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TV Surround System

SBS-100

Owner's Manual



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About this manual

- This manual explains operations using the supplied remote control.
- Marks used in this manual

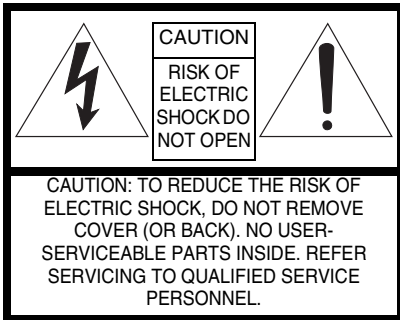
NOTE

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

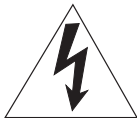
HINT

This indicates supplementary explanations for better use.

IMPORTANT SAFETY INSTRUCTIONS



Explanation of Graphical Symbols



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert you to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT

Please record the serial number of this unit in the space below.

MODEL:

Serial No.:

The serial number is located on the rear of the unit. Retain this Owner's Manual in a safe place for future reference.

FOR CANADIAN CUSTOMERS

To prevent electric shock, match wide blade of plug to wide slot and fully insert.
CAN ICES-3 (B)/NMB-3 (B)

- 1 Read these instructions.
- 2 Keep these instructions.
- 3 Heed all warnings.
- 4 Follow all instructions.
- 5 Do not use this apparatus near water.
- 6 Clean only with dry cloth.
- 7 Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8 Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9 Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10 Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11 Only use attachments/accessories specified by the manufacturer.
- 12 Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13 Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14 Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



We Want You Listening For A Lifetime



Yamaha and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion – and, most importantly, without affecting your sensitive hearing. Since hearing damage from loud sounds is often undetectable until it is too late, Yamaha and the Electronic Industries Association's Consumer Electronics Group recommend you to avoid prolonged exposure from excessive volume levels.

FCC INFORMATION (for US customers)

- 1 **IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!** This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.
- 2 **IMPORTANT:** When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.
- 3 **NOTE:** This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices.
- 4 Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:
- 5 Relocate either this product or the device that is being affected by the interference.
- 6 Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s.
- 7 In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to coaxial type cable.
- 8 If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Corporation of America A/V Division 6600 Orangethorpe Ave., Buena Park, CA 90620.
- 9 The above statements apply ONLY to those products distributed by Yamaha Corporation of America or its subsidiaries.

- This device complies with Part 15 of the FCC Rules and RSSGen of IC Rules.
 - Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received including interference that may cause undesired operation.
- See the "Troubleshooting" section at the end of this manual if interference to radio reception is suspected.

FCC WARNING

Change or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTICE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC/IC radiation exposure limits set forth for uncontrolled equipment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment has very low levels of RF energy that it deemed to comply without maximum permissive exposure evaluation (MPE). But it is desirable that it should be installed and operated with at least 20 cm and more between the radiator and person's body.

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

CAUTION: READ THIS BEFORE OPERATING YOUR UNIT.

- To assure the finest performance, please read this manual carefully. Keep it in a safe place for future reference.
- Install this unit in a well ventilated, cool, dry, clean place - away from direct sunlight, heat sources, vibration, dust, moisture, and/or cold. For proper ventilation, allow the following minimum clearances (excludes a TV placed on top of this unit).
Top: 5 cm (2 in), Rear: 5 cm (2 in), Sides: 5 cm (2 in)
- Locate this unit away from other electrical appliances, motors, or transformers to avoid humming sounds.
- Do not expose this unit to sudden temperature changes from cold to hot, and do not locate this unit in an environment with high humidity (i.e. a room with a humidifier) to prevent condensation inside this unit, which may cause an electrical shock, fire, damage to this unit, and/or personal injury.
- Avoid installing this unit where foreign objects may fall onto this unit and/or this unit may be exposed to liquid dripping or splashing. On the top of this unit, do not place:
 - Other components, as they may cause damage and/or discoloration on the surface of this unit.
 - Burning objects (i.e. candles), as they may cause fire, damage to this unit, and/or personal injury.
 - Containers with liquid in them, as they may fall and liquid may cause electrical shock to the user and/or damage to this unit.
- Do not cover this unit with a newspaper, tablecloth, curtain, etc., in order not to obstruct heat radiation. If the temperature inside this unit rises, it may cause fire, damage to this unit, and/or personal injury.
- Do not plug in this unit to a wall outlet until all connections are complete.
- Do not operate this unit upside-down. It may overheat, possibly causing damage.
- Do not use force on switches, knobs and/or cords.
- When disconnecting the power cable from the wall outlet, grasp the plug; do not pull the cable.
- Do not clean this unit with chemical solvents; this might damage the finish. Use a clean, dry cloth.
- Only voltage specified on this unit must be used. Using this unit with a higher voltage than specified is dangerous and may cause fire, damage to this unit, and/or personal injury. Yamaha will not be

held responsible for any damage resulting from use of this unit with a voltage other than specified.

- To prevent damage by lightning, keep the power cable and outdoor antennas disconnected from a wall outlet or the unit during a lightning storm.
- Do not attempt to modify or fix this unit. Contact qualified Yamaha service personnel when any service is needed. The cabinet should never be opened for any reasons.
- When not planning to use this unit for long periods of time (i.e. vacation), disconnect the AC power plug from the wall outlet.
- Be sure to read the “Troubleshooting” section on common operating errors before concluding that this unit is faulty.
- Before moving this unit, press \odot to set this unit in standby mode, and disconnect the power supply cable from the wall outlet.
- Condensation will form when the surrounding temperature changes suddenly. Disconnect the power supply cable from the outlet, then leave the unit alone.
- Install this unit near the wall outlet and where the AC power plug can be reached easily.
- The batteries shall not be exposed to excessive heat such as sunshine, fire or like.
- Secure placement or installation is the owner’s responsibility. Yamaha shall not be liable for any accident caused by improper placement or installation of speakers.

Notes on remote controls and batteries

- Do not spill water or other liquids on the remote control.
- Do not drop the remote control.
- Do not leave or store the remote control in the following places:
 - places of high humidity, such as near a bath
 - places of high temperatures, such as near a heater or a stove
 - places of extremely low temperatures
 - dusty places
- Do not expose the remote control sensor of this unit to direct sunlight or lighting such as inverted fluorescent lamps.
- If the batteries grow old, the effective operation range of the remote control decreases

considerably. If this happens, replace the batteries with two new ones as soon as possible.

- Do not use old batteries together with new ones.
- Do not use different types of batteries (such as alkaline and manganese batteries) together. Read the packaging carefully as these different types of batteries may have the same shape and color.
- Exhausted batteries may leak. If the batteries have leaked, dispose of them immediately. Avoid touching the leaked material or letting it come into contact with clothing, etc. Clean the battery compartment thoroughly before installing new batteries.
- Do not carry batteries in a pocket or purse with metal objects like coins, etc.
- Do not throw away batteries with general house waste. Dispose of them correctly in accordance with your local regulations.
- Keep batteries away from children. If a battery is accidentally swallowed, contact your doctor immediately.
- When not planning to use the remote control for long periods of time, remove the batteries from the remote control.
- Do not charge or disassemble the supplied batteries.

Radio waves may affect electro-medical devices. Do not use this unit near medical devices or inside medical facilities.

WARNING

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

As long as this unit is connected to the AC wall outlet, it is not disconnected from the AC power source even if you turn off this unit by \odot . In this state, this unit is designed to consume a very small quantity of power.

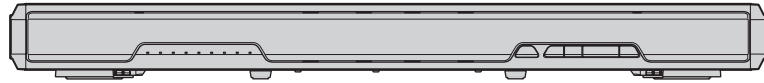
\odot (Power key)

Turns on the power of this unit or sets it to the standby mode.

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

Supplied items

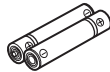
Make sure you have received all of the following items.



