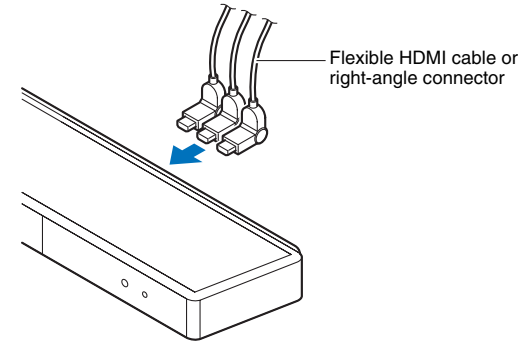
6 **Mount this unit on the wall.**
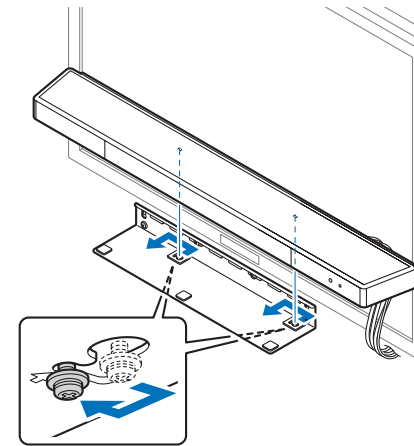
Insert the screws on this unit into the mounting holes on the left and right sides of the wall mount bracket, and then slide this unit to the left.

!

• When mounting or removing it, hold this unit firmly with both hands. If this unit falls, damage or injury could occur.

7 **Tighten screws.**
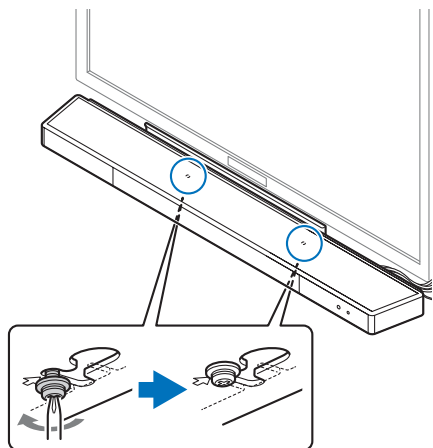
Tighten the screws used to attach the spacer to this unit in step 4.

❏ **Dimensions**

YSP-CU2500

SPM-K20

10.8

28

125

154.3

(mm)

944

298.3

276.8   457

5

13.5

188.3

166.8

500

54

51

33.5

(mm)

YSP-CU2500   SPM-K20
(1.4 kg)

10.8

16.7

153.8

143

125

(mm)
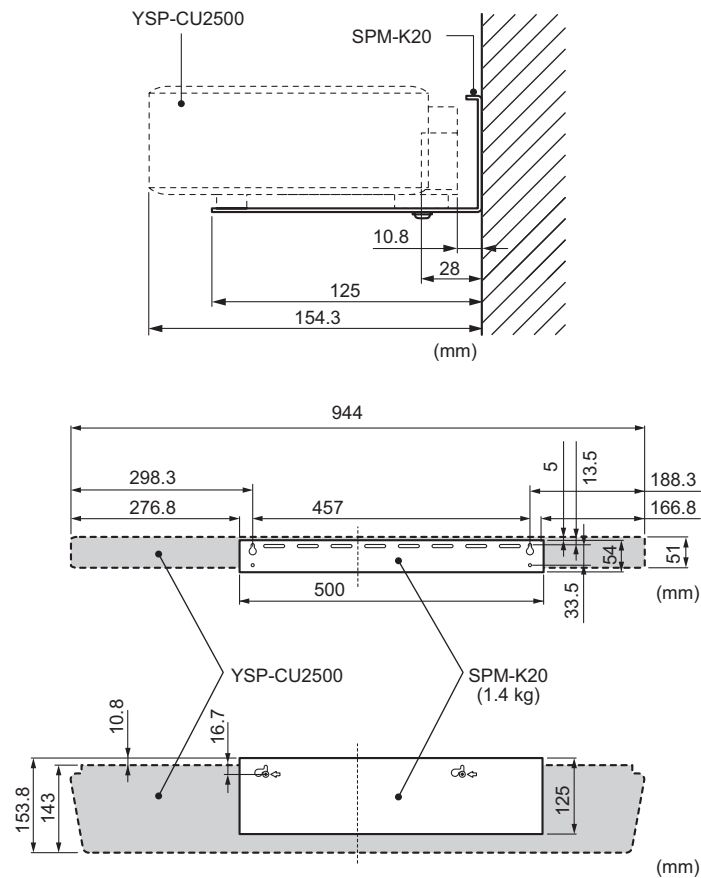
Preparing remote control

Before installing batteries or using the remote control, be sure to read battery and remote control precautions in "Safety Brochure" (separate booklet).

Installing the batteries

Battery × 2
(AAA, R03, UM-4)

2

Press down on the arrow and slide the cover in the direction in which it points.

1

3

Slide the cover back to close it.

Operation range

30˚ 30˚

Within 6 m (20 ft)
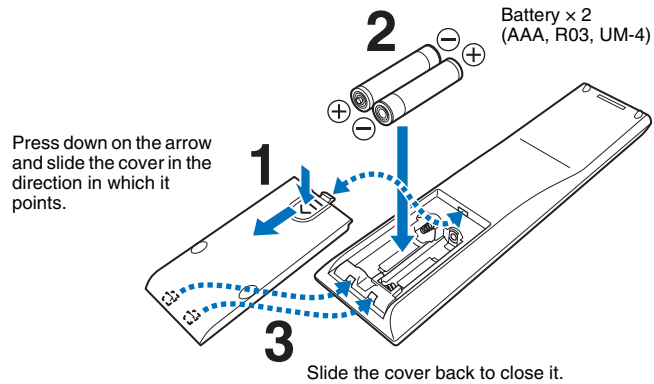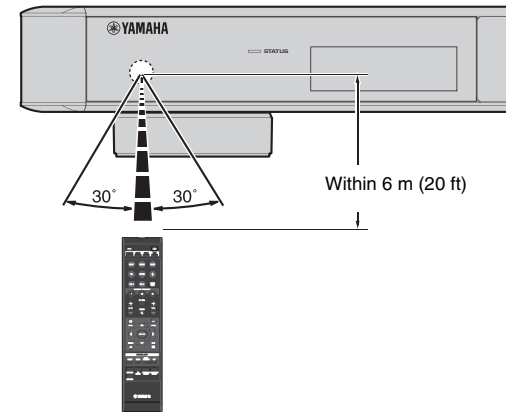
Connections

When external devices such as a TV, BD/DVD player, and/or game console are connected, audio and video signals are transmitted as shown below.

See pages 25 through 29 for instructions on connecting each device.

Audio connection

Video connection

Audio and video connection

This unit: Plays audio from TV broadcasts, BD/DVD discs, etc.

HDMI cable

Audio from TV broadcast

Optical cable
Use to connect a TV that does not support audio return channel (ARC) to this unit (p. 25).

HDMI cable

HDMI cable

Optical cable

Video cable

BD/DVD player

Game console (HDMI-compatible)

Satellite and cable TV tuner (not HDMI-compatible)

TV: Plays video from TV broadcasts, BD/DVD player, etc.

- Do not connect the power cable until all connections are completed.
- Do not use excessive force when inserting the cable plug. Doing so may damage the cable plug and/or jack.

Connecting a TV

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

- Use a 19-pin HDMI cable with the HDMI logo printed on it. A cable with a maximum length of 5 m is recommended to prevent degradation of signal quality.
- For playback of 3D and 4K video content, use a high-speed HDMI cable.

▌ TVs that support Audio Return Channel (ARC)

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

Center unit (rear)   HDMI OUT (ARC) jack   HDMI input   TV
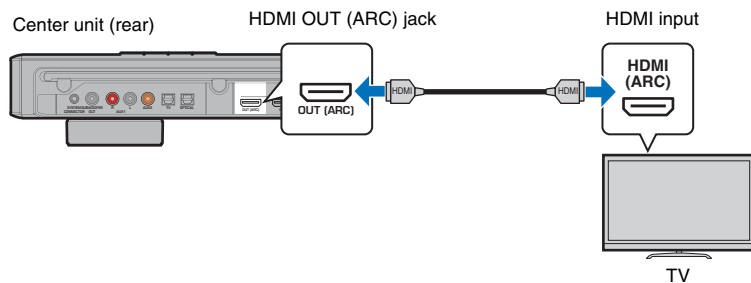
When connecting a TV that supports Audio Return Channel (ARC), activate the HDMI control function (p. 59).

Audio Return Channel (ARC)

ARC enables input and output of audio signals via a single HDMI cable. If the TV supports ARC, audio signals from the TV can be input to this unit via the same HDMI cable used to output video signals from this unit to the TV.

- Use an ARC-compatible HDMI cable.

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

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

Center unit (rear)   HDMI OUT (ARC) jack   HDMI input   TV

OPTICAL

TV jack   Audio output (digital optical)   TV

1. Remove the cap   2. Check the direction of the plug
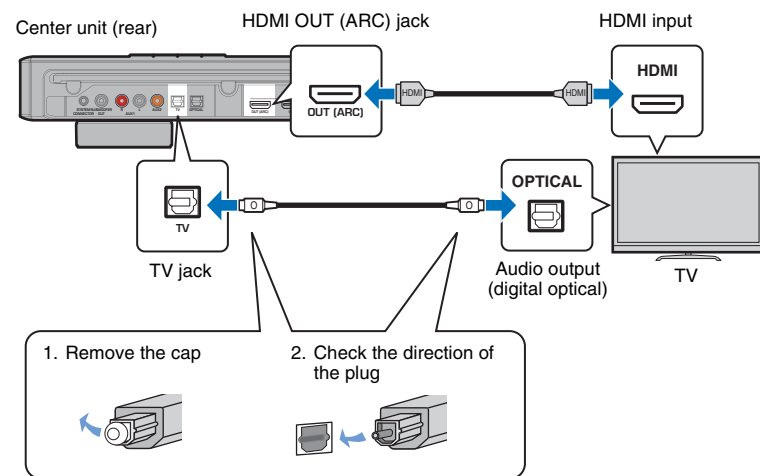
- **TVs not equipped with an optical jack**
  Audio content from the TV can be input via the AUX2 coaxial digital or AUX1 analog jack. Set "TV INPUT" in the setup menu to "COAXIAL [AUX2]" or "ANALOG [AUX1]" accordingly (p. 60).

Connecting playback devices

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

▋ HDMI connection

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

Center unit (rear)

Video device

HDMI IN 1–3 jacks

HDMI output
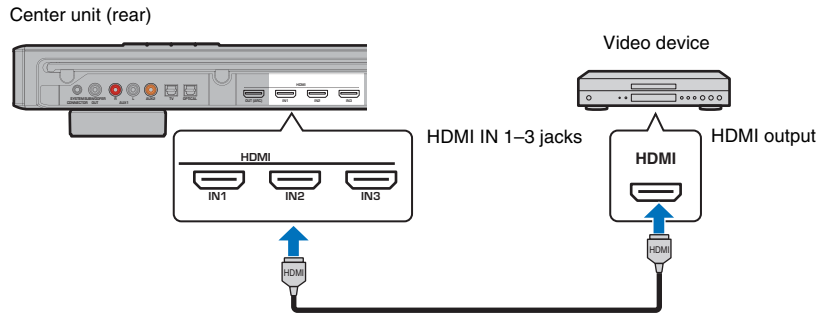
If you select the input source by pressing the HDMI1–3 key, the video/audio played back on the video device will be output from the unit.

- Once the HDMI control function has been activated (p. 37), video and audio content from playback devices can be output from the TV even when this unit is off (HDMI signal pass-through).
- Use a 19-pin HDMI cable with the HDMI logo printed on it. A cable with a maximum length of 5 m is recommended to prevent degradation of signal quality.
- Use an ARC-compatible HDMI cable. For playback of 3D and 4K video content, use a high-speed HDMI cable.

▋ Optical connection

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

Center unit (rear)

Video device

To video output jack

OPTICAL jack

Audio output (digital optical)

1. Remove the cap

2. Check the direction of the plug

To video input jack

TV
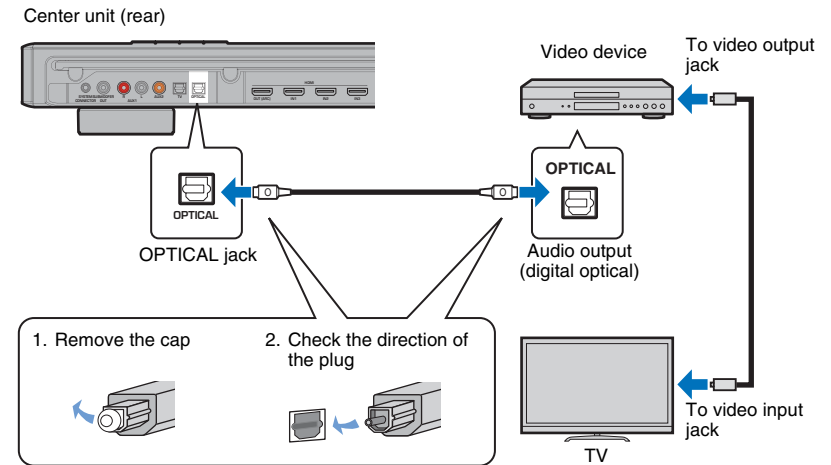
If you switch the input source to the OPTICAL jack by pressing the OPTICAL key, the audio played back on the video device will be output from the unit.

◾ Coaxial connection

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

Center unit (rear)

AUX2 coaxial digital jack

Video device

To video output jack

COAXIAL

Audio output (coaxial digital)

To video input jack

TV
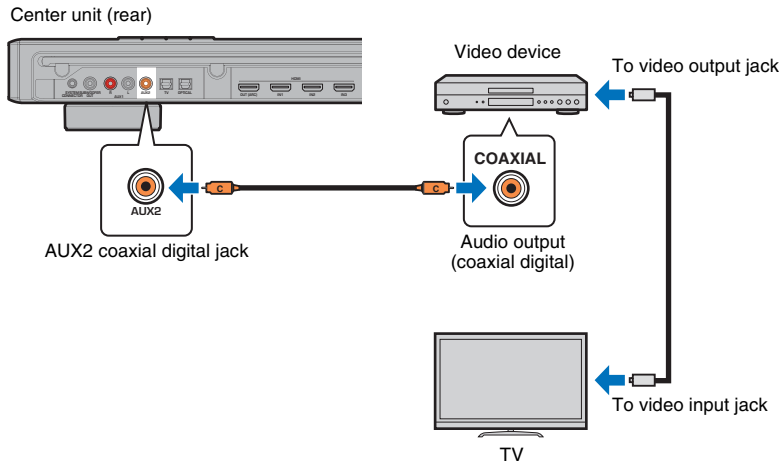
If you switch the input source to the AUX2 jack by pressing the AUX2 key, the audio played back on the video device will be output from the unit.

◾ Analog connection

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

Center unit (rear)

AUX1 analog jacks

Video device

To video output jack

AUDIO

Audio output (analog)

To video input jack

TV
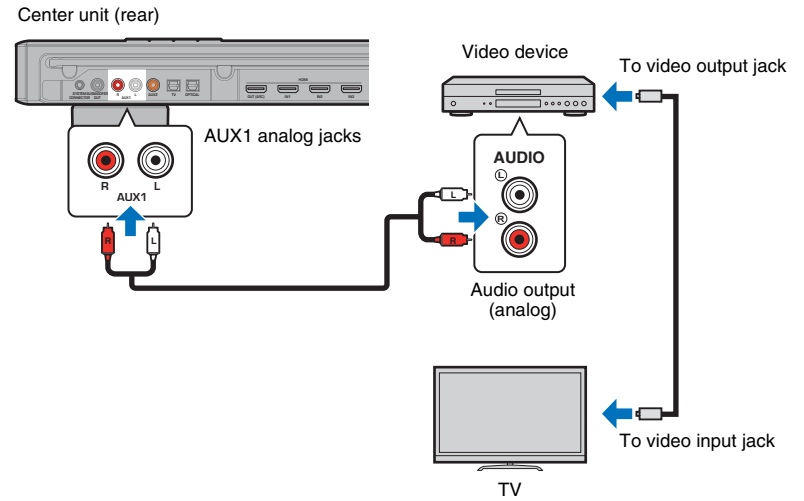
If you switch the input source to the AUX1 jacks by pressing the AUX1 key, the audio played back on the video device will be output from the unit.

Connecting the power cable

Plug in the power cable of the center unit and the subwoofer.

Center unit (rear)

To an AC wall outlet

Subwoofer (rear)

To an AC wall outlet
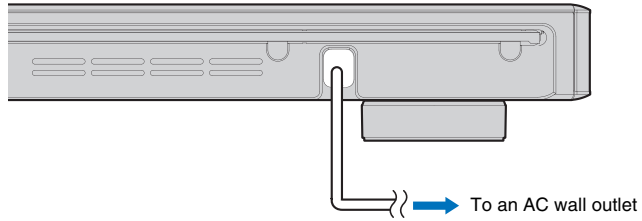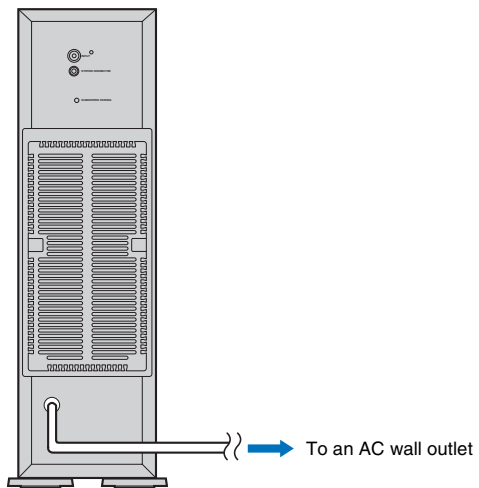
Connecting the subwoofer

Plug the subwoofer's power cable into a wall outlet. When the center unit is turned on, the center unit and subwoofer are automatically connected via wireless connection. Once the connection has been successfully established, the indicators on the center unit and subwoofer glow as shown in the illustration below, and the unit is ready for play back.

