SONY®

Home Theatre System

Operating Instructions

HT-SS380

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

To reduce the risk of fire, do not cover the ventilation opening of the apparatus with newspapers, tablecloths, curtains, etc. Do not place the naked flame sources such as lighted candles on the apparatus.

Do not install the appliance in a confined space, such as a bookcase or built-in cabinet.

To reduce the risk of fire or electric shock, do not expose this apparatus to dripping or splashing, and do not place objects filled with liquids, such as vases, on the apparatus.

As the main plug is used to disconnect the unit from the mains, connect the unit to an easily accessible AC outlet. Should you notice an abnormality in the unit, disconnect the main plug from the AC outlet immediately.

Do not expose batteries or apparatus with battery-installed to excessive heat such as sunshine, fire or the like.

The unit is not disconnected from the mains as long as it is connected to the AC outlet, even if the unit itself has been turned off.

To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.

For customers in Canada

ENERGY STAR® is a U.S. registered mark.
As an ENERGY STAR® partner, Sony Corporation has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

For customers in Europe

Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems)

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local Civic Office, your household waste disposal service or the shop where you purchased the product.
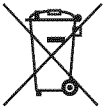
Disposal of waste batteries (applicable in the European Union and other European countries with separate collection systems)

This symbol on the battery or on the packaging indicates that the battery provided with this product shall not be treated as household waste.

On certain batteries this symbol might be used in combination with a chemical symbol. The chemical symbols for mercury (Hg) or lead (Pb) are added if the battery contains more than 0.0005% mercury or 0.004% lead.

By ensuring these batteries are disposed of correctly, you will help prevent potentially negative consequences for the environment and human health which could otherwise be caused by inappropriate waste handling of the battery. The recycling of the materials will help to conserve natural resources. In case of products that for safety, performance or data integrity reasons require a permanent connection with an incorporated battery, this battery should be replaced by qualified service staff only.

To ensure that the battery will be treated properly, hand over the product at end-of-life to the applicable collection point for the recycling of electrical and electronic equipment.

For all other batteries, please view the section on how to remove the battery from the product safely. Hand the battery over to the applicable collection point for the recycling of waste batteries.

For more detailed information about recycling of this product or battery, please contact your local Civic Office, your household waste disposal service or the shop where you purchased the product.

Notice for customers: The following information is only applicable to equipment sold in countries applying EU Directives.

The manufacturer of this product is Sony Corporation, 1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan. The Authorized Representative for EMC and product safety is Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Germany. For any service or guarantee matters please refer to the addresses given in separate service or guarantee documents.

About This Manual

- The instructions in this manual are for model HT-SS380. The illustrations used in this manual are of the Europe model and they may be different from your model. Any differences in operation are marked in the manual as "Europe model only".

The HT-SS380 consists of:

- Receiver   STR-KS380
- Speaker system*
  - Front/Surround speaker   SS-TSB105
  - Center speaker   SS-CTB102
  - Subwoofer   SS-WSB103
  * Be sure to use only the supplied speakers.

- The instructions in this manual describe the operation of the receiver with the supplied remote control. You can also use the control buttons on the receiver if they have the same or similar names as those on the remote control.

On Copyrights

This receiver incorporates Dolby* Digital and Pro Logic Surround and the DTS** Digital Surround System.

*   Manufactured under license from Dolby Laboratories. Dolby, Pro Logic, and the double-D symbol are trademarks of Dolby Laboratories.
** Manufactured under license under U.S. Patent #'s: 5,451,942; 5,956,674; 5,974,380; 5,978,762; 6,226,616; 6,487,535; 7,212,872; 7,333,929; 7,392,195; 7,272,567 & other U.S. and worldwide patents issued & pending. DTS, DTS-HD and the Symbol are registered trademarks, & DTS-HD Master Audio, and the DTS logos are trademarks of DTS, Inc. Product includes software. © DTS, Inc. All Rights Reserved.

This receiver incorporates High-Definition Multimedia Interface (HDMI™) technology. HDMI, the HDMI Logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

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"PlayStation" is a registered trademark of Sony Computer Entertainment Inc.

Table of Contents

Supplied accessories

• Operating Instructions (this manual)
• Quick Setup Guide
• FM wire antenna (aerial) (1)

• Remote control (1)
  – RM-AAU113 (Canada and Argentina models only)
  – RM-AAU114 (Other models)
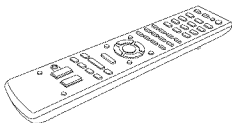
• R6 (size-AA) batteries (2)

• Optimizer microphone (ECM-AC2) (1)

Supplied speakers

• Front speaker (2)
• Center speaker (1)
• Surround speaker (2)
• Subwoofer (1)

Inserting batteries into the remote control

Insert two R6 (size AA) batteries (supplied) by matching ⊕ and ⊖ on the batteries to the diagram inside the battery compartment of the remote control.
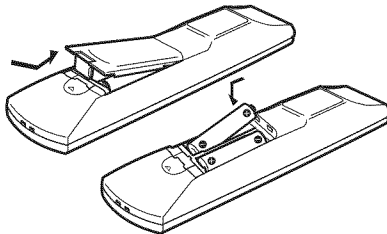
Notes

• Do not leave the remote control in an extremely hot or humid place.
• Do not use a new battery with old ones.
• Do not mix manganese batteries and other kinds of batteries.
• Do not expose the remote control sensor to direct sunlight or lighting apparatuses. Doing so may cause a malfunction.
• If you do not intend to use the remote control for an extended period of time, remove the batteries to avoid possible damage from battery leakage and corrosion.
• When you replace or remove the batteries, the remote control buttons may be reset to the default settings. If this happens, reassign the buttons again (page 39).
• When the receiver no longer responds to the remote control, replace all the batteries with new ones.

Description and location of parts

Front panel
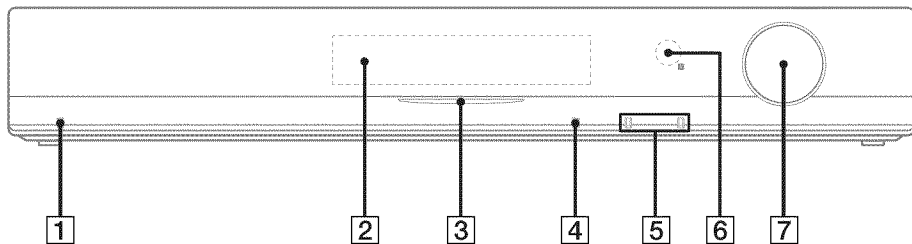
[1] I/⏻ (on/standby) (page 23, 27, 39)

[2] Display panel (page 7)

[3] White indicator
Lights up when the receiver is turned on.
Lights off when the DIMMER is set to DIM
MAX (page 44) or the receiver is turned off.

[4] SOUND FIELD (page 33)

[5] INPUT +/– (page 25)

[6] Remote control sensor
Receives signals from remote control.

[7] MASTER VOLUME (page 28, 47)

Indicators on the display panel
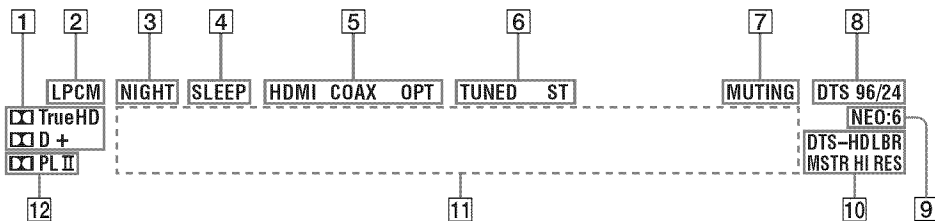
[1] Dolby Digital Surround indicator
Lights up the respective indicator when the
receiver is decoding the corresponding Dolby
Digital format signals.

□□ TrueHD	Dolby TrueHD
□□ D	Dolby Digital
□□ D+	Dolby Digital Plus

Note
When playing a Dolby Digital format disc, make
sure that you have completed the digital
connections.

[2] LPCM
Lights up when the receiver is decoding the
Linear PCM signals.

[3] NIGHT
Lights up when the Night Mode function is set to
on (page 43).

[4] SLEEP
Lights up when the Sleep Timer is activated
(page 44).

5 Input indicator

Lights up to indicate the current input.

HDMI

– The INPUT MODE is set to "AUTO", and when the receiver recognizes the equipment connected via an HDMI IN jack (page 19).
– The TV INPUT detected Audio Return Channel (ARC) signals (page 38).

COAX

The VIDEO input is selected.

OPT

– The INPUT MODE is set to "AUTO" and the source signal is a digital signal being input through the OPT IN jack (page 18).
– The INPUT MODE is set to "OPT" (page 43).

6 Tuning indicator

Lights up to indicate the current status of the radio station (page 29).

TUNED

When receives a radio station.

ST

When broadcasts in stereo mode.

7 MUTING

Lights up when the muting function is activated.

8 DTS indicator

Lights up the respective indicator when the receiver is decoding the corresponding DTS format signals.

DTS	DTS
DTS 96/24	DTS 96 kHz/24 bit

Note

When playing a DTS format disc, make sure that you have completed the digital connections.

9 NEO:6

Lights up when DTS Neo:6 Cinema/Music decoder is activated (page 33, 34).

10 DTS-HD indicator

Lights up the respective indicator when the receiver is decoding the corresponding DTS-HD format signals.

DTS-HD LBR	DTS-HD Low Bit Rate Audio
DTS-HD MSTR	DTS-HD Master Audio
DTS-HD HI RES	DTS-HD High Resolution Audio

11 Message display area

Display the volume level, selected input source, audio input signal, etc.

12 Dolby Pro Logic indicator

Lights up the respective indicator when the receiver performs Dolby Pro Logic processing. This matrix surround decoding technology can enhance input signals.

☐☐ PL	Dolby Pro Logic
☐☐ PLII	Dolby Pro Logic II
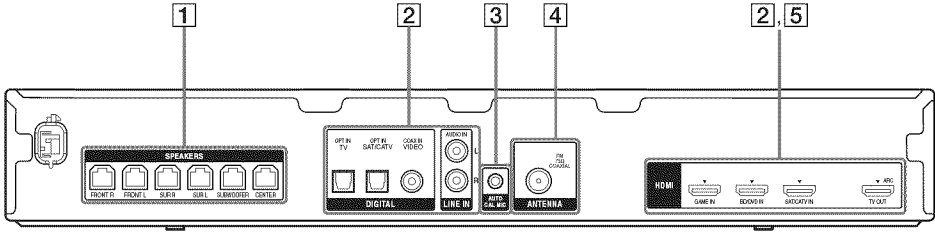
1 SPEAKERS section (page 17)

2 Audio signal section
DIGITAL INPUT/OUTPUT jacks (page 18, 21)

OPT IN

COAX IN

HDMI IN/OUT

ANALOG INPUT jack (page 22)

AUDIO IN

3 AUTO CALIBRATION section (page 24)

AUTO CAL MIC jack

4 ANTENNA section (page 22)

FM ANTENNA jack

5 VIDEO signal section (page 21)

HDMI IN/OUT jacks

9GB

Remote control

Use the supplied remote control to operate this receiver and other equipment. The remote control is assigned to operate Sony audio/video equipment. You can reassign the input button to match the equipment connected to your receiver (page 39).

• RM-AAU113 (Canada and Argentina models only)
• RM-AAU114 (Other models)
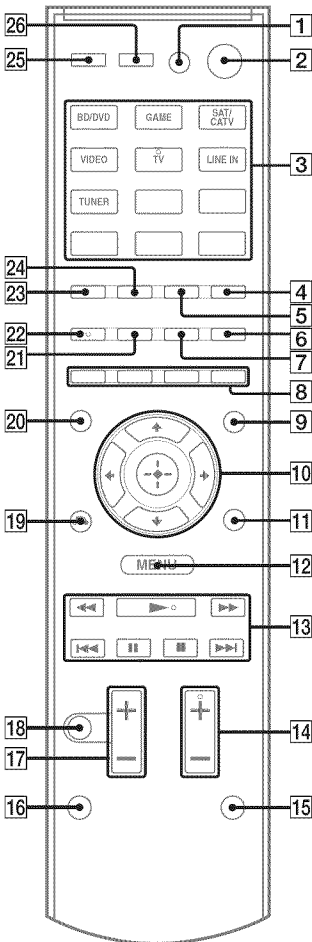
To use the buttons printed in pink

Hold down SHIFT (⑮), then press the button printed in pink that you want to use.
Example: Hold down SHIFT (⑮), then press ENTER (③).