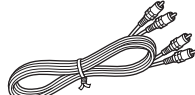
Unit



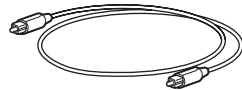
Remote control



Battery x 2
(AAA, R03, UM4)



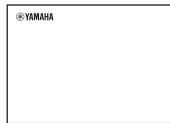
RCA stereo cable
(1.5 m [4.9 ft])



Optical cable (1.5 m [4.9 ft])



Owner's Manual
(This manual)

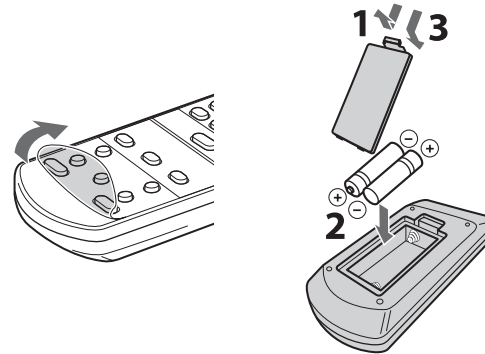


Quick Start Guide

How to use the remote control

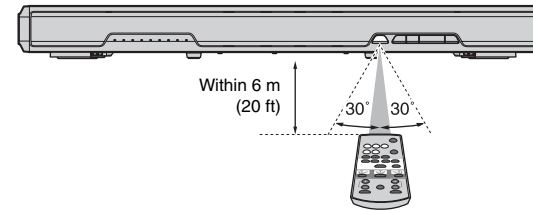
Preparing the remote control

Peel off the protection sheet before use.



Operating range of the remote control

Remain within the operating range shown below.



Features

Enjoy powerful and realistic sound from the unit. The unit is a home theater system which can be easily installed and connected to a TV and other devices.

• Digital sound projection

Integrated multiple small speakers optimize the individual sound beams. The surround sound effect is enhanced by reflecting the beams onto the walls of the room (p.10).

• Surround mode

Enjoy realistic surround sound. Select one of the five surround modes (movie, music, sports, game, TV program) for the source to be played back (p.10).

• Clear voice

Make voice sound (such as dialogues and narrations) clear with just one touch (p.9).

• UniVolume

Maintains consistent sound volume when inputs or sound sources switch (p.9).

• Bluetooth® connection Bluetooth®

Play back sound from a connected *Bluetooth* device (p.12).

You can enjoy deep and fresh sound as close to the original by the Compressed Music Enhancer. This unit is also compliant with the aptX codec, which enables you to enjoy better sound from your smartphone.

• HOME THEATER CONTROLLER

You can operate the unit easily by installing the dedicated controlling application “HOME THEATER CONTROLLER.”

• TV remote control learning function

Operate the unit with the TV's remote control (p.14).

Frequently asked questions

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

Q1 What size TVs can I place on the unit?

A1 Flat screen TVs that weigh no more than 40 kg (88.1 lbs), have bases no wider than 750 mm (29-1/2") and no deeper than 340 mm (13-3/8"), and have screens no larger than 55 inches can be placed on the unit.

Q2 Can I operate the unit using the remote control of the TV? Switching between the remote controls of the TV and unit is inconvenient.

A2 Yes. You can control the unit using your TV's remote control by the “TV's remote control learning” function (p.14).

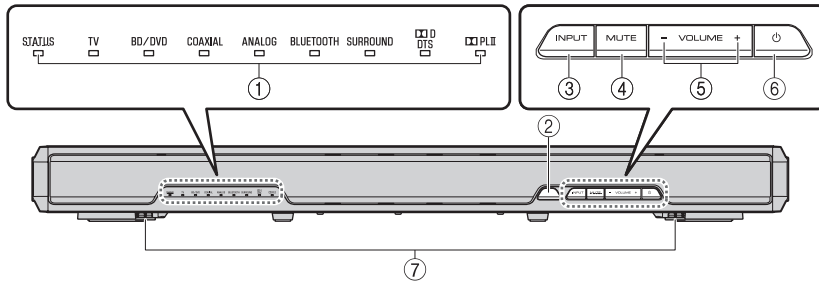
This function is available only for the IR (infrared) remote control. Check your TV's remote control type.

Q3 Can I make voice sound more clearly?

A3 Yes. Dialogue in movies, TV news or sports programs, etc., can be made clearer using the “clear voice” function (p.9).

Part names and functions of the unit

Front panel



① Indicators

Indicate the status of the unit. The indicators will dim automatically if no operations are performed for 5 seconds.

Refer to “Operations” (p.8 to 9) for the main functions of the indicators.

② Remote control sensor

Receives infrared signals from the remote control of the unit (p.2).

③ INPUT key

Selects an input source to be played back (p.8).

④ MUTE key

Mutes the audio output. Press the key again to unmute (p.8).

⑤ VOLUME (+/-) keys

Adjust the volume (p.8).

⑥ (power) key

Turns on or off (standby) the unit (p.9).

⑦ Dual built-in subwoofers

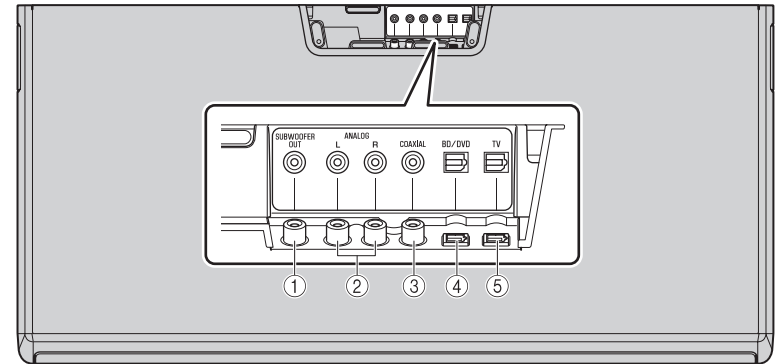
The built-in subwoofers are located in the bottom part of the unit.

HINT

- The unit may automatically turn off when the auto power standby function is enabled (p.17).

Rear panel

Overhead view



① SUBWOOFER OUT jack

For connecting an external subwoofer with a monaural pin cable (p.16).

② ANALOG input jacks

For connecting an external device with an RCA stereo cable (p.6).

③ COAXIAL input jack

For connecting an external device with a coaxial digital cable (p.6).

④ BD/DVD input jack

For connecting a playback device, such as a Blu-ray Disc (BD) player, with an optical cable (p.5).

⑤ TV input jack

For connecting a TV with an optical cable (p.5).

Connections

Connect to a TV (or other peripheral device).

Cautions

- Do not connect the power cable of the unit to the AC wall outlet before making connections.
- Do not use excessive force when inserting the cable plug. Doing so may damage the cable plug or terminal.

1 Remove the jack cover on the top panel of the unit.

2 Connect the TV and unit with the optical cable (supplied).

Remove the cap of the optical cable and check the direction of the plug.