TX indicator
Glows

Connection indicator
Glows green
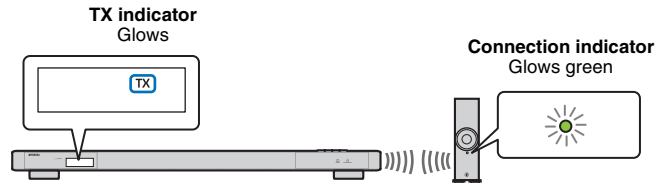
> **!**
>
> • If the indicators do not glow properly the first time the unit is turned on, pair the center unit and subwoofer manually. See "Pairing the center unit and the subwoofer" (p. 75).

If there is no sound coming out of the subwoofer, or if sounds is intermittent, connect the center unit and subwoofer via an RCA mono cable and system control cable (3.5 mm monaural mini plug cable). A system control cable (3.5 mm monaural mini plug cable) is required to turn the center unit and subwoofer on and off at the same time.

SYSTEM CONNECTOR   SUBWOOFER OUT   INPUT   SYSTEM CONNECTOR
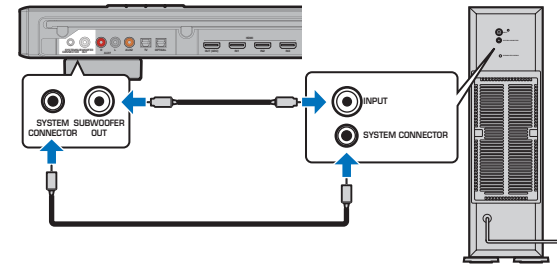
To connect the center unit and subwoofer using a wired connection, set "WIRELESS FUNCTION" of "SUBWOOFER" in the setup menu to "OFF" (p. 56).

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

> **!**
>
> • Be sure the center unit is turned off before connecting the subwoofer.
>
> • The supplied subwoofer can only be connected.

Initial settings

Displaying the menu screen on the TV

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

Use the button for switching between input sources on the TV's remote control to select this unit.

When this unit and the TV are connected as shown below, select "HDMI 1".

TV remote control (example)

Switch input sources

OPTION (···)

SETUP (✿)

Center unit (rear)

TV

HDMI
OUT (ARC) IN1 IN2 IN3

HDMI INPUT
1 (ARC) 2 3
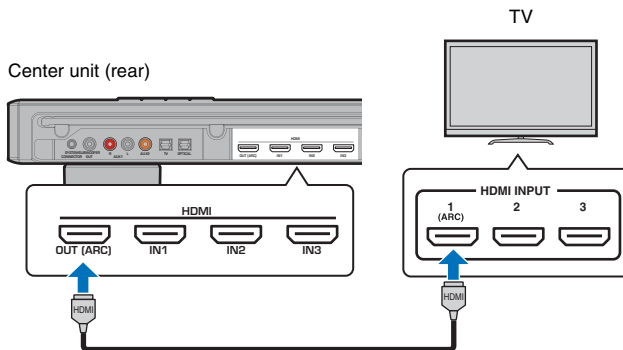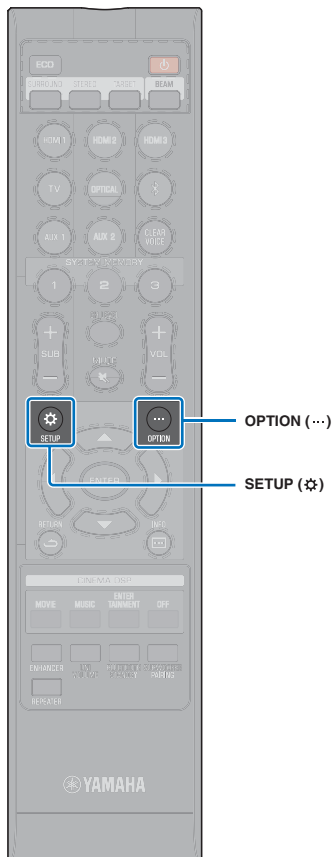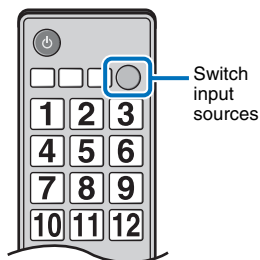
The menu display

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

```
SETUP MENU
▲              ▶        ▲                    ◀▶
BEAM                    IntelliBeam
SOUND                   HORIZONTAL ANGLE
HDMI                    BEAM TRAVEL LENGTH
DISPLAY                 FOCAL LENGTH
INFORMATION            IMAGE LOCATION
▼                      CHANNEL OUT
                       SUBWOOFER
                       ▼
```

!
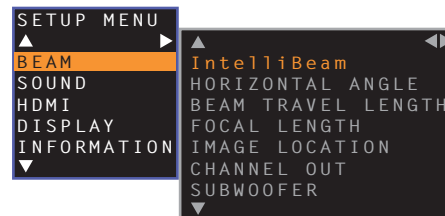
• The setup menu (p. 51) can only be displayed on a TV screen. It cannot be shown in the front panel display.
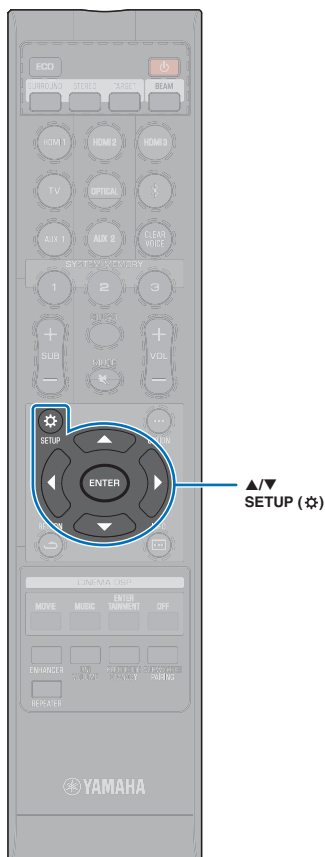
Selecting the language for menu display

1 **Turn the unit and TV on.**

2 **Switch the TV's input to display video input from this unit (p. 30).**

3 **Press and hold the SETUP (☼) key until the "OSD LANGUAGE" menu appears on the TV.**

```
OSD  LANGUAGE
▲                              ◄
日本語
ENGLISH
DEUTSCH
FRANÇAIS
ESPAÑOL
ITALIANO
NEDERLANDS
РУССКИЙ
SVENSKA
TÜRK
中文
▼
```

When the menu is not displayed

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

4 **Press the ▲/▼ key to select the desired language.**

Settings

日本語, ENGLISH (default), DEUTSCH, FRANÇAIS, ESPAÑOL, ITALIANO, NEDERLANDS, РУССКИЙ, SVENSKA, TÜRK, 中文

5 **Press the SETUP (☼) key to exit the setup menu.**

▲/▼
SETUP (☼)

Auto setup for appropriate surround effects (IntelliBeam)

In order for this unit to provide the optimal listening experience, adjust each channel first using the "IntelliBeam" function.

!

- The AUTO SETUP procedure may not be run successfully if this unit is installed in one of the rooms described in "Unrecommended listening environments" on page 14.
- In order for this unit to provide the optimal listening experience, adjust each channel first using the "IntelliBeam" function. The My Surround function can be used to enjoy rich surround sound in these types of rooms as well. See "Switching between audio output methods for surround playback" (p. 42) for more information.
- Do not connect the IntelliBeam microphone to an extension cable as doing so may result in an inaccurate sound optimization.

Installing the IntelliBeam microphone

1 **Place the IntelliBeam microphone at your normal listening position.**

❏ **Assembling the supplied cardboard microphone stand**
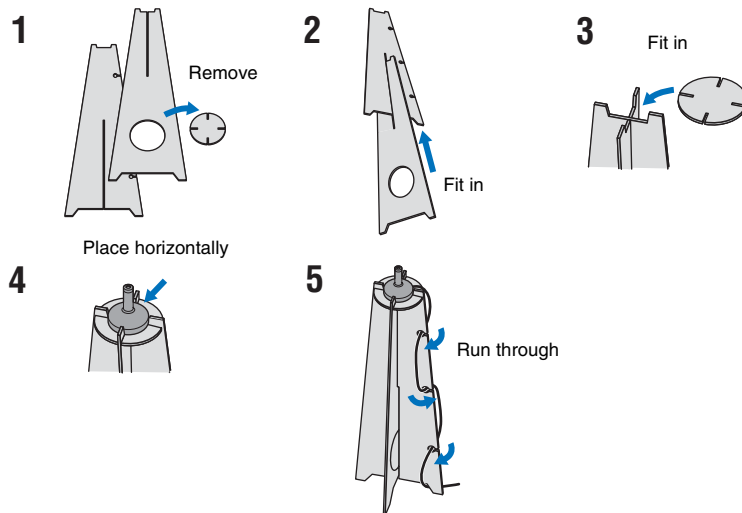
- Use the supplied cardboard microphone stand or a tripod to place the IntelliBeam microphone at the same height as your ears would be when you are seated.
- Position the IntelliBeam microphone so that it is parallel with the floor.
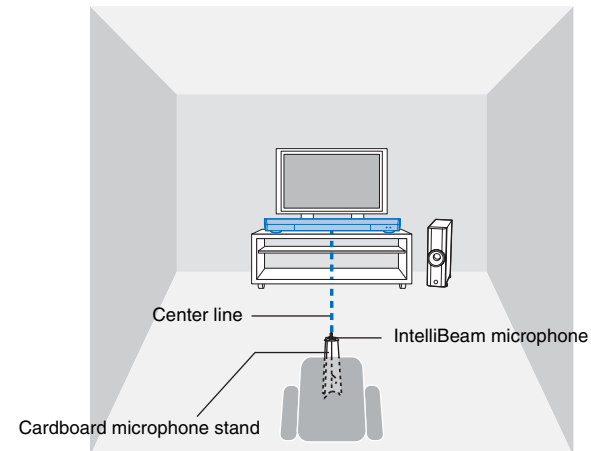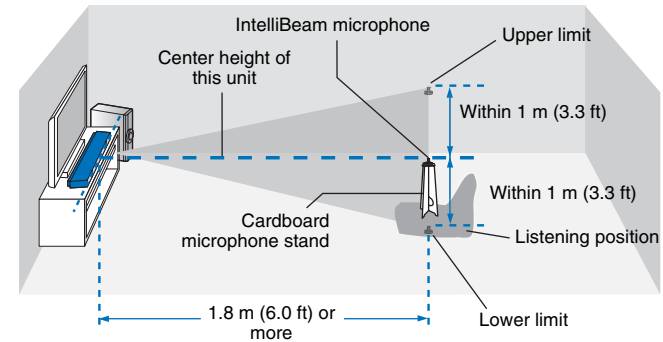
Make sure that there are no obstacles between the IntelliBeam microphone and the walls in your listening room as these objects obstruct the path of sound beams.

However, any objects that are in contact with the walls will be regarded as a protruding part of the walls.

ENTER
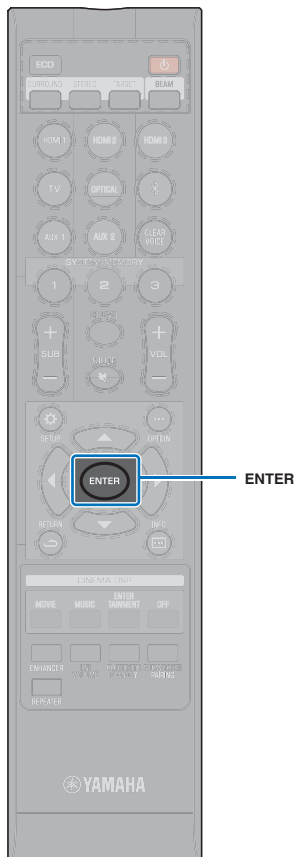
Using AUTO SETUP (IntelliBeam)

!

• It is normal for loud test tones to be output during the AUTO SETUP procedure. Make sure that there are no children around in the listening room while the AUTO SETUP procedure is in progress.

• If there are curtains in your listening room, we recommend following the procedure below.

1. Open the curtains to improve sound reflection.

2. Run "BEAM OPTIMIZE ONLY" (p. 34).

3. Close the curtains.

4. Run "SOUND OPTIMIZE ONLY" (p. 34).

• Make sure that your listening room is as quiet as possible. For accurate measurement, turn off air conditioner or other devices that make noises.

1 **Turn the unit and your TV on.**

2 **Switch TV input to display video input from this unit (p. 30).**

3 **Connect the IntelliBeam microphone to the INTELLIBEAM MIC jack of the unit.**

INTELLIBEAM MIC

IntelliBeam microphone

Cardboard microphone stand
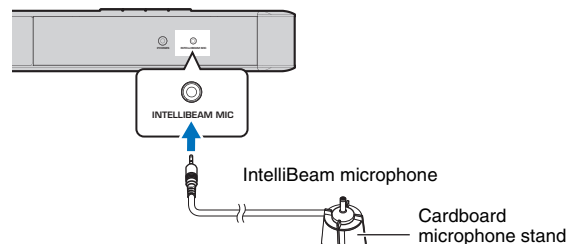
The screen below is displayed after connecting IntelliBeam microphone to the unit.

```
         AUTO SETUP
    (PREPARATION & CHECK)
Please connect the MIC.
Please place the MIC at least
1.8m/6ft away from Sound Pro-
jector. The MIC should be set
at ear level when seated.
Measurement takes about 3min.
After [ENTER] is pressed,
please leave the room.
[ENTER]:Start [RETURN]:Cancel
```

"AUTO SETUP" in the "IntelliBeam" menu can automatically adjust the following two settings.

Beam	This feature optimizes the beam angle so that the parameter best matches your listening environment.
Sound	This feature optimizes sound quality for each channel by measuring the acoustic characteristics of the listening environment.

"BEAM OPTIMIZE ONLY" or "SOUND OPTIMIZE ONLY" can be measured separately in the setup menu (p. 34).

!

• Follow the instructions below and then leave the room. If you remain in the room, you may obstruct the beam, or the microphone may pickup any sounds you make, possibly resulting in improper measurement.

4 **Press the ENTER key to start the AUTO SETUP procedure and then leave the room within 10 seconds.**

The screen automatically changes during the AUTO SETUP procedure.

```
      AUTO SETUP START
   Will begin in 10 sec.
   Please leave the room.

        - - - - - - - - - -

        [RETURN]:Cancel
```

(After 3 min.)

```
        SHOW RESULT
    MEASUREMENT COMPLETE.

ENVIRONMENT CHECK: Success
BEAM MODE: 5Beam/Plus2


[ENTER]:Save set-up.
[RETURN]:Do not save set-up.
```

If the AUTO SETUP procedure is complete, this unit rings the chimes.
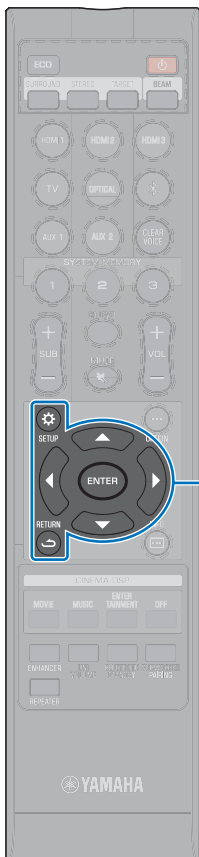
△/▽/▷
ENTER
SETUP (✿)
RETURN (↩)

💡

- The AUTO SETUP procedure takes about 3 minutes.
- To cancel the AUTO SETUP procedure after it is started, or if you do not want to apply the results, press the RETURN (↩) key.
- If an error occurs, an error buzzer sounds and an error message is displayed. For details on error messages, see "If an error message is displayed" (p. 36).
- Depending on the environment of your listening room, the front left and right beam angles and left and right surround beam angles may be set to the same value even if "BEAM MODE: 5Beam" is displayed as a result.

5 **Press the ENTER key to confirm the results.**

The measurement results are applied and saved in the unit.

```
           AUTO SETUP COMPLETE


   Please remove the MIC
   from Sound Projector
   and the listening position.

   Press [SYSTEM MEMORY] key
   to save set-up in the memory.
```
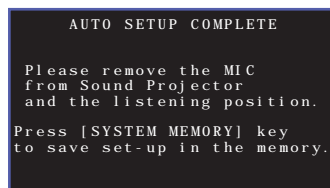
- You can save several measurement results by pressing the SYSTEM MEMORY 1, 2, or 3 key.

  When the SYSTEM MEMORY 1 key is pressed, "M1 Saving" is displayed, and settings are saved.

- If ambient noise is picked up after measurement begins, an error message is displayed in the "AUTO SETUP COMPLETE" screen prompting you to begin measurement again. Press the ENTER key to begin measurement again.

- See page 47 for more information on the system memory function.

6 **Remove the IntelliBeam microphone.**

The "AUTO SETUP COMPLETE" screen closes.