2 Press
ENTER

1 Hold down
SHIFT
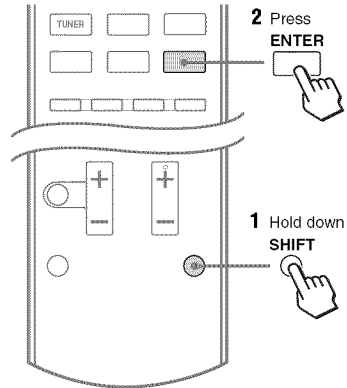
To control the receiver

② I/⓵* (on/standby)
Turns the receiver on or sets it to standby mode.

Saving the power in standby mode
When "CTRL HDMI" is set to "CTRL OFF" (page 41).

③ Input buttons**
Selects the equipment you want to use. When you press any of the input buttons, the receiver turns on. The buttons are assigned to control Sony equipment.

Numeric buttons
Hold down SHIFT (⑮), then press numeric buttons to preset or tune to the preset stations (page 31).

ENTER
Hold down SHIFT (⑮), then press ENTER to
– enters the selections.
– stores a station during tuner operation.

④ D.TUNING
Enters direct tuning mode (page 30).

⑤ MEMORY
Stores a station during tuner operation.

⑥ DISPLAY
Press AMP MENU, then press DISPLAY to view information on the display panel (page 28).

[9] AMP MENU

Displays the menu to operate the receiver.

[10] ⊕ , ✦/✦/✦/✦

Press ✦/✦/✦ /✦ to select the settings, then press ⊕ to enter/confirm the selection.

[13] TUNING +/–

Scans a station (page 30).

PRESET +/–

Selects preset stations (page 31).

[14] SOUND FIELD +**/–

Selects a sound field (page 33).

[15] SHIFT

Changes the remote control button function to activate the buttons printed in pink (page 10).

[17] MASTER VOL +/– or ∠ +/–
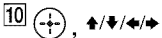
Adjust the volume level of all speakers at the same time.

[18] MUTING or ⊄

Turns off the sound temporarily.
Press the button again to restore the sound.

[19] RETURN/EXIT ♂

Returns to the previous menu.

[25] AUTO VOL

Adjusts the volume automatically depending on the input signal or content from the connected equipment (ADVANCED AUTO VOLUME function).
This function is useful, for example, when the sound of a commercial is louder than the TV programs.

Notes

* Be sure to reduce the volume level before you turn off this function.
* As this function is available only when Dolby Digital, DTS or Linear PCM signals are input, the sound may suddenly increase when you switch to other formats.
* This function does not work in the following cases.
  – Linear PCM signals with a sampling frequency of more than 48 kHz are being received.
  – Dolby Digital Plus, Dolby TrueHD, DTS 96/24, DTS-HD Master Audio, or DTS-HD High Resolution Audio signals are being received.

* If you press AV I/ᶜ⁰ ([1]) and I/ᶜ⁰ ([2]) simultaneously, the receiver and connected equipment will turn off (SYSTEM STANDBY). The function of the AV I/ᶜ⁰ ([1]) changes automatically each time you press the input buttons ([3]).

**The 5/TV, AUDIO, ⊙⊙, ► and TV CH +/ SOUND FIELD +/PROG +/⊕ buttons have tactile dots.
Use the tactile dots as references when operating the receiver.

To control a Sony TV

Hold down TV ([16]), then press the button printed in yellow to select the function you want.
Example: Hold down TV ([16]), then press TV CH + or PROG + ([14]).
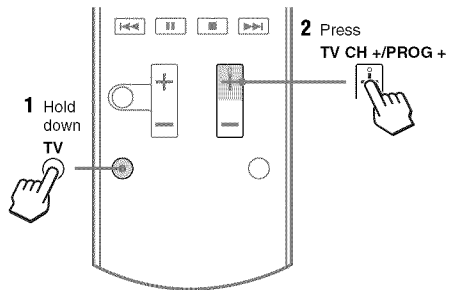
[1] TV I/ᶜ⁰ (on/standby)

Turns the TV on or off.

[3] Numeric buttons**

Selects the TV channels.

ENTER

Enters the selections.

⟲ (Previous channel)

Returns to the previous channel watched (for more than five seconds).

CLEAR

Use with the numeric buttons to select the channel numbers of the Digital CATV terminal.
For example, to select 2.1, press 2, CLEAR, and 1.

⊟ (Text)

Displays text information.

6 DISPLAY

Displays information related to the current TV program.

⊕/⑦ (Info/Text reveal)

Displays information such as current channel number and screen mode.

Reveals hidden information (e.g. answers to a quiz) while in the text mode.

8 Color buttons

Displays an operation guide on the TV screen when the color buttons are available. Follow the operation guide to perform a selected operation.

11 TOOLS/OPTIONS

Displays the TV function options.

12 MENU/HOME

Displays the TV menus.

14 TV CH +**/– or PROG +**/–

Scans for the preset TV channels.

⊟▲**/⊟▼

Selects the next or previous page while in the text mode.

17 TV VOL +/– or ◿ +/–

Adjust the TV volume.

18 MUTING or ◁✕

Activates the TV's muting function.

19 RETURN/EXIT ♂⌁

Returns to the previous TV menu.

20 GUIDE or ⊟⊟

Display the on-screen program guide.

22 AUDIO** or ⊂⊃**

Changes the dual sound mode.

23 DIGITAL

Changes to digital mode.

24 ANALOG

Changes to analog mode.

26 INPUT or →⊡ (Input select)

Selects the input signal (TV or video).

⊜ (Text hold)

Holds the current page while in the text mode.

---

* If you press AV I/⊙ (1) and I/⊙ (2) simultaneously, the receiver and connected equipment will turn off (SYSTEM STANDBY). The function of the AV I/⊙ (1) changes automatically each time you press the input buttons (3).

**The 5/TV, AUDIO, ⊂⊃, ▶ and TV CH +/ SOUND FIELD +/PROG +/⊟▲ buttons have tactile dots.

Use the tactile dots as references when operating the receiver.

To control other Sony equipment

Be sure to hold down SHIFT ([15]) to activate the buttons printed in pink (page 10).

Name	Blu-ray Disc, DVD player	Satellite tuner, Cable TV tuner	VCR	CD player
[1] AV I/(¹)*	Power	Power	Power	Power
[3] Numeric buttons**	Track	Channel	Channel	Track
ENTER	Enter	Enter	Enter	Enter
CLEAR	Clear	Clear	–	Track >10
[6] DISPLAY	Display	Display	Display	Display
[7] ANGLE or ⌂	Select angle	–	–	–
[8] Color buttons	Menu, guide	Menu, guide	–	–
[10] ⊕	Enter	Enter	Enter	–
♠/♦/♣/➡	Select	Select	Select	–
[11] TOOLS/OPTIONS	Options menu	Options menu	–	–
[12] MENU/HOME	Menu	Menu	Menu	–
[13] ◀◀/▶▶	Search forward, backward	–	Fast forward, rewind	Fast forward, rewind
▶**	Play	–	Play	Play
I◀◀/▶▶I	Skip track	–	Search index	Skip track
II	Pause	–	Pause	Pause
■	Stop	–	Stop	Stop
[19] RETURN/EXIT ⟲	Return	Return, exit, Live TV	–	–
[20] GUIDE or ▦	Program schedule	Guide menu	–	–
[21] SUBTITLE or ⬚	Subtitle	–	–	–
[22] AUDIO** or ⊙**	Audio	–	–	–
[23] TOP MENU	On-screen guide	–	–	–
[24] POP UP/MENU	Menu	–	–	–
[26] INPUT	Select input	–	Select input	–

* If you press AV I/(¹) ([1]) and I/(¹) ([2]) simultaneously, the receiver and connected equipment will turn off (SYSTEM STANDBY). The function of the AV I/(¹) ([1]) changes automatically each time you press the input buttons ([3]).

**The 5/TV, AUDIO, ⊙, ▶ and TV CH +/ SOUND FIELD +/PROG +/⊕ buttons have tactile dots. Use the tactile dots as references when operating the receiver.

Notes

• The above explanation is intended to serve as examples.
• Depending on the model of your connected equipment, some functions explained in this section may not work with the supplied remote control.

Getting started

You can enjoy your audio/video equipment connected to the receiver by following the simple steps below.

Installing and connecting the speakers (page 15, 17)

⬇

Connecting the TV (page 18)

⬇

Connecting the video equipment (page 19)

⬇

Connecting the audio equipment (page 22)

⬇

Setting the audio output settings on the connected equipment

To output multi channel digital audio, check the digital audio output setting on the connected equipment.

For a Blu-ray Disc player, check that "Audio (HDMI)", "Dolby Digital (Coaxial/Optical)", and "DTS (Coaxial/Optical)" are set to "Auto", "Dolby Digital" and "DTS" respectively (as of September 2010).

For a PlayStation 3, check that "BD/DVD Audio Output Format (HDMI)" is set to "Bitstream" (with system software version 3.5).

For details, refer to the operating instructions supplied with the connected equipment.

⬇

Preparing the receiver

See "7: Connecting the AC power cord (mains lead)" (page 23) and "Initializing the receiver" (page 23).

⬇

Performing Auto Calibration (page 25)

You can check the speaker connection using "Test Tone" (page 41). If the sound is not output correctly, check the speaker connection and make the settings explained above again.

1: Installing the speakers

This receiver allows you to use a 5.1 channel speaker system. To fully enjoy theater-like multi channel surround sound, be sure to connect all the supplied speakers (two front speakers, a center speaker, and two surround speakers) and a subwoofer (5.1 channel). You can place your speakers as shown below.
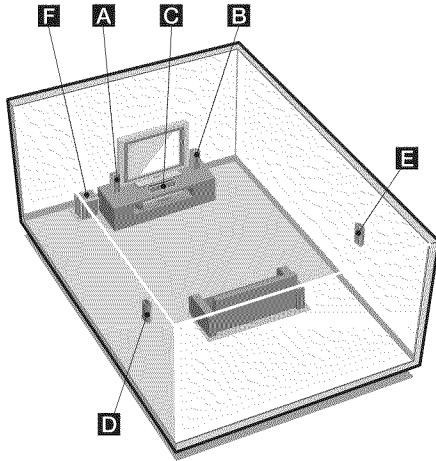
A Front speaker (left)
B Front speaker (right)
C Center speaker
D Surround speaker (left)
E Surround speaker (right)
F Subwoofer

Tips
• The angle **A** should be the same.
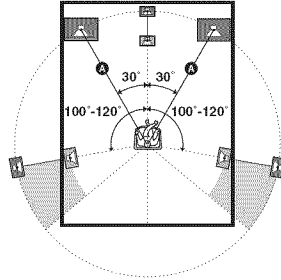
• Since the subwoofer does not emit highly directional signals, you can place it wherever you want.

Installing the speakers on the wall

You can install your speakers on the wall.

1 Prepare screws (not supplied) that are suitable for the hook on the back of each speaker. See the illustrations below.

4 mm (3/16 in)
more than 25 mm (1 in)
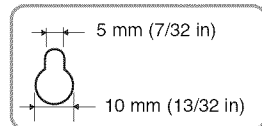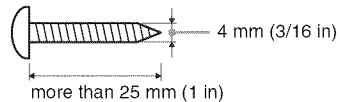
5 mm (7/32 in)
10 mm (13/32 in)
Hook on the rear of the speaker

continued

2 Fasten the screws to the wall. The screws should protrude 8 mm to 10 mm (11/32 in to 13/32 in).

For the center speaker

210 mm
(8 3/8 in)

8 mm to 10 mm
(11/32 in to
13/32 in)
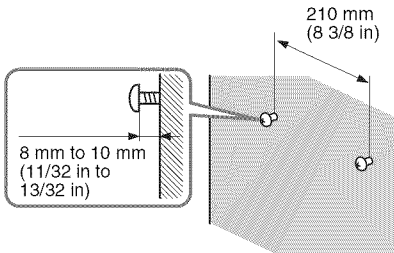
For the front speakers and surround speakers

8 mm to 10 mm
(11/32 in to
13/32 in)
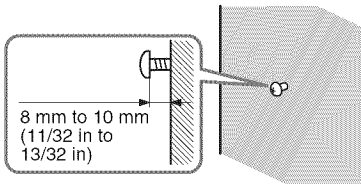
3 Hang the speakers on the screws.

