SONY

4-168-043-**14**(1)

Multi Channel AV Receiver

Operating Instructions

STR-DH510

WARNING

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.

Excessive sound pressure from earphones and headphones can cause hearing loss.

This symbol is intended to alert the user to the presence of the Hot Surface that may be hot if it is touched during the normal operation.

For customers in the United States

Owner's Record

The model and serial numbers are located on the rear of the unit. Record these numbers in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.
Model No. _____ Serial No. _____

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Important Safety Instructions

1) Read these instructions.
2) Keep these instructions.
3) Heed all warnings.
4) Follow all instructions.
5) Do not use this apparatus near water.
6) Clean only with dry cloth.
7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11) Only use attachments/accessories specified by the manufacturer.

12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13) Unplug this apparatus during lightning storms or when unused for long periods of time.
14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

The following FCC statement applies only to the version of this model manufactured for sale in the U.S.A. Other versions may not comply with FCC technical regulations.

NOTE:

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

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

CAUTION

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

To reduce the risk of electric shock, the speaker cord should be connected to the apparatus and the speakers in accordance with the following instructions.

1) Disconnect the AC power cord from the MAINS.
2) Strip 10 to 15 mm of the wire insulation of the speaker cord.
3) Connect the speaker cord to the apparatus and the speakers carefully so as not to touch the core of speaker cord by hand. Also disconnect the AC power cord from the MAINS before disconnecting the speaker cord from the apparatus and the speakers.

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.

continued

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.

For customers in Australia

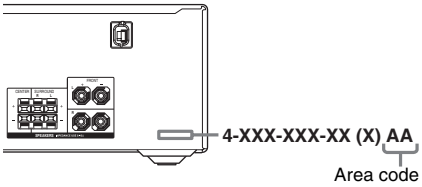
Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems)

About This Manual

- The instructions in this manual are for model STR-DH510. Check your model number by looking at the lower right corner of the front panel.
- In this manual, models of area code ECE is used for illustration purposes unless stated otherwise. Any difference in operation is clearly indicated in the text, for example, “Models of area code ECE only”.
- The instructions in this manual describe the controls on the supplied remote. You can also use the controls on the receiver if they have the same or similar names as those on the remote.

About area codes

The area code of the receiver you purchased is shown on the lower right portion of the rear panel (see the illustration below).



Any differences in operation, according to the area code, are clearly indicated in the text, for example, “Models of area code AA only”.

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; 6,487,535 & other U.S. and worldwide patents issued & pending. DTS and DTS Digital Surround are registered trademarks and the DTS logos and Symbol are trademarks of DTS, Inc. © 1996-2008 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.

“x.v.Colour (x.v.Color)” and “x.v.Colour (x.v.Color)” logo are trademarks of Sony Corporation.

“BRAVIA” is a trademark of Sony Corporation.

“PLAYSTATION” is a trademark of Sony Computer Entertainment Inc.

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“BRAVIA” Sync Features

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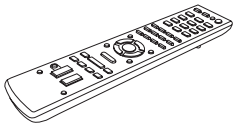
Supplied accessories

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

- AM loop antenna (aerial) (1)

- Remote commander (1)
  – RM-AAU071 (For customers in the United States and Canada only)
  – RM-AAU074 (For customers in Europe and Australia only)

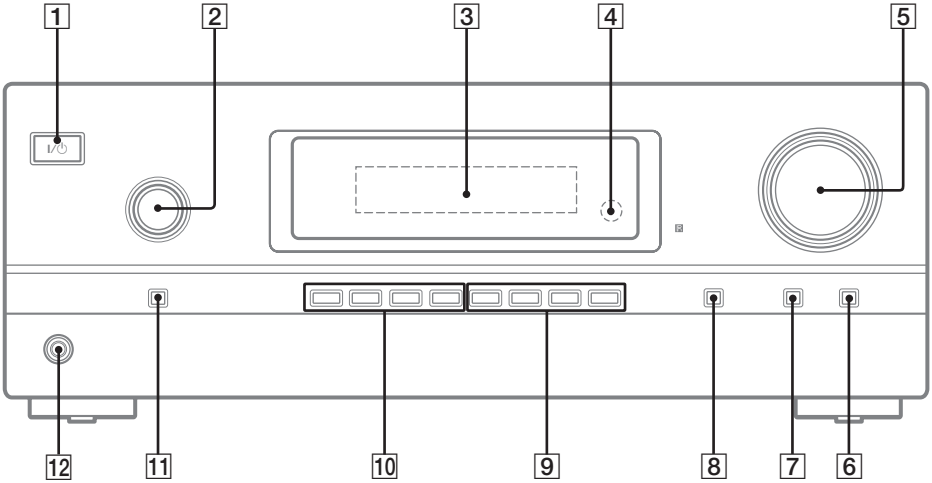


- R6 (size-AA) batteries (2)

- Optimizer microphone (ECM-AC2) (For customers in Europe and Australia only) (1)

Description and location of parts

Front panel



1 **I/⏻ (on/standby) (page 30, 39, 46, 67)**

2 **INPUT SELECTOR (page 35)**

3 **Display (page 9)**

4 **Remote sensor**
Receives signals from remote commander.

5 **MASTER VOLUME (page 34, 35)**

6 **MUTING (page 35)**

7 **DIMMER (page 65)**

8 **DISPLAY (page 36)**

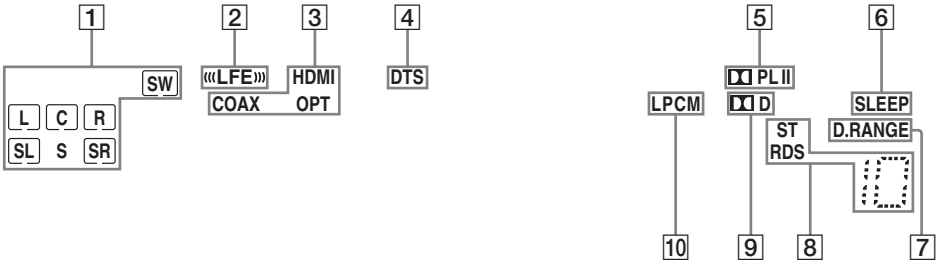
9 **2CH/A.DIRECT, A.F.D., MOVIE, MUSIC (page 42)**

10 **TUNING MODE, TUNING +/–, MEMORY/ ENTER (page 38)**

11 **INPUT MODE (page 52)**

12 **PHONES jack (page 71)**

Indicators on the display



Indicator and explanation

1 Playback channel indicators

The letters (L, C, R, etc.) indicate the channels being played back. The boxes around the letters vary to show how the receiver downmixes or upmixes the source sound (based on the speaker settings).

SW	Subwoofer
L	Front Left
R	Front Right
C	Center (monaural)
SL	Surround Left
SR	Surround Right
S	Surround (monaural or the surround components obtained by Pro Logic processing)

Example:
Speaker pattern: 3/0.1
Recording format: 3/2.1
Sound Field: A.F.D. AUTO

2 «LFE»

Lights up when the disc being played back contains an LFE (Low Frequency Effect) channel and the LFE channel signal is actually being reproduced.

Indicator and explanation

3 Input indicators

Light up to indicate the current input.

HDMI

Lights up when
– INPUT MODE is set to AUTO and the receiver recognizes a component connected via an HDMI IN jack (page 23, 52).
– TV input detected Audio Return Channel (ARC) signals (page 51).

COAX

Lights up when input mode is set to "AUTO" or "COAX" and the source signals is a digital signal being input through the COAXIAL jack (page 52).

OPT

Lights up when input mode is set to "AUTO" or "OPT" and the source signals is a digital signal being input through the OPTICAL jack (page 52).

4 DTS

Lights up when the receiver is decoding DTS signals.

Note

When playing a DTS format disc, be sure that you have made digital connections and that INPUT MODE is set to "AUTO" (page 52).