The IntelliBeam microphone is sensitive to heat, so should not be placed anywhere where it could be exposed to direct sunlight or high temperatures (such as on top of AV equipment).
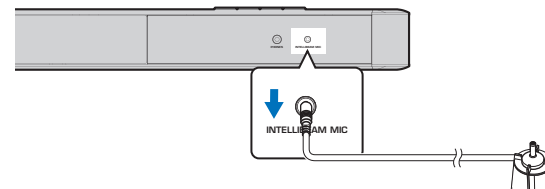
❏ **AUTO SETUP via setup menu**

"BEAM OPTIMIZE ONLY" or "SOUND OPTIMIZE ONLY" can be measured separately in the setup menu.

1 **Place the IntelliBeam microphone at your normal listening position, and press the SETUP (✿) key.**

See "Installing the IntelliBeam microphone" (p. 32) for instructions on positioning the IntelliBeam microphone.

2 **Press the △/▽ key to select "BEAM" and then press the ▷ key or ENTER key.**

3 **Press the △/▽ key to select "IntelliBeam" and then press the ▷ key or ENTER key.**
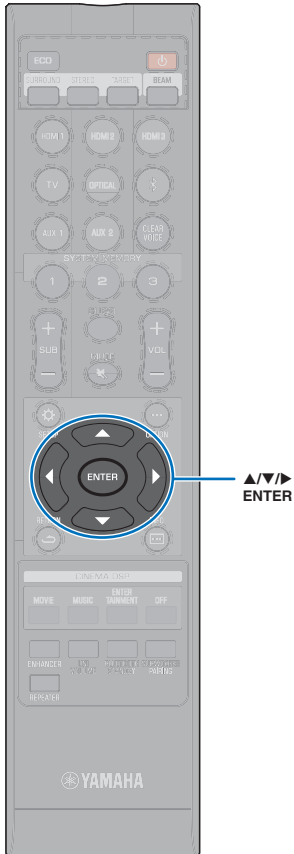
4 **Press the ▲/▼ key to select one of the items below and then press the ▶ key or ENTER key.**

Settings

BEAM+SOUND OPTIMIZE	Select this optimization feature if you make settings for the first time. This menu takes about 3 minutes.
BEAM OPTIMIZE ONLY	Use to optimize the beam angle so that the parameter best matches your listening environment. This menu takes about 1 minute.
SOUND OPTIMIZE ONLY	Use to optimize the beam delay, volume, and quality so that the parameters best match your listening environment. This menu takes about 2 minutes. You must optimize the beam angle with "BEAM OPTIMIZE ONLY" before starting "SOUND OPTIMIZE ONLY". Select this optimization feature in the following cases: • If you have opened or closed the curtains in your listening room before using this unit • If you have manually set the beam angle with "BEAM OPTIMIZE ONLY".

5 **Connect the IntelliBeam microphone to this unit after "AUTO SETUP (PREPARATION & CHECK)" screen is displayed.**

For details on connecting IntelliBeam microphone, refer to "Using AUTO SETUP (IntelliBeam)" (p. 33).

6 **Follow steps 4, 5, and 6 under "Using AUTO SETUP (IntelliBeam)" to configure settings, and then remove the microphone.**

• When the AUTO SETUP procedure is performed from the setup menu, the menu selection screen of the setup menu appears.

❑ If an error message is displayed

If an error message is displayed on the TV screen, see "Error messages" below to determine the cause and resolve the problem. Follow the instructions displayed on the TV screen to begin measurement again.

Error messages

Error message	Cause	Remedy
ERROR E-1 **Please test in quieter environment.**	There is too much noise in your listening room.	Make sure that your listening room is as quiet as possible. You may want to choose certain hours during the day when there is not much noise coming from outside.
ERROR E-2 **No MIC detected. Please check MIC connection and re-try.**	The IntelliBeam microphone is disconnected.	Connect the IntelliBeam microphone to the INTELLIBEAM MIC jack on the front of this unit and begin measurement again.
ERROR E-3 **Unexpected control is detected. Please re-try.**	Some other operations were performed on this unit.	Begin measurement again. Do not perform any other operations with this unit during measurement.
ERROR E-4 **Please check MIC position. MIC should be set in front of Sound Projector. Please re-try.**	The IntelliBeam microphone is not placed in front of this unit.	Position the IntelliBeam microphone in front of this unit and begin measurement again.
ERROR E-5 **Please check MIC position. MIC should be set above 1.8m/ 6.0ft and re-try.**	The IntelliBeam microphone is not placed in the right distance from this unit.	Position the IntelliBeam microphone at a distance of more than 1.8 m (6.0 ft) from this unit and begin measurement again.
ERROR E-6 **Volume level is lower than expected. Please check MIC position/connection and re-try.**	The IntelliBeam microphone cannot collect the sound produced by this unit.	Position the IntelliBeam microphone properly, check the connection, and then begin measurement again.
ERROR E-7 **Unexpected error happened. Please turn off and re-try.**	An internal system error occurred.	Press the ⏻ key to turn off this unit, then run AUTO SETUP procedure again after turning this unit on.
ERROR E-8 **Headphones are connected. Please unplug the headphones and re-try.**	Headphones are connected.	Unplug the headphones and begin measurement again.
ERROR E-9 **Please check the connection with subwoofer.**	The subwoofer is not connected properly.	Be sure the subwoofer is properly connected (p. 29) and configure the "WIRELESS FUNCTION" of "SUBWOOFER" in the setup menu (p. 56).

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

▊ What is the HDMI control function?

HDMI Control allows you to operate external devices via HDMI. If you connect a TV that supports HDMI Control to the unit with an HDMI cable, you can control the unit (such as power and volume) with TV remote control operations. You can also control playback devices (such as HDMI Control-compatible BD/DVD players) connected to the unit with an HDMI cable.

Coordinated functions via the TV remote control

Remote control of TV (Example)

1. Turn on/off

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

2. Switch input sources

- The input source for this unit switches accordingly when the TV's input source is switched. The input source for this unit also switches when a BD/DVD player is selected as the input source from the TV's menu display.
- The input source can be switched while this unit is turned off.

3. Control volume

This unit's volume can be adjusted when "HDMI AUDIO OUT" (p. 59) is set to "AMP" (default).

4. Switch the audio output device (TV or this unit)

First, try the operations described above with your TV's remote control. If you are able to perform these operations, you may continue operating this unit with your TV's remote control. The HDMI control function can be used with some HDMI devices by simply activating the function. If you are not able to perform these operations, configure HDMI control settings (p. 38).
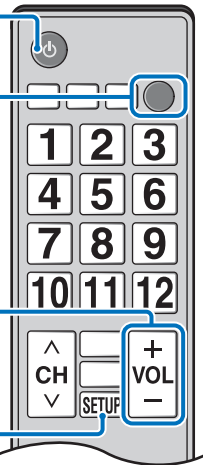
With some TVs, the following additional functions can be controlled.

- Turning the UniVolume function on and off
- Navigating this unit's menus displayed on the TV

☀️

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

HDMI1

Setting the HDMI control function

1 **Turn on the unit, TV, and playback devices.**

2 **Activate the HDMI control function on the unit, TV, and playback devices such as BD/DVD players that support this function.**

For this unit, set "HDMI CONTROL" to "ON". The default setting is "OFF" (p. 59).

For playback devices, refer to the manual supplied with each device.

3 **Turn off the main power of the TV and then turn off the unit and playback devices.**

4 **Turn on the unit and playback devices and then turn on the TV.**

5 **Switch the TV input to display the video from the unit.**

6 **Select the input source of this unit to BD/DVD player and check whether the image in the player is correctly displayed or not.**

If the BD/DVD player is connected via HDMI IN1 jack, press the HDMI1 key.

HDMI 1 ———— Input source name
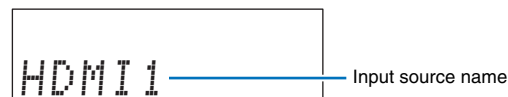
7 **Check that the unit is properly synchronized with the TV by turning off the TV or adjusting the TV volume with the TV remote control.**

If the HDMI control function is not working

Be sure that all devices are correctly connected to this unit, and that settings are properly configured as described below.

– "HDMI CONTROL" (p. 59) is set to "ON" in the setup menu.
– The HDMI control function is enabled on the TV.

The example of TV settings

• From the setup menu on your TV, select "Link setting" → "HDMI control setting", then set a setting such as "HDMI control function" to "ON".

• Set audio output to any option other than TV.

When the HDMI control function is not still working even after the above has been checked,

– Turn off this unit and the TV, and then turn them back on again.
– Disconnect the AC power supply cable of the unit and external devices connected to the unit via HDMI cable. Plug them in again after about 30 seconds.
– After OPTICAL, AUX1, or AUX2 input has been enabled, switch the input source for the TV and this unit to the devices connected via HDMI cable.

Changing the connection method and connected devices

When the connected devices and jacks are changed, reset this unit with the following procedure.

1 **Disable the HDMI control function of the TV and BD/DVD player, turn off all connected devices, and change the connections.**

2 **Perform steps 1 to 7 of "Setting the HDMI control function".**
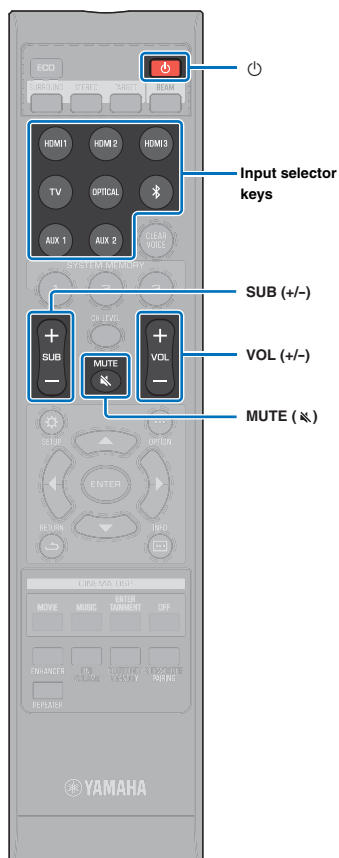
PLAYBACK

Basic operation for playback

1 Press the ⏻ key to turn on this unit.

2 Turn on devices (TV, BD/DVD player, game console, etc.) connected to this unit.

3 Select a device by pressing the input selector key corresponding to the connection of external devices.

Press the HDMI1 key to play audio/video content from a BD/DVD player connected via the HDMI IN1 jack.

HDMI1 ———— Input source name
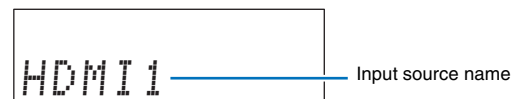
4 Play back a device selected in step 3.

5 Press the VOL (+/-) key to adjust the volume. Press the SUB (+/-) key to adjust the volume of the subwoofer.

- When audio is output from both TV speaker and this unit, mute the TV sound.
- When sound input to HDMI IN jack is output from the TV, the volume level does not change even if you press the VOL (+/-) key or the MUTE (🔇) key.
- To mute the sound, press the MUTE (🔇) key. The VOL indicator in the front panel display blinks. To resume the volume, press the MUTE (🔇) key again or press the VOL (+/-) key.

☼
- The subwoofer volume can be adjusted separately from the whole volume.
- Lowering the subwoofer volume is recommended at night.

6 Select from surround playback, stereo playback, or target playback mode, and configure sound setting according to your preferences (p. 40).

Press the ⏻ key to turn off this unit after use.

Input selector keys

SUB (+/–)

VOL (+/–)

MUTE (🔇)
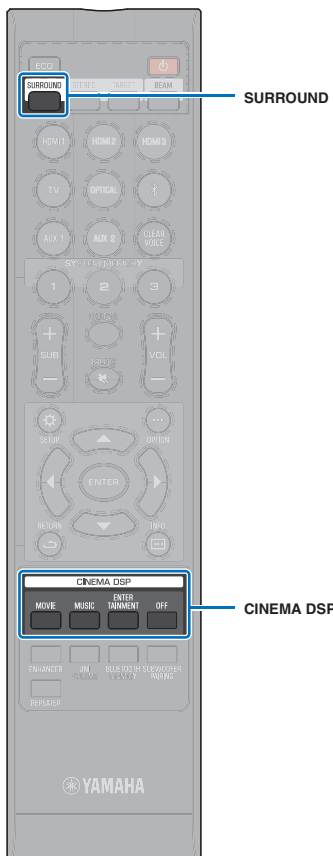
Enjoying sound based on your preference

This unit supports the following capabilities to enjoy sound based on your preference.

- Surround playback mode
- CINEMA DSP
- Switching between audio output methods for surround playback (p. 42)
- Stereo playback mode (p. 44)
- Target playback mode (p. 44)
- Enjoying surround sound with headphones (p. 44)
- Compressed Music Enhancer (p. 45)
- CLEAR VOICE (p. 45)
- Volume adjustment for each channel (p. 45)

SURROUND

CINEMA DSP

Playback with surround sound

Surround sound is output as sound beams.

1 **Press the SURROUND key to switch to surround playback mode.**

Enjoying realistic surround sounds (CINEMA DSP)

Yamaha's exclusive CINEMA DSP technology reproduces sound fields (sound amplitudes) for optimal surround sound playback.

1 **Press the CINEMA DSP (MOVIE, MUSIC, or ENTERTAINMENT) key repeatedly to select the desired program.**

The CINEMA DSP category name appears in the front panel display and the CINEMA DSP indicator (p. 8) glows.

- The CINEMA DSP programs are not available in the following conditions.
  - Audio signals with sampling frequency of higher than 48 kHz are being played back.
  - When using My Surround function (p. 43).
- This unit automatically memorizes the settings assigned to each input source. When you select another input, the unit automatically recalls the last settings for the selected input.
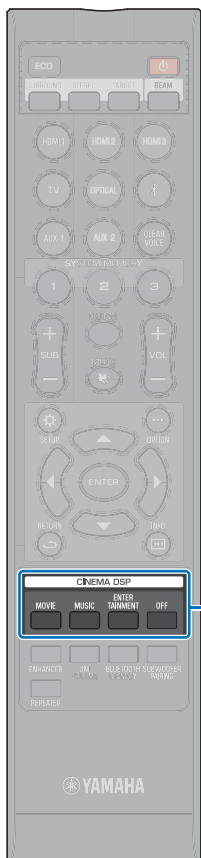
❏ CINEMA DSP options

MOVIE (use the MOVIE key to select)

Sci-Fi	This program clearly reproduces dialogs and special sound effects of the latest science fiction films and lets you feel a broad and expansive cinematic space.
Adventure	This program reproduces the thrilling environment of the latest action films and lets you feel the dynamic and excitement of fast-moving scenes.
Spectacle	This program reproduces the wide and grand environment and lets you have added impressions on spectacular scenes with strong visual impacts.

MUSIC (use the MUSIC key to select)

Music Video	This program produces a vibrant environment and lets you feel as if you are at an actual jazz or rock concert.
Concert	This program creates a rich surround effect of a large round concert hall with a great deal of presence, emphasizing the extension of sounds, and lets you feel as if you are seated close to the center of the stage.
Jazz Club	This program recreates the acoustic environment of "The Bottom Line", a famous jazz club in New York once and lets you feel as if you are seated right in front of the stage.

ENTERTAINMENT (use the ENTERTAINMENT key to select)

Sports	This program reproduces the energetic environment of live sports broadcasting, converging a commentator's voice on the center and broadening the overall atmosphere of the stadium, and lets you feel as if you are seated at an actual stadium or a ball park.
Talk Show	This program reproduces excitement of live talk shows. It enhances the ambience of gaiety while keeping the conversations at a comfortable volume.
Drama	This program stables reverberations that match a wide range of movie genres from serious dramas to musicals and comedies, and offers an optimum 3D feeling, reproducing effects tones and background music softly but cubically around clear words.
Game	This program is suitable for role-playing and adventure games. It utilizes the sound field effects for movies to represent the depth and spatial feeling of the field during play, while offering movie-like surround effects in the movie scenes in the game.

Playback without using CINEMA DSP (press the OFF key)

DSP Off	Audio content is played back without using CINEMA DSP. 2-channel audio is expanded to surround sound. The surround decoder used can be selected (p. 58).

CINEMA DSP
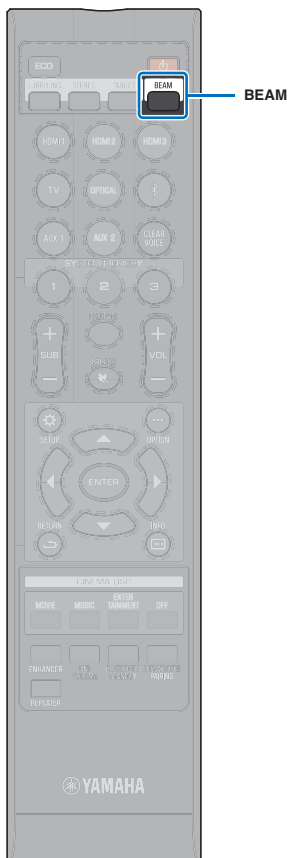
BEAM

Switching between audio output methods for surround playback

To achieve optimal surround sound effects, you can switch between sound beam output methods based on listening content or room setup. See "Sound beam output options and characteristics" (p. 43) to specify the optimal sound beam output method.

1 **Press the BEAM key to switch the sound beam output method.**

The following output methods can be selected from the sound beam channel output settings (p. 55).