5 mm (7/32 in)

10 mm
(13/32 in)

Rear of the speaker
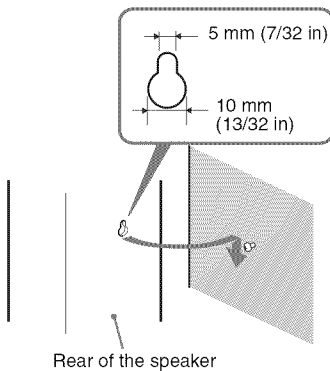
Notes

• Use screws that are suitable for the wall material and strength. As a plaster board wall is especially fragile, attach the screws securely to a beam and fasten them to the wall. Install the speakers on a vertical and flat wall where reinforcement is applied.

• Contact a screw shop or installer regarding the wall material or screws to be used.

• Sony is not responsible for accident or damage caused by improper installation, insufficient wall strength or improper screw installation, natural calamity, etc.

2: Connecting the speakers

Before connecting cords, be sure to disconnect the AC power cord (mains lead).
The connector of the speaker cords is color-coded depending on the type of speaker.
Connect the speaker cords to match the color of the SPEAKERS jacks of the receiver.
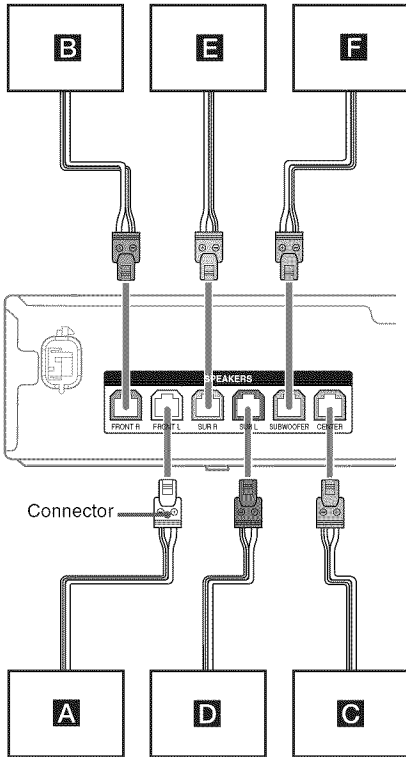
Connector

A Front speaker (left)
B Front speaker (right)
C Center speaker
D Surround speaker (left)
E Surround speaker (right)
F Subwoofer

Note

To connect the speaker correctly, you can check the speaker type by referring to the speaker label at the rear panel of the speakers. The subwoofer does not have the speaker label. For details of the speaker type, see page 4.

Character on speaker label	Speaker type
FRONT L	Front left
FRONT R	Front right
CENTER	Center
SUR L	Surround left
SUR R	Surround right

3: Connecting the TV

You can watch the selected input image when you connect the HDMI TV OUT jack to a TV. Before connecting cords, be sure to disconnect the AC power cord (mains lead).
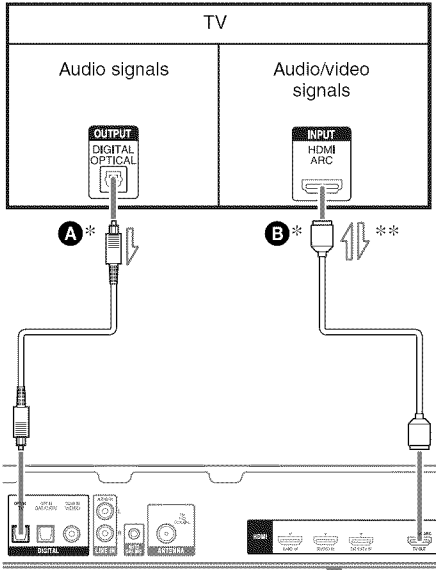
A Optical digital cord (not supplied)
B HDMI cable (not supplied)
   Sony recommends that you use an HDMI-authorized cable or Sony HDMI cable.

* To enjoy the TV broadcast in multi channel surround sound from the speakers connected to the receiver, you can make either one of the following connections:
   – connect **A**.
   – connect **B** if your TV is compatible with the Audio Return Channel (ARC) function.
   Be sure to turn off the TV's volume or activate the TV's muting function.
**This receiver is compatible with the Audio Return Channel (ARC) function. If you connect the receiver to the ARC compatible TV, the TV sound will output from the speakers connected to the receiver via the HDMI TV OUT jack. Be sure to set the "ARC" to "ARC ON" in HDMI menu (page 38).

Notes
• Be sure to turn the receiver on when the video and audio signals of a playback equipment are being output to a TV via the receiver. Unless the power is turned on, neither video nor audio signals will be transmitted.
• Depending on the status of the connection between the TV and the antenna (aerial), the image on the TV screen may be distorted. If this is the case, place the antenna (aerial) farther away from the receiver.
• When connecting optical digital cords, insert the plugs straight until they click into place.
• Do not bend or tie optical digital cords.

Tips
• All the digital audio jacks are compatible with 32 kHz, 44.1 kHz, 48 kHz, and 96 kHz sampling frequencies.
• When you connect the audio output jack of the TV to the TV OPT IN jack of the receiver to output the TV sound from the speakers connected to the receiver, set the sound output jack of the TV to "Fixed" if it can be switched between either "Fixed" or "Variable".

4: Connecting the video equipment

Using HDMI connection

High-Definition Multimedia Interface (HDMI) is an interface which transmits video and audio signals in digital format.
By connecting Sony "BRAVIA" Sync-compatible equipment using HDMI cables, operations can be simplified. See ""BRAVIA" Sync Features" (page 35).

HDMI features

• A digital audio signals transmitted by HDMI can be output from the speakers connected to the receiver. This signal supports Dolby Digital, DTS and Linear PCM.
• The receiver can receive Multi Channel Linear PCM (up to 8 channels) with a sampling frequency of 192 kHz or less with an HDMI connection.
• This receiver supports High Bitrate Audio (DTS-HD Master Audio, Dolby TrueHD), Deep Color (Deep Colour), x.v.Color (x.v.Colour) and 3D transmission.

Notes on HDMI connections

• An audio signal input to the HDMI IN jack is output from the SPEAKERS jacks and HDMI TV OUT jack. It is not output from any other audio jacks.
• Video signals input to the HDMI IN jack can only be output from the HDMI TV OUT jack.
• DSD signals of Super Audio CD are not input and output.
• Audio signals (sampling frequency, bit length, etc.) transmitted from an HDMI jack may be suppressed by the connected equipment. Check the setup of the connected equipment if the image is poor or the sound does not come out of the equipment connected via the HDMI cable.

• Sound may be interrupted when the sampling frequency, the number of channels or the audio format of the audio output signals from the playback equipment is switched.
• When the connected equipment is not compatible with copyright protection technology (HDCP), the image and/or the sound from the HDMI TV OUT jack may be distorted or may not be output.
If this is the case, check the specification of the connected equipment.
• You can enjoy High Bitrate Audio (DTS-HD Master Audio, Dolby TrueHD), Multi Channel Linear PCM only with an HDMI connection.
• Set the image resolution of the playback equipment to more than 720p/1080i to enjoy High Bitrate Audio (DTS-HD Master Audio, Dolby TrueHD).
• You may need to make certain settings on the image resolution of the playback equipment before you can enjoy Multi Channel Linear PCM. Refer to the operating instructions of the playback equipment.
• To enjoy 3D images, connect 3D-compatible TV and video equipment (Blu-ray Disc player, Blu-ray Disc recorder, PlayStation 3, etc.) to the receiver using High Speed HDMI cables, put on 3D glasses, and then play back a 3D-compatible content.
• Depending on the TV or the video equipment, 3D images may not be displayed.
• Not every HDMI equipment supports all functions that are defined by the specified HDMI version. For example, equipment that support HDMI, version 1.4, may not support Audio Return Channel (ARC).
• Refer to the operating instructions of each equipment connected for details.

When connecting cords

- Before connecting cords, be sure to disconnect the AC power cord (mains lead).
- It is not necessary to connect all the cords. Connect according to the availability of jacks on the connected equipment.
- Use a High Speed HDMI cable. If you use a Standard HDMI cable, 1080p, Deep Color (Deep Colour) or 3D images may not be displayed properly.
- We do not recommend using an HDMI-DVI conversion cable. When you connect an HDMI-DVI conversion cable to a DVI-D equipment, the sound and/or the image may be lost.
- When connecting optical digital cords, insert the plugs straight until they click into place.
- Do not bend or tie optical digital cords.

Tip

All the digital audio jacks are compatible with 32 kHz, 44.1 kHz, 48 kHz, and 96 kHz sampling frequencies.

Connecting a VCR, PlayStation 3, Blu-ray Disc player, DVD player, satellite tuner, cable TV tuner.

VCR	PlayStation 3	Blu-ray Disc player, DVD player
Audio signals **OUTPUT** DIGITAL COAXIAL	Audio/video signals **OUTPUT** HDMI	Audio/video signals **OUTPUT** HDMI

Ⓐ **Ⓑ** **Ⓑ**

OPT IN TV   OPT IN SAT/CATV   COAX IN VIDEO   AUDIO IN L R   FM 75Ω COAXIAL   AUTO CAL MIC

DIGITAL   LINE IN   ANTENNA

HDMI   GAME IN   BD/DVD IN   SAT/CATV IN   ARC TV OUT

Ⓒ **Ⓑ**

OUTPUT DIGITAL OPTICAL	**OUTPUT** HDMI
Audio signals	Audio/video signals
Satellite tuner, cable TV tuner	

Ⓐ Coaxial digital cord (not supplied)
Ⓑ HDMI cable (not supplied)
   Sony recommends that you use an HDMI authorized cable or Sony HDMI cable.
Ⓒ Optical digital cord (not supplied)

Notes

- Be sure to change the default setting of the BD/DVD input button on the remote control so that you can use the button to control your DVD player. For details, see "Reassigning the input button on the remote control" (page 39).
- You cannot do recording on the VCR via this receiver. For details, refer to the operating instructions supplied with the VCR.

5: Connecting the audio equipment

Before connecting cords, be sure to disconnect the AC power cord (mains lead).

Super Audio CD player, CD player

OUTPUT Audio signals
AUDIO
OUT
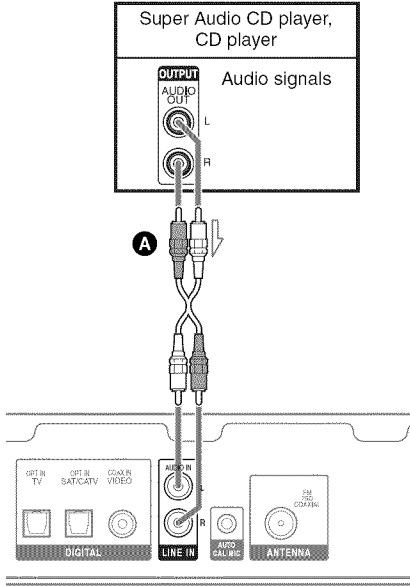
Ⓐ Audio cord (not supplied)

6: Connecting the antennas

Before connecting the antennas, be sure to disconnect the AC power cord (mains lead).

FM wire antenna (aerial) (supplied)
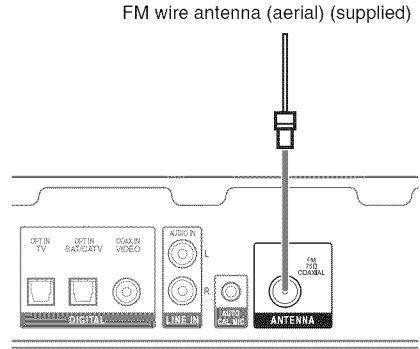
Notes

• Be sure to fully extend the FM wire antenna (aerial).
• After connecting the FM wire antenna (aerial), keep it as horizontal as possible.

7: Connecting the AC power cord (mains lead)

Connect the AC power cord (mains lead) to a wall outlet.
Be sure to turn the receiver on when the video and audio signals of a playback equipment are being output to a TV via the receiver. Unless the power is turned on, neither video nor audio signals will be transmitted.