3 Connect the power cable of the unit to an AC wall outlet.

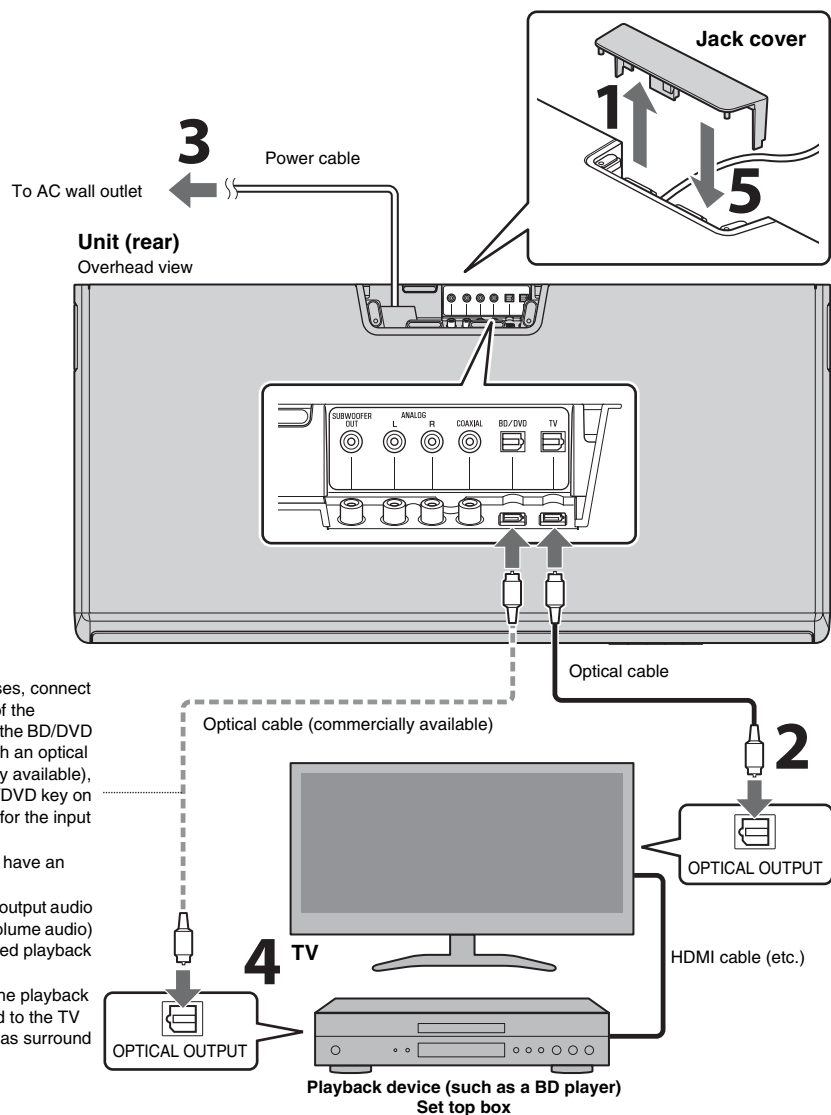
4 Set the TV as follows.

- Set the TV volume to minimum.
- Disable the TV built-in speaker output (if available).

5 Attach the jack cover.

HINT

- If a setting to disable the speaker output is not available on your TV, you may disable it by connecting headphones to the headphone jack on the TV. For details, refer to the manuals of the TV.
- The TV, BD/DVD and COAXIAL input jacks support the following audio signals.
 - PCM (2ch)
 - Dolby Digital (up to 5.1 channels)
 - DTS Digital Surround (up to 5.1 channels)



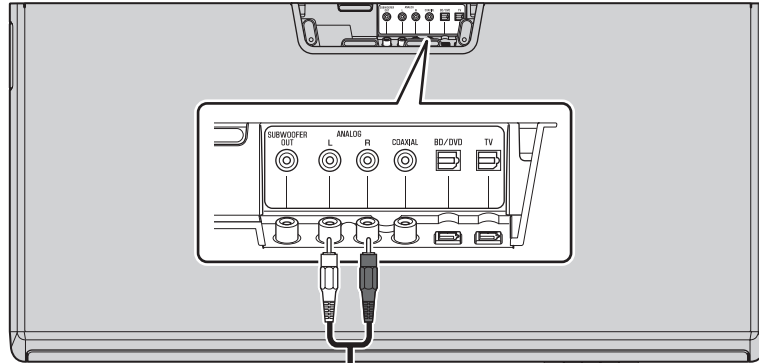
HINT

In the following cases, connect the optical output of the playback device to the BD/DVD input of the unit with an optical cable (commercially available), then select the BD/DVD key on the remote control for the input source.

- The TV does not have an optical output.
- The TV does not output audio (or outputs low volume audio) from the connected playback device.
- The audio from the playback device connected to the TV cannot be heard as surround sound.

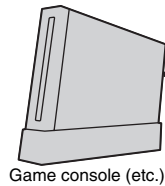
Analog connection of an external device (game console)

You can connect an external device, such as a game console or TV that does not have an optical output, to the ANALOG input jacks of the unit.



Unit (rear)
Overhead view

RCA stereo cable (supplied) (etc.)



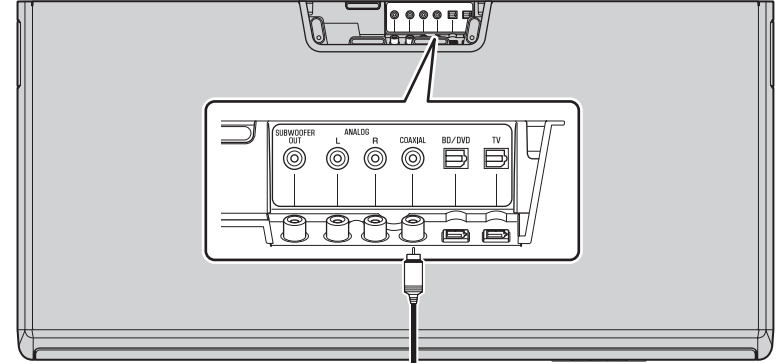
Game console (etc.)

NOTE

- Make sure the left (L) and right (R) channels are connected correctly.
- Select the ANALOG key on the remote control for the input source.

Digital connection of an external device

You can connect an external device that has a coaxial digital audio output, such as a DVD player, to the COAXIAL input jack of the unit.



Unit (rear)
Overhead view

Coaxial digital cable
(commercially available)



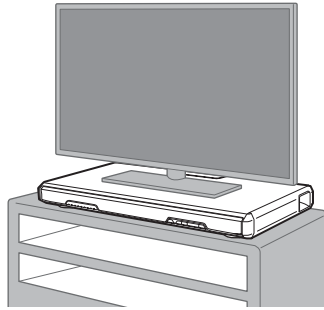
Coaxial digital
audio output
(orange)

NOTE

- Select the COAXIAL key on the remote control for the input source.

Installations

Place the unit on a flat surface such as on top of a TV cabinet, and then place a TV on top of the unit.

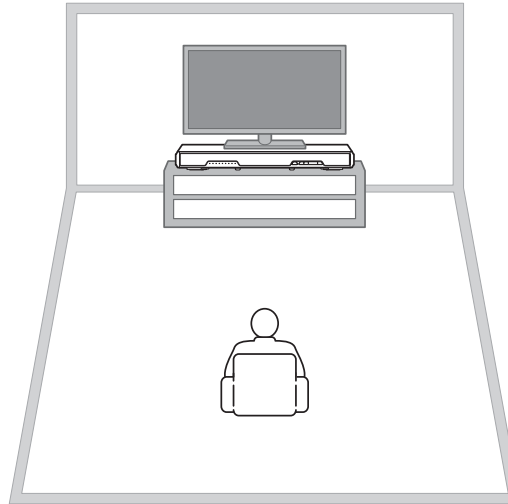


Cautions

- TVs that can be placed on the unit are flat-screen TVs that weigh no more than 40 kg (88.1 lbs), have bases no wider than 750 mm (29-1/2") and no deeper than 340 mm (13-3/8"), and have screens no larger than 55 inches. CRT TVs cannot be placed on the unit.
- Place the TV so that its base does not protrude from the unit's edges. If the TV base is too large to fit on top of the unit, place the unit in another location such as on an open shelf. In that case, make sure that the shelf is well-ventilated with enough clearance around the unit to prevent the heat from accumulating inside the unit.
- Place the unit so that it does not protrude from the TV cabinet's edges.
- Do not place any device other than a TV on the unit. If a device such as a BD player is placed on the unit, a malfunction due to vibrations may occur, or the TV installation may become unstable. Furthermore, if a hard object is placed on the unit, it may cause scratches on the unit.
- Never fix the unit to a wall or other surface using a fall prevention device, such as wire or bracket, supplied with the TV. Doing so may cause the unit fall together with the TV if an accident such as an earthquake occurs. Read the instruction manual of your TV carefully and fix the TV to a wall or sturdy object following the instruction.
- The unit contains non-magnetic shielding speakers. Do not place magnetically sensitive items (hard disk drive, etc.) near the unit.
- Determine the installation location considering the connection with external devices (such as a TV).

Obtaining effective surround sound effect

To obtain effective surround sound effect, observe the following.