CHANNEL OUT	Sound beam output method
5.1ch	5BEAM (5 Beam) ST+3BEAM (Stereo + 3 Beam) 3BEAM (3 Beam) MY SUR. (My Surround)
7.1ch	5BEAM+2 (5 Beam Plus 2) ST+3BEAM+2 (Stereo + 3 Beam Plus 2) 3BEAM (3 Beam) MY SUR. (My Surround)
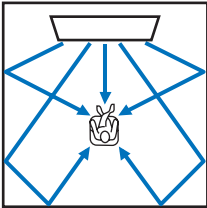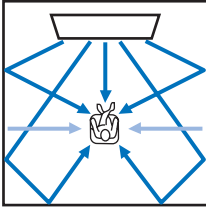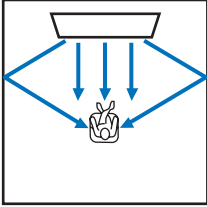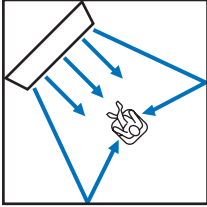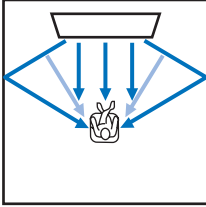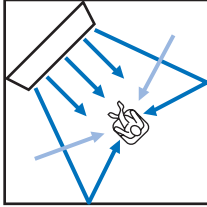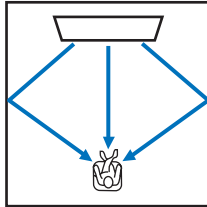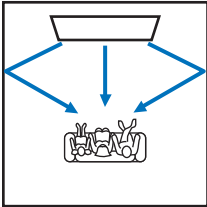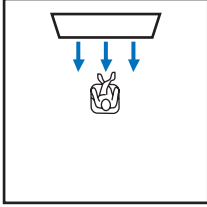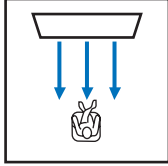
• The default sound beam channel output setting is "AUTO" (p. 55). At the default setting, sounds are output from the appropriate number of channels according to input signal as indicated below.

With 2-/5.1-channel input: 5.1-channel output

With 6.1-/7.1-channel input: 7.1-channel output

• The output method can be locked at 5.1 or 7.1-channel output.

• "SURROUND" is displayed when headphones are used. Switching between sound beam output methods is not possible.

❏ Sound beam output options and characteristics

Objective/possible scenario	Sound beam output method
For enjoying surround sound effects on the movie, etc. to the fullest	**5BEAM (5 Beam)** Outputs sound beams from the front right and left, center, and surround right and left channels. **5BEAM+2 (5 Beam Plus 2)** Outputs sound beams from the front right and left, center, and surround back right and left channels. Surround left channel sources are mixed with front left and surround back left channel sources. Surround left channel (⟶) content is generated from the front left and surround back left channels that output sound beams. The same is true for right channels.
For watching live recordings	**ST+3BEAM (Stereo + 3 Beam)** Outputs normal sound from the front right and left channels and sound beams from the center and surround right and left channels. **ST+3BEAM+2 (Stereo + 3 Beam Plus 2)** Outputs normal sound from the front right and left channels and sound beams from the center and surround back right and left channels. Surround left channel sources are mixed with front left and surround back left channel sources. Surround left channel (⟶) content is generated from the front left and surround back left channels that output sound beams. The same is true for right channels.
For a group watching movies, or when watching a movie from a position near a back wall.	**3BEAM (3 Beam)** Outputs sound beams from the front right and left and center channels. Other channel sources are mixed into the front right and left channels.
For small listening areas or when surround sound effects are insubstantial due to the listening room conditions.	**MY SUR. (My Surround)** For the full effect of My Surround, your listening position must face toward the front of this unit. Even surround sound effects are insubstantial with other settings, you can enjoy sound with surround effects.
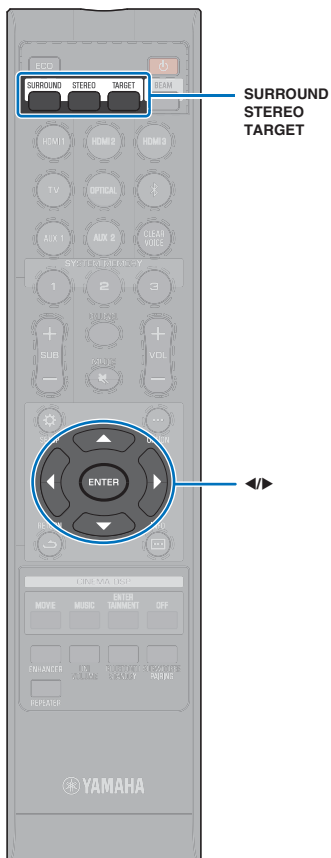
2-channel playback (stereo playback mode)

The front channels are the primary channel sources for output of stereo sound.

1 **Press the STEREO key to switch to stereo playback mode.**

Delivering sound to a specified location (target playback mode)

Target playback mode outputs sound beams from a single channel for optimal listening from a specific position.

Refer to the illustrations below.

For listening at low volumes, such as at night
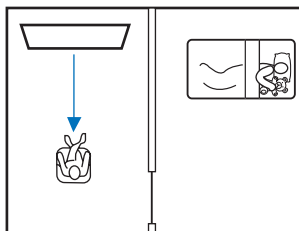
For clear sound at a distance
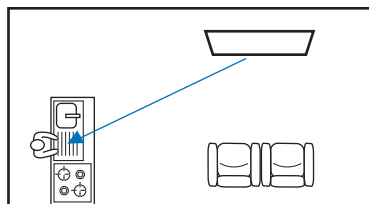
Beam angle can be adjusted while audio or video content is playing.

1 **Press the TARGET key.**

2 **Use the ◄/► key to adjust beam angle.**

The angle to the left increases by 2 degrees each time the ◄ key is pressed; the angle to the right increases by 2 degrees each time the ► key is pressed.

A maximum angle of 90 degrees in either direction is possible.

Beam angle adjusted 16 degrees to the left

TARGET

TARGET L16

Disabling target playback mode

Press the SURROUND key or STEREO key to turn target playback mode off.

• The CINEMA DSP programs are not available in target playback mode.

• Bass output is controlled to prevent sounds from spreading in other directions.

Enjoying surround sound with headphones

Plug the headphones into the PHONES jack.

The Virtual Surround Headphones technology virtually reproduces surround sound and stereo audio content in the same way it is reproduced for audio playback through speakers (p. 44). The CINEMA DSP (p. 40) can also be utilized.

• Headphones volume and tones (BASS/TREBLE) can be configured separately from speaker configuration (p. 64).

CLEAR VOICE

CH LEVEL

SUB (+/−)

▲/▼
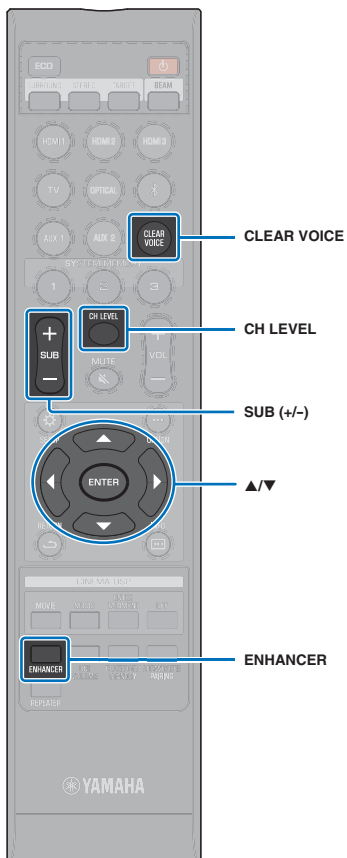
ENHANCER

Playing back digitally compressed formats (such as MP3, etc.) with enriched sound (Compressed Music Enhancer)

Play back digitally compressed formats such as MP3, with emphasis on bass and treble for extended dynamic sounds.

1 **Press the ENHANCER key to turn on the Compressed Music Enhancer function.**

Press the key again to turn off the function.

- By default, this function is set to "ON" when the input source is *Bluetooth*. It is set to "OFF" with any other input source.
- Compressed Music Enhancer does not work in case of the following digital audio signals:
  – HD audio signal (Dolby TrueHD, DTS-HD Master Audio, etc.)
  – Signal that sampling rate is more than 48 kHz.
- This unit automatically memorizes the "ON" and "OFF" settings assigned to each input source. When you select another input, the unit automatically recalls the last settings for the selected input.

Clear playback of human voices (CLEAR VOICE)

Human voices, such as lines in movies and TV shows, or news and sports commentary, are played back very clearly.

1 **Press the CLEAR VOICE key to turn on the CLEAR VOICE function.**

Press the key again to turn off the function.

Adjusting volume for each channel

Adjust the volume of playback for each channel (audio in each direction) so that sounds are evenly distributed in their respective directions.

- Refer to "CHANNEL LEVEL" (p. 56) when adjusting the volume of each channel with the test sound.

1 **Press the CH LEVEL key to select adjustable channel from the followings.**

FL: Front left

FR: Front right

C: Center

SL: Surround left

SR: Surround right

SW: Subwoofer
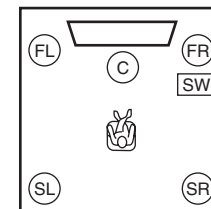
- SW (subwoofer) volume can only be adjusted in stereo playback mode (p. 44).
- Volume for the following channels can be adjusted when MY SUR. (My Surround) is selected (p. 43).
  C: Center
  SL/SR: Surround (left/right)
  SW: Subwoofer

2 **Press the ▲/▼ key to adjust the volume.**

Adjustable range: -20 to +20

Example of volume balance

- If you have problems hearing words: Select C (center) to increase the level.
  When the sound is not like surround sound: Select SL (surround left) and SR (surround right) to increase the level.
- The volume of the subwoofer also can be adjusted by using the SUB (+/-) key.
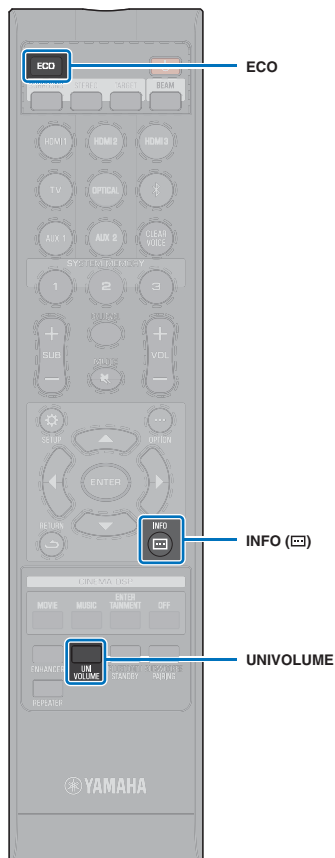
Using useful features

Automatic volume level adjustment (UniVolume)

Turn the UniVolume function on/off. When this function is activated, volume differences that occur when switching between input sources or between audio sources are automatically adjusted.

1 Press the UNIVOLUME key to turn on the UniVolume function.

Press the key again to turn off the function.

☼
- The default setting is "OFF".
- We recommend turning off the UniVolume function during playback of music.

Saving energy with the Eco function

Using the Eco function to reduce the amount of power consumed by this unit.

When this function is enabled, the front panel display turns off, and the maximum volume is reduced.

1 Press the ECO key.

"ECO ON" is displayed and the front panel display turns off.

```
ECO ON
```

The brightness of STATUS indicator is minimized.

Disabling the Eco function

Press the ECO key.

"ECO OFF" is displayed in the front panel display.

❗
- Disable this function for louder playback.
- When this function is enabled, "DIMMER" in the setup menu (p. 60) and "MAX VOLUME" in the advanced setup menu (p. 66) cannot be configured.

Switching information displayed in the front panel display

The input source and surround information is displayed.

1 Press the INFO (▥) key.

Display changes as follows each time the INFO (▥) key is pressed. The specific information displayed varies according to the input source.

Input: Name of the input source
("BLUETOOTH", or the name of the connected device, is displayed with *Bluetooth* input.)

↓

Beam: Beam mode setting (p. 42)

↓

Decoder: Current decoder (p. 58)

↓

Cinema DSP: CINEMA DSP program (p. 40)

↓

ECO

INFO (▥)

UNIVOLUME
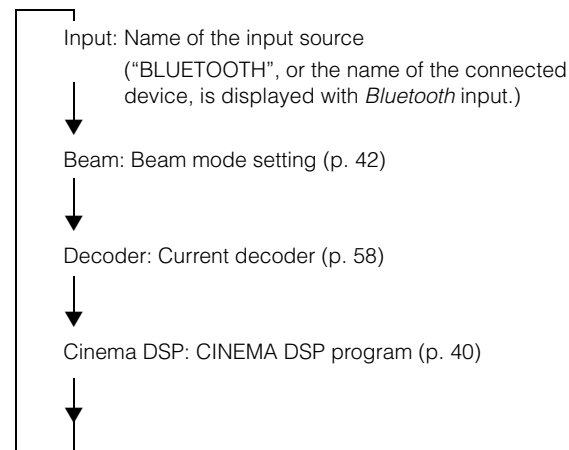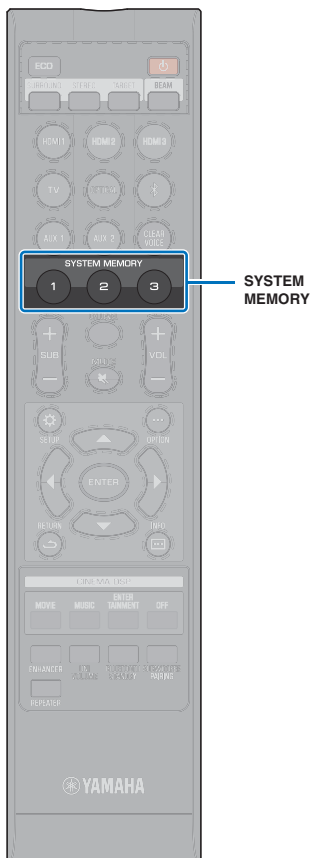
Saving this unit's settings to system memory

Three sets of settings can be saved to this unit's memory, enabling quick loading of settings optimized for specific listeners or environmental changes as needed. Refer to the examples below to save IntelliBeam measurement results and settings such as surround setting to system memory, or to load a pre-defined settings.

Example 1   Saving the IntelliBeam measurements for different environments to system memory

If materials that absorb sound, such as curtains, obstruct sound beams, the effectiveness of those beams decreases. Measure with the curtains open and again with them closed. Save both sets of settings to SYSTEM MEMORY 1 and 2, and load the appropriate settings as needed.

Example 2   Saving frequently used settings to system memory

SYSTEM MEMORY 1: Surround setting
SYSTEM MEMORY 2: A target playback mode setting that projects sound beams toward the kitchen
SYSTEM MEMORY 3: A target playback mode setting that projects sound beams toward the living room

Example 3   Saving preferred listener settings to system memory

SYSTEM MEMORY 1: Settings configured for Dad
SYSTEM MEMORY 2: Settings configured for Mom
SYSTEM MEMORY 3: Settings configured for parties

The following settings can be saved to system memory.

• IntelliBeam measurement results (p. 33)

See page 34 for instructions on saving measurement results for IntelliBeam.

(When "HORIZONTAL ANGLE", "BEAM TRAVEL LENGTH", "FOCAL LENGTH", and "IMAGE LOCATION" are configured in the setup menu (p. 51), these settings are applied to IntelliBeam's AUTO SETUP measurements.)

• Surround playback (p. 40), stereo playback (p. 44), or target playback mode (p. 44)

(The sound beam output method (p. 42) can also be saved for surround playback mode.)

• Surround: CINEMA DSP (p. 40)

• Channel level (p. 45, 56)

• Tone control (p. 64)

Saving settings to system memory

1 **Hold down the SYSTEM MEMORY 1, 2, or 3 key until "M1 Save?", "M2 Save?", or "M3 Save?", corresponding to the button pressed, is displayed.**

2 **Press the same SYSTEM MEMORY key again.**

When the SYSTEM MEMORY 1 key is pressed, "M1 Saving" is displayed, and settings are saved.

• If system settings are already stored in the selected memory number, this unit overwrites the old settings.

• The memory function cannot be set when "MEMORY PROTECT" is set to "ON" in the advanced setup menu (p. 65).

Loading settings

1 **Press the SYSTEM MEMORY 1, 2, or 3 key corresponding to settings to be loaded.**

If the SYSTEM MEMORY 1 key is pressed, "M1 Load?" will be displayed.

2 **Press the same SYSTEM MEMORY key again.**

When the SYSTEM MEMORY 1 key is pressed, "M1 Loading" is displayed, and settings are loaded.

SYSTEM MEMORY

Listening to the sound from a *Bluetooth* device

You can listen to the wireless sound from a *Bluetooth* device, such as a smartphone or digital music player.

See also the instruction manual supplied with the *Bluetooth* device for more information.
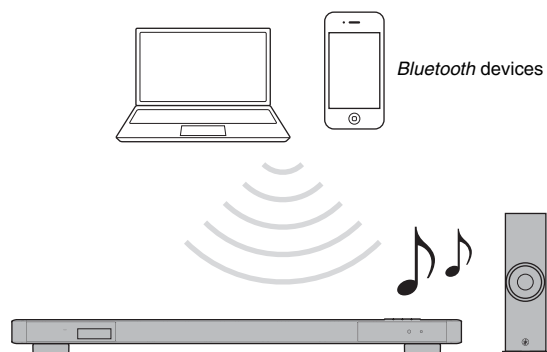
Bluetooth devices

Perform the following steps on the *Bluetooth* device to be connected.