AC power cord (mains lead)

To the wall outlet
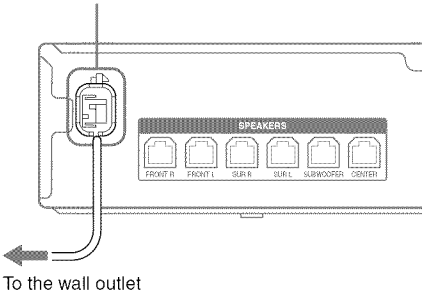
Initializing the receiver

Before using the receiver for the first time, initialize the receiver by performing the following procedure. This procedure can also be used to revert back to the factory default settings.
Be sure to use the buttons on the receiver to perform this operation.

I/⏻
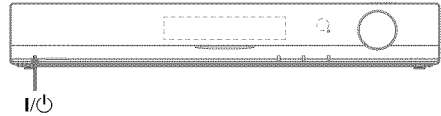
1 Press I/⏻ to turn off the receiver.

2 Hold down I/⏻ for 5 seconds.

After "CLEARING" appears on the display panel for a while, "CLEARED" appears.
All the settings you have changed or adjusted are reset to the default settings.

Using AUTO CALIBRATION

This receiver is equipped with DCAC (Digital Cinema Auto Calibration) Technology which allows you to perform automatic calibration as follows:
- Check the connection between each speaker and the receiver.
- Adjust the speaker level.
- Measure the distance of each speaker from your seating position.
- Measure the frequency characteristics.

The DCAC is designed to achieve proper sound balance for your room. However, you can adjust the speaker levels manually according to your preference. For details, see "To adjust the speaker levels" (page 42).

Before you perform Auto Calibration

Before you perform Auto Calibration, check the following items.
- Set up and connect the speakers (page 15, 17).
- Connect only the supplied optimizer microphone to the AUTO CAL MIC jack. Do not connect any other microphones to this jack.
- Remove any obstacles in the path between the optimizer microphone and the speakers to avoid measurement errors.
- Get accurate measurement by making sure the environment is free from noise and quiet.

Notes
- The speakers emit very loud sound during the calibration and the volume cannot be adjusted. Provide consideration to your neighborhood and to the children in presence.
- If the muting function has been activated before you perform Auto Calibration, the muting function will be shut off automatically.

1: Setting up the Auto Calibration

Optimizer microphone
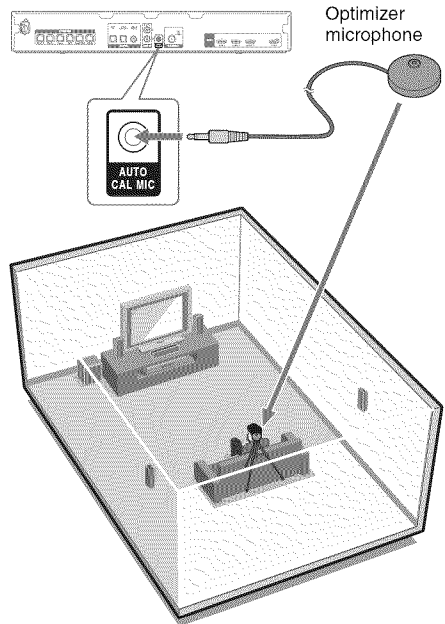
1 Connect the supplied optimizer microphone to the AUTO CAL MIC jack.

2 Set up the optimizer microphone.

Place the optimizer microphone at your seating position. You can also use a stool or tripod so that the optimizer microphone remains at the same height as your ears.

Tip
When you face the speaker towards the optimizer microphone, you will get a more accurate measurement.

2: Performing Auto Calibration

1 Press AMP MENU.

2 Press ♦/♦ repeatedly until "AUTO CAL" appears, then press ⊕ or ➡.

3 Press ♦/♦ repeatedly until "A.CAL START" appears, then press ⊕.

Measurement starts in 5 seconds.
The measurement process will take approximately 30 seconds to complete.

The table below provides measurement status shown on the display panel.

Measurement for	Display
Speaker existance	TONE
Speaker gain, distance, frequency response	T S P
Subwoofer gain and distance	WOOFER
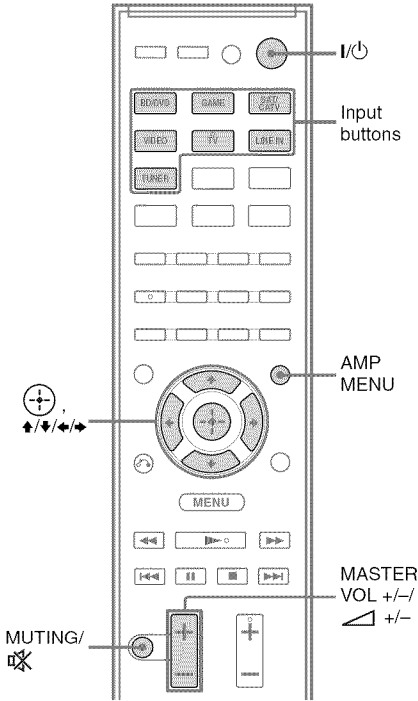
To cancel Auto Calibration

The Auto Calibration function will be canceled when you perform the following during the measurement process:
– Press I/⏻.
– Press input buttons on the remote control or INPUT +/– on the receiver.
– Change the volume level.
– Press MUTING or 🔇 on the remote control.

1 Confirm the measurement result.

When the measurement process is completed, the result appears on the display panel with a beep sound.

Measurement process [Display]	Do this
Completes properly [SAVE EXIT]	Proceed to step 2.
Fails [E - ■■■ ■■]	See "When error codes appear" (page 26).

2 View the measurement result.

Press ✦/✦ repeatedly to select the item, then press ⊕.

• EXIT
Exits the setting process without saving the measurement results.

• WARN CHECK
Displays warning related to the measurement results. See "Checking the warning message" (page 27).

• SAVE EXIT
Saves the measurement results and exits the setting process.

• RETRY
Performs the Auto Calibration again.

3 Save the measurement result.

Select "SAVE EXIT" in step 2.
"COMPLETE" appears on the display panel and the measurement results are saved.

4 Disconnect the optimizer microphone from the receiver.

Note

If you reposition your speaker, we recommend that you perform Auto Calibration again to enjoy the surround sound.

When error codes appear

1 Check the problem of the error.

Display and explanation

E - ■■■* 32

None of the speakers were detected. Make sure that the optimizer microphone is connected properly and perform the Auto Calibration again.
If the optimizer microphone is connected properly but the error code still appears, the optimizer microphone cable may be damaged.

E - ■■■* 33

• The optimizer microphone is not connected.
• None of the front speakers are connected or only one front speaker is connected.
• Either the surround left or surround right speaker is not connected.
• The subwoofer is not connected.

* ■■■ represent a speaker channel
F   Front
S   Surround
SW   Subwoofer
Depending on the error code, the speaker channel may not appears.

2 Perform Auto Calibration again.

Press ✦/✦ to select "RETRY YES", then press ⊕.

3 Follow steps in "3: Confirming/saving the measurement results" (page 26).

Checking the warning message

If a warning on the measurement result is present, detailed information is displayed.

Display and explanation

W - ∎∎∎* 40
The measurement process has completed with high noise level detection.
You may be able to achieve better results if you try in a quite environment again.

W - ∎∎∎* 41
W - ∎∎∎* 42
The input from the microphone is too big. The distance between the speaker and the microphone may be too close. Set them apart and perform the measurement again.

W - ∎∎∎* 43
The distance and position of a subwoofer cannot be detected. This may be caused by noise. Try to perform the measurement in a quiet environment.

NO WARN
There is no warning information.

* ∎∎∎ represent a speaker channel
FL   Front left
FR   Front right
CNT   Center
SL   Surround left
SR   Surround right
SW   Subwoofer
Depending on the measurement result, the speaker channel may not appears.

To return to step 2 of "3: Confirming/saving the measurement results"
Press ⊕.

Tip
Depending on the position of the subwoofer, the measurement results may vary. However, there will be no problems even if you continue to use the receiver with that value.

Basic Operations

Playback

Input buttons

AMP MENU

↑/↓/←/→

MASTER VOL +/–/
∠ +/–
MUTING/
⊠

SOUND FIELD +/–
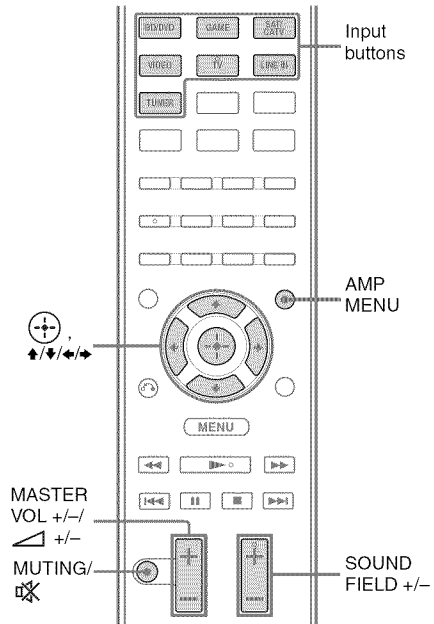
1 Turn on the connected equipment.

2 Turn on the receiver.

3 Press the input button which corresponds to the equipment you want.

You can also use INPUT +/– on the receiver.
The selected input appears on the display panel.

Note
When you press TUNER, "FM TUNER" appears for a while, and then frequency appears on the display panel.

4 Play back the source.

5 Press MASTER VOL +/- or ◿ +/- to adjust the volume.

You can also use MASTER VOLUME on the receiver.

6 Press SOUND FIELD +/- to enjoy the surround sound.

You can also use SOUND FIELD on the receiver.

To activate the muting function

Press MUTING or ⦸ on the remote control. "MUTING" lights up on the display panel. The muting function will be canceled when you do the following.

• Press the button again.
• Increase the volume.
• Turn off the receiver.
• Perform Auto Calibration.

To avoid damaging your speakers

Before you turn off the receiver, be sure to turn down the volume level.

Viewing information on the display panel

The display panel provides various information of the receiver status such as sound field.

Input buttons
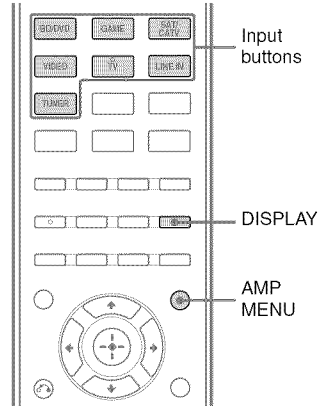
DISPLAY

AMP MENU

1 Select the input for which you want to check the information.

2 Press AMP MENU, then press DISPLAY repeatedly.

Each time you press the button, the display changes cyclically as follows:

Selected input → Sound field currently applied → Volume level

When listening to FM radio

Preset station name*) → Frequency → Sound field currently applied → Volume level

When receiving RDS broadcasts (Europe model only)

Program Service name or preset station name* → Frequency, band and preset number → Sound field currently applied → Volume level

* Preset station name appears only if you have entered a name for a preset station (page 32).

Note

Character or marks may not be displayed for some languages.

Listening to FM radio

You can listen to FM broadcasts through the built-in tuner. Before operation, be sure you have connected the FM antenna (aerial) to the receiver (page 22).

Tuner Operations

29
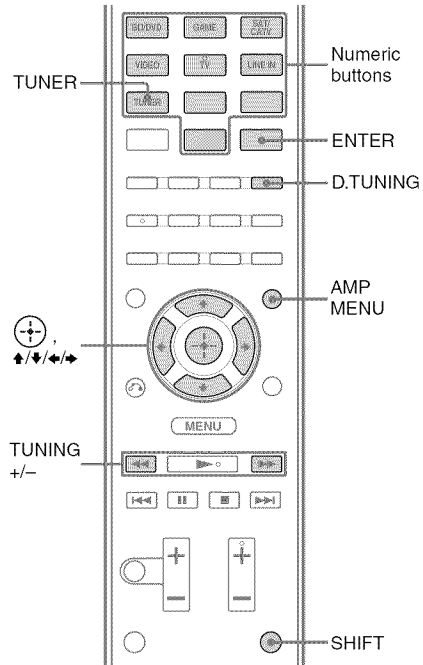
Tuning to a station automatically (Automatic Tuning)

1 Press TUNER.

2 Press TUNING + or TUNING −.

TUNING + scans from lower to higher frequency stations and TUNING − for scanning higher to lower.
The receiver stops scanning whenever a frequency is received.