- **Keep a distance of more than 2 meters (6.6 ft) between the unit and listener.**
- **Install the unit in front of the listening position.**
- **If the sound beams are blocked by obstacles such as furniture, adjust the position of the unit or the obstacles.**

Optimizing the surround sound effect for the installation position

The unit achieves surround sound by reflecting sound beams off walls. The optimum surround sound effect is achieved by setting an SBS position according to the installation position of the unit. After turning on the unit, hold down the SBS POSITION key that corresponds to the installation position for more than 3 seconds. For details, refer to "Setting a surround sound effect for the installation position (SBS position)" (p.10).

Cautions

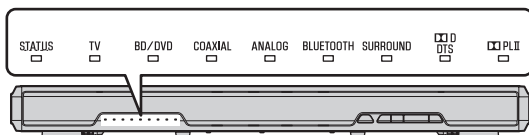
Effective surround effect may not be achieved in the following environment.

- Sound beams are blocked by obstacles such as furniture.
- The room size is not within the following dimensions;
Width: 3 meters to 7 meters (9.8 ft to 23 ft)
Depth: 3 meters to 7 meters (9.8 ft to 23 ft)
Height: 2 meters to 3.5 meters (6.6 ft to 11.5 ft)
- Listening position is too close to the unit.
- The unit is installed too close to the left or right wall.
- The unit is installed in the corner of the room.
- There is no wall for reflecting sound beam on the path of the sound beams.

Operations

Indicators

The indicators on the front panel flash or light up, to indicate the operation and setting status.



In this manual, illustrations of the nine in-line indicators are used for explanation.

- : Off
- : Lights up
- ☀ : Flashes

(Example: When the STATUS indicator flashes and the TV indicator lights up)



Input keys

Select an input source to be played back.

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

- | | | | | |
|----|--------|---------|--------|-----------|
| TV | BD/DVD | COAXIAL | ANALOG | BLUETOOTH |
| ■ | □ | □ | □ | □ |
- TV** TV audio
BD/DVD Audio from a device connected to the BD/DVD input jack
COAXIAL Audio from a device connected to the COAXIAL input jack
ANALOG Audio from a device connected to the ANALOG input jack
BLUETOOTH ... Audio from a *Bluetooth* connected device

HINT

- To play audio of the playback device connected to the TV or to watch videos of the playback device, set the TV's input source to the playback device.
- For details on *Bluetooth* connection, refer to "Listening to the sound from a *Bluetooth* device" (p.12).

SUBWOOFER keys (+/-)

Adjust the volume of the subwoofer.



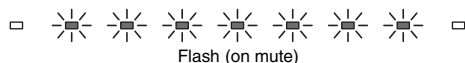
VOLUME keys (+/-)

Adjust the volume of the unit.



MUTE key

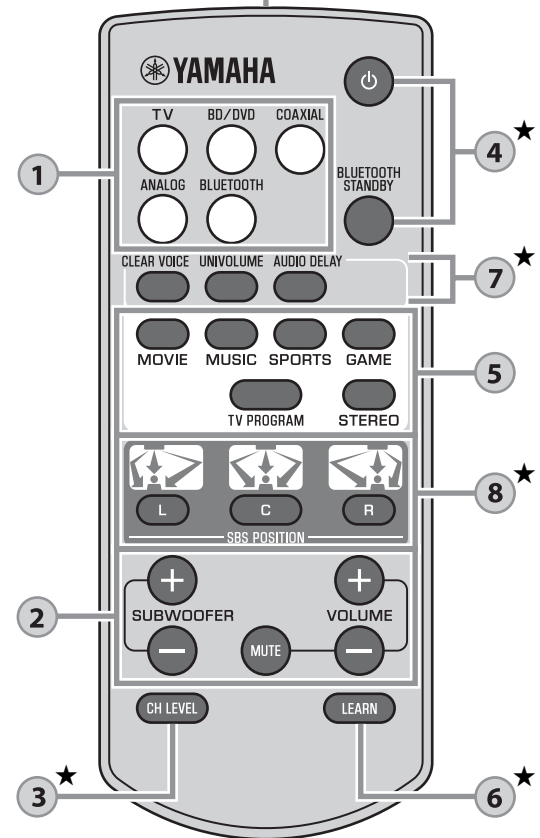
Mutes the audio output. Press the key again to unmute.



★: Keys that require pressing for more than 3 seconds
 BLUETOOTH STANDBY, AUDIO DELAY, SBS POSITION (L, C, R), CH LEVEL, LEARN

Remote control signal transmitter

Transmits infrared signals.




CH LEVEL key★


While you listen to the test-tone, you can adjust the volume level of each channel (p.11).


4

⏻ (power) key

Turns on or off (standby) the unit.

STATUS  Green (turned on)

STATUS  Red (*Bluetooth* standby) (p.13)

STATUS  Off (turned off)

BLUETOOTH STANDBY key★

Enables/disables the *Bluetooth* standby mode (p.13).

5

Surround mode / STEREO keys


Choose from five different types of surround playback (surround mode keys), or stereo (2-channel) playback. When the surround playback is selected, the sound field program “CINEMA DSP” provides realistic surround effects (p.10).

MOVIE / MUSIC / SPORTS / GAME / TV PROGRAM  Lights up (surround playback)

STEREO  Off (stereo playback)

HINT

- When 2-channel stereo signals are played in surround with Dolby Pro Logic II, the  PLII indicator lights up.

 Lights up (Dolby Pro Logic II)

6

LEARN key★

Sets the unit to the TV remote control learning mode (p.14).

7

CLEAR VOICE key

Enables/disables the clear voice function. When this function is enabled, you can enjoy clear voice sounds while watching movies, TV dramas, news programs or sports programs.



Flash 3 times (enabled), flash once (disabled)

UNIVOLUME key

Enables/disables the UniVolume function. When this function is enabled, consistent volume is maintained when inputs or sound sources switch.



Flash 3 times (enabled), flash once (disabled)

AUDIO DELAY key★

Adjusts the audio delay to synchronize the sound with the video when the video image on the TV may seem delayed with respect to the sound. Follow the procedure below to adjust the audio delay.

1 Hold down the AUDIO DELAY key for more than 3 seconds.

The left most indicator flashes.



2 Press the SUBWOOFER (+/-) key to adjust the audio delay.

Pressing the SUBWOOFER (+) key delays the audio output timing.



3 To finish the adjustment, press the AUDIO DELAY key.

HINT

- The adjustment will be finished automatically if no operations are performed for 20 seconds.


8


SBS POSITION (SBS position) keys★

For optimum surround sound effect, select a preset position mode according to where the unit is installed (p.10).

Decoder indication

The unit supports the following audio signals. You can check the type of the input audio signal by the color of the indicator.

 Green (Dolby Digital), Red (DTS Digital Surround)

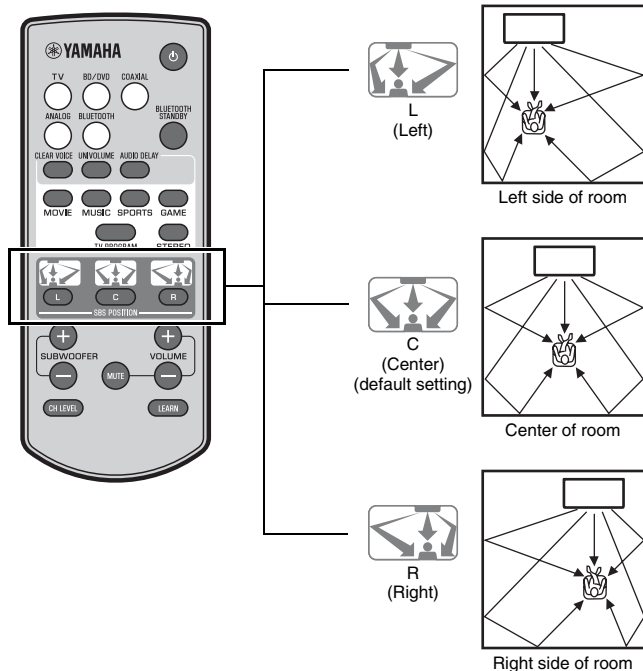
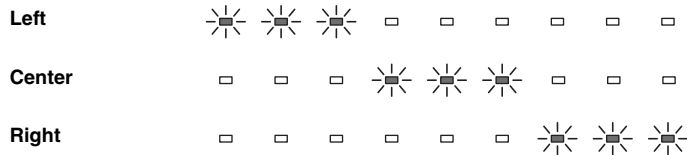
 Off (PCM)

Setting a surround sound effect for the installation position (SBS position)

The surround sound is achieved by reflecting the sound beams off walls as shown in the illustration below. For optimum surround effect, turn on the unit and select the SBS POSITION key according to the installation position of the unit.