5 Dolby Pro Logic indicators

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

PL	Dolby Pro Logic
PL II	Dolby Pro Logic II

Note

These indicators do not light up when the center speaker and surround speaker is not selected.

continued

Indicator and explanation

6 SLEEP
Lights up when the sleep timer is activated (page 37, 65).

7 D.RANGE
Lights up when dynamic range compression is activated (page 59).

8 Tuning indicators
Lights up when the receiver tunes in radio stations.

ST
Stereo broadcast
RDS (Models of area code ECE, CEK, AU1 only)
A station that provides RDS services is tuned in.


Preset station number

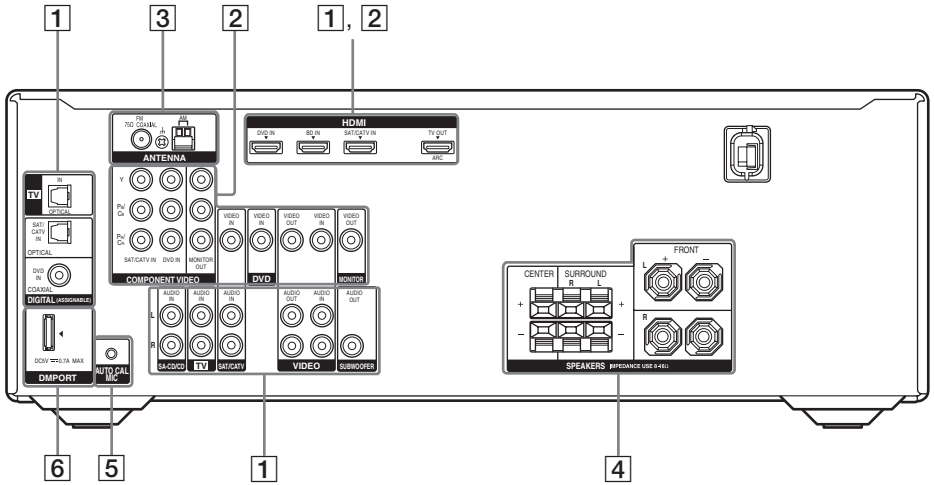
Note
The preset station number will change according to the preset station you select.
For details on presetting radio stations, see page 40.

9 D
Lights up when the receiver is decoding Dolby Digital signals.

Note
When playing a Dolby Digital format disc, be sure that you have made digital connections and that INPUT MODE is not set to “ANALOG” (page 52).

10 LPCM
Lights up when Linear PCM signals are detected.

Rear panel



1 Audio signal section

DIGITAL INPUT/OUTPUT jacks (page 20, 23, 26, 27)

HDMI IN/OUT

OPTICAL IN

COAXIAL IN

ANALOG INPUT/OUTPUT jacks (page 19, 20, 22, 27)

White (L), Red (R) — AUDIO IN/OUT

Black — AUDIO OUT

2 Video signal section*

The image quality depends on the connecting jack.

DIGITAL INPUT/OUTPUT jacks (page 20, 23)

HDMI IN/OUT

COMPONENT VIDEO INPUT/OUTPUT jacks (page 20, 26, 27)

Green (Y), Blue (P_B/C_B), Red (P_R/C_R) — Y, P_B/C_B, P_R/C_R IN/OUT

COMPOSITE VIDEO INPUT/OUTPUT jacks (page 20, 26, 27, 28)

Yellow — VIDEO IN/OUT

High quality image

continued

3 ANTENNA section (page 29)

FM ANTENNA jack

AM ANTENNA terminals

4 SPEAKERS section (page 19)

5 AUTO CAL MIC section (page 31) (For customers in Europe and Australia only)

AUTO CAL MIC jack

6 DMPORT section (page 22)

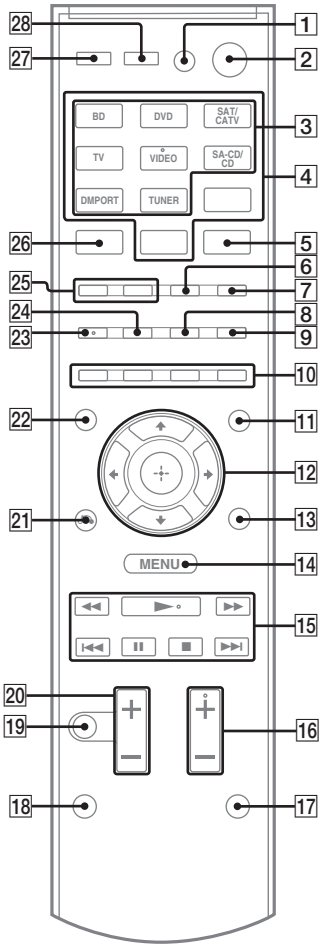
DMPORT jack

* You can watch the selected input image when you connect the HDMI TV OUT or MONITOR OUT jack to a TV (page 20, 23).

Remote commander

You can use the supplied remote to operate the receiver and to control the Sony audio/video components that the remote is assigned to operate.

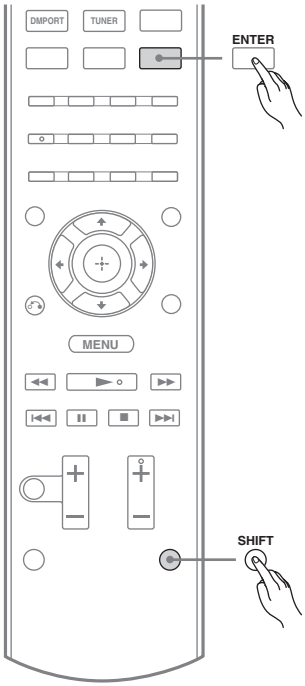
RM-AAU071 (For customers in the United States and Canada only)
RM-AAU074 (For customers in Europe and Australia only)



Using the SHIFT (17) and TV (18) button

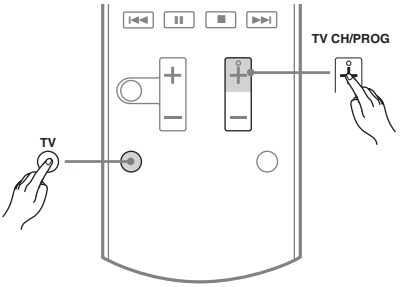
SHIFT (17) button

Press and hold SHIFT (17), then press the button with pink printing that you want to use.
Example: Press and hold SHIFT (17), then press ENTER (5).



TV (18) button

Press and hold TV (18), then press the button with yellow printing to control the TV.
Example: Press and hold TV (18), then press TV CH + (RM-AAU071 only) or PROG + (RM-AAU074 only) (16).



To control the receiver

Name and function
2 **I/⏻[b] (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 58).
3 **Input buttons (VIDEO[a])** Selects the component you want to use. When you press any of the input buttons, the receiver turns on. The buttons are initial assigned to control Sony components.
4 **Numeric buttons[c] (number 5[a])** Presets or tunes to preset stations.
5 **ENTER[c]** Enters the selection.
6 **MEMORY** Stores a station.
7 **D.TUNING** Enters direct tuning mode.
9 **DISPLAY** Views information on the display.
11 **AMP MENU** Displays the menu to operate the receiver.
12 ⊕, ↑/↓/←/→ Press ↑/↓/←/→ to select the settings, then press ⊕ to enter the selection.

continued

Name and function
14 **MENU/HOME**[d] Displays the menu to operate the receiver.
15 **TUNING +/–** Scans a station.
PRESET +/– Selects preset stations.
16 **SOUND FIELD +**[a]**/–** Selects a sound field (page 42).
19 **MUTING (RM-AAU071 only)** **(RM-AAU074 only)** Turns off the sound temporarily. Press MUTING/ again to restore the sound.
20 **MASTER VOL +/– (RM-AAU071 only)** **+/– (RM-AAU074 only)** Adjust the volume level of all speakers at the same time.
21 **RETURN/EXIT** Returns to the previous menu.

[a] The following buttons have tactile dots:
- RM-AAU071: 5/VIDEO, AUDIO, and TV CH +/SOUND FIELD +
- RM-AAU074: 5/VIDEO, , and PROG +/SOUND FIELD +/

Use the tactile dots as references when operating the receiver.