In case of poor FM stereo reception

If the FM stereo reception is poor and "ST" flashes on the display panel, select monaural audio to lessen the sound distortion.

1 Press AMP MENU.
2 Press ✦/✦ repeatedly until "TUNER" appears, then press ⊕ or ➡.
3 Press ✦/✦ repeatedly until "FM MODE" appears, then press ⊕ or ➡.
4 Press ✦/✦ repeatedly until "MONO" appears, then press ⊕.

To return to stereo mode, repeat steps 1 to 4 and select "STEREO" in step 4.

Tip

To improve reception, reorient the supplied FM wire antenna (aerial).

Tuning to a station directly (Direct Tuning)

You can enter the frequency of a station directly by using the numeric buttons.

1 Press TUNER.

2 Press D.TUNING.

3 Hold down SHIFT, then press the numeric buttons to enter the frequency.

Example: FM 102.50 MHz
• Canada model only:
  Select 1 ➡ 0 ➡ 2 ➡ 5
• Other models:
  Select 1 ➡ 0 ➡ 2 ➡ 5 ➡ 0

4 Hold down SHIFT, then press ENTER.

If a wrong frequency is entered

"FM ---.--" appears and then the display returns to the current frequency.

If you cannot tune to a station

Make sure you have entered the right frequency. Try repeating steps 2 to 4. If you still cannot tune in a station, the frequency may not be in use in your area.

Presetting radio stations

You can store up to 30 FM stations as your favorite stations.

Numeric buttons

TUNER

ENTER
MEMORY

DISPLAY

AMP
MENU

$\uparrow/\downarrow/\leftarrow/\rightarrow$

MENU

PRESET
+/-

SHIFT

1 Press TUNER.

2 Tune to the station that you want to preset using Automatic Tuning (page 30) or Direct Tuning (page 30).

3 Press MEMORY.

A preset number appears on the display panel.

4 Press PRESET + or PRESET – repeatedly to select the preset number you want.

You can also select the preset number directly by holding down SHIFT and then press the numeric buttons.

5 Hold down SHIFT, then press ENTER.

The station is stored as the selected preset number.

6 Repeat steps 2 to 5 to store another station.

To change the preset number
Restart from step 3.

Tuning to preset stations

1 Press TUNER.

2 Press PRESET + or PRESET – to select the station.

Each time you press the button, you can select a preset station as follows:

→ 1 ↔ 2 ↔ 3 ↔ 4 ↔ 5 ↔...↔27↔
→ 30 ↔ 29 ↔ 28 ↔
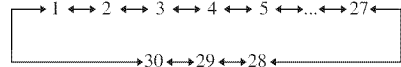
You can also hold down SHIFT and then press the numeric buttons to enter the preset station. To tune to the selection, hold down SHIFT then press ENTER.

Tuner Operations

1 Press TUNER.

2 Tune to the preset station you want to create an index name for (page 31).

3 Press AMP MENU.

4 Press +/+ repeatedly until "TUNER" appears, then press ⊕ or ➡.

5 Press +/+ repeatedly until "NAME IN" appears, then press ⊕ or ➡.

The cursor flashes and you can select a character.

6 Press +/+ to select a character, then press +/➡ to move the input position backward and forward.

You can enter up to 8 characters to name the station.

Tips

• You can select the character type as follows by pressing +/+.
Alphabet (upper case) → Numbers → Symbols
• To enter a blank space, press ➡ without selecting a character.

If you enter a wrong character

Press +/➡ until the character to be changed flashes, then press +/+ to select the desired character.

7 Press ⊕.

The name you entered is registered.

Note (Europe model only)

When you name an RDS (Radio Data System) station and tune to that station, the Program Service name appears instead of the name you entered.

Receiving RDS broadcasts

(Europe model only)

This receiver allows you to use Radio Data System (RDS), which enables radio stations to send additional information along with the regular programming signal. This receiver offers convenient RDS features, such as Program Service name display.*

* Not all FM stations provide RDS service, nor do they provide the same type of services. If you are not familiar with the RDS services in your area, check with your local radio stations for details.

Simply select a station on the FM band using Automatic Tuning (page 30), Direct Tuning (page 30), or Tuning with Preset Station (page 31).

When you tune to a station that provides RDS services, the Program Service name appears on the display panel.

Note

RDS may not work properly if the station you tuned to is not transmitting the RDS signal or if the signal strength is weak.

Tip

While a Program Service name is displayed, you can check the frequency by pressing DISPLAY repeatedly (page 28).

Selecting the sound field

This receiver can create multi channel surround sound. You can select one of the optimized sound fields from the receiver's pre-programmed sound fields.
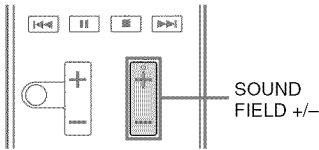
SOUND
FIELD +/−

Press SOUND FIELD +/− repeatedly to select the sound field you want.

You can also use SOUND FIELD on the receiver.

2 channel sound mode

You can switch the output sound to 2 channel sound regardless of the recording formats of the software you are using, the playback equipment connected, or the sound field settings of the receiver.

■ 2CH ST. (2 Channel Stereo)

The receiver outputs the sound from the front left/right speakers and the subwoofer only. Standard 2 channel stereo sources completely bypass the sound field processing and multi channel surround formats are downmixed to 2 channel except LFE signals.

Auto Format Direct (A.F.D.) mode

The Auto Format Direct (A.F.D.) mode allows you to listen to high fidelity sound and select the decoding mode for listening to a 2 channel stereo sound as multi channel sound.

■ A.F.D. STD (A.F.D. Standard)

Presets the sound as it was recorded/encoded without adding any surround effects. However, this receiver will generate a low frequency signal for output to the subwoofer when there is no LFE signals.

■ A.F.D. MULTI (A.F.D. Multi)

Outputs 2 channel left/right signals from all speakers.

Movie mode

You can take advantage of surround sound simply by selecting one of the receiver's pre-programmed sound fields. They bring the exciting and powerful sound of movie theaters into your home.

■ HD-D.C.S. (HD Digital Cinema Sound)

This mode is Sony's new innovative home theater technology using the latest acoustic and digital signal processing technologies. It is based on precise response measurement data of a mastering studio.
With this mode, you are able to enjoy Blu-ray and DVD movies at home with not only the high quality of sound, but also the best sound ambience, just as the movie's sound engineer intended in the mastering process.

■ PLII MV (Pro Logic II Movie)

Performs Dolby Pro Logic II Movie mode decoding. This setting is ideal for movies encoded in Dolby Surround. In addition, this mode can reproduce sound in 5.1 channel for watching videos of overdubbed or old movies.

■ NEO6 CIN (Neo:6 Cinema)

Performs DTS Neo:6 Cinema mode decoding. A source recorded in 2 channel format is decoded into 5 channels.

Music mode

You can take advantage of surround sound simply by selecting one of the receiver's pre-programmed sound fields. They bring the exciting and powerful sound of concert halls into your home.

■ SPORTS (Sports)

Reproduces the feeling of sports broadcasting.

■ GAMING (Gaming)

Reproduces powerful and realistic sound, suited for playing video games.

■ NEWS (News)

Reproduces a clearer announcer's voice.

■ P. AUDIO (Portable Audio Enhancer)

Reproduces a clear enhanced sound image from your portable audio device. This mode is ideal for MP3 and other compressed music.

■ PLII MS (Pro Logic II Music)

Performs Dolby Pro Logic II Music mode decoding. This setting is ideal for normal stereo sources such as CDs.

■ NEO6 MUS (Neo:6 Music)

Performs DTS Neo:6 Music mode decoding. A source recorded in 2 channel format is decoded into 5 channels. This setting is ideal for normal stereo sources such as CDs.

Notes

- Source signals more than 5.1 channels are downmixed to 5.1 channel.
- The movie and music mode do not work when DTS-HD Master Audio, DTS-HD High Resolution Audio or Dolby TrueHD with sampling frequency of more than 48 kHz are being received.
- The sound is not output from multiple speakers depending on the source.
- Depending on the disc or source, the beginning of the sound may be cut off as the optimum mode is automatically selected. To avoid cutting the sound, select "A.F.D. STD".

- When the input signal is multi channel source, Dolby Pro Logic II Movie/Music are canceled and the multi channel source is output directly.
- When the bilingual broadcast sound is input, Dolby Pro Logic II Movie/Music are not effective.
- Depending on the input stream, the decoding mode may not be effective.
- When you select "HD-D.C.S." depending on the input stream, Dolby Pro Logic may be applied automatically.

To turn off the surround effect for movie/music

Press SOUND FIELD +/– repeatedly to select "2CH ST." or "A.F.D. STD".
You can also use SOUND FIELD on the receiver to select "2CH ST." or "A.F.D. STD".

What is "BRAVIA" Sync?

The "BRAVIA" Sync function allows communication between Sony products such as TV, Blu-ray Disc/DVD Player, AV amplifier, etc. that supports the Control for HDMI function.

By connecting Sony equipment that are compatible with the "BRAVIA" Sync via an HDMI cable (not supplied), operation is simplified as follows:

• One-Touch Play (page 36)
• System Audio Control (page 37)
• System Power-Off (page 37)
• Audio Return Channel (page 38)
• Theatre/Theater Mode Sync (page 38)
• Scene Select (page 38)

Control for HDMI is a mutual control function standard used by HDMI CEC (Consumer Electronics Control) for HDMI (High-Definition Multimedia Interface).

We recommend that you connect the receiver to products featuring "BRAVIA" Sync.

Note

Depending on the connected equipment, the Control for HDMI function may not work. Refer to the operating instructions of the equipment.

Preparing for the "BRAVIA" Sync

The receiver is compatible with the "Control for HDMI-Easy Setting" function.

• If your TV is compatible with the "Control for HDMI-Easy Setting" function, you can set the Control for HDMI function of the receiver and playback equipment automatically by setting the Control for HDMI function on your TV (page 35).
• If your TV is not compatible with the "Control for HDMI-Easy Setting" function, set the Control for HDMI function of the receiver, playback equipment and TV individually (page 36).

If your TV is compatible with the "Control for HDMI-Easy Setting" function

The Control for HDMI function of the receiver can be turned on simultaneously by turning on the Control for HDMI function of the TV.

1 Connect the receiver, TV and playback equipment via HDMI connection (page 19).
(The respective equipment must be compatible with the Control for HDMI function.)

2 Turn on the receiver, TV and playback equipment.

3 Turn on the Control for HDMI function of the TV.
The Control for HDMI function of the receiver and all the connected equipment are turned on simultaneously. When the setup is completed, "COMPLETE" will appear on display panel.

For details on setting the TV, refer to the operating instructions supplied with the TV.

"BRAVIA" Sync Features

If your TV is not compatible with the "Control for HDMI-Easy Setting" function

AMP
MENU
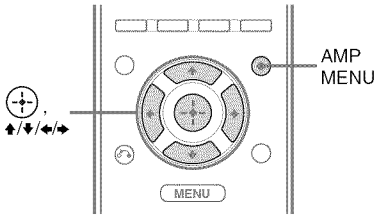
1 Press AMP MENU.

2 Press ✦/✦ repeatedly until "HDMI" appears, then press ⊕ or ➡.

3 Press ✦/✦ repeatedly until "CTRL HDMI" appears, then press ⊕ or ➡.

4 Press ✦/✦ repeatedly until "CTRL ON" appears, then press ⊕.
Control for HDMI function is turned on.

5 Set the Control for HDMI function for the connected equipment to on.
If the Control for HDMI function is already set to on, you do not need to change the setting.
For details on setting the TV and connected equipment, refer to the operating instructions of the respective equipment.

Notes

• Before you perform the "Control for HDMI-Easy Setting" on your TV, be sure to turn on the TV and other connected equipment including the receiver first.

• If the playback equipment cannot function after you have made the settings for "Control for HDMI-Easy Setting", check the Control for HDMI setting on your TV.