1 Hold down the SBS POSITION key that corresponds to the installation position of the unit for more than 3 seconds.

The indicators on the front panel flash according to the set position.



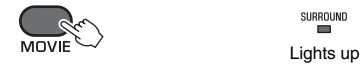
Selecting a surround sound effect of your choice

Select the surround mode key to enjoy realistic surround effects that closely resemble a movie theater, the middle of a music concert, or a sports field event, by Yamaha's sound field program, "CINEMA DSP." You can select a surround mode key that best suits the source from MOVIE, MUSIC, SPORTS, GAME, or TV PROGRAM.

1 Play back the source. 2 Press one of the surround mode keys (MOVIE, MUSIC, SPORTS, GAME, or TV PROGRAM).

The SURROUND indicator on the front panel lights up.

(Example: when MOVIE is selected)



Surround mode

The surround modes are described below.

Select the surround mode that best suits the playback source and your personal taste.

Sound field program	Features
MOVIE	Creates a broad and expansive cinematic space. With Dolby or DTS surround effects, this program enriches your cinematic experience.
MUSIC	Creates the palpable excitement, as if you were standing at the front center of a live concert hall event.
SPORTS	Creates the realistic atmosphere of a live sports event or talk show.
GAME	Enjoy three-dimensional sound effects with computer or video games.
TV PROGRAM	Creates optimum surround sound for TV programs.

HINT

- When the source is a 2-channel stereo signal, the sound is played back as surround sound by the Dolby Pro Logic II technology.

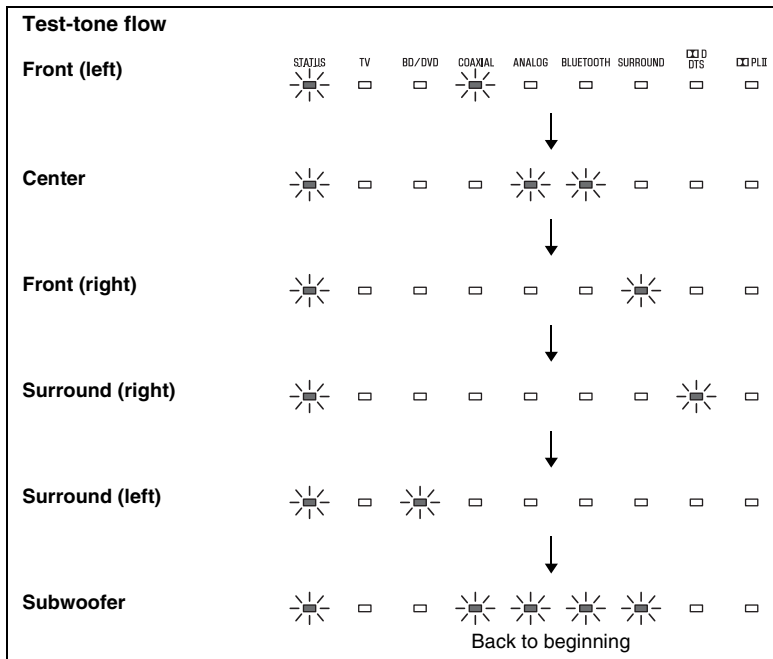
Adjusting the volume level of each channel (CH LEVEL)

The surround effect is achieved using six channels (audio outputs) of the unit. While listening to a series of test-tones from the unit, you can adjust the volume level of each channel to balance the sound heard from your listening position. (Volume level adjustment of each channel is not available when the unit is in stereo playback mode.)

1 Hold down the CH LEVEL key on the remote control for more than 3 seconds.



The STATUS indicator flashes in green during test-tone output. The test-tone cycles through the channels in the order below. The test-tone is output from each channel in turn for two seconds. You can confirm which channel is playing the test-tone by the way the indicators flash.



2 While the test-tone is output from the channel to be adjusted, press the SUBWOOFER key (+ or -) to balance the volume level with the other channels.



During volume adjustment, the cycle of the test tone stops. When you have finished adjusting the current channel level, release the + or - key and wait a moment for the test-tone cycle to resume. You can check the volume level by the indicator lights.

3 After adjustment is complete, press the CH LEVEL key again.

The test-tone stops.

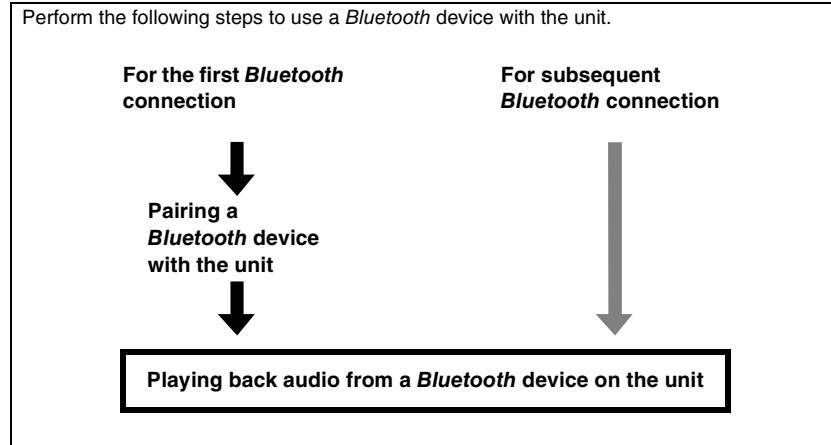
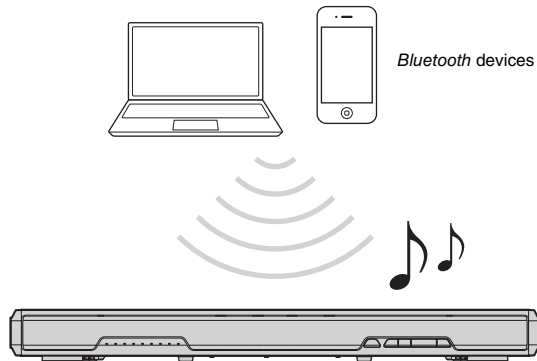
HINT

- Press the VOLUME key (+ or -) to adjust the overall volume while the test-tone is being played back.
- When the SBS position setting is changed (p.10), the channel level setting will be overwritten.

Listening to the sound from a *Bluetooth* device

You can play back wirelessly from *Bluetooth* devices, such as smartphones or digital music players.

See also the operating manual of the *Bluetooth* device for more details.



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. Once “pairing” with a device is completed, subsequent connection with that device will not require “pairing.”

1 Press the **BLUETOOTH** key on the supplied remote control to select *Bluetooth* as the input source.

The **BLUETOOTH** indicator on the front panel lights up in green.

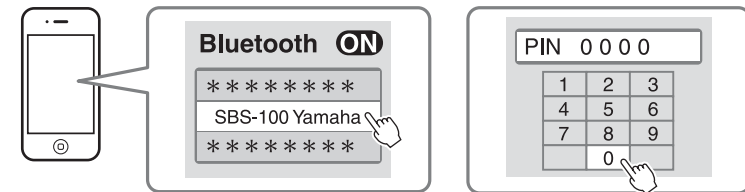



2 Turn on the *Bluetooth* function of the device to be paired, and perform pairing.

The operation varies depending on the device. Refer to the operation manual of the device.

3 Select “SBS-100 Yamaha” in the *Bluetooth* device list on the device.

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



When pairing is completed,  or a completion message appears on the device.

NOTE

- Perform pairing with the *Bluetooth* device and unit within 10 meters (33 ft) of each other.
- Up to eight *Bluetooth* devices can be paired 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 (p.13), then perform pairing with the new device.
- Refer to “*Bluetooth*” (p.20) in “Troubleshooting” if pairing cannot be achieved.