[b] If you press AV I/ (1) and I/ (2) simultaneously, the receiver and connected components will turn off (SYSTEM STANDBY).

[c] Press and hold SHIFT (17) then press this button.

[d] Press AMP MENU (11) to activate this button.

To control a Sony TV

Press and hold TV (18) and then press the yellow printing button to select the function you want.

Name and function
1 **TV I/ (on/standby)** Turns on or off the TV.
4 **Numeric buttons (number 5**[a]**)** Selects the TV channels.
5 **ENTER (RM-AAU071 only)** Enters the selections.
(Previous channel) (RM-AAU074 only) Returns to the previous channel watched (for more than five seconds).
9 **DISPLAY (RM-AAU071 only)** Displays the information of TV.
/ (Info/Text reveal) (RM-AAU074 only) In digital mode: Displays brief details of the program currently being watched. In analog mode: Displays information such as current channel number and screen format. In text mode: Reveals hidden information (e.g. answers to a quiz).
10 **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.
13 **TOOLS/OPTIONS** Displays the TV options.
14 **MENU/HOME** Displays the TV menus.
16 **TV CH +**[a]**/– (RM-AAU071 only)** Selects the next (+) or previous (–) channel.
PROG +[a]**/–, **[a]**/ (RM-AAU074 only)** In TV mode: Selects the next (+) or previous (–) channel. In text mode: Selects the next () or previous () channel.
19 **MUTING (RM-AAU071 only)** **(RM-AAU074 only)** Activates the TV's muting function.
20 **TV VOL +/– (RM-AAU071 only)** **(RM-AAU074 only)** Adjust the volume.
21 **RETURN/EXIT** Returns to the previous TV menu.

Name and function
22 **GUIDE (RM-AAU071 only)** **(RM-AAU074 only)** Displays the guide when you are watching analog or digital channel.
23 **AUDIO[a] (RM-AAU071 only)** **[a] (RM-AAU074 only)** Selects the desired audio signal.
25 **DIGITAL (RM-AAU074 only)** Changes to digital mode.
ANALOG (RM-AAU074 only) Changes to analog mode.
26 **(Text) (RM-AAU074 only)** Displays text.
27 **THEATER (RM-AAU071 only)** **THEATRE (RM-AAU074 only)** Sets the optimal picture settings automatically for watching movies when you connect a Sony TV that is compatible with the THEATER/ THEATRE button function (page 51).
28 **INPUT (RM-AAU071 only)** Selects the input signal (TV or video).
/ (Input select/Text hold) (RM-AAU074 only) In TV mode: Selects the input signal (TV or video). In analog text mode: Holds the current page.

[a] The following buttons have tactile dots:
- RM-AAU071: 5/VIDEO, AUDIO, ► and TV CH +/SOUND FIELD +
- RM-AAU074: 5/VIDEO, , ► and PROG +/SOUND FIELD +/

Use the tactile dots as references when operating the receiver.

continued

To control other Sony components

Name		Blu-ray disc, DVD player	Satellite tuner, Cable TV tuner	VCR	CD player
1	**AV I/⏻**[b]	Power	Power	Power	Power
4	**Numeric buttons**[c] **(number 5**[a]**)**	Track	Channel	Channel	Track
5	**ENTER**[c]	Enter	Enter[d]	Enter	Enter
8	**ANGLE**[d] [e]	Select angle	–	–	–
9	**DISPLAY**	Display	Display	Display	Display
10	**Color buttons**	Menu, guide	Menu, guide[e]	–	–
12	⊕	Enter	Enter	Enter	–
	↑/↓/←/→	Select	Select	Select	–
13	**TOOLS/OPTIONS**	Options menu	Options menu[d]	–	–
14	**MENU/HOME**	Menu	Menu	Menu	–
15	**◀◀/▶▶**[f]	Search forward, backward	–	Fast forward, rewind	Fast forward, rewind
	▶[a][f]	Play	–	Play	Play
	I◀◀/▶▶I[f]	Skip track	–	Skip track	Skip track
	II[f]	Pause	–	Pause	Pause
	■[f]	Stop	–	Stop	Stop
21	**RETURN/EXIT** ↩	Exit menu	Exit menu, Live TV[d]	–	–
22	**GUIDE**[d] [e]	Program schedule	Display guide menu	–	–
23	**AUDIO**[a][d] [e]	Select audio	–	–	–
24	**SUBTITLE**[d] [e]	Select subtitle	–	–	–
25	**TOP MENU**	On-screen guide	–	–	–
	POP UP/MENU	Menu	–	–	–
26	**CLEAR**[c]	Clear	Clear	–	–

[a] The following buttons have tactile dots:
- RM-AAU071: 5/VIDEO, AUDIO, ▶ and TV CH +/SOUND FIELD +
- RM-AAU074: 5/VIDEO, ⊂⊃, ▶ and PROG +/SOUND FIELD +/⏏

Use the tactile dots as references when operating the receiver.

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

[c] Press and hold SHIFT (17) then press this button.

[d] RM-AAU071 only.

[e] RM-AAU074 only.

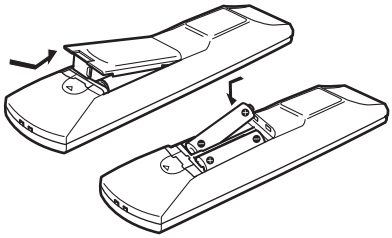
[f] This button is also available for DIGITAL MEDIA PORT adapter operation. For details on the function of the button, refer to the operating instructions supplied with the DIGITAL MEDIA PORT adapter.

Notes

- Some functions explained in this section may not work depending on the model.
- The above explanation is intended to serve as an example only. Therefore, depending on the component, the above operation may not be possible or may operate differently than described.

Inserting batteries into the remote

Insert two R6 (size-AA) batteries in the RM-AAU071 (Models of area code U2, CA2 only) or RM-AAU074 (Models of area code ECE, CEK, AU1 only) Remote Commander. Observe the correct polarity when installing batteries.



Notes

- Do not leave the remote 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 sensor to direct sunlight or lighting apparatuses. Doing so may cause a malfunction.
- If you do not intend to use the remote for an extended period of time, remove the batteries to avoid possible damage from battery leakage and corrosion.
- When you replace the batteries, the remote buttons may be reset to their initial settings. If this happens, reassign the buttons again (page 66).
- When the remote no longer operates the receiver, replace all the batteries with new ones.

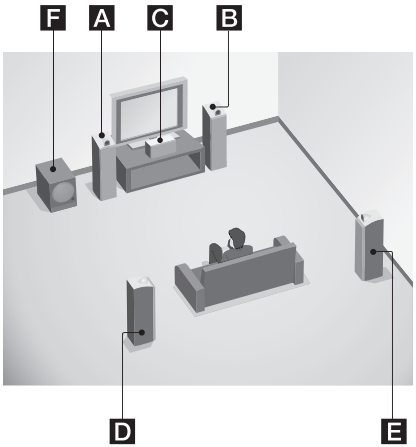
Connections

1: Installing the speakers

This receiver allows you to use a 5.1 channel system (5 speakers and one subwoofer).

To fully enjoy theater-like multi channel surround sound requires five speakers (two front speakers, a center speaker, and two surround speakers) and a subwoofer (5.1 channel).

Example of a 5.1 channel speaker system configuration



A Front speaker (Left)
B Front speaker (Right)
C Center speaker
D Surround speaker (Left)
E Surround speaker (Right)
F Subwoofer

continued

Note

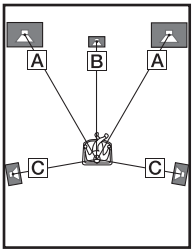
To enjoy better surround sound, the distance between the center speaker and the listening position B cannot be more than 1.5 meters (5 feet) closer than the one between the listening position and the front speaker A. Place the speakers so that the difference in the length of B in the following diagram is no more than 1.5 meters (5 feet) closer than the length of A.