• If the connected equipment do not support the "Control for HDMI-Easy Setting", but still supports the Control for HDMI then you need to set the Control for HDMI function for the connected equipment before you perform the "Control for HDMI-Easy Setting" from the TV.

Playing back equipment with one-touch operation (One-Touch Play)

By a simple operation (one-touch), equipment connected to the receiver with BRAVIA Sync function start automatically. You can enjoy the sound/images from the connected equipment.

When you start playback a connected equipment, the receiver and TV operation are simplified as follow:

Receiver and TV

Turns on (if in standby mode)
↓
Switches to appropriate HDMI input
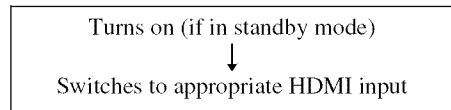
Notes

• Be sure that the System Audio Control function is set to on using TV menu.

• Depending on the TV, the start of the content may not appear.

Tip

You can also select a connected equipment, such as DVD/Blu-ray Disc player using the TV menu. The receiver and TV will automatically switch to the appropriate HDMI input.

Enjoying the TV sound from the speakers connected to the receiver

(System Audio Control)

You can enjoy the TV sound from the speakers connected to the receiver by a simple operation.
You can operate System Audio Control function using the TV menu. For details, refer to the operating instructions of the TV.

TV	Receiver
Sets System Audio Control to on	• Turns on (if in standby mode) • Switches to appropriate HDMI input
Minimizes TV volume	Outputs TV sound
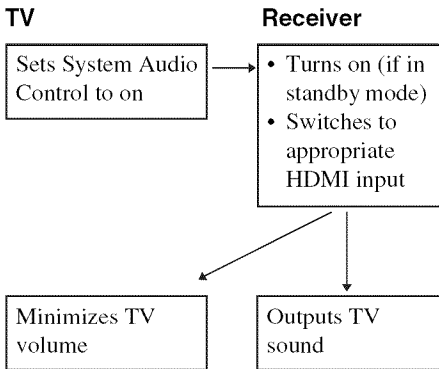
You can also use the System Audio Control function as follows.
• If you turn on the receiver while the TV is turned on, the System Audio Control function will automatically activate to output TV sound through the speakers connected to the receiver. However, if you turn off the receiver, the sound will output from the TV speakers.
• When you adjust the TV volume, the System Audio Control function adjusts the receiver's volume simultaneously.

Notes

• If System Audio Control does not function according to your TV setting, refer to the operating instructions of the TV.
• Your TV must support the System Audio Control function.
• If the TV is turned on before turning on the receiver, the TV will momentarily loose the sound output.

Turning off the receiver with the TV

(System Power-Off)

When you turn the TV off, using the POWER button on the TV's remote control, the receiver and the connected equipment turn off automatically.
You can also use the receiver's remote control to turn off the TV.
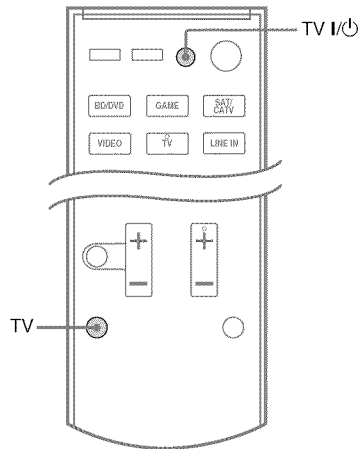
Hold down TV, then press TV I/(¹).

The TV, receiver and the equipment connected via HDMI are turned off.

Notes

• Set the TV power supply interlock function to "ON" before using the System Power-Off function. For details, refer to the operating instructions of the TV.
• Depending on the connected equipment, it may not be turned off. For details, refer to the operating instructions of the connected equipment.

Enjoying the TV sound via an HDMI cable

(Audio Return Channel)

The Audio Return Channel (ARC) function enables the TV to output the audio signals to the receiver via an HDMI cable connected to the HDMI TV OUT jack.

You can enjoy the TV sound from the speakers connected to the receiver without connecting the TV OPT IN jack.
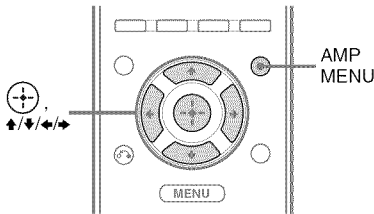
1 Press AMP MENU.

2 Press ✦/✦ repeatedly until "HDMI" appears, then press ⊕ or ➡.

3 Press ✦/✦ repeatedly until "ARC" appears, then press ⊕ or ➡.

4 Press ✦/✦ repeatedly until "ARC ON" appears, then press ⊕.

Note

This function is only available when your TV is compatible with Audio Return Channel (ARC) function.

Enjoying movies with the optimum sound field

(Theatre/Theater Mode Sync)

Press THEATER or THEATRE on the remote control of the TV or the Blu-ray Disc player, while pointing the remote control toward the TV.

The sound field switches to "HD-D.C.S.". To return to the previous sound field, press THEATER or THEATRE again.

Note

The sound field may not switch depending on the TV.

Tip

The sound field may revert to the previous field when you change the TV's input.

Enjoying optimum sound field for the selected scene

(Scene Select)

The Scene Select function allows you to enjoy the optimum picture quality and switches the sound field according to the selected scene on your TV. For details on the operation, refer to the operating instructions of the TV.

Note

The sound field may not switch depending on the TV.

Reassigning the input button on the remote control

You can change the default settings of the input buttons (BD/DVD, GAME, SAT/CATV, VIDEO and LINE IN) to suit the equipment in your system.
For example, if you connect a Blu-ray Disc player to the SAT/CATV jack on the receiver, you can set the SAT/CATV button on this remote control to control the Blu-ray Disc player.

INPUT/

AV I/(¹)

I/(¹)

Numeric buttons

Input buttons

MASTER VOL –/
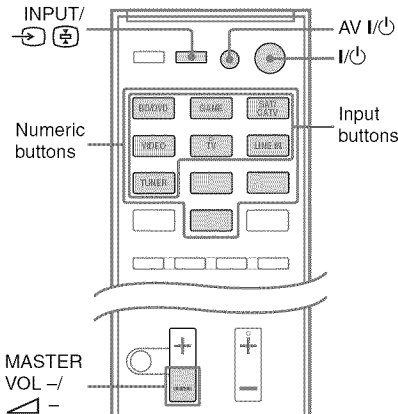
1 While holding down the input button of which you want to change the assignment, hold down AV I/(¹).

Example: While holding down SAT/CATV, hold down AV I/(¹).

2 With the AV I/(¹) button held, release the input button.

Example: With the AV I/(¹) button held, release SAT/CATV.

3 Referring to the following table, press the corresponding button for the category you want, then release AV I/(¹).

Example: Press 1, then release AV I/(¹). Now you can use the SAT/CATV button to control the Blu-ray Disc player.

Categories	Press
Blu-ray Disc player (command mode BD1)a)b)	1
Blu-ray Disc recorder (command mode BD3)b)	2
DVD player (command mode DVD1)	3
DVD recorder (command mode DVD3)c)	4
VCR (command mode VTR3)d)	5
CD player	6
DSS/Euro Digital Satellite Receivere)	7

a) The default setting of the BD/DVD button.
b) For details on the BD1 or BD3 setting, refer to the operating instructions supplied with the Blu-ray Disc player or Blu-ray Disc recorder.
c) Sony DVD recorders are operated with a DVD1 or DVD3 setting. For details, refer to the operating instructions supplied with the DVD recorders.
d) The default setting of the VIDEO button.
e) The default setting of the SAT/CATV button.

Resetting the remote control

While holding down MASTER VOL –/ –, press I/(¹) and INPUT/.
The remote control is reset to the default settings.

Advanced Settings

Using the setting menu

You can customize the receiver by making various adjustments with settings menu.

Navigating through menus
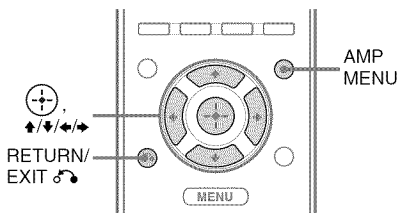
1 Press AMP MENU.

2 Press ✦/✦ repeatedly until the menu item you want appears, then press ⊕ or ➡.

3 Press ✦/✦ repeatedly until the parameter you want to adjust appears, then press ⊕ or ➡.

4 Press ✦/✦ repeatedly until the setting you want appears, then press ⊕.

To return to the previous display
Press ◄ or RETURN/ EXIT ᗡ•.

To exit the menu
Press AMP MENU.

Overview of the menus

You can set the following items using the AMP MENU.
The default settings are underlined.

AMP MENU

```
─ AUTO CAL^a) ── A.CAL START
─ LEVEL ──────── TEST TONE ─┬ AUTO ▮▮▮^b)
│                           └ OFF
│              ── FL LEVEL ── FL +6.0,...
│                             FL 0,...
│                             FL -6.0
│              ── FR LEVEL ── FR +6.0,...
│                             FR 0,...
│                             FR -6.0
│              ── CNT LEVEL^c) ── CNT +6.0,...
│                                 CNT 0,...
│                                 CNT -6.0
│              ── SL LEVEL^d) ── SL +6.0,...
│                                SL 0,...
│                                SL -6.0
│              ── SR LEVEL^d) ── SR +6.0,...
│                                SR 0,...
│                                SR -6.0
│              ── SW LEVEL ── SW +6.0,...
│                             SW 0,...
│                             SW -6.0
│              └─ D. RANGE ──┬ COMP. MAX
│                            ├ COMP. STD
│                            ├ COMP. AUTO
│                            └ COMP. OFF
─ SPEAKER ──── CENTER SP ─┬ CENTER YES
│                         └ CENTER NO
│             ── SUR SP ──┬ SUR YES
│                         └ SUR NO
│             ── FL DIST. ── FL 32' 9"
│                            (FL 10.00 M),...
│                            FL 9' 10"
│                            (FL 3.00 M),...
│                            FL 3' 3"
│                            (FL 1.00 M)
│             ── FR DIST. ── FR 32' 9"
│                            (FR 10.00 M),...
│                            FR 9' 10"
│                            (FR 3.00 M),...
│                            FR 3' 3"
│                            (FR 1.00 M)
│             ── CNT DIST.^c) ── CNT 32' 9"
│                                (CNT 10.00 M),...
│                                CNT 9' 10"
│                                (CNT 3.00 M),...
│                                CNT 3' 3"
│                                (CNT 1.00 M)
│             └─ SL DIST.^d) ── SL 32' 9"
│                               (SL 10.00 M),...
│                               SL 9' 10"
│                               (SL 3.00 M),...
│                               SL 3' 3"
│                               (SL 1.00 M)
```

```
─┬ SR DIST.^d) ── SR 32' 9"
 │                (SR 10.00 M),...
 │                SR 9' 10"
 │                (SR 3.00 M),...
 │                SR 3' 3"
 │                (SR 1.00 M)
 └─ SW DIST. ── SW 32' 9"
                (SW 10.00 M),...
                SW 9' 10"
                (SW 3.00 M),...
                SW 3' 3"
                (SW 1.00 M)
─ EQ ──────── BASS ──────── BASS +6,...
│                           BASS 0,...
│                           BASS -6
│            └ TREBLE ────── TREBLE +6,
│                            ...TREBLE 0,
│                            ...TREBLE -6
─ TUNER^e) ──┬ FM MODE ──────┬ STEREO
│            │               └ MONO
│            └ NAME IN
─ AUDIO ────┬ A/V SYNC ─────┬ SYNC ON
│           │               └ SYNC OFF
│           ├ DUAL MONO ─────┬ MAIN/SUB
│           │                ├ MAIN
│           │                └ SUB
│           ├ NIGHT MODE ────┬ NIGHT ON
│           │                └ NIGHT OFF
│           └ INPUT MODE^f) ─┬ AUTO
│                            └ OPT
─ HDMI ─────┬ CTRL HDMI ────┬ CTRL ON
│           │               └ CTRL OFF
│           ├ PASS THRU^g) ─┬ ON
│           │               └ AUTO
│           └ ARC^g)h) ─────┬ ARC ON
│                           └ ARC OFF
└ SYSTEM ────┬ DIMMER ──────┬ DIM MAX
             │              ├ DIM MID
             │              └ DIM OFF
             ├ SLEEP ───────┬ 2-00-00
             │              ├ 1-30-00
             │              ├ 1-00-00
             │              ├ 0-30-00
             │              └ OFF
             └ AUTO STBY ───┬ STBY ON
                            └ STBY OFF
```
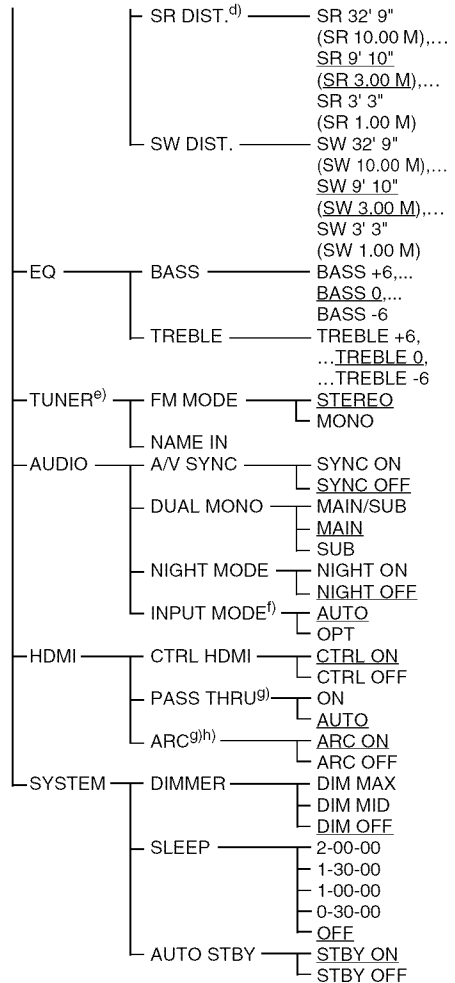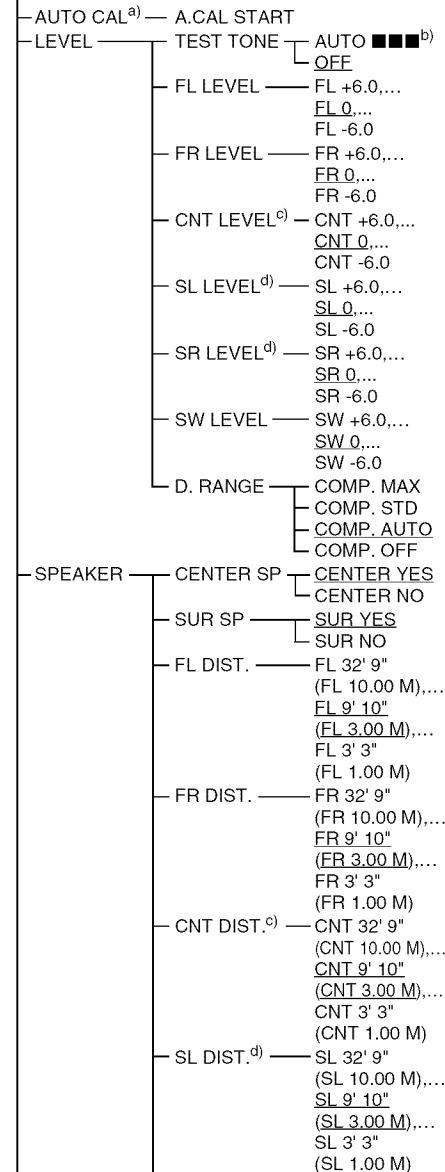
^a)For details, see "2: Performing Auto Calibration" (page 25).