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

- 1 With the unit turned on, press the **BLUETOOTH** key on the supplied remote control to select *Bluetooth* as the input source.

The **BLUETOOTH** indicator on the front panel lights up in green.

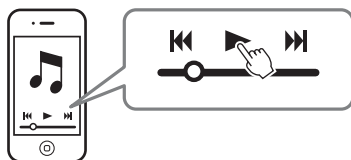


- 2 Turn on the *Bluetooth* function of the device.

When *Bluetooth* connection is made correctly, the **BLUETOOTH** indicator of the unit flashes 3 times.



- 3 Play back a song on the device.



NOTE

- Perform *Bluetooth* connection with the device and unit within 10 meters (33 ft) of each other.
- It may be necessary to select "SBS-100 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.

Terminating *Bluetooth* connection

Bluetooth connection is terminated in the following cases. When the unit is turned on and the *Bluetooth* connection is terminated, the **BLUETOOTH** indicator flashes once.

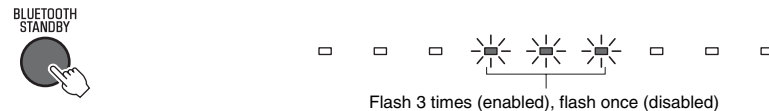
- The *Bluetooth* function is turned off on the compatible device.
- The **BLUETOOTH** key is pressed for more than 3 seconds.
- The unit is turned off.

Using the *Bluetooth* standby mode

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

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

Holding down the **BLUETOOTH STANDBY** key for 3 seconds each time toggles the mode between enabled and disabled.



When the *Bluetooth* standby mode is enabled and the unit is turned off, the **STATUS** indicator lights up in red. (***Bluetooth* standby**)



Functions available on *Bluetooth* devices with *Bluetooth* standby mode enabled

Power on interlock function (when the unit is turned off)

When *Bluetooth* connection is made on the device, the unit will turn on and will be ready to play back sound from the device.

Power off interlock function (when the unit is turned on)

The unit will be turned off when *Bluetooth* connection is terminated on a *Bluetooth* device. (Only when **BLUETOOTH** is selected as the input source.)

Using the **HOME THEATER CONTROLLER** application

By installing the dedicated free application "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, surround mode, sound adjustments)

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

Settings

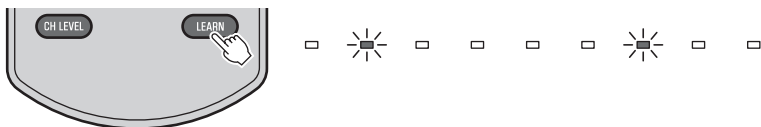
Programming the unit with the TV's remote control (TV's remote control learning function)

Once you program the unit, you can control it with your TV's remote control for functions such as turning on/off the TV and unit simultaneously, or volume up/down and muting/unmuting of the unit.

- This function is available only when your TV's remote control uses IR (infrared) signal.
- An RF (Radio Frequency) remote control will not work.
- If you want to use a cable or satellite set top box's remote control to operate the unit, use your original TV's IR (infrared) remote control to program the unit, then use the set top box's remote control to operate.
- If by changing the volume of the unit the TV's volume also changes, set the TV's volume to minimum, or disable speaker output.

- 1 Turn off the TV.**
- 2 Turn off the unit.**
- 3 Hold down the LEARN key on the unit's remote control for more than 3 seconds to set the unit to the learning mode.**

When the unit is in the learning mode, the indicators on the front panel flash as shown below.



NOTE

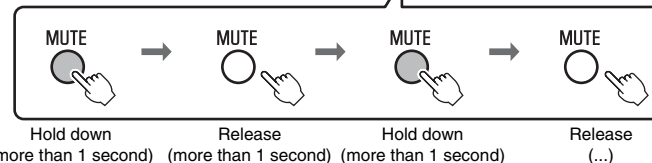
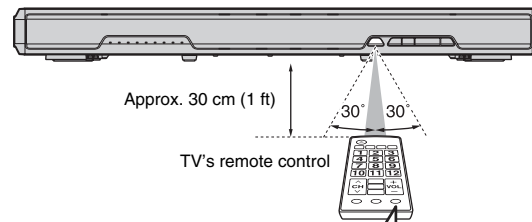
- Steps 4 to 7 require only the TV's remote control and the keys on the front panel of the unit. The remote control of the unit is not necessary.
- If the unit has already learned functions, the following indicators light up.
Mute: BD/DVD, Volume (-): COAXIAL, Volume (+): ANALOG, Power: BLUETOOTH

- 4 Teach the unit the "Mute" code of the TV's remote control.**

- 4-1 Press MUTE on the front panel of the unit.**



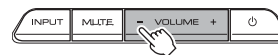
- 4-2 While pointing your TV's remote control at the remote control sensor, hold down the mute key for more than 1 second twice or three times.**



Result	Bleep/buzzer	Indicators
Successfully learned	Once	 Lights up
Failed to learn * Repeat from Step 4-1.	Twice	 Flash

- 5 Teach the unit the "Volume (-)" code of the TV's remote control.**

- 5-1 Press VOLUME (-) on the front panel of the unit.**



- 5-2 While pointing your TV's remote control at the remote control sensor, hold down the volume (-) key for more than 1 second twice or three times.**

Result	Bleep/buzzer	Indicators
Successfully learned	Once	 Lights up
Failed to learn * Repeat from Step 5-1.	Twice	 Flash

6 Teach the unit the “Volume (+)” code of the TV’s remote control.

6-1 Press VOLUME (+) on the front panel of the unit.



6-2 While pointing your TV’s remote control at the remote control sensor, hold down the volume (+) key for more than 1 second twice or three times.

Result	Bleep/buzzer	Indicators
Successfully learned	Once	Lights up
Failed to learn * Repeat from Step 6-1.	Twice	Flash

7 Teach the unit the “Power” code of the TV’s remote control.

7-1 Press (power) on the front panel of the unit.



7-2 While pointing your TV’s remote control at the remote control sensor, hold down the power key for more than 1 second twice or three times.

Result	Bleep/buzzer	Indicators
Successfully learned	Once	Lights up
Failed to learn * Repeat from Step 7-1.	Twice	Flash

8 To finish the learning mode, press the LEARN key on the unit’s remote control.

This completes the necessary settings. Now you can operate the unit with the TV’s remote control’s mute key, volume keys, or power key.

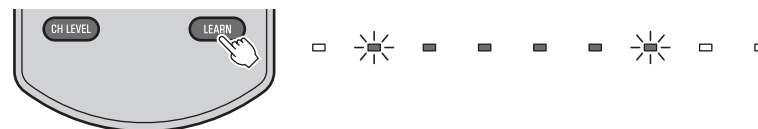
HINT

- The learning mode will be finished automatically if no operations are performed for 5 minutes.
- Set the TV volume to minimum. When you turn up the volume of the unit with the TV’s remote control, the volume of the TV may be turned up at the same time. In this case, follow Step 4 in “Connections” (p.5) to change the TV setting.
- You can press the (power) key on the unit’s remote control to finish learning mode.

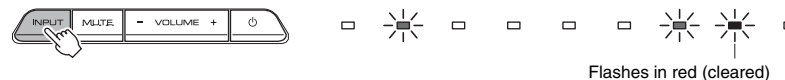
Clearing all learned operations

1 With the unit turned off, hold down the LEARN key on the supplied remote control for more than 3 seconds (for entering the learning mode).

When the unit is in the learning mode, the indicators on the front panel flash as shown below.



2 Hold down INPUT on the front panel of the unit for more than 3 seconds.

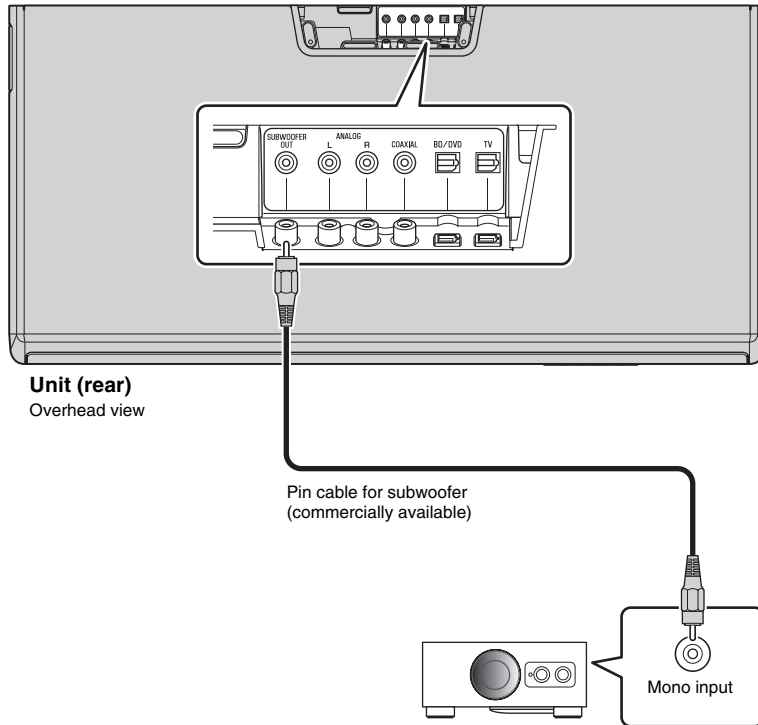


If the clearing is completed, you will hear the bleep sound three times.

3 Press the LEARN key on the supplied remote control.

Using an external subwoofer

The unit has dual built-in subwoofers; however you can connect an external subwoofer when you want to enhance low frequency sound. Connect a subwoofer to the SUBWOOFER OUT jack of the unit.



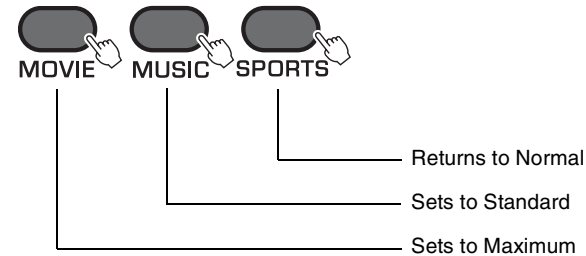
NOTE

- Use an external subwoofer with built-in amplifier.

Making sound easy to listen at low volume

You can change the dynamic range to make sounds easy to hear at a low volume.




- 1 Turn off the unit.
- 2 Hold down the key for the desired mode for more than 5 seconds.



The unit turns on with the selected setting.

Three settings are available (see below).

You can confirm the setting status by the lights of the indicator, when the unit is turned on.

Setting	Description	Indicator
Normal	Automatically adjusts the dynamic range based on the volume level of the source.	 Lights up in green
Standard	Compresses the dynamic range to suit a living room environment, etc.	 Lights up in orange
Maximum	Does not compress the dynamic range.	 Lights up in red

NOTE

- Normal is set as default.

Setting the auto power standby function

By enabling the auto power standby function, you can avoid forgetting to turn off the unit after use, or if you fall asleep while watching TV.

NOTE

- When the auto power standby function is enabled and one of the following conditions is met, the unit will automatically turn off.
 - No operation for 8 hours
 - No audio input and no operations for 20 minutes when BLUETOOTH is selected as the input source.

1 With the unit turned off, hold down the MUTE key on the unit's remote control for more than 5 seconds to enable/disable the auto power standby function.

You can check the status of the auto power standby function with the BD/DVD indicator when turning on the unit.




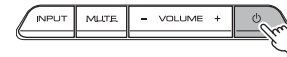
HINT

- Initial setting varies depending on the country or region.
 - U.K. and Europe models: enabled
 - Other models: disabled

Initializing the settings of the unit

Follow the procedure below to initialize the unit.

- 1 Turn off the unit.
- 2 Hold down  (power) on the front panel of the unit for more than 3 seconds.



Flash (initialized)


Troubleshooting


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

First, check the following:

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

Power and system

Problem	Cause	Remedy
The power turns off suddenly.	The auto power standby function worked. When the auto power standby function is enabled and one of the following conditions is met, the unit will automatically turn off. - No operation for 8 hours - No audio input and no operations for 20 minutes when BLUETOOTH is selected as the input source.	Turn on the unit again. To stop the unit from turning off automatically, disable the auto power standby function (p.17).
	The internal microcomputer is frozen, due to an external electric shock (such as lightning or excessive static electricity) or to a drop in the power supply voltage.	Hold down  (power) on the front panel of the unit for more than 10 seconds to reboot it. (If the problem persists, disconnect the power cable from the AC wall outlet and plug it again.)
	The protection circuitry has been activated. (The STATUS indicator on the front panel of the unit flashes.)	After confirming that all connections are made properly, turn on the unit again. If the power often suddenly turns off, unplug the power cable from the AC wall outlet and contact the nearest authorized Yamaha dealer or service center.
	<i>Bluetooth</i> connection is terminated on a <i>Bluetooth</i> device when the <i>Bluetooth</i> standby mode is enabled.	Disable the <i>Bluetooth</i> standby mode (p.13).

The power cannot be turned on.	The protection circuitry has been activated three times consecutively. (If you try to turn on the power in this condition, the STATUS indicator flashes.)	To protect the product, the power cannot be turned on. Unplug the power cable from the AC wall outlet and contact the nearest authorized Yamaha dealer or service center.
The unit is not responding correctly.	The internal microcomputer is frozen, due to an external electric shock (such as lightning or excessive static electricity) or to a drop in the power supply voltage.	Hold down  (power) on the front panel of the unit for more than 10 seconds to reboot it. (If the problem persists, disconnect the power cable from the AC wall outlet and plug it again.)
The unit operates by itself.	Another <i>Bluetooth</i> device is being operated nearby.	Terminate <i>Bluetooth</i> connection of the unit and connect the unit and device again (p.13).


Audio

Problem	Cause	Remedy
No sound.	Another input source is selected.	Select an appropriate input source (p.8).
	The mute function is activated.	Cancel the mute function (p.8).
	The volume is too low.	Turn up the volume (p.8).
No sound is coming from the subwoofer.	The volume of the subwoofer is too low.	Turn up the volume of the subwoofer (p.8).
	The playback source does not contain low-frequency signals.	--
The volume decreases when the unit is turned on.	The automatic volume adjustment function worked. To prevent excessive loudness, the unit automatically controls its volume within a certain level when the unit is turned on.	If necessary, turn up the volume (p.8).

No surround effect.	Stereo playback is selected.	Select the surround mode key to change for surround playback (p.10).
	The volume is too low.	Turn up the volume (p.8).
	The volume of the surround left and right channels is low.	Turn up the volume of the surround left and right channels (p.11).
	The TV or playback device is set to output 2-channel audio (such as PCM) only.	Change the digital audio output setting on the TV or playback device.
	The correct SBS position mode is not selected.	Select a SBS POSITION key on the remote control which is best suited for your listening environment.
Noise is heard.	Sound beams are not reflected effectively off walls because of the shape of the room, etc.	Use of the sound reflection board (sold separately) is recommended (p.21).
	The unit is too close to another digital or high-frequency device.	Move those devices away from the unit.

Remote control

Problem	Cause	Remedy
The unit cannot be controlled using the remote control.	The unit is out of the operating range.	Use the remote control within the operating range (p.2).
	The batteries are weak.	Replace with new batteries (p.2).
	The remote control sensor of the unit is exposed to direct sunlight or strong lighting.	Adjust the lighting angle, or reposition the unit.
The unit does not learn TV remote control operations.	The TV remote control key was not held down long enough.	Hold down the key for more than 1 second twice or three times (p.14).
	The TV remote control does not use infrared signals. (Some remote controls may not work even if it uses infrared signals.)	The TV remote control learning function cannot be used in this case. Use the supplied remote control to operate the unit.
	The position where you operated the TV remote control is not appropriate.	Operate the TV remote control at the appropriate position (p.14).
	The batteries of the TV remote control are weak.	Replace with new batteries.
	The remote control sensor of the unit is exposed to direct sunlight or strong lighting.	Adjust the lighting angle, or reposition the unit.
	The transmission of the remote control signal was disturbed by the TV screen light.	Turn off the TV and perform the learning operation again (p.14).

Sound is coming from the TV when the unit volume is turned up with the TV remote control. (when TV remote control learning function is used)	Audio output is enabled on the TV.	Change the TV setting to disable the TV speaker output. If a setting to disable the speaker output is not available on your TV, try the following methods. - Connect headphones to the headphone jack on the TV. - Set the TV volume to minimum.
The power of the unit and of the TV switch in the opposite direction. (For example, the TV is turned off if the unit is turned on.) (when TV remote control learning function is used)	The power of the TV was on when you performed the learning operation.	Press the power key on the TV and  (power) on the front panel of the unit to turn them on and then press the power key on the TV remote control to turn them off.

Bluetooth

Problem	Cause	Remedy
Cannot make the unit paired with the Bluetooth device.	<i>Bluetooth</i> is not selected as the input source.	Select <i>Bluetooth</i> as the input source.
	A <i>Bluetooth</i> adaptor, etc., that you want to pair with the unit has a password other than "0000."	Use a <i>Bluetooth</i> adaptor, etc., whose password is "0000."
	The unit and device are too far apart.	Move the device closer to the unit.
	There is a device (microwave oven, wireless LAN, etc.) outputs signals in the 2.4 GHz frequency band nearby.	Move this unit away from the device that is emitting radio frequency signals.
	Another <i>Bluetooth</i> device is connected.	Terminate current <i>Bluetooth</i> connection, and perform pairing with the new device.
Cannot make a Bluetooth connection.	Another <i>Bluetooth</i> device is connected.	The unit cannot make multiple <i>Bluetooth</i> connections. Terminate current <i>Bluetooth</i> connection, and make connection for the desired device.
	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.
No sound is produced or the sound is interrupted during playback.	The <i>Bluetooth</i> connection of the unit with the device is disconnected.	Perform <i>Bluetooth</i> connection operations again (p.13).
	<i>Bluetooth</i> is not selected as the input source.	Select <i>Bluetooth</i> as the input source.
	The unit and device are too far apart.	Move the device closer to the unit.
	There is a device (microwave oven, wireless LAN, etc.) outputs signals in the 2.4 GHz frequency band nearby.	Move this unit away from the device that is emitting radio frequency signals.
	The device is not set to send <i>Bluetooth</i> audio signals to the unit.	Change the audio output setting and connection setting on the device.
	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.	

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.

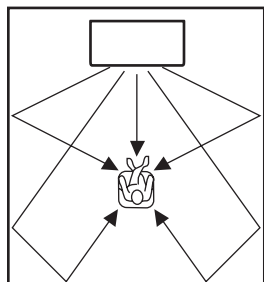


Figure 1. Ideal condition

Sound beams are reflected correctly and surround sound effects are balanced.

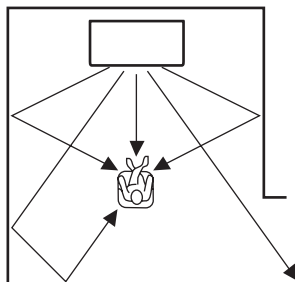


Figure 2. Surround (right) beam is not being reflected because there is no wall.

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).

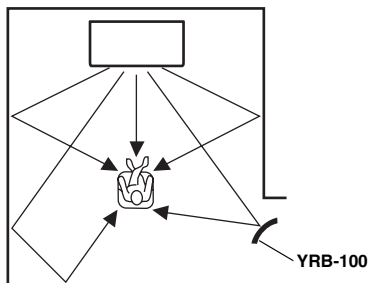


Figure 3. With a sound reflection board installed

The sound beam for surround (right) is reflected correctly, and correct surround sound effect is achieved.

NOTE

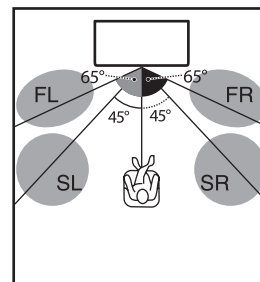
- YRB-100 may not be available depending on the country or region.

How to install YRB-100

The unit outputs sound beams according to the “SBS position” settings (p.9) as shown in the following illustrations.

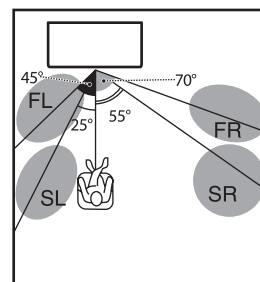
Install the YRB-100 in the path of the sound beam.

● shows the recommended install position.

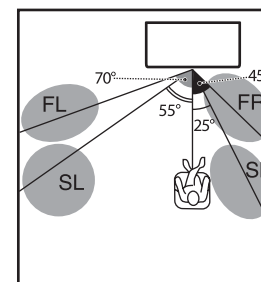


SBS position: Center

FL: Front left
FR: Front right
SL: Surround left
SR: Surround right



SBS position: Left



SBS position: Right

- After installing the sound reflection board, refer to the YRB-100 owner's manual to adjust the height and angle. It is recommended to use the test-tone (by holding down the CH LEVEL key) when adjusting the board (p.11).
- By installing the board close to your listening position, you can achieve clear surround sound positioning.

NOTE

This unit does not have the function to automatically adjust sound beam angles. It is not necessary to adjust the sound beam angles, although the procedure is described in the owner's manual.

Specifications

Item		TV Surround System (SBS-100)
Amplifier	Maximum Rated Output Power	Array speakers 2 W x 8
		Woofer 30 W x 2
		Subwoofer 60 W
Array speakers	Type	Acoustic suspension type
	Driver	Full range 2.8 cm (1-1/8") cone magnetic shielding type x 8
	Frequency Response	500 Hz to 22 kHz
	Impedance	4 Ω
Woofer	Type	Acoustic suspension type
	Driver	Full range 4 x 10 cm (1-1/2 x 4") cone non-magnetic shielding type x 2
	Frequency Response	150 Hz to 22 kHz
	Impedance	6 Ω
Subwoofer	Type	Bass reflex type
	Driver	8.5 cm (3-1/4") cone non-magnetic shielding type x 2
	Frequency Response	45 Hz to 150 Hz
	Impedance	6 Ω
Decoder	Supported audio signal (TV, BD/DVD)	PCM (2ch) Dolby Digital DTS Digital Surround
Input Jacks	Digital (Optical)	2 (TV, BD/DVD)
	Digital (Coaxial)	1 (COAXIAL)
	Analog (RCA/stereo)	1 (ANALOG)
Output Jack	Analog (RCA/monaural)	1 (SUBWOOFER OUT)

Bluetooth	Bluetooth version	Ver. 2.1 +EDR
	Supported protocols	A2DP
	Supported codecs	SBC, aptX
	Wireless output	Bluetooth Class 2
	Maximum communication distance	10 m ([33 ft] without obstructions)
	Supported content protection method	SCMS-T
General	Power Supply	AC 120 V, 60 Hz
	Power Consumption	24 W
	Standby Power Consumption	0.3 W (When <i>Bluetooth</i> Standby is enabled) 0.2 W (When <i>Bluetooth</i> Standby is disabled)
	Dimensions (W x H x D)	780 x 77 x 370 mm (30-3/4" x 3" x 14-5/8")
	Weight	8.8 kg (19.4 lbs)

* Specifications are subject to change without notice.



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Bluetooth

- *Bluetooth* is a technology for wireless communication between devices within an area of about 10 meters (33 ft) employing the 2.4 GHz frequency band, a band which can be used without a license.

Handling Bluetooth communications

- The 2.4 GHz band used by *Bluetooth* compatible devices is a radio band shared by many types of equipment. While *Bluetooth* compatible devices use a technology minimizing the influence of other components using the same radio band, such influence may reduce the speed or distance of communications and in some cases interrupt communications.
- The speed of signal transfer and the distance at which 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.