Example: Adjust the distance B to 4.5 meters (15 feet) or more when the distance A is 6 meters (20 feet).

Also, the distance between the surround speakers and the listening position C cannot be more than 4.5 meters (15 feet) closer than the distance between the listening position and the front speakers A. Place the speakers so that the difference in the length of C in the above diagram is no more than 4.5 meters (15 feet) closer than the length of A.

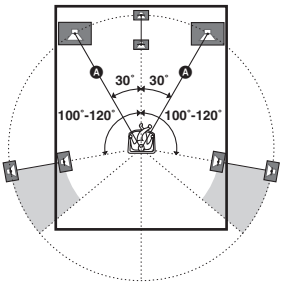
Example: Adjust the distance C to 1.5 meters (5 feet) or more when the distance A is 6 meters (20 feet).

This is important because incorrect speaker placement is not conductive to the enjoyment of surround sound. Please note that placing the speakers closer than the required will cause a delay in the output of the sound from that speaker. In other words, the speaker will sound like it is farther away. Adjusting these parameter while listening to the sound often results in much better surround sound.



Tips

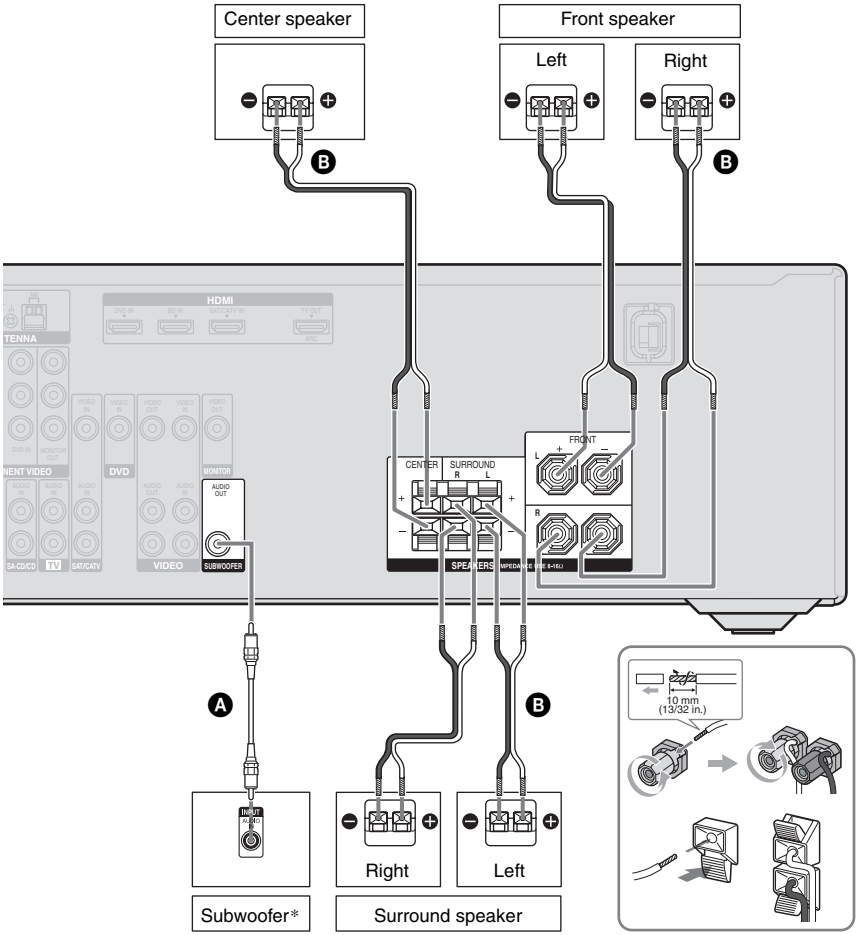
• The angle A should be the same.



• Since the subwoofer does not emit highly directional signals, you can place it wherever you want.

2: Connecting the speakers

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



A Monaural audio cord (not supplied)
B Speaker cord (not supplied)

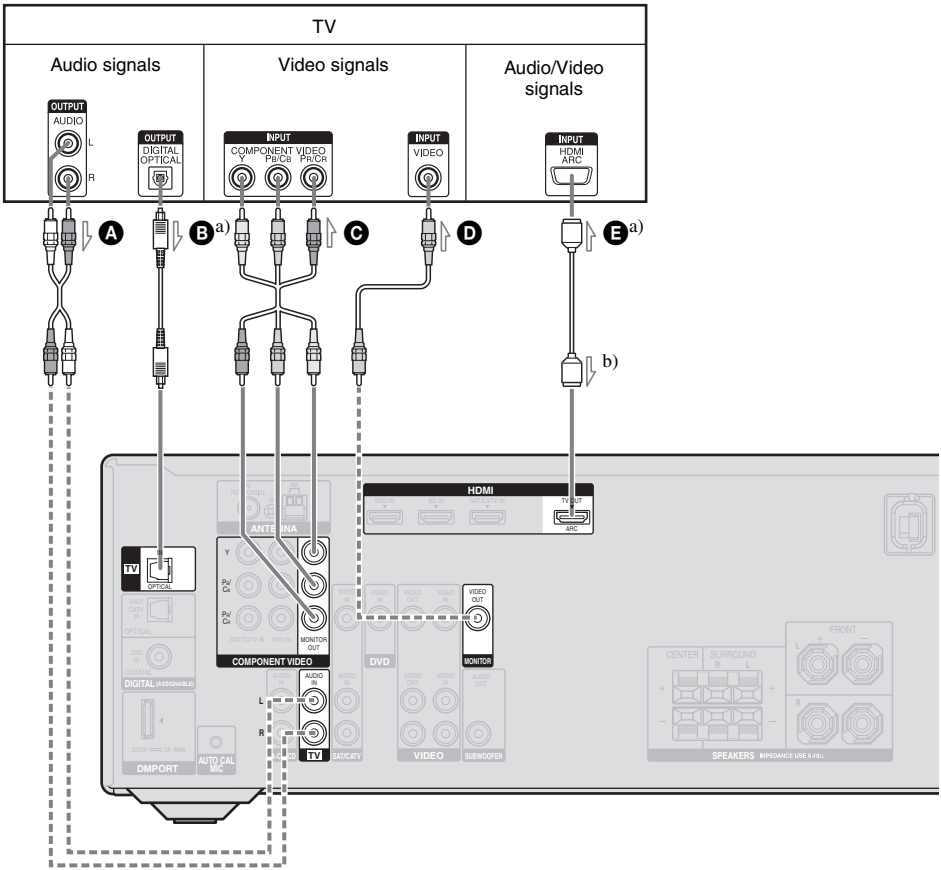
* When you connect a subwoofer with an auto standby function, turn off the function when watching movies. If the auto standby function is set to on, it turns to standby mode automatically based on the level of the input signal to a subwoofer, then sound may not be output.

Notes

- Before connecting the AC power cord (mains lead), make sure that metalic wires of the speaker cords are not touching each other between the SPEAKERS terminals.
- After you have install and connect your speaker, be sure to select the speaker pattern from SPEAKER menu (page 60).

3: Connecting the TV

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



- A Audio cord (not supplied)
- B Optical digital cord (not supplied)
- C Component video cord (not supplied)
- D Video cord (not supplied)
- E HDMI cable (not supplied)

  We recommend that you use a Sony HDMI cable.

Recommended connection
Alternative connection

a) To enjoy TV multi channel surround sound broadcasting from the speakers connected to the receiver, connect either B or E.
Be sure to turn off the TV's volume or activate the TV's muting function.

b) If your TV is compatible with the Audio Return Channel (ARC) function, the TV sound will output from the speakers connected to the receiver via HDMI TV OUT connection. In this case, set "ARC" to "ARC ON" in HDMI menu (page 51).

Notes

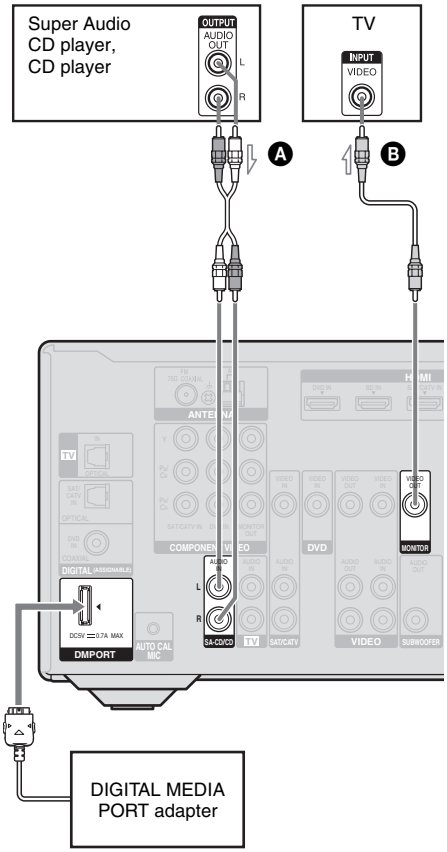
- Be sure to turn on the receiver when the video and audio signals of a playback component are being output to a TV via the receiver. Unless the power is turned on, neither video nor audio signals will be transmitted.
- Connect image display components such as a TV monitor or a projector to the HDMI TV OUT or MONITOR OUT jack on the receiver. You may not be able to record even if you connect recording components.
- Depending on the status of the connection between the TV and the antenna (aerial), the image on the TV screen may be distorted. In this case, place the antenna (aerial) farther away from the receiver.
- When connecting optical digital cords, insert the plugs straight in 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.

4a: Connecting the audio components

The following illustration shows how to connect a Super Audio CD player, CD player and DIGITAL MEDIA PORT adapter. Before connecting cords, be sure to disconnect the AC power cord (mains lead).

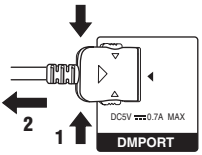


A Audio cord (not supplied)
B Video cord (not supplied)

Notes on connecting DIGITAL MEDIA PORT adapter

- Do not connect an adapter other than the DIGITAL MEDIA PORT adapter.
- Do not connect or disconnect the DIGITAL MEDIA PORT adapter while the receiver is turned on.
- When connecting the DIGITAL MEDIA PORT adapter, be sure the connector is inserted with the arrow mark facing towards the arrow mark on the DMPORT jack.
- Be sure to make DMPORT connections firmly, insert the connector straight in.
- As the connector of the DIGITAL MEDIA PORT adapter is fragile, be sure to handle with care when placing or moving the receiver.

To detach the DIGITAL MEDIA PORT adapter from DMPORT jack



Press and hold both sides of the connector and then pull out the connector.

4b: Connecting the video components

Components to be connected

Connect your video components according to the table below.

Component	Page
Blu-ray disc player*	24
"PlayStation 3"*	24
DVD player*	24, 26
DVD recorder*	24, 26, 28
Satellite tuner*, Cable TV tuner*	24, 27
VCR	28

* We recommend that you connect your video components via HDMI connection if they have HDMI jacks.

You can watch the selected input image when you connect the HDMI TV OUT or MONITOR OUT jack to a TV (page 20).

If you want to connect several digital components, but cannot find an unused input

See "Enjoying the sound from other inputs" (page 53).

Notes

- Before connecting cords (mains lead), be sure to disconnect the AC power cord.
- It is not necessary to connect all the cords. Connect according to the availability of jacks on the connected components.
- Be sure to turn on the receiver when the video and audio signals of a playback component are being output to a TV via the receiver. Unless the power is turned on, neither video nor audio signals will be transmitted.
- When connecting optical digital cords, insert the plugs straight in 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.

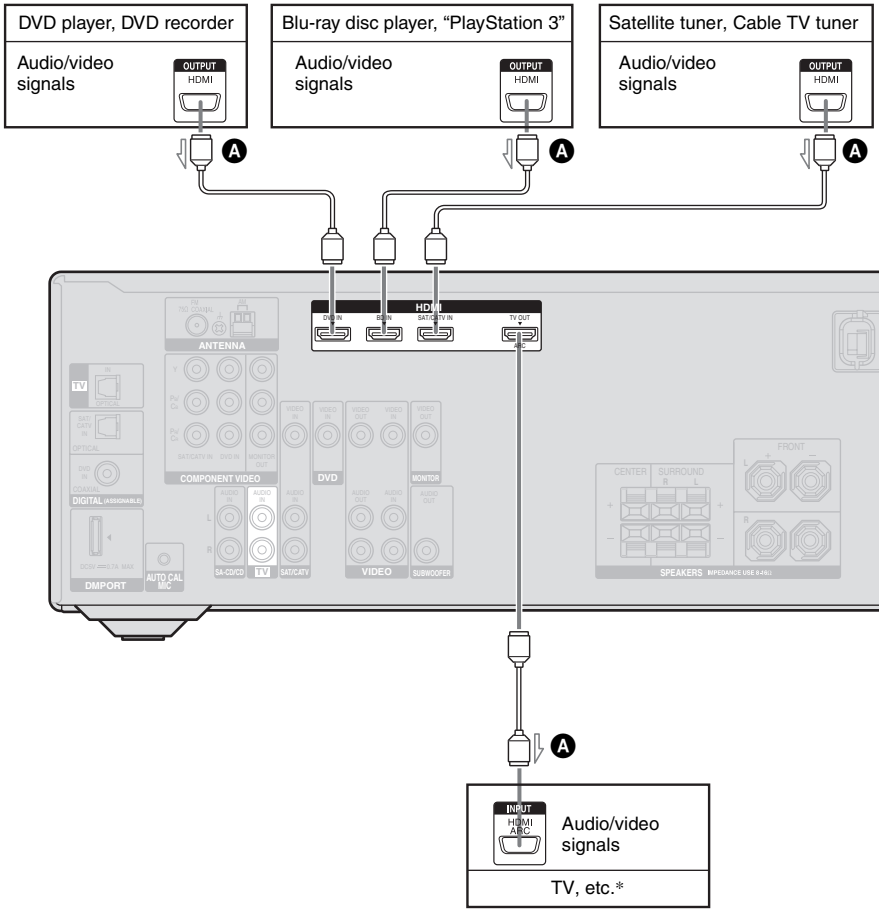
Connecting components with HDMI jacks

HDMI is the abbreviated name for High-Definition Multimedia Interface. It is an interface which transmits video and audio signals in digital format.

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.
- This receiver can receive multi channel Linear PCM with a sampling frequency of 192 kHz or less with an HDMI connection.
- This receiver supports Deep Colour (Deep Color) and x.v.Colour (x.v.Color).
- This receiver supports the Control for HDMI function. For details, see ""BRAVIA" Sync Features" (page 47).

continued



A HDMI cable (not supplied)
We recommend that you use a Sony HDMI cable.

* See page 20 for the audio connection of the TV to the receiver.

Notes

- The initial setting for the DVD input button is as follows:
  – RM-AAU071: DVD player
  – RM-AAU074: DVD recorder
  Be sure to change the initial setting of the DVD input button on the remote so that you can use the button to control your DVD player/recorder. For details, see “Changing the input button assignments” (page 66).
- You can also rename the DVD input so that it can be displayed on the receiver’s display. For details, see “Naming inputs” (page 36).

Notes on connecting cables

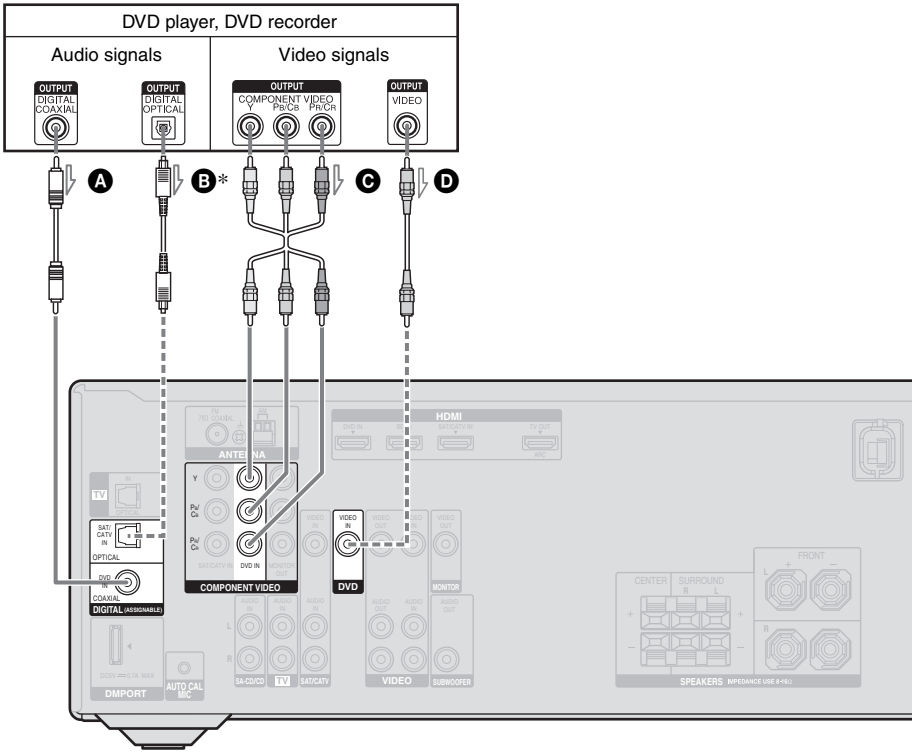
- Use a High Speed HDMI cable. If you use a Standard HDMI cable, 1080p or Deep Colour (Deep Color) images may not be displayed properly.
- Sony recommends that you use an HDMI authorized cable or Sony HDMI cable.
- We do not recommend using an HDMI-DVI conversion cable. When you connect an HDMI-DVI conversion cable to a DVI-D component, the sound and/or the image may not be output. Connect other audio cords or digital connecting cords, then set "A. ASSIGN" in AUDIO menu (page 63) when the sound is not output correctly.

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. The video input signals cannot be output from the VIDEO OUT jacks or MONITOR OUT jacks.
- When you want to listen to the sound from the TV speaker, set "AUDIO.OUT" to "TV+AMP" in the HDMI menu (page 64). If you cannot play back multi channel software, set to "AMP". However, the sound will not output from the TV speaker.
- Be sure to turn on the receiver when video and audio signals of a playback component are being output to a TV through this receiver. If you set "PASS.TRHU" to "OFF", video and audio signal will not be transmitted when the power is set to off.
- DSD signals of Super Audio CD are not input and output.
- The multi/stereo area audio signals of a Super Audio CD are not output.
- Audio signals (sampling frequency, bit length, etc.) transmitted from an HDMI jack may be suppressed by the connected component. Check the setup of the connected component if the image is poor or the sound does not come out of a component connected via the HDMI cable.
- Sound may be interrupted when the sampling frequency, the number of channels or audio format of audio output signals from the playback component is switched.
- When the connected component 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.
  In this case, check the specification of the connected component.
- The image resolution of player may need certain settings be made before you can enjoy multi channel Linear PCM. Refer to the operating instructions of the player.
- Not every HDMI component supports all functions that are defined by the specified HDMI version. For example, components that support HDMI, version 1.4, may not support Audio Return Channel (ARC).
- Refer to the operating instructions of each connected component for details.

Connecting a DVD player, DVD recorder

The following illustration shows how to connect a DVD player or DVD recorder.



A Coaxial digital cord (not supplied)
B Optical digital cord (not supplied)
C Component video cord (not supplied)
D Video cord (not supplied)

Recommended connection
Alternative connection

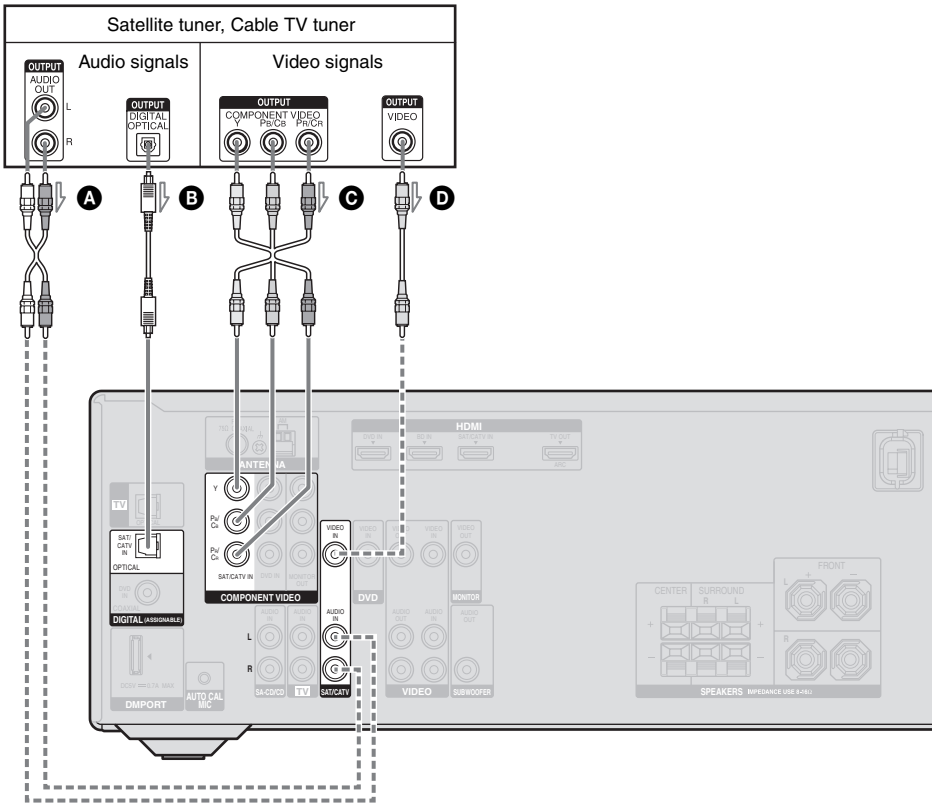
* When you connect a component equipped with an OPTICAL jack, set "A. ASSIGN" in the AUDIO menu (page 63).

Notes

- The initial setting for the DVD input button is as follows:
  – RM-AAU071: DVD player
  – RM-AAU074: DVD recorder
  Be sure to change the initial setting of the DVD input button on the remote so that you can use the button to control your DVD player or DVD recorder. For details, see "Changing the input button assignments" (page 66).
- You can also rename the DVD input so that it can be displayed on the receiver's display. For details, see "Naming inputs" (page 36).
- To input multi channel digital audio from the DVD player or DVD recorder, set the digital audio output setting on the DVD player or DVD recorder. Refer to the operating instructions supplied with the DVD player or DVD recorder.

Connecting a Satellite tuner, Cable TV tuner

The following illustration shows how to connect a Satellite tuner or Cable TV tuner.



A Audio cord (not supplied)
B Optical digital cord (not supplied)
C Component video cord (not supplied)
D Video cord (not supplied)

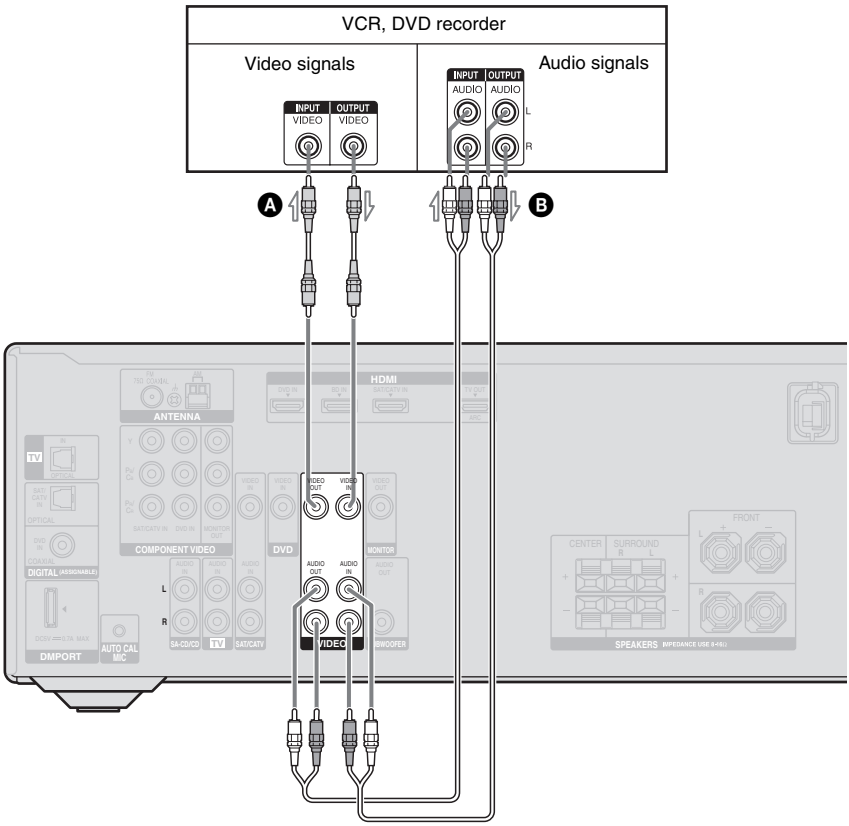
Recommended connection
Alternative connection

Connecting components with analog video and audio jack

The following illustration shows how to connect a component which has analog jacks such as a VCR, DVD recorder, etc.

Notes

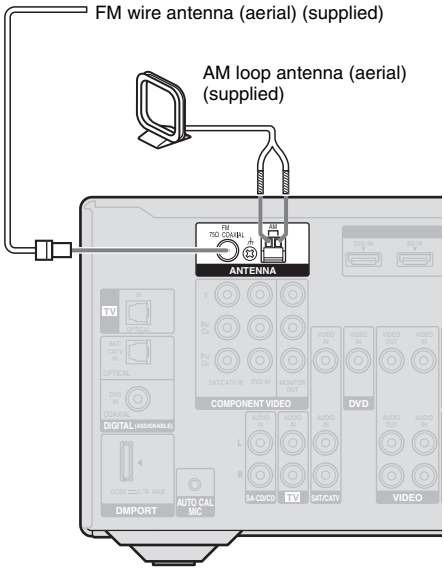
- Be sure to change the initial setting of the VIDEO input button on the remote so that you can use the button to control your DVD recorder. For details, see “Changing the input button assignments” (page 66).
- You can also rename the VIDEO input so that it can be displayed on the receiver’s display. For details, see “Naming inputs” (page 36).



A Video cord (not supplied)
B Audio cord (not supplied)

5: Connecting the antennas (aerials)

Connect the supplied AM loop antenna (aerial) and FM wire antenna (aerial). Before connecting antennas (aerials), be sure to disconnect the AC power cord (mains lead).



Notes

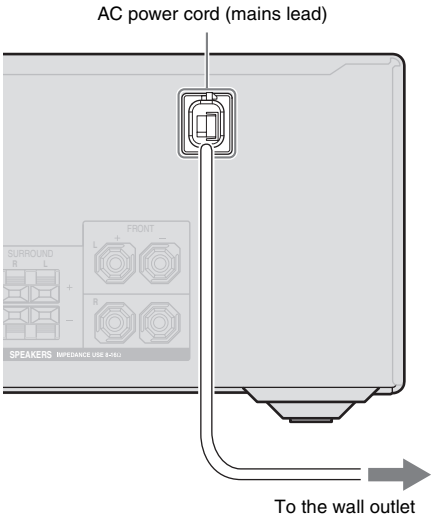
- To prevent noise pickup, keep the AM loop antenna (aerial) away from the receiver and other components.
- Be sure to fully extend the FM wire antenna (aerial).
- After connecting the FM wire antenna (aerial), keep it as horizontal as possible.

6: Connecting the AC power cord (mains lead)

Connect the AC power cord (mains lead) to a wall outlet.

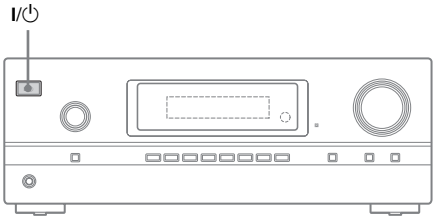
Notes

- Before connecting the AC power cord (mains lead), make sure that metallic wires of the speaker cords are not touching each other between the SPEAKERS terminals.
- Connect the AC power cord (mains lead) firmly.



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 return settings you have made to their initial settings.
Be sure to use the buttons on the receiver for this operation.



1 Press I/⏻ to turn off the receiver.

2 Hold down I/⏻ for 5 seconds.

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

Calibrating the appropriate speaker settings automatically (AUTO CALIBRATION)

(For customers in Europe and Australia only)

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 listening position.

The DCAC is designed to obtain proper sound balance in your room. However, you can adjust the speaker levels manually according to your preference. For details, see "Adjusting the speaker levels (TEST TONE)" (page 34).

Before you perform Auto Calibration

Before you perform Auto Calibration, check the following items:

- set up and connect the speakers (page 17, 19).
- connect only the supplied optimizer microphone to the AUTO CAL MIC jack. Do not connect other microphones to this jack.
- turn off the muting function.
- disconnect the headphones.
- remove any obstacles in the path between the optimizer microphone and the speakers to avoid measurement errors.
- make sure the environment is quiet to avoid the effect of noise and get a more accurate measurement.

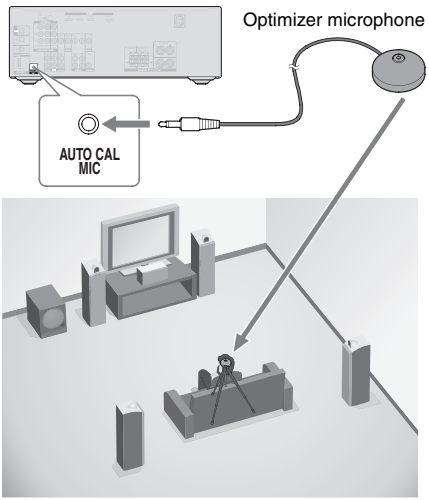
Note

During the calibration, the sound that comes out of the speakers is very loud. The volume of the sound cannot be adjusted. Pay attention to the presence of children or to the effect on your neighborhood.

Tip

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

Setting up the Auto Calibration

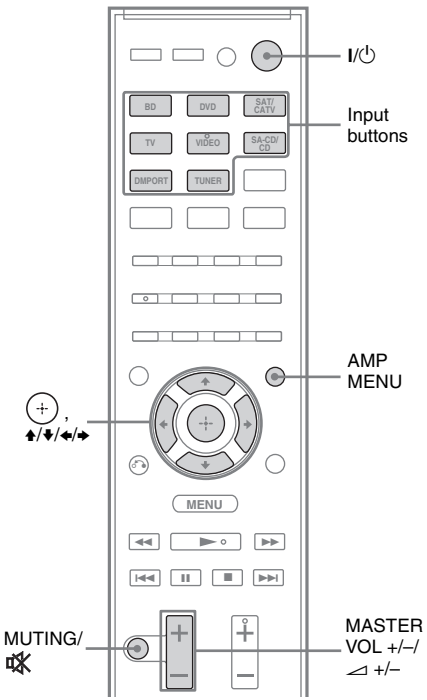


1 Connect the supplied optimizer microphone to the AUTO CAL MIC jack.

2 Set up the optimizer microphone.

Place the optimizer microphone at your listening position. Use a stool or tripod so that the optimizer microphone remains at the same height as your ears.

Performing Auto Calibration



1 Press AMP MENU.

2 Press ↑/↓ repeatedly to select "A. CAL", then press ⊕ or →.

"START" appears on the display.

3 Press ⊕.

Measurement starts in 5 seconds.
A countdown is displayed.
The measurement process will take approximately a few minutes to complete.

continued

The table below shows the display when measurement starts.

Measurement for	Display
Environment noise level	NOISE.CHK
Speaker connection	MEASURE and SP DET. appears alternately*
Speaker level	MEASURE and GAIN appears alternately*
Speaker distance	MEASURE and DISTANCE appears alternately*

* The corresponding speaker indicator lights up in the display during measurement.

When measurement ends, "COMPLETE" appears on the display and the settings are registered.

Tips

- Operations other than turning the receiver on or off are deactivated during the measurement.
- The measurements may not be performed correctly or Auto Calibration cannot be performed when special speakers, such as dipole speakers are used.

To cancel Auto Calibration

The Auto Calibration function will be canceled when you do the following during the measurement process:

– Press I/⏻
– Press MUTING (RM-AAU071 only) or 🔇 (RM-AAU074 only)
– Press the input buttons or turn INPUT SELECTOR on the receiver.
– Change the volume level.
– Connect the headphones.

After you have finished

Disconnect the optimizer microphone from the AUTO CAL MIC jack.

Notes

- Auto Calibration cannot detect the subwoofer. Therefore, all subwoofer settings will be maintained.
- If you have reposition your speaker, we recommend that you perform Auto Calibration again to enjoy the surround sound.

Error and warning codes

When error codes appear

When an error is detected during Auto Calibration, an error code will appear on the display cyclically after each measurement process as follows:
Error code → blank display → (error code → blank display)[a] → PUSH → blank display → ENTER

[a] Appears when there are more than one error code.

To rectify the error

1 Record down the error code.
2 Press ⊕.
3 Press I/⏻ to turn off the receiver.
4 Rectify the error.
For details, see "Error codes and remedies" below.
5 Turn on the receiver and perform Auto Calibration again (page 31).

Error codes and remedies

Error code	Cause and remedy
ERROR 10	The environment is too noisy. Make sure the environment is quiet during Auto Calibration.
ERROR 11	The speakers are placed too near the optimizer microphone. Place your speakers further away from the optimizer microphone.
ERROR 12	None of the speakers are detected. Make sure that the optimizer microphone is connected properly and perform Auto Calibration again.
ERROR 20	Front speakers are not detected or only one front speaker is detected. Check the front speakers connection.
ERROR 21	Only one surround speaker is detected. Check the surround speakers connection.

When warning codes appear

During Auto Calibration, the warning code provides information on the measurement result. The warning code will appear on the display cyclically as follows:

Warning code → blank display → (warning code → blank display)[b] → PUSH → blank display → ENTER

[b] Appears when there are more than one warning code.

You can choose to ignore the warning code as the Auto Calibration function will automatically adjust the settings. You can also change the settings manually.

To change the settings manually

1 Record down the warning code.
2 Press ⊕.
3 Press I/⏻ to turn off the receiver.
4 Follow the solution provided in the "Warning codes and solutions" below.
5 Turn on the receiver and perform Auto Calibration again (page 31).

Warning codes and solutions

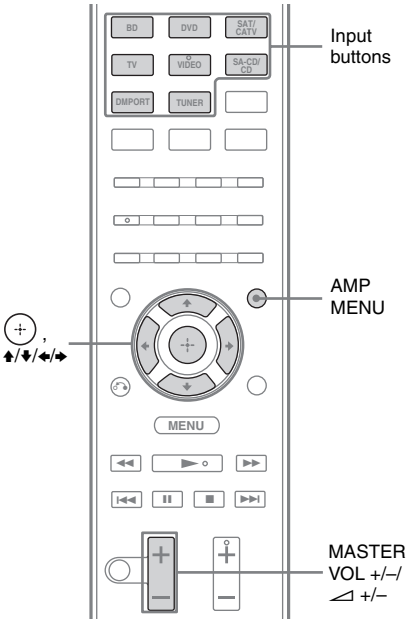
Warning code	Explanation and solution
WARN. 40	The environment is noisy. Make sure the environment is quiet during Auto Calibration.
WARN. 60	The front speaker level is out of range. Reposition your front speakers.[c]
WARN. 62	The center speaker level is out of range. Reposition your center speaker.[c]
WARN. 63	The surround left speaker level is out of range. Reposition your surround left speaker.[c]
WARN. 64	The surround right speaker level is out of range. Reposition your surround right speaker.[c]
WARN. 70	The front speaker distance is out of range. Reposition your front speakers.[c]
WARN. 72	The center speaker distance is out of range. Reposition your center speaker.[c]
WARN. 73	The surround left speaker distance is out of range. Reposition your surround left speaker.[c]
WARN. 74	The surround right speaker distance is out of range. Reposition your surround right speaker.[c]

[c] For details, see "Note" and "Tip" on page 18.

Adjusting the speaker levels

(TEST TONE)

You can adjust the speaker levels while listening to the test tone from your listening position.



1 **Press AMP MENU.**

2 **Press ↑/↓ repeatedly to select "LEVEL", then press ⊕ or →.**

3 **Press ↑/↓ repeatedly to select "T. TONE", then press ⊕.**

4 **Press ↑/↓ repeatedly to select "AUTO ■■■*".**

The test tone is output from each speaker in sequence as follow:
Front left ⟶ Center ⟶ Front right ⟶ Surround right ⟶ Surround left ⟶ subwoofer

*■■■ represent a speaker channel.

Note

Depending on the speaker pattern setting, test tone may not be output from all speakers even though you select "AUTO ■■■".

5 **Adjust the speaker levels using the LEVEL menu so that the level of the test tone sounds the same from each speaker.**

For details, see LEVEL menu (page 59).

Tips

- To adjust the level of all speakers at the same time, press MASTER VOL +/– (RM-AAU071 only) or ◿ +/– (RM-AAU074 only). You can also use MASTER VOLUME on the receiver.
- The adjusted value are shown on the display during adjustment.

6 **Repeat steps 1 to 4 to select "OFF".**

You can also press any input buttons. The test tone turns off.

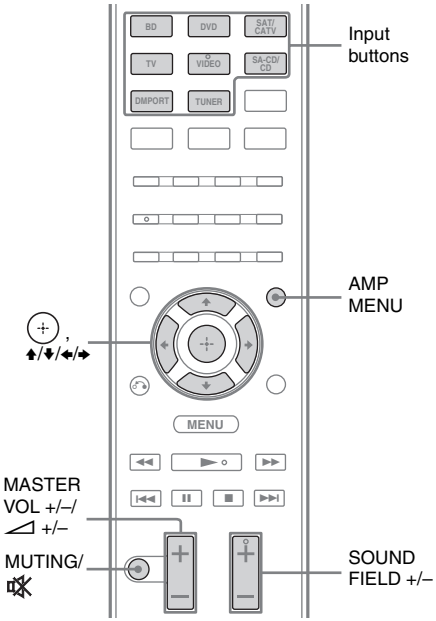
When a test tone is not output from the speakers

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

When a test tone is output from a different speaker than the speaker indicator showed in the display

The speaker pattern to the connected speaker is not set up correctly. Make sure the speaker connection and the speaker pattern match.

Playback



1 Turn on the connected component.

2 Turn on the receiver.

3 Press one of the input buttons to select the component you want.

You can also use INPUT SELECTOR on the receiver.
The selected input appears on the display.

4 Play back the source.

5 Press MASTER VOL +/– (RM-AAU071 only) or +/– (RM-AAU074 only) 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 2CH/A.DIRECT, A.F.D., MOVIE or MUSIC on the receiver.
For details, see page 42.

To activate the muting function

Press MUTING (RM-AAU071 only) or (RM-AAU074 only) on the remote.
The muting function will be canceled when you do the following.

- Press MUTING (RM-AAU071 only) or (RM-