^b)▮▮▮ represent a speaker channel (FL, CNT, FR, SR, SL, SW).

^c)This parameter is only available when "CENTER SP" is set to "CENTER YES".

^d)This parameter is only available when "SUR SP" is set to "SUR YES".

^e)This parameter is only available when TUNER input is selected.

^f)This parameter is only available when SAT/CATV input is selected.

^g)This parameter is only available when "CTRL HDMI" is set to "CTRL ON".

^h)For details, see "Enjoying the TV sound via an HDMI cable (Audio Return Channel)" (page 38).

Advanced Settings

LEVEL menu

You can adjust the level of each speaker to suit your preference.

To output a test tone from each speaker

You can output a test tone from the speakers in sequence.

• AUTO FL, AUTO CNT, AUTO FR, AUTO SR, AUTO SL, AUTO SW
• OFF

When a test tone is not output from the speakers

• The speaker cords may not be connected securely.
• The speaker cords may have the short-circuit problem.

Note

The test tone signals are not output from the HDMI TV OUT jack.

To adjust the speaker levels

You can adjust each speaker level (FL LEVEL, FR LEVEL, CNT LEVEL, SL LEVEL, SR LEVEL, SW LEVEL) from –6.0 dB to +6.0 dB in 0.5 dB interval.

Enjoying Dolby Digital sound at low volume (D. RANGE)

Narrows the dynamic range of the sound track. Useful for enjoying movies at low volume. D. RANGE only applies to Dolby Digital sources.

• COMP. MAX: Compress dynamic range fully.
• COMP. STD: Compress dynamic range as intended by the recording engineer.
• COMP. AUTO: Compress dynamic range automatically.
• COMP. OFF: Does not compress dynamic range.

Tip

Audio dynamic range compression lets you compress the dynamic range of the soundtrack based on the dynamic range information included in the Dolby Digital signal.
"COMP. STD" is the standard setting, but it only enacts light compression. Therefore, we recommend using the "COMP. MAX" setting. This greatly compresses the dynamic range and lets you view movies late at night at low volumes. Unlike analog limiters, the levels are predetermined and provide a very natural compression.

SPEAKER menu

You can adjust the distance of the speakers connected to this receiver.

To set the speaker connection

• CENTER (SUR) YES: Selects when you connect the speaker.
• CENTER (SUR) NO: Selects when you do not connect the speaker.

To set the speaker distance

You can adjust each speaker distance (FL DIST, FR DIST, CNT DIST, SL DIST, SR DIST, SW DIST) from 3' 3" (1.00 M) to 32' 9" (10.00 M) in 1 inch (0.1 meter) interval.

Tip

You can only adjust the distance in 0.01 meter interval when you have performed the Auto Calibration and saved the measurement result.

EQ menu

You can adjust the equalizer (bass and treble level) of the front speakers from -6 dB to +6 dB in 1 dB interval.

■BASS
■TREBLE

TUNER menu

You can set the FM station receiving mode and name the preset stations.

■ FM MODE

• STEREO: This receiver will decode the signal as stereo signal when the radio station is broadcast in stereo.

• MONO: This receiver will decode the signal as mono signal regardless of the broadcast signal.

■ NAME IN

Lets you set the name of preset stations. For details, see "Naming preset station" (page 32).

AUDIO menu

You can adjust settings for the audio to suit your preference.

■ A/V SYNC

Lets you delay the output of audio to minimize the time gap between audio output and visual display.

• SYNC ON: The audio output is delayed so that the time gap between the audio output and visual display is minimized.

• SYNC OFF: The audio output is not delayed.

Notes

• You may not be able to adjust the delay between sound and image perfectly using this function.

• This parameter is useful when you use a large LCD or plasma monitor or a projector.

• The delay time may vary depending on audio format, sound field, and speaker distance settings.

■ DUAL MONO

Lets you select the language you want when you listen to the dual audio of a digital broadcast when available. This feature only functions for Dolby Digital sources.

• MAIN / SUB: Outputs sound of the main language through the front left speaker and sound of the sub language through the front right speaker simultaneously.

• MAIN: Outputs sound of the main language.

• SUB: Outputs sound of the sub language.

■ NIGHT MODE

Lets you retain a theater-like environment at low volume levels.

• NIGHT ON

• NIGHT OFF

Tip

While this function is on, the bass, treble, and effect levels increase, and "D. RANGE" is automatically set to "COMP. MAX".

■ INPUT MODE

Lets you select the audio input mode setting when you connect satellite tuner or cable TV tuner to both HDMI IN jack and optical digital input jack on the receiver and SAT/CATV input has been selected.

• AUTO: Gives priority to HDMI audio signals if there are both digital (HDMI and optical) connections.

• OPT: Specifies the digital audio signals input to the SAT/CATV OPT IN jack.

Advanced Settings

HDMI menu

You can make various adjustments for HDMI settings.

■ CTRL HDMI

Lets you turn the Control for HDMI function on or off. For details, see ""BRAVIA" Sync Features" (page 35).

■ PASS THRU

Lets you output the HDMI signals to the TV even when the receiver is in standby mode.

• ON: The receiver continuously outputs HDMI signals from the receiver's HDMI TV OUT jack.

• AUTO: When the TV is turned on while the receiver is in the standby mode, the receiver outputs HDMI signals from the receiver's HDMI TV OUT jack. Sony recommends this setting if you use a "BRAVIA" Sync compatible Sony TV. This setting saves power in the standby mode when compared with the "ON" setting.

Notes

• The power saving function may not work for some TVs compatible with the "BRAVIA" Sync. If this is the case, set "PASS THRU" to "ON".

• Depending on your equipment, it may take time before image or sound is output.

SYSTEM menu

You can customize the settings of the receiver.

■ DIMMER

Lets you adjust the brightness of the display panel in 3 levels.

• DIM MAX
• DIM MID
• DIM OFF

■ SLEEP

Lets you set the receiver to turn off automatically at a specified time.

• 2-00-00
• 1-30-00
• 1-00-00
• 0-30-00
• OFF

When Sleep Timer is being used, "SLEEP" indicator lights up on the display panel.

Tip

To check the remaining time before the receiver turns off, select "SLEEP" using the AMP MENU. The remaining time appears on the display panel. To cancel the Sleep Timer, select "OFF".

■ AUTO STBY

Lets you set the receiver switch to standby mode automatically when you do not operate the receiver or when there is no signals input to the receiver.

• STBY ON: Switches to standby mode after approximately 30 minutes.

• STBY OFF: Does not switch to standby mode.

Notes

• This function does not work when TUNER input is selected.

• If you use the Auto Standby mode and the Sleep Timer at the same time, the Sleep Timer has priority.

Precautions

On safety

Should any solid object or liquid fall into the cabinet, unplug the receiver and have it checked by qualified personnel before operating it any further.

On power sources

- Before operating the receiver, check that the operating voltage is identical with your local power supply.
  The operating voltage is indicated on the nameplate on the back of the receiver.
- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.
- If you are not going to use the receiver for a long time, be sure to disconnect the receiver from the wall outlet. To disconnect the AC power cord (mains lead), grasp the plug itself; never pull the cord.
- (Canada model only)
  One blade of the plug is wider than the other for the purpose of safety and will fit into the wall outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- The AC power cord (mains lead) must be changed only at a qualified service shop.

On heat buildup

Although the receiver heats up during operation, this is not a malfunction. If you continuously use this receiver at a large volume, the cabinet temperature of the top, side and bottom rises considerably. To avoid burning yourself, do not touch the cabinet.

On placement

- Place the receiver in a location with adequate ventilation to prevent heat buildup and prolong the life of the receiver.
- Do not place the receiver near heat sources, or in a place subject to direct sunlight, excessive dust, or mechanical shock.
- Do not place anything on top of the cabinet that might block the ventilation holes and cause malfunctions.
- Do not place the receiver near equipment such as a TV, VCR, or tape deck. If the receiver is being used in combination with a TV, VCR, or tape deck, and is placed too close to that equipment, noise may result, and picture quality may suffer. This is especially likely when using an indoor antenna (aerial). Therefore, we recommend using an outdoor antenna (aerial).
- Use caution when placing the receiver or speakers on surfaces that have been specially treated (with wax, oil, polish, etc.) as staining or discoloration of the surface may result.

On operation

Before connecting other equipment, be sure to turn off and unplug the receiver.

If you encounter color irregularity on a nearby TV screen

The center speaker is magnetically shielded to allow it to be installed near a TV set. However, color irregularities may still be observed on certain types of TV sets. As the front speakers, surround speakers and subwoofer are not magnetically shielded, we recommend that you place them slightly further away from TV set (page 15).

If color irregularity is observed...

Turn off the TV set, then turn it on again after 15 to 30 minutes.

If color irregularity is observed again...

Place the speaker further away from the TV set.