For the first *Bluetooth* connection	**For subsequent *Bluetooth* connection**

Pair the unit and *Bluetooth* device

Connect *Bluetooth* device and play back

Pairing a *Bluetooth* device with the unit

When connecting to a *Bluetooth* device for the first time, "pairing" between the device and unit is required. Pairing is required for connecting a *Bluetooth* device for the first time.

1   Press the ⃰ key on the remote control.

"*Bluetooth*" is selected as the input.

BLUETOOTH

2   Turn on the *Bluetooth* device to be paired, and perform pairing.

The operation varies depending on the device. Refer to the instruction manual supplied with the device.

3   Select "YSP-2500 Yamaha" in the *Bluetooth* device list on the device.

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

Bluetooth **ON**
* * * * * * * *
YSP-2500 Yamaha
* * * * * * * *

PIN 0 0 0 0
1	2	3
4	5	6
7	8	9
	0	
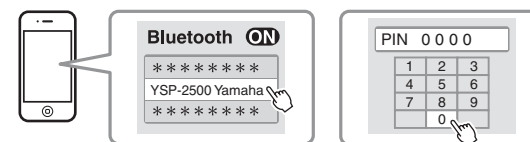
When pairing is completed, or a completion message appears on the *Bluetooth* device.

💡

- Perform pairing with the *Bluetooth* device and unit within 10 m (33 ft) of each other.
- Up to eight *Bluetooth* devices can be pairing with the unit. If a ninth device is paired, the oldest pairing information is deleted.
- If pairing information for a device is deleted, to use that device again, pairing of the device is required again.
- If a *Bluetooth* device is already connected to the unit, terminate that *Bluetooth* connection, then perform pairing with the new device.
- Refer to "Bluetooth" (p. 67) in "Troubleshooting" if paring is not possible.

Playing back audio from a *Bluetooth* device on the unit

1 **Press the ⁂ key on the remote control.**

"*Bluetooth*" is selected as the input.

> BLUETOOTH

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

When a *Bluetooth* device is properly connected, the following is displayed in this unit's front panel display.

> Connect

3 **Play back a song on the *Bluetooth* device.**

💡
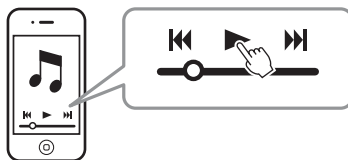
- Perform *Bluetooth* connection with the device and unit within 10 m (33 ft) of each other.
- It may be necessary to select "YSP-2500 Yamaha" in the *Bluetooth* device list again, in the event that a connection problem occurs. You may have to change the output setting to output audio to the unit, depending on the *Bluetooth* device you are using.
- Adjust the volume level of the *Bluetooth* device as required.
- If a *Bluetooth* device is already connected to the unit, terminate that *Bluetooth* connection, then connect with the new device.
- "BLUETOOTH", or the name of the connected device, is displayed in the front panel display. "_" is displayed for non-alphanumeric characters in the device name.

Terminating *Bluetooth* connection

Bluetooth connection is terminated in the following cases. When the *Bluetooth* connection is terminated, "Disconnect" is displayed in this unit's front panel display.

- **The *Bluetooth* device is turned off.**
- **The ⁂ key is pressed for more than 3 seconds.**
- **The unit is turned off.**
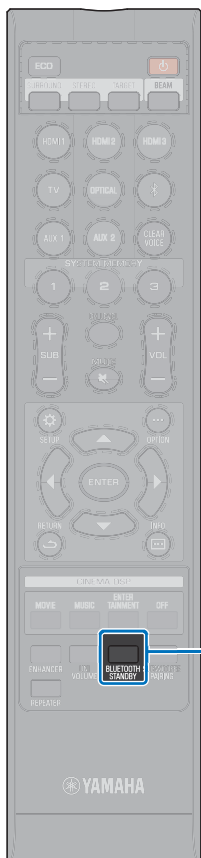
Using the *Bluetooth* standby mode

The *Bluetooth* standby mode allows you to turn on (or off) the unit automatically, that coordinated by the operation of the *Bluetooth* device.

1 **With the unit turned on, hold down the BLUETOOTH STANDBY key for more than 3 seconds.**

When *Bluetooth* standby mode is enabled, the following is displayed in this unit's front panel display.

BT STANDBY

⬇

ON
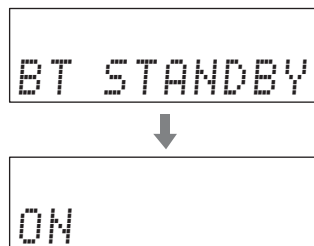
When the *Bluetooth* standby mode is enabled and the unit is turned off, the STATUS indicator glows red (*Bluetooth* standby function is activated).

STATUS

Glows red
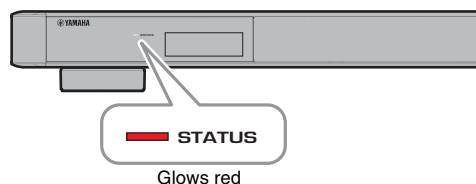
BLUETOOTH STANDBY

Disabling *Bluetooth* standby mode

With the unit turned on, hold down the BLUETOOTH STANDBY key for more than 3 seconds.

BT STANDBY

⬇

OFF
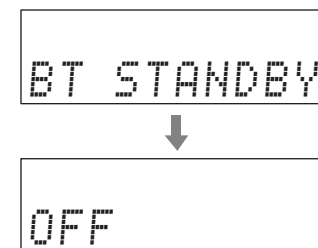
The following functions are available on *Bluetooth* devices with *Bluetooth* standby mode enabled.

Coordinated power on

When a *Bluetooth* device is connected to this unit while it is off, this unit turns on and the input source switches to *Bluetooth*.

Coordinated power off

When a *Bluetooth* device is disconnected from this unit while it is on, this unit turns off.

(Only when *Bluetooth* is selected as the input source.)

Using the HOME THEATER CONTROLLER app

By installing the dedicated free app "HOME THEATER CONTROLLER" to a *Bluetooth* device, such as a smartphone, you can perform various operations easily and conveniently with the *Bluetooth* device. (Setting items: basic operation, sound field program, sound adjustments)

For details on "HOME THEATER CONTROLLER", see the product information on our website.

SETTINGS

Setup menu

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

The setup menu is displayed on, and operated from, the TV screen (it cannot be displayed in the front panel display). See "Displaying the menu screen on the TV" (p. 30) for instructions on displaying the setup menu on the TV.

Setting the setup menu

1 Press the SETUP (✿) key.

```
SETUP MENU
▲              ▶   ▲              ◀▶
BEAM               IntelliBeam
SOUND              HORIZONTAL ANGLE
HDMI               BEAM TRAVEL LENGTH
DISPLAY            FOCAL LENGTH
INFORMATION        IMAGE LOCATION
▼                  CHANNEL OUT
                   SUBWOOFER
                   ▼
```
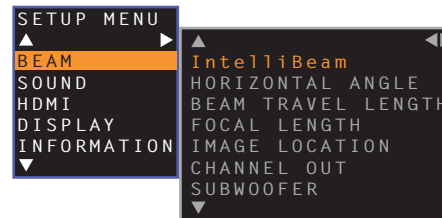
❗
- Hold down the SETUP (✿) key to display "OSD LANGUAGE" directly on the screen (p. 31, 61).

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

Repeat these steps to display the desired menu.

```
SETUP MENU
▲              ▶   ▲              ◀▶
BEAM               IntelliBeam
SOUND              HORIZONTAL ANGLE
HDMI               BEAM TRAVEL LENGTH
DISPLAY            FOCAL LENGTH
INFORMATION        IMAGE LOCATION
▼                  CHANNEL OUT
                   SUBWOOFER
                   ▼
```
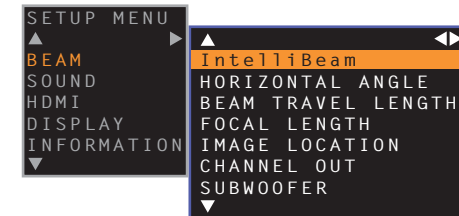
Press the ◀ key or RETURN (↺) key to return to the previous menu.

3 Press the ▲/▼ key to change the setting value of each menu.

4 Press the SETUP (✿) key again to exit the setup menu.

▲/▼/◀/▶
ENTER
SETUP (✿)
RETURN (↺)
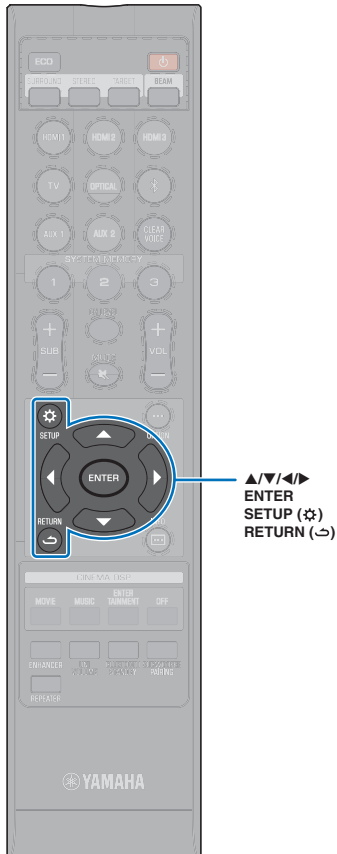
Setup menu list

Menu	Item		Function	Page
BEAM	**IntelliBeam**	**BEAM+SOUND OPTIMIZE**	Optimizes the sound beam and sound settings automatically.	35
		BEAM OPTIMIZE ONLY	Optimizes the sound beam settings automatically.	35
		SOUND OPTIMIZE ONLY	Optimizes the sound settings automatically.	35
	HORIZONTAL ANGLE	**Front L, Front R, Center, Surround L, Surround R**	Adjust horizontal sound beam angle.	53
	BEAM TRAVEL LENGTH	**Front L, Front R, Center, Surround L, Surround R**	Adjust sound beam travel length.	53
	FOCAL LENGTH	**Front L, Front R, Center, Surround L, Surround R**	Adjust sound beam focal length.	54
	IMAGE LOCATION	**ADJUSTMENT, LEFT, RIGHT**	Adjusts the sound position of the front right and left channels.	55
	CHANNEL OUT		Specify sound beam channel output setting.	55
	SUBWOOFER	**WIRELESS FUNCTION**	Specify whether the subwoofer will be connected via a wired or wireless connection.	56
		DISTANCE	Specify the distance from the subwoofer to the listening position.	56
SOUND	**CHANNEL LEVEL**	**Front L, Front R, Center, Surround L, Surround R, Subwoofer**	Adjusts the volume of each channel.	56
	Adaptive DRC		Choose whether or not dynamic range is adjusted based on this unit's volume level.	57
	DYNAMIC RANGE		Specify dynamic range.	57
	MATRIX DECODER		Specify a surround decoder.	58
	Dolby PLIIx PARAMETER	**Center Width, Panorama, Dimension**	Specify Dolby Pro Logic IIx Music parameters.	59
HDMI	**HDMI CONTROL**		Turn HDMI control on or off.	59
	HDMI AUDIO OUT		Choose whether HDMI audio input is played via this unit or the TV.	59
	TV INPUT		Select the TV input jack from TV (optical) jack, AUX1 (analog) jack, and AUX2 (coaxial) jack.	60
DISPLAY	**DIMMER**		Adjust front panel display brightness.	60
	OSD LANGUAGE		Changes the language used for menus displayed on the TV screen.	61
	DISTANCE UNIT		Specify units used for length and distance in menus.	61
INFORMATION	**AUDIO**		Display audio input signal information.	62
	VIDEO		Display video input signal information.	62
	SYSTEM		Display this unit's firmware version.	62

BEAM settings

When "AUTO SETUP" in the "IntelliBeam" menu (p. 33) is used, recommended beam settings are automatically applied by this unit. However, "HORIZONTAL ANGLE", "BEAM TRAVEL LENGTH", "FOCAL LENGTH" (except "Center"), and "IMAGE LOCATION" settings can later be fine-tuned.

Surround sound channel output can also be modified from the "BEAM" menu.

HORIZONTAL ANGLE

| SETUP MENU | ➡ | BEAM | ➡ | HORIZONTAL ANGLE |

Adjust the horizontal angle of sound beams for each channel using test tones.

Adjust toward L (left) to move the direction of the output to the left and adjust toward R (right) to move it to the right.

Beam angle
Angle to left
Angle to right
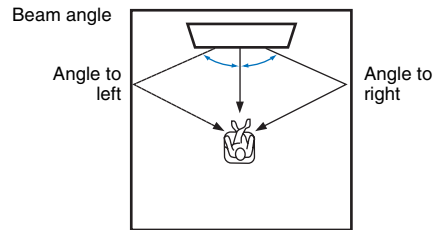
Item
Front L, Front R, Center. Surround L, Surround R

Control range
L90° to R90°
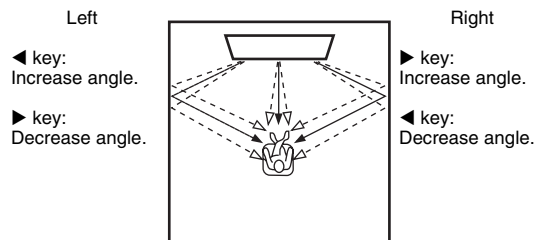
Left

◀ key:
Increase angle.

▶ key:
Decrease angle.

Right

▶ key:
Increase angle.

◀ key:
Decrease angle.

- Channels that cannot be configured are displayed in grey as settings are specified as indicated in "Switching between audio output methods for surround playback" (p. 42).

BEAM TRAVEL LENGTH

| SETUP MENU | ➡ | BEAM | ➡ | BEAM TRAVEL LENGTH |

Specify the distance that sound beams travel for each channel. The distance starts at this unit, ends at the listening position, and includes refraction off a wall. The audio delay is adjusted and sound from each channel arrives at the listening position simultaneously.

Item
Front L, Front R, Center, Surround L, Surround R

Control range
0.3 m to 24.0 m (1.0 ft to 80.0 ft)

The length of each arrow indicates the beam travel length.
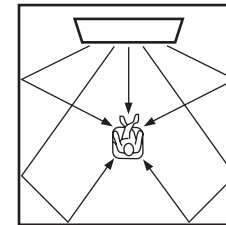
- Configure this setting only when you have adjusted "HORIZONTAL ANGLE".

- Channels that cannot be configured are displayed in grey as settings are specified as indicated in "Switching between audio output methods for surround playback" (p. 42).

FOCAL LENGTH

SETUP MENU	➤	BEAM	➤	FOCAL LENGTH

Expand the optimal listening area (sweet spot).

The illustration below shows how output from all channels is once concentrated in a focal point and then expanded from that point. Apply negative (-) values to broaden the sweet spot, or positive (+) values to narrow the sweet spot.
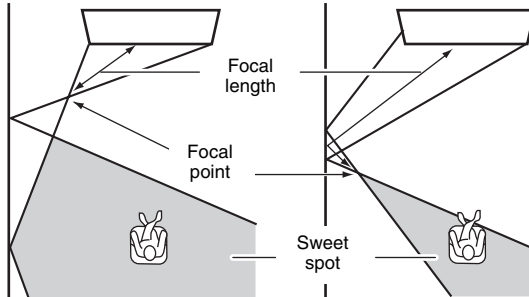
Item
Front L, Front R, Surround L, Surround R

Control range
-1.0 m to +13.0 m (-3.5 ft to +43.5 ft)

Sub menu
Center

Control range
-1.0 m to +13.0 m (default: -0.5 m) (-3.5 ft to +43.5 ft (default: -1.5 ft))

We recommend using the default setting (-0.5 m or -1.5 ft) for "Center".
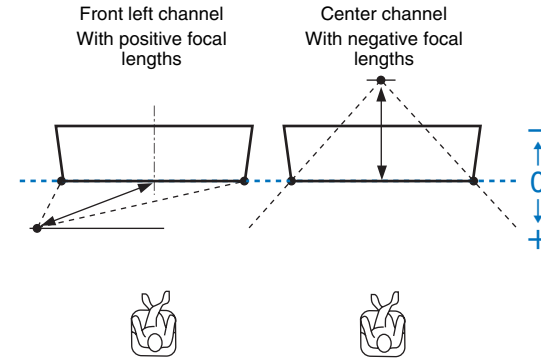
- Channels that cannot be configured are displayed in grey as settings are specified as indicated in "Switching between audio output methods for surround playback" (p. 42).
- "AUTO SETUP" (p. 33) automatically enables a range for optimal listening (sweet spot) that is broader than the width of this unit.

IMAGE LOCATION

SETUP MENU	➜	BEAM	➜	IMAGE LOCATION

If sound from the left and right channels is unnatural, first adjust the volume of each channel (p. 45, 56).

If this does not resolve the problem, adjust left- and right-channel image location.

Use to adjust the direction from which the front left and right channel sound is heard so that each sound can be heard closer to the center channel.

You can adjust this parameter only when "5BEAM+2", "5BEAM" or "3BEAM" is selected in "Switching between audio output methods for surround playback" (p. 42).

❏ ADJUSTMENT

Settings

OFF (default)	No adjustments are made.
ON	Choose "LEFT" or "RIGHT" to adjust the direction from which sound is heard.

❏ LEFT

The higher the percentage, the louder the output from the center channel.

Once "ADJUSTMENT" has been set to "ON", this setting can be selected.

Control range
0% (default) to 95%

Left-channel sound is unnatural   With the front left channel adjusted
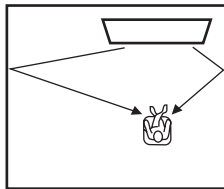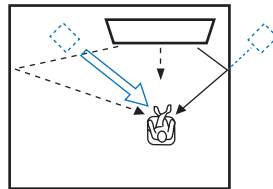
❏ RIGHT

The higher the percentage, the louder the output from the center channel.

Once "ADJUSTMENT" has been set to "ON", this setting can be selected.

Control range
0% (default) to 95%
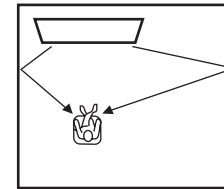
Right-channel sound is unnatural   With the front right channel adjusted
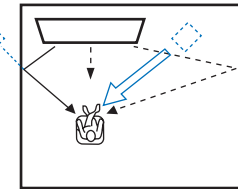
CHANNEL OUT

SETUP MENU	➜	BEAM	➜	CHANNEL OUT

Specify the sound beam output method (5.1ch, 7.1ch, AUTO).

Settings

5.1ch	5.1-channel output
7.1ch	7.1-channel output
AUTO (default)	Sound beams are output from the appropriate number of channels based on input signal as follows. – 2- or 5.1-channel input: 5.1-channel output – 6.1- or 7.1-channel input: 7.1-channel output

💡

• The available sound beam output methods vary depending upon the current "CHANNEL OUT" setting (p. 42).

SUBWOOFER

| SETUP MENU | ➜ | BEAM | ➜ | SUBWOOFER |

Specify whether or not the subwoofer's wireless function will be used, and the distance from the subwoofer to the listening position.

❑ WIRELESS FUNCTION

Turn on/off the subwoofer's wireless function.

Settings

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

❑ DISTANCE

Specify the distance from the subwoofer to the listening position.

Control range

0.3 m (1.0 ft) to 15.0 m (50.0 ft) (default: 2.5 m (8.5 ft))

SOUND settings

CHANNEL LEVEL

| SETUP MENU | ➜ | SOUND | ➜ | CHANNEL LEVEL |

Adjust the volume of each channel to balance output levels. Use test sounds output from each channel to adjust volume for optimal balance.

Item
Front L, Front R, Center, Surround L, Surround R, Subwoofer

Adjustable range
-20 to +20

• When the sound beam output method is set to "MY SUR." (My Surround) with the BEAM key, the following items can be configured.
– Center
– Surround L/R
– Subwoofer

Adaptive DRC

SETUP MENU	→	SOUND	→	Adaptive DRC

Adjust this unit's volume and dynamic range for optimal balance. When "ON" is selected, dynamic range is adjusted as follows for optimal listening at low volumes, such as might be used at night.

When the volume level is low:

Narrow the dynamic range. Loud sound is played back softer, and soft sound which is hard to be listened to is played back louder.

When the volume level is high:

Widen the dynamic range. For both soft and loud sounds, source sound is played back without adjusting volume.
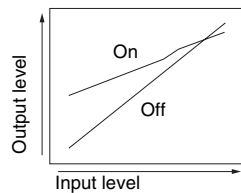
Volume: low
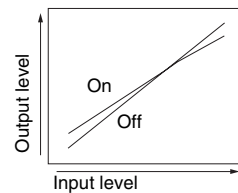
Volume: high

Settings

OFF	The dynamic range is not adjusted automatically.
ON (default)	Adjust the dynamic range automatically.

- When set to "ON", "DYNAMIC RANGE" is automatically set to "Max".

- This setting is not available when the UniVolume function is enabled.

DYNAMIC RANGE

SETUP MENU	→	SOUND	→	DYNAMIC RANGE

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

Settings

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

- "Adaptive DRC" is automatically set to "OFF" when the settings other than "Max" is selected.

MATRIX DECODER

SETUP MENU	➜	SOUND	➜	MATRIX DECODER

Set the surround decoder.

When this unit plays back 2-channel or 5.1-channel sources in the surround mode, surround decoder enables them playback for 7.1-channel. You can enjoy a variety of surround sound effects by switching the decoder.

To enable a surround decoder, press the CINEMA DSP key to select "DSP Off".

Settings

PLII Movie* (default)	Use the Dolby Pro Logic II decoder suitable for movies.
PLII Music*	Use the Dolby Pro Logic II decoder suitable for music.
PLII Game*	Use the Dolby Pro Logic II decoder suitable for games.
Neo:6 Cinema	Use the DTS Neo: 6 decoder suitable for movies.
Neo:6 Music	Use the DTS Neo: 6 decoder suitable for music.

* When 7.1-channel audio is output based on the selected sound beam output method (p. 55), the Dolby Pro Logic PLIIx surround decoder is used.

🔆

- Decoders are disabled when stereo playback mode (p. 44), My Surround (p. 43, 45), or target playback mode (p. 44) is enabled.
- Dolby Pro Logic IIx Music parameters (Center Width, Panorama, and Dimension) can be adjusted from the setup menu (p. 59).

❑ **About the surround decoder for playback of 5.1-channel sources**

When "CHANNEL OUT" (p. 55) is set to "7.1ch", this unit decodes 5.1-channel sources and then playback them in up to 7.1-channel surround. One of the following decoders is automatically selected depending on the input signals.

Input signal (5.1 ch)	Decoder
PCM, Dolby Digital, Dolby Digital Surround EX, Dolby TrueHD, Dolby Digital Plus	Dolby Pro Logic IIx Movie Dolby Pro Logic IIx Music
DTS, DTS-ES matrix, DTS-HD Master Audio, DTS-HD High Resolution Audio, DTS Express	DTS-ES matrix
DTS-ES discrete	DTS-ES discrete

Dolby PLIIx PARAMETER

SETUP MENU	➜	SOUND	➜	Dolby PLIIx PARAMETER

Adjust Dolby Pro Logic IIx Music surround decoder parameters.

!

• This setting can be configured only when "MATRIX DECODER" (p. 58) in the setup menu is set to "PLIIx Music".

❑ Center Width

The greater the value, the broader the sound to the left and right. Smaller values restrict sound to the center.

Adjustable range

0 to 7 (default: 3)

❑ Panorama

When this is set to "ON", sounds from the front left and right channels are routed to the left and right for a surround, panoramic effect.

Settings

OFF (default), ON

❑ Dimension

This setting adjusts the difference in levels between the front and surround channels. The greater the value, the higher the volume from the front channel. The smaller the value, the higher the volume from the surround channels.

Adjustable range

-3 to +3 (default: 0)

HDMI setup

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

HDMI CONTROL

SETUP MENU	➜	HDMI	➜	HDMI CONTROL

Turn HDMI control (p. 37) on or off.

Settings

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

HDMI AUDIO OUT

This setting can be configured only when "HDMI CONTROL" is set to "OFF".

SETUP MENU	➜	HDMI	➜	HDMI AUDIO OUT

Use to select a device to play back HDMI audio signals.

Settings

AMP (default)	Play back the input sound signal.
TV	Plays audio content from the TV connected to the HDMI OUT (ARC) jack.

☀

• When "HDMI CONTROL" is set to "ON", select the audio output device based on the settings configured for the TV connected to this unit.

• HDMI video signals input to one of the HDMI IN jacks of this unit are always output from the HDMI OUT (ARC) jack of this unit.

TV INPUT

SETUP MENU	➡	HDMI	➡	TV INPUT

If your TV is not ARC compatible (or if the ARC feature has been disabled), TV audio is input via the TV (optical) jack (default). This unit's input source can be changed to the AUX2 (coaxial) jack or AUX1 (analog) jack.

Settings
OPTICAL [TV] (default), ANALOG [AUX1], COAXIAL [AUX2]

- If this unit's input source is switched to "COAXIAL [AUX2]":

  Audio is input from the device (TV) connected to the AUX2 (coaxial) jack on this unit when the TV key is pressed. Audio is input from the device connected to the TV (optical) jack on this unit when the AUX2 key is pressed.

- If this unit's input source is switched to "ANALOG [AUX1]":

  Audio is input from the device (TV) connected to the AUX1 (analog) jack on this unit when the TV key is pressed. Audio is input from the device connected to the TV (optical) jack on this unit when the AUX1 key is pressed.

DISPLAY settings

DIMMER

SETUP MENU	➡	DISPLAY	➡	DIMMER

Adjust the brightness of the front panel display. The smaller the value, the dimmer the display.

Settings
-5 (off) to -1, 0 (brightest) (default)

- If this function is set to "-5", the display is at minimum brightness only when operations are performed with this unit. The STATUS indicator will be displayed at minimum brightness.
- When the Eco function is activated, this function cannot be configured (p. 46).

OSD LANGUAGE

| SETUP MENU | ➡ | DISPLAY | ➡ | OSD LANGUAGE |

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

Settings

日本語	Menus are displayed in Japanese.
ENGLISH (default)	Menus are displayed in English.
DEUTSCH	Menus are displayed in German.
FRANÇAIS	Menus are displayed in French.
ESPAÑOL	Menus are displayed in Spanish.
ITALIANO	Menus are displayed in Italian.
NEDERLANDS	Menus are displayed in Dutch.
РУССКИЙ	Menus are displayed in Russian.
SVENSKA	Menus are displayed in Swedish.
TÜRK	Menus are displayed in Turkish.
中文	Menus are displayed in Chinese.

- Hold down the SETUP (✿) key to display "OSD LANGUAGE" directly on the TV screen.

- The settings may be changed automatically when using the TV which supports the HDMI control function.

- Display language can only be selected for menus displayed on the TV screen. Information in the front panel display is displayed in English.

DISTANCE UNIT

| SETUP MENU | ➡ | DISPLAY | ➡ | DISTANCE UNIT |

Use to change the display unit of measurement.

Settings

METERS (default setting other than U.S.A. and Canada models), FEET (default setting for U.S.A. and Canada models)

- If the unit used with measurement displays is changed from "METERS" to "FEET", or vice versa, configure settings again to reflect the change in unit. The change will not be reflected with current settings.

INFORMATION settings

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

▌AUDIO

| SETUP MENU | ➜ | INFORMATION | ➜ | AUDIO |

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

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

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

▌VIDEO

| SETUP MENU | ➜ | INFORMATION | ➜ | VIDEO |

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

Type	HDMI or DVI
Resolution	Video signal resolution

▌SYSTEM

| SETUP MENU | ➜ | INFORMATION | ➜ | SYSTEM |

Display the version of firmware currently installed on this unit.
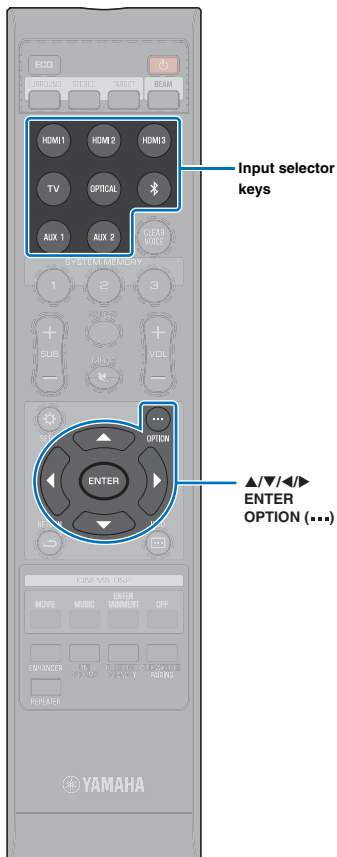
Settings each input source (Option menu)

Configure the functions related to the input source currently playing back content.

The option menu is displayed on, and operated from, the TV screen. See "Displaying the menu screen on the TV" (p. 30) for instructions on displaying the option menu on the TV.

Input selector keys

▲/▼/◄/►
ENTER
OPTION (•••)

Setting the option menu

1 Press the input selector key for the input source to be configured.

2 Press the OPTION (•••) key.

```
OPTION
▲              ▶  ▲ ◄
TREBLE            0
BASS              ▼
VOLUME TRIM
AUDIO DELAY
AUDIO ASSIGN
▼
```
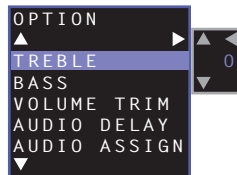
3 Select the items by pressing the ▲/▼ key, then press the ▶ key or ENTER key.

```
OPTION
▲              ▶  ▲ ◄
TREBLE            0
BASS              ▼
VOLUME TRIM
AUDIO DELAY
AUDIO ASSIGN
▼
```
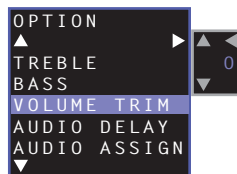
4 Change setting value by pressing the ▲/▼ key.

```
OPTION
▲              ▶  ▲ ◄
TREBLE         – 5
BASS              ▼
VOLUME TRIM
AUDIO DELAY
AUDIO ASSIGN
▼
```
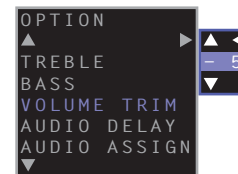
5 Press the OPTION (•••) key to exit the option menu.

• The configurable items vary depending on the input source selected.

Option menu list

Menu	Description	Input
TREBLE	Adjust the output level of high (treble) tones.	HDMI1– 3, TV, OPTICAL, AUX1– 2, *Bluetooth*
BASS	Adjust the output level of low (bass) tones.	HDMI1– 3, TV, OPTICAL, AUX1– 2, *Bluetooth*
VOLUME TRIM	Adjust the input level for each jack to compensate for variations in volume.	HDMI1– 3, TV, OPTICAL, AUX1– 2, *Bluetooth*
AUDIO DELAY	Adjust deviations in timing between audio and video playback.	HDMI1– 3, TV, OPTICAL, AUX1– 2
AUDIO ASSIGN	When an HDMI device is selected as the input source, audio from a different input source is assigned to HDMI audio.	HDMI1– 3

Adjusting tones (TREBLE, BASS)

Adjust the output level of high (treble) and low (bass) tones.

Adjustable range
-12 to +12 (default: 0)

Adjusting input level of each jack (VOLUME TRIM)

Adjust the input level for each jack to compensate for variations in volume.

Adjustable range
-12 to +12 (default: 0)

Audio delay control (AUDIO DELAY)

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

Adjustable range
HDMI1– 3: AUTO (default), 0 ms to 500 ms, 5 ms increments
TV, OPTICAL, AUX1– 2: 0 ms (default) to 500 ms, 5 ms increments

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

Assigning HDMI audio to a different input jack (AUDIO ASSIGN)

When HDMI1– 3 is the selected input source, sound can be input from the OPTICAL jack or AUX2 (coaxial) jack rather than the HDMI IN jack.

Use this function to listen to sound from a different playback device while watching video of the BD/DVD player.

Settings
HDMI (default), OPTICAL, AUX2

• While the AUX2 (coaxial) jack is the default AUX2 setting, sound is input as follows depending upon the setting specified for "TV INPUT" (p. 60) in the setup menu.
 – "TV INPUT" set to "OPTICAL [TV]" (default)
   When "AUX2" is selected, sound is input from the AUX2 (coaxial) jack.
 – "TV INPUT" set to "COAXIAL [AUX2]"
   When "AUX2" is selected, sound is input from the TV (optical) jack.
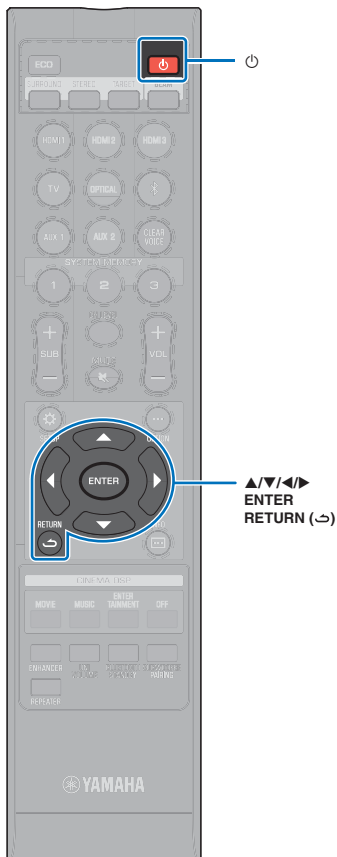
Advanced setup

The advanced setup enables more precise configuring of this unit's function. For example, maximum volume can be specified and the INPUT key on the top panel can be disabled.

Setting the advanced setup

1 Press the ⏻ key to turn off this unit.

2 While holding down the INPUT key on the top panel, press the ⏻ key on the remote control to turn on the power.
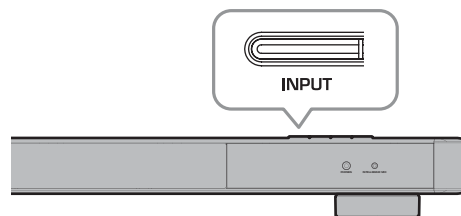
"ADVANCED" appears in the front panel display.

    ADVANCED

💡
• The advanced setup menu is not displayed on the TV screen.

3 Release the INPUT key on the top panel.

4 Press the ▲/▼ key to display the desired menu in the front panel display and then press the ▶ key or ENTER key.

💡
• To return to the previous menu, press the ◀ or RETURN (↺) key.

5 Press the ▲/▼ key to change setting.

6 Press the ⏻ key to turn off this unit.

The new setting is reflected when you turn on the unit by pressing the ⏻ key.

⏻

▲/▼/◀/▶
ENTER
RETURN (↺)

Advanced setup list

Menu	Settings/Adjustable range	Description
TURN ON VOLUME	OFF (Not set) (default), 1 to 70	Set the initial volume level when the power of this unit is turned on. When set to "OFF", volume level is the same as when this unit is turned off.
MAX VOLUME	1 to 99, MAX (Maximum) (default)	Set the maximum volume level so that this unit will not output sound beyond the limited volume level.
INPUT LOCK	ON (INPUT key operation is disabled) OFF (INPUT key operation is enabled) (default)	Select whether or not to enable the INPUT key on the center unit.
PANEL LOCK	ON (Key operation on the center unit is disabled) OFF (Key operation on the center unit is enabled) (default)	Select whether or not to enable key operations on the center unit (except the advanced setup operations).
IR INPUT POWER	ON (Enables power-on) OFF (Disables power-on) (default)	Select whether or not to automatically turn on this unit by pressing an input selector key on the remote control when the unit is turned off.
AC ON STANDBY	ON (Enters standby mode) (default) OFF (Restores the state before power was lost)	Set this unit's power to off when the AC power is recovered after the power to this unit was lost temporally (disconnect the AC power plug from the wall outlet, power outage, etc.).
MEMORY PROTECT	ON (Protect is performed) OFF (Protect is not performed) (default)	Protect the settings you have saved in the system memory.
YRB FL	YES (The reflection board is used) NO (The reflection board is not used) (default)	Use the YRB-100 sound reflection board for the front left channel. Refer to page 73 for details of YRB-100.
YRB FR	YES (The reflection board is used) NO (The reflection board is not used) (default)	Use the YRB-100 sound reflection board for the front right channel. Refer to page 73 for details of YRB-100.
YRB SL	YES (The reflection board is used) NO (The reflection board is not used) (default)	Use the YRB-100 sound reflection board for the surround left channel. Refer to page 73 for details of YRB-100.
YRB SR	YES (The reflection board is used) NO (The reflection board is not used) (default)	Use the YRB-100 sound reflection board for the surround right channel. Refer to page 73 for details of YRB-100.
AUTO POWER STANDBY	ON (This unit turns off automatically) (default setting for U.K., Europe and Russia models) OFF (This unit does not turn off automatically) (default setting other than U.K., Europe and Russia models)	When set to "ON", this unit turns off automatically in any of the following situations: • Audio is coming from the selected input source. However, no operations have been performed for 8 hours or more. • *Bluetooth* is selected as the playback device. However, no audio has come out from the device or no operation has been performed for 20 minutes or more. • HDMI 1, 2, or 3 is selected as the playback device. However, the playback device has been disconnected from the selected HDMI IN jack for 20 minutes or more.
FW UPDATE	02.00.04 (The firmware version is displayed) START OK? (Firmware is updated)	Confirm firmware version/update firmware.
INITIALIZE	OK (All settings are restored to their default values) CANCEL (Settings are not restored to their default values) (default)	Reset all of the parameters of this unit to the factory presets. When the unit freezed, the problem may solve by restoring to their default values.

• Initializing this unit also initializes measurement results for IntelliBeam and settings stored in system memory. Perform "AUTO SETUP" from the "IntelliBeam" menu again.

TROUBLESHOOTING

Troubleshooting

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

General

Problem	Cause	Remedy	See page
This unit does not operate properly.	The internal microcomputer has been frozen by an external electric shock (such as lightning or excessive static electricity) or by a power supply with low voltage.	Disconnect the AC power supply cable from the outlet and plug it again in after 30 seconds.	–
This unit fails to turn on when ⏻ key is pressed, or the unit is turned off soon after the power has been turned on.	The AC power supply cable is not firmly connected to the AC wall outlet.	Connect the AC power supply cable firmly to the AC wall outlet.	28
	The internal microcomputer has been frozen by an external electric shock (such as lightning or excessive static electricity) or by a power supply with low voltage.	Disconnect the AC power supply cable from the outlet and plug it again in after 30 seconds.	–
This unit is suddenly turned off.	The internal temperature becomes too high and the overheat protection circuitry has been activated.	Wait for about 1 hour for this unit to cool down, turn it back on after confirming an adequate amount of ventilation space and not to cover this unit with a cloth.	11
	When the Auto Power Standby function is enabled, this unit turns off automatically in any of the following situations: – Audio is coming from the selected input source. However, no operations have been performed for 8 hours or more. – *Bluetooth* is selected as the playback device. However, no audio has come out from the device or no operation has been performed for 20 minutes or more. – HDMI 1, 2, or 3 is selected as the playback device. However, the playback device has been disconnected from the selected HDMI IN jack for 20 minutes or more.	Turn on the power of the unit and play back the source again. If the Auto Power Standby function is not used, set "AUTO POWER STANDBY" to "OFF".	66
	Bluetooth standby mode has been activated, terminating the *Bluetooth* connection.	Resume the *Bluetooth* connection using the *Bluetooth* device, or turn on this unit and disable the *Bluetooth* standby mode.	48
The front panel display does not glow.	The Eco function is activated.	Press the ECO key to deactivate the Eco function.	46

Problem	Cause	Remedy	See page
No sound.	Incorrect input or output cable connections.	Connect the cable properly.	26
	No appropriate input source has been selected.	Select an appropriate input source with the input selector keys.	39
	The volume is turned down.	Turn up the volume.	39
	The sound is muted.	Press the MUTE (🔇) or VOL (+/-) key to resume audio output and adjust the volume level.	39
	There is input signal cannot be played back by this unit.	Play a source whose signals can be reproduced by this unit. Change the system settings of the source device.	80
	"HDMI AUDIO OUT" is set to "TV".	Set to "AMP".	59
	"HDMI CONTROL" is set to "OFF".	When connecting ARC (Audio Return Channel) supported TV and this unit using an HDMI cable only, set "HDMI CONTROL" to "ON".	59
		To use this unit with "HDMI CONTROL" set to "OFF", connect the TV's audio output jack to this unit's TV (optical) jack via the optical cable.	25
	Sound from an HDMI control-enabled TV is set for output from the TV's built-in speakers.	Use the TV's HDMI settings to set audio output to any option other than the TV's built-in speakers.	–
No sound or too small sound from a specific channel.	The output level of the channel is muted.	Raise the output level of the channel.	45, 56
	The beam setting is inappropriate.	Adjust the beam setting.	32
	The source is played in stereo playback mode.	Switch to surround playback mode.	40
	Some audio output methods do not output sound beams for certain channels.	Switch the sound beam output method.	42
Surround sound effects are insubstantial.	When connecting this unit with playback device and TV digitally, the output setting of the playback device and TV is not valid.	Refer to the manual supplied with your device and check the setting.	–
	The playback device is set for constant output from 2 channels (PCM, etc.).	Change the playback device's audio output setting.	–
	The listening room is not a regular shape, or the unit or listening position is not at the center of the right and left wall of the listening room.	Relocate the unit or listening position.	12
	There is no wall in the path of the sound beam.	Place the sound reflection board in the path of the sound beam.	73
	When MY SUR. (My Surround) is selected, listening position is not in front of the unit.	Listen in front of this unit.	43

Problem	Cause	Remedy	See page
No sound coming out of the subwoofer, or sounds are intermittent.	The AC power supply cable is not firmly connected to the AC wall outlet.	Connect the AC power supply cable firmly to the AC wall outlet.	28
	The volume of the subwoofer is low.	Increase the volume of the subwoofer with the SUB + key.	39
	Since "WIRELESS FUNCTION" in "SUBWOOFER" is set to "OFF", the wireless connection is disabled.	Set the function to "ON".	56
	"WIRELESS FUNCTION" in "SUBWOOFER" is set to "ON", but the subwoofer is connected using a wired connection.	Set the function to "OFF".	56
The subwoofer connection indicator glows orange.	The subwoofer's built-in protective circuit was activated.	Disconnect the power cable, and contact your nearest Yamaha dealer or service center to request repair.	–
The TX indicator on the center unit blinks, and the connection indicator on the subwoofer blinks red or green.	Poor wireless communication prevents connection of the center unit and subwoofer.	Move the subwoofer closer to the center unit. If the problem persists, move the subwoofer to a location where its connection indicator steadily glows green.	–
		If there are obstacles such as metal furniture obstructing communication between the center unit and subwoofer, rearrange furniture or move the subwoofer to a location that ensures proper wireless communication.	–
		Move this unit away from devices such as microwave ovens or wireless network devices that emit electromagnetic waves.	–
		Use cables to connect the subwoofer to the center unit.	29
The TX indicator on the center unit blinks, and the connection indicator on the subwoofer glows red, or continuously blinks red.	The center unit and subwoofer are not paired.	Pair the center unit and subwoofer. If the TX indicator does not glow steadily after pairing, the unit may be malfunctioning. Disconnect the power cable and contact your nearest Yamaha dealer or service center to request repair.	75
Sounds from the subwoofer are intermittent (the TX indicator blinks when sound is interrupted).	Poor wireless communication results in intermittent connection of the center unit and subwoofer.	Move the subwoofer closer to the center unit. If the problem persists, move the subwoofer to a location where the TX indicator on the center unit glows steadily.	–
		If there are obstacles such as metal furniture obstructing communication between the center unit and subwoofer, rearrange furniture or move the subwoofer to a location that ensures proper wireless communication.	–
		Move this unit away from devices such as microwave ovens or wireless network devices that emit electromagnetic waves.	–
		Use cables to connect the subwoofer to the center unit.	29
No sound coming out of the subwoofer connected using a wired connection.	The system control cable and RCA mono cable are not securely connected.	Check the connection.	29

Problem	Cause	Remedy	See page
The volume of low (bass) tones from the subwoofer is low.	The volume of the subwoofer is low.	Increase the volume of the subwoofer with the SUB + key.	39
	Content from an input source with a limited support for low tones is playing.	Play content from an input source with broader support for low tones to see if volume is still low.	–
		Move or reposition the subwoofer.	11
	The unit is in target playback mode.	Switch to stereo playback mode or surround playback mode.	40, 44
	A subwoofer other than that supplied with this unit is connected.	This unit supports the supplied subwoofer NS-WSW120 only.	–
The image is not displayed on TV screen.	The HDMI cable is not securely connected.	Connect the HDMI cable properly.	25, 26
Menu screen of this unit is not displayed.	The input switch of TV is not set correctly.	Set the TV's input source to this unit.	30
A digital or high-frequency equipment produces noises.	The unit may be placed close to digital equipment or high-frequency equipment.	Move the equipment away from the unit.	–
The HDMI control function does not work properly.	"HDMI CONTROL" is set to "OFF".	Set "HDMI CONTROL" to "ON".	59
	The HDMI control function is disabled on your TV.	Refer to the manual supplied with your TV and check the setting.	–
	The number of the connected HDMI devices exceeds the limit.	Disconnect some of the HDMI devices.	–
Audio delay control function is not effective even "AUDIO DELAY" is set to "AUTO".	The TV does not support the audio delay auto adjustment feature.	Adjust timing of sound output manually from "AUDIO DELAY" in the option menu.	64
"Disable" appears in the front panel display after key operation.	The key is unable to function in the current status of the unit.		–

Bluetooth

Problem	Cause	Remedy	See page
Cannot make the unit paired with the *Bluetooth* device.	*Bluetooth* is not selected as the input source.	Select *Bluetooth* as the input source.	39
	The device does not support A2DP.	Perform paring operations with a device which supports A2DP.	78
	A *Bluetooth* adaptor, etc. that you want to pair with the unit has a password other than "0000".	Use a *Bluetooth* adaptor, etc. whose password is "0000".	48
	The unit and device are too far apart.	Position the *Bluetooth* device so that it is less than 10 m (33 ft) from this unit and pair the device with this unit.	49
	There is a device (microwave oven, wireless LAN, etc.) outputs signals in the 2.4 GHz frequency band nearby.	Move this unit away from the device that is emitting radio frequency signals.	–
	Another *Bluetooth* device is connected.	Terminate current *Bluetooth* connection, and perform pairing with the new device.	49
Cannot make a *Bluetooth* connection.	Another *Bluetooth* device is connected.	The unit cannot make multiple *Bluetooth* connections. Terminate current *Bluetooth* connection, and make connection for the desired device.	49
	More than nine devices are paired and the oldest pairing information is deleted.	Perform pairing again. The unit can retain pairing information for up to eight devices. When pairing a ninth device, the oldest pairing information will be deleted.	48
No sound is produced or the sound is intermittent during playback.	The *Bluetooth* connection of the unit with the device is disconnected.	Perform *Bluetooth* connection operations again.	49
	The unit and device are too far apart.	Move the *Bluetooth* device so that it is less than 10 m (33 ft) from this unit.	49
	There is a device (microwave oven, wireless LAN, etc.) outputs signals in the 2.4 GHz frequency band nearby.	Move this unit away from the device that is emitting radio frequency signals.	–
	The device's *Bluetooth* function is off.	Enable the *Bluetooth* function of the device.	–
	The device is not set to send *Bluetooth* audio signals to the unit.	Check that the *Bluetooth* function of the device is set properly.	–
	Playback on the device has not been performed.	Perform playback on the device.	–
	The device's volume is set to minimum.	Turn up the volume level on the device.	–

Remote control

Problem	Cause	Remedy	See page
The remote control does not work and/or function properly.	The wrong distance or angle.	The remote control functions within a maximum range of 6 m (20 ft) and no more than 30 degrees off-axis from the front panel.	23
	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.	23
The TV cannot be operated using the TV Remote Repeater function.	The TV Remote Repeater function is disabled.	Enable the TV Remote Repeater function.	15
	A remote control using technology other than infrared is used (this unit may not support some infrared remote controls).	The TV Remote Repeater function cannot be used. Move the center unit so that it does not block the remote control sensor on the TV, and use the TV's remote control to operate the TV.	–
	The center unit and TV are too close together or too far apart.	Move the center unit to adjust the distance between the TV Remote Repeater and the TV (remote control sensor). If necessary, adjust the height of the center unit.	16
	The center unit's power cable is unplugged.	Plug in the power cable.	28
	There is an object, such as a power cable, between the center unit and TV.	Remove the obstacle.	–

Messages

Message	Description	See page
ViewScreen	This unit's setup menu is displayed on the TV screen. Use the TV screen to configure settings.	51
Key Locked	The keys on the center unit are locked. Use the remote control.	65
Sleep XXmin	The Auto Power Standby function will turn this unit off in XX minutes.	65
Protected	System memory 1, 2, and 3 are protected.	65
Disable	Key operation is disabled.	–

When surround effect is not enough

The unit achieves its surround sound effects by projecting sound beams which reflect off walls. The sound beams are not reflected toward to the listening position caused by furniture, etc., in the path of sound beams, or the room shape. In this case, the sound may become unbalanced.
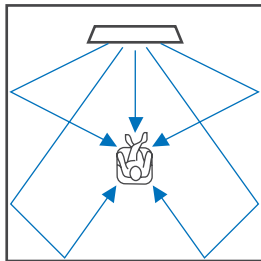
Figure 1. Ideal condition
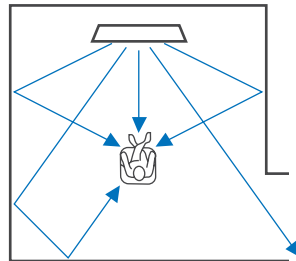
Figure 2. Surround right beam is not being reflected because there is no wall.
Surround right is quieter than surround (left), or surround right is in front of its proper location.

If the sound beams are not reflected toward to the listening position (figure 2), you can adjust for this by installing the optional sound reflection board YRB-100.
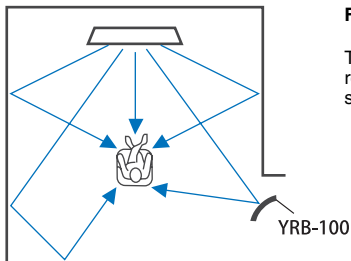
Figure 3. With a sound reflection board installed
The sound beam for surround right is reflected correctly, and correct surround sound effect is achieved.

YRB-100

!
• YRB-100 may not be available in some countries or regions.

Installing and adjusting the sound reflection board YRB-100

1 **Decide the position of the sound reflection board.**

Install the sound reflection board as shown in the picture.

!
• Always hold the pole when moving the sound reflection board.

☀
• Use "CHANNEL LEVEL" in the setup menu (p. 56) to determine the precise direction from which sounds are difficult to hear.

Recommended position for installation

Front side
Approx. 1.5 to 3 m (5 to 10 ft)

YRB-100

Front side
Install the panel front side of the listening position, and outside of the surround side panel.

Listening position

Surround side
Install the panel back side of the listening position, and inside of the front side panel.

Surround side
Approx. 1 to 2.5 m (3 to 8 ft)
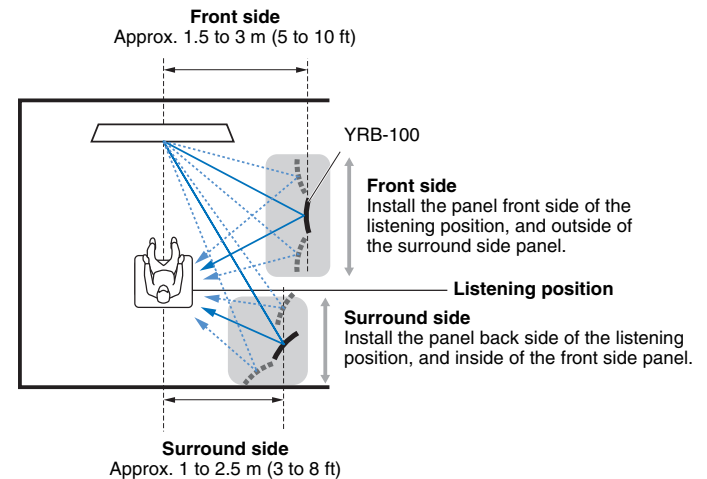
2 **Use advanced setup (p. 65) to configure the sound reflection board.**

Set "YRB FL" (FL), "YRB FR" (FR), "YRB SL" (SL), and "YRB SR" (SR) to "YES" depending upon the position of the sound reflection board to be installed.

Color bars are displayed across the entire TV screen. This makes it easier to recognize whether the TV screen is reflected in the panel when determining the proper angle of the panel in step 4, to the left or right.

3 **Adjust the height.**

Adjust the height of the sound reflection board panel based on the position of the unit and the sound reflection board, as well as the listening position.

See the YRB-100 Owner's Manual for more information.

4 **Adjust the angle of the panel left or right.**

Adjust the angle of the panel so that sound beams are reflected toward the listening position.

Turn on the TV and dim the lights in the room. If you see the TV screen (color bar display) reflected in the panel from your listening position, the angle of the panel is properly adjusted.

See the YRB-100 Owner's Manual for more information.

5 **Press the ⏻ key to turn this unit off. Press it a second time to turn this unit on again.**

6 **Plug the IntelliBeam microphone into this unit and then perform "AUTO SETUP" (BEAM+SOUND OPTIMIZE) from the "IntelliBeam" menu (p. 33).**

Be sure that the channels (FL, FR, SL, and SR) configured for the sound reflection board are displayed for "YRB" on the SHOW RESULT screen.

An asterisk (*) is displayed with a channel exhibiting poor sound beam reflection.
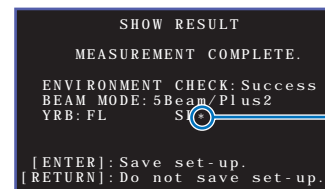
```
        SHOW RESULT

   MEASUREMENT  COMPLETE.

ENVIRONMENT  CHECK:Success
BEAM MODE:5Beam/Plus2          ← Indicates poor reflection
YRB:FL      S*

[ENTER]:Save set-up.
[RETURN]:Do not save set-up.
```

Should this occur, follow the instructions below to re-adjust the panel.

① Adjust the height and angle of the sound reflection board panel in accordance with installation conditions.

② Use "CHANNEL LEVEL" in the setup menu (p. 56) to confirm that the test sound is successfully reflected.
For greater precision, perform "AUTO SETUP" in the "IntelliBeam" menu, and then confirm that the asterisk (*) is no longer displayed with the channel.

If the asterisk (*) continues to be displayed, or if there is still no test sound reflected from the direction of the sound reflection board, follow directions in the YRB-100 Owner's Manual to adjust sound beams manually.

Pairing the center unit and the subwoofer

!

• Be sure that "WIRELESS FUNCTION" in the setup menu is set to "ON" (p. 56).

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

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

1 **Turn on the center unit.**

2 **Hold down the SUBWOOFER PAIRING key on the remote control (p. 9) for more than 3 seconds.**

The TX indicator on the center unit will blink rapidly.

3 **Once the TX indicator begins blinking (within 30 seconds), use an object with a fine point, such as a pin, to hold down the SUBWOOFER PAIRING key on the subwoofer for more than 3 seconds.**

The subwoofer's connection indicator will rapidly blink green.

Once pairing has been completed and the link between the center unit and subwoofer has been re-established, the TX indicator will glow and the connection indicator will glow green.
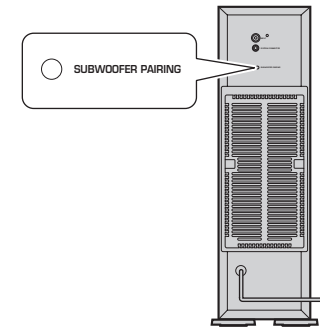
If the TX indicator does not glow after pairing, see "Troubleshooting" (p. 69).

APPENDIX

Basic Knowledge of Surround Sound

What is Surround Sound?

Surround sound offers the sense of being surrounded by sounds, an experience common in concert halls and movie theaters. This can be achieved by surrounding the audience with numerous speakers from which sound is output uniformly in all directions. This "surround sound" technology immerses the listener in sound with speakers positioned not only in front of the listener, but also behind and to the sides of the listener, making him or her feel as if they are actually in the situation.

For precise directional control and quality of sound reproduction, sounds must be split into separate audio channels for output to each speaker. Surround sound systems for regular home use (7.1-channel speaker systems) produce surround sound using seven speakers and a subwoofer, as shown below:

Typical 7.1 channel speaker system

Front speakers

Subwoofer

Center speaker

Surround back speakers

Surround speakers

As explained above, sounds can be reproduced for a great sense of presence by installing multiple speakers. However, this can be d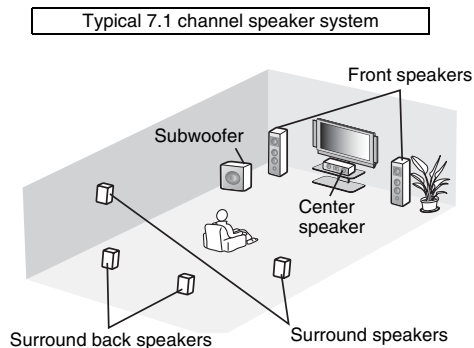ifficult to do in a living room. This unit utilizes "digital sound projector" technology to provide a realistic and engaging surround sound experience using only a slim center unit and subwoofer.

What is a Digital Sound Projector?

A digital sound projector separately controls compact speakers installed in orderly rows, so that optimized audio signals are output from each speaker and synthesized as highly focused sounds (sound beams).

Digital amplifier

Speaker

Sound beams are emitted in the target direction
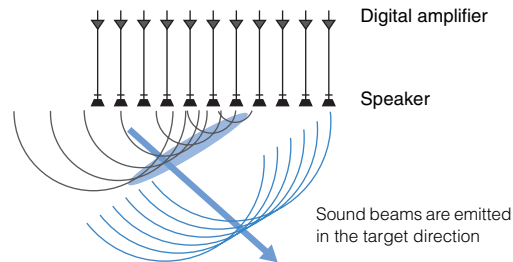
When these focused sounds hit a hard wall, they are reflected off of the wall. A digital sound projector outputs sound beams from five channels, including front (left/right), center, and surround (left/right) channels, by reflecting these beams off of walls so that sounds reach the listener from the appropriate direction. It features a technology that enables true surround sound without requiring the installation of speakers in front of, or behind, the listener.

By combining front and surround channel signals, it can also create two new channels, for a total of seven, so that all channels work together more closely for a better surround sound experience.

The sound image of the system
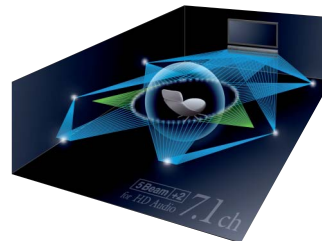
Yamaha's Audio Technologies

This unit features many more functions based on Yamaha's superior audio technologies.

Compressed Music Enhancer

This technology enhances and extends bass and treble, which tend to be weak in digitally compressed formats such as MP3 used with portable digital audio players and computers. This makes compressed audio sound more musically dynamic.

CINEMA DSP

This technology enables precise digital recreation of actual acoustic environments found in well-known concert halls and movie theaters. This is achieved using Yamaha's exclusive sound field programs, which are based on data measured in various sound fields, and with which the amplitude, depth, and volume of sounds have been adjusted.

Virtual Surround Headphones

These headphones are used to virtually reproduce sound fields. They provide a more natural and full surround sound experience.

Glossary

Sampling Frequency and Bit Depth

These are values that represent the amount of information used to convert analog signals to digital signals. They may be expressed as 48kHz/24bit, for example.

- **Sampling Frequency**

  This defines the number of samples per second (sampling a finite set of discrete values in an analog signal). The higher the sampling rate, the broader the range of frequencies that can be played back.

- **Bit Depth**

  This defines the amplitude value of sounds when quantifying analog signals as finite values. The higher the bit depth, the deeper sounds are reproduced.

Deep Color

This is a video technology supported by the HDMI standard. It processes RGB or YCbCr signals at bit depths of 10, 12, or 16 bits per color, whereas conventional formats utilize only 8-bit processing, enabling reproduction of more colors. Its gamut is comprised of a billion or more colors, while the gamuts of conventional formats are comprised of only millions of colors or less. This broader gamut results in more precise reproduction of colors and greater detail in darker portions.

Dolby Digital

This is a compressed audio format for 5.1 channels. It was developed by Dolby Laboratories, and is widely used with DVD discs.

Dolby Digital EX

This technology enables 6.1-channel playback for sources encoded in the Dolby Digital EX format. It takes the Dolby Digital 5.1-channel setup one step further with an additional back surround channel.

Dolby Digital Plus

This is a compressed audio format for 7.1 channels developed by Dolby Laboratories. It is fully compatible with Dolby Digital and is available for playback on Dolby Digital-enabled audio systems. It is widely used with Blu-ray Discs.

Dolby Pro Logic II

This technology converts audio signal recorded in 2 channels to 5-channel signal. There are three modes available: "Music mode" for stereo music sources, "Movie mode" for movie sources, and "Game mode" for game sources.

Dolby Pro Logic IIx

This technology converts not only audio recorded in 2 channels, but also audio signal recorded in multiple channels to discrete 7-channel sound. There are three modes available: "Music mode" for music sources, "Movie mode" for movie sources and "Game mode" for game sources.

Dolby TrueHD

This advanced lossless audio technology was developed by Dolby Laboratories for high-definition disc-based media to deliver sounds that are identical, bit for bit, to studio masters for a great home theater experience. It delivers up to 8 discrete channels of 24-bit/96-kHz (up to 6 discrete channels of 24-bit/192 kHz) audio simultaneously, and is widely used with Blu-ray Discs.

DTS Digital Surround

This is a compressed audio format for 5.1 channels developed by DTS. It is widely used with DVD discs.

DTS Express

This is a compressed audio format for 5.1 channels. It provides a higher compression ratio than the DTS Digital Surround audio format, and was developed specifically for network streaming and Blu-ray Disc secondary audio.

DTS-HD High Resolution Audio

This is a compressed audio format for 24-bit/96-kHz superior sound quality with 7.1 channels developed by DTS. It is fully compatible with DTS Digital Surround, and is widely used with Blu-ray Discs.

DTS-HD Master Audio

This advanced lossless audio technology was developed by DTS for high-definition disc-based media to deliver sounds identical, bit for bit, to studio masters for a great home theater experience. It delivers up to 8 discrete channels at 24-bit/96 kHz (up to 6 discrete channels at 24-bit/192 kHz) audio simultaneously, and is widely used with Blu-ray Discs.

DTS Neo:6

This technology enables discrete 6-channel playback from 2-channel sources. There are two modes available: "Music mode" for music sources and "Cinema mode" for movie sources. It provides a channel split effect similar to sources recorded as discrete surround sound.

HDMI

High-Definition Multimedia Interface (HDMI) is a digital audio/video interface that has become an industry standard around the world. It is capable of transmitting both digital video and audio signals intact via a single cable. It is also compliant with the High-bandwidth Digital Content Protection (HDCP) standard. See http://www.hdmi.org for more information.

Pulse Code Modulation (PCM)

This technology records analog audio signals in digital form, converts analog audio signals to digital audio signals, and transmits analog audio signals in digital form. It is the underlying technology for all digital audio signal systems, and is widely used with CDs, Blu-ray Discs, and many other types of media as a uncompressed audio format known as Linear PCM.

x.v.Color

This is a color space supported by HDMI. It has become an international standard for video and offers a broader gamut than does the sRGB standard for expression of colors never before possible. It expands the color space while ensuring compatibility with the sRGB standard for more natural and vivid images.

Specifications

YSP-CU2500

Amplifier section

- Rated Output Power
  Tweeter (1 kHz, 1% THD, 4 Ω) .... 27.2 W

- Maximum Effective Output Power
  Tweeter (1 kHz, 10% THD, 4 Ω) .... 32 W

Speaker section

- Speaker Type...Acoustic Suspension/Magnetic Shielding type

- Driver
  Tweeter .... 2.8 cm (1-1/8 in) Cone × 16

- Impedance ....4 Ω

Input jack

- Audio Input
  Optical ....2 (TV, OPTICAL)
  Coaxial.. 1 (AUX2)
  Analog ....1 pair (AUX1)

- HDMI Input .... 3 (HDMI IN 1 to 3)

Output jack

- HDMI Output (ARC)...1

- Headphones...1

- Subwoofer Output..1

Other jack

- INTELLIBEAM MIC 1

- SYSTEM CONNECTOR 1

Bluetooth

- *Bluetooth* version... Ver. 2.1 +EDR

- Supported protocols .... A2DP, SPP

- Supported codecs .... SBC, aptX

- Wireless output..*Bluetooth* Class 2

- Maximum communication distance .... 10 m (33 ft)
  (without interference)

- Protection of supported content.....................SCMS-T scheme

General

- Power Supply
  [U.S.A. and Canada models] ....AC 120 V, 60 Hz
  [Taiwan model] ....AC 110–120 V, 50/60 Hz
  [China model]..AC 220 V, 50 Hz
  [Other models] ....AC 220–240 V, 50/60 Hz

- Power Consumption ....24 W

- Standby Power Consumption
  HDMI CONTROL ON and
  Bluetooth Standby ON ....Less than 1.2 W
  HDMI CONTROL OFF and
  Bluetooth Standby ON ....Less than 0.5 W
  HDMI CONTROL OFF and
  Bluetooth Standby OFF ....Less than 0.4 W

- Dimensions (W × H × D)
  When the legs are adjusted to a minimum height
  ....944 × 73 × 144 mm (37-1/8 × 2-7/8 × 5-5/8 in)

- Weight ....4.0 kg (8.8 lbs)

NS-WSW120

- Driver..10 cm (4 in) cone woofer × 2
  non-magnetic shielding type

- INPUT jack 1

- SYSTEM CONNECTOR jack 1

- Output power ....75 W (100 Hz, 5 Ω, 10% T.H.D)

- Dynamic power .... 130 W

- Frequency response ....40 Hz–500 Hz

- Wireless
  Frequency ....2.4 GHz
  Transmission Range..10 m (33 ft)
  (without interference)

- Power supply
  [U.S.A. and Canada models]..........................AC 120 V, 60 Hz
  [Taiwan model]...AC 110–120 V, 60 Hz
  [Australia model]... AC 240 V, 50 Hz
  [U.K. and Europe models] .... AC 230 V, 50 Hz
  [China model] ....AC 220 V, 50 Hz
  [Korea model] ....AC 220 V, 60 Hz
  [Asia model].................................... AC 220–240 V, 50/60 Hz

- Power consumption .... 75 W

- Standby Power Consumption
  Wireless.. 1.6 W
  Wired.. 1.5 W

- Dimensions (W x H x D)
  Upright positioning
  ....147 × 444 × 353 mm (5-3/4 × 17-1/2 × 13-7/8 in)
  Positioned on side
  ....434 × 129 × 353 mm (17-1/8 × 5-1/8 × 13-7/8 in)

- Weight ....7.9 kg (17.4 lbs)

YSP-CU2500 + NS-WSW120

- Frequency Response........................ 40 Hz to 22 kHz (-10 dB)

- Crossover frequency..500 Hz

Specifications are subject to change without notice.

IntelliBeam

The "IntelliBeam" logo and "IntelliBeam" are trademarks of Yamaha Corporation.

CINEMA DSP

The " CINEMA DSP " logo and "Cinema DSP" are registered trademarks of Yamaha Corporation.

UniVolume

"UniVolume" is a trademark of Yamaha Corporation.

DOLBY TRUEHD

Manufactured under license from Dolby Laboratories. Dolby, Pro Logic, Surround EX, and the double-D symbol are trademarks of Dolby Laboratories.

dts-HD

For DTS patents, see http://patents.dts.com. Manufactured under license from DTS Licensing Limited. DTS, DTS-HD, the Symbol, & DTS and the Symbol together are registered trademarks of DTS, Inc. © DTS, Inc. All Rights Reserved.

HDMI

"HDMI," the "HDMI" logo and "High-Definition Multimedia Interface" are trademarks, or registered trademarks of HDMI Licensing LLC.

x.v.Color

"x.v.Color" is a trademark of Sony Corporation.

Bluetooth®

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. Other trademarks and trade names are those of their respective owners.

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 communications is possible differs according to the distance between the communicating devices, the presence of obstacles, radio wave conditions and type of equipment.
- Yamaha does not guarantee all wireless connections between this unit and devices compatible with *Bluetooth* function.

aptX CSR

©2013 CSR plc and its group companies.

The aptX® mark and the aptX logo are trade marks of CSR plc or one of its group companies and may be registered in one or more jurisdictions.

"Blu-ray Disc™", "Blu-ray™", and the logos are trademarks of the Blue-ray Disc Association

Available signal information

◼ HDMI signal compatibility

❑ Receivable audio signals

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

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

❑ Repeatable video signals

This unit is compatible with the following video signals.
- Deep Color
- x.v.Color
- 3D video signal

This unit is compatible with the following resolutions.

- VGA
- 480i/60 Hz
- 480p/60 Hz
- 576i/50 Hz
- 576p/50 Hz
- 720p/60 Hz, 50 Hz
- 1080i/60 Hz, 50 Hz
- 1080p/60 Hz, 50 Hz, 30 Hz, 25 Hz, 24 Hz
- 4K/60 Hz, 50 Hz, 30 Hz, 25 Hz, 24 Hz

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

◼ Digital audio signal (optical/coaxial)

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

Index

Numerics

A

B

C

D

E

F

H

I

L

M

O

YAMAHA