If howling occurs

Reposition the speakers or turn down the volume on the receiver.

On cleaning

• Clean the cabinet, panel, and controls with a soft dry cloth. Do not use any type of abrasive pad, scouring powder, scrubbing brush or sponge.
• If it is stained with oil or fingerprints, breath on the surface and wipe it with soft dry cloth.

If you have any questions or problems concerning your receiver, please consult your nearest Sony dealer.

Troubleshooting

If you experience any of the following difficulties while using the receiver, use this troubleshooting guide to help you remedy the problem. Should any problem persist, consult your nearest Sony dealer. Note that if service personnel changes some parts during repair, these parts may be retained.

Power

The receiver is turned off automatically.

• "AUTO STBY" is set to "STBY ON" (page 44).
• The sleep timer function is working (page 44).

Sound

Dolby Digital or DTS multi channel sound is not reproduced.

• Check that the DVD, etc. you are playing is recorded in Dolby Digital or DTS format.
• When connecting the DVD player, etc., to the digital input jacks of this receiver, check the audio output setting of the connected equipment.
• Use the TV menu to set the Speaker Setting to Audio System.
• Make sure "CTRL HDMI" is set to "CTRL OFF" in HDMI menu.

The surround effect cannot be obtained.

• Make sure you have selected the sound field for movie or music mode (page 33, 34).
• Sound fields do not function when DTS-HD Master Audio, DTS-HD High Resolution Audio or Dolby TrueHD with sampling frequency of more than 48 kHz are being received.

There is no sound, or only a very low level sound is heard from the specified speakers.

• Make sure you have connected to both the L and R jacks of an analog equipment, analog equipment requires both L and R jack connections. Use an audio cord (not supplied).
• Check that the speakers are connected securely.
• Check that the subwoofer is connected correctly and securely.
• Adjust the speaker level (page 42).

There is no sound from a specific equipment.

- Check that the equipment is connected correctly to the audio input jacks for that equipment.
- Check that the cord(s) used for the connection is (are) fully inserted into the jacks on both the receiver and the equipment.
- Check that the equipment is connected correctly to the HDMI jack for that equipment.
- Make sure "CTRL HDMI" is set to "CTRL ON" in HDMI menu.
- You cannot listen to the Super Audio CD by connecting HDMI.
- Depending on the playback equipment, you may need to set up the HDMI setting of the equipment. Refer to the operating instructions supplied with each equipment.
- Be sure to use a High Speed HDMI cable when you view images or listen to sound, especially for the 1080p, Deep Color (Deep Colour) or 3D transmission.

There is no sound, no matter which equipment is selected, or only a very low-level sound is heard.

- Check that all connecting cords are inserted to their input/output jacks for the respective jacks of the receiver, speakers and the equipment.
- Check that both the receiver and all equipment are turned on.
- Check that MASTER VOLUME is not set to "VOL MIN".
- Press MUTING or ⊠ on the remote control to cancel the muting function.
- Check that you have selected the correct equipment with the input buttons.
- The protective device on the receiver has been activated. Turn off the receiver, eliminate the short-circuit problem, and turn on the power again.
- Check that the INPUT MODE setting is correct for SAT/CATV input.

There is severe hum or noise.

- Check that the speakers and equipment are connected securely.
- Check that the connecting cords are away from a transformer or motor, and at least 3 meters (10 feet) away from a TV set or fluorescent light.
- Move your audio equipment away from the TV.
- The plugs and jacks are dirty. Wipe them with a cloth slightly moistened with alcohol.

There is no sound from digital sources (from OPTICAL input jack).

- Check that the INPUT MODE is set to "OPT" for SAT/CATV input (page 43).
- Set "ARC" to "ARC OFF" when no sound is output from TV OPT IN jack during TV input.

When the receiver is in standby mode, there is no sound output from the TV.

- When the receiver enters into standby mode, the sound is from the last HDMI equipment selection before you turned off the receiver. If you are enjoying other equipment, play the equipment and perform the One-Touch Play operation, or turn on the receiver to select the HDMI equipment you want to enjoy.
- Make sure "PASS THRU" is set to "ON" in the HDMI menu if you connect equipment not compatible with the "BRAVIA" Sync to the receiver (page 44).

No sound is output from the receiver and TV speaker.

• Check that the equipment is connected correctly to the HDMI jack for that equipment.
• Make sure "CTRL HDMI" is set to "CTRL ON" in HDMI menu.
• You cannot listen to the Super Audio CD by connecting HDMI.
• Depending on the playback equipment, you may need to set up the HDMI setting of the equipment. Refer to the operating instructions supplied with each equipment.
• Be sure to use a High Speed HDMI cable when you view images or listen to sound, especially for the Deep Color (Deep Colour) or 3D transmission.
• Make sure the TV is compatible with the System Audio Control function.
• If you cannot listen to the sound of the equipment connected to the receiver while TV input is selected
  – Be sure to change the input of the receiver to HDMI when you want to watch a program on the equipment connected via HDMI connection to the receiver.
  – Change the TV channel when you want to watch a TV broadcast.
  – Be sure to select the correct equipment or input you want when you watch a program from the equipment connected to the TV. Refer to the operating instructions of the TV on this operation.

Image

No image appears on the TV.

• Make sure you have connected the video output of your video equipment to the TV.
• Move your audio equipment away from the TV.
• Check that the equipment is connected correctly to the HDMI jack for that equipment.
• Depending on the playback equipment, you may need to set up the equipment. Refer to the operating instructions supplied with each equipment.
• Be sure to use a High Speed HDMI cable when you view images or listen to sound, especially for the 1080p, Deep Color (Deep Colour) or 3D transmission.

When the receiver is in standby mode, there is no image output from the TV.

• When the receiver enters into standby mode, the image is from the last HDMI equipment selection before you turned off the receiver. If you are enjoying other equipment, play the equipment and perform the One-Touch Play operation, or turn on the receiver to select the HDMI equipment you want to enjoy.
• Make sure "PASS THRU" is set to "ON" in the HDMI menu if you connect equipment not compatible with the "BRAVIA" Sync to the receiver (page 44).
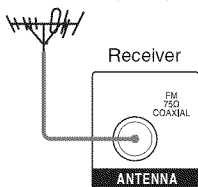
No 3D image appears on the TV.

• Depending on the TV or the video equipment, 3D images may not be displayed.

Tuner

The FM reception is poor.

- Use a 75-ohm coaxial cable (not supplied) to connect the receiver to an outdoor FM antenna (aerial) as shown below.

Outdoor FM antenna (aerial)

Receiver

FM
75Ω
COAXIAL

ANTENNA

Radio stations cannot be tuned in.

- Check that the antennas are connected securely. Adjust the antennas and connect an external antenna (aerial), if necessary.
- The signal strength of the stations is too weak with automatic tuning. Change to monaural reception (page 30).
- No stations have been preset or the preset stations have been cleared (when tuning by scanning preset stations is used). Preset the stations (page 31).

Remote control

The remote control does not function.

- Point the remote control at the remote control sensor on the receiver.
- Remove any obstacles in the path between the remote control and the receiver.
- Replace all the batteries in the remote control with new ones, if they are weak.
- Make sure you select the correct input on the remote control.

RDS does not work.*

- Make sure that you are tuned to an FM RDS station.
- Select a stronger FM station.

The RDS information that you want does not appear.*

- The service may be temporarily out of order. Contact the radio station and find out whether they actually provide the service in question.

* Europe model only.

Others

The Control for HDMI function does not work.

- Check the HDMI connection (page 19).
- Make sure "CTRL HDMI" is set to "CTRL ON" in HDMI menu.
- Make sure the connected equipment is compatible with the Control for HDMI function.
- Check the Control for HDMI settings on the connected equipment. Refer to the operating instructions of the connected equipment.
- The types and the number of equipment which can be controlled by the "BRAVIA" Sync are restricted in the HDMI CEC standard as follows.
  – Recording equipment (Blu-ray Disc recorder, DVD recorder, etc.): up to 3 equipment
  – Playback equipment (Blu-ray Disc player, DVD player, etc.): up to 3 equipment
  – Tuner-related equipment: up to 4 equipment
  – AV receiver (audio system): up to 1 equipment

Additional Information

The TV's remote control cannot be used to control the connected equipment when using the Control for HDMI function.

• Depending on the connected equipment and TV, you may need to set up the equipment and TV. Refer to the operating instructions supplied with each equipment and TV.

• Change the input of the receiver to the HDMI input connected to the equipment.

Error messages

If there is a malfunction, a message appears on the display panel. You can check the condition of the system by the message. If any problem persists, consult your nearest Sony dealer. If an error message appears while you perform Auto Calibration, see "When error codes appear" (page 26) to solve the problem.

PROTECTOR

Irregular current is output to the speakers, the volume level is too high, or the upper panel of the receiver is covered and ventilation holes are blocked. The receiver will automatically turn off after a few seconds. Check the speaker connection and remove the object covering the ventilation holes.
Turn on the power and increase the volume level.

Clearing the memory

If you are unable to remedy the problem using the troubleshooting guide, clearing the receiver's memory may remedy the problem. However, note that all memorized settings will be reset to the default settings and you will have to readjust all settings on the receiver.

Reference sections

To clear	See
All memorized settings	page 23

Specifications

Amplifier section
POWER OUTPUT (rated)
FRONT L + FRONT R
    108 W + 108 W (at 3 ohms, 1 kHz, 1% THD)
POWER OUTPUT (reference)
FRONT L/FRONT R/CENTER/SUR L/SUR R
    167 W (per channel at 3 ohms, 1 kHz)
SUBWOOFER   165 W (at 3 ohms, 60 Hz)
Inputs
  Analog   Sensitivity: 1 V/50 kohms
  Digital (Coaxial) Impedance: 75 ohms

FM tuner section
Tuning range
Canada model only 87.5 MHz – 108.0 MHz (100 kHz step)
Other models   87.5 MHz – 108.0 MHz (50 kHz step)
Antenna   FM wire antenna (aerial)
Antenna terminals 75 ohms, unbalanced

General
Power requirements

Area	Power requirements
Canada	120 V AC, 60 Hz
Argentina, Europe	220 V AC - 240 V AC, 50/60 Hz

Power consumption

Area	Power consumption
Canada, Argentina, Europe	110 W

Power consumption (during standby mode)
    0.3 W (When Control for HDMI is set to off)
Dimensions (w/h/d) (Approx.)
    430 mm × 65 mm × 306 mm
    (17 in × 2 5/8 in × 12 1/8 in)
    including projecting parts and controls
Mass (Approx.) 3.0 kg (6 lb 10 oz)

Speaker section
• Front/Surround speaker (SS-TSB105)
• Center speaker (SS-CTB102)

Front/Surround speaker
    Full range
Center speaker   Full range, magnetically
    shielded

Speaker unit
Front/Surround speaker
    55 mm × 80 mm (2 1/4 in ×
    3 1/4 in), cone type
Center speaker   30 mm × 60 mm (1 3/16 in
    × 2 3/8 in), cone type

Enclosure type
Front/Surround speaker
    Bass reflex
Center speaker   Acoustic suspension
Rated impedance   3 ohms
Dimension (w/h/d) (Approx.)
Front/Surround speaker
    85 mm × 220 mm × 95 mm
    (3 3/8 in × 8 3/4 in ×
    3 3/4 in) (with foot)
Center speaker   315 mm × 55 mm × 60 mm
    (12 1/2 in × 2 1/4 in ×
    2 3/8 in) (with foot)

Mass (Approx.)
Front speaker   0.46 kg (1 lb 1 oz)
    (with foot)
Center speaker   0.31 kg (11 oz) (with foot)
Surround speaker   0.53 kg (1 lb 3 oz)
    (with foot)

• Subwoofer (SS-WSB103)

Speaker unit   160 mm (6 3/8 in),
    cone type
Enclosure type   Bass reflex
Rated impedance   3 ohms
Dimensions (w/h/d) (Approx.)
    260 mm × 265 mm ×
    270 mm (10 1/4 in ×
    10 1/2 in × 10 3/4 in)
    (with foot)
Mass (Approx.)   3.6 kg (7 lb 15 oz)
    (with foot)

Design and specifications are subject to change without notice.

Halogenated flame retardants are not used in the certain printed wiring boards.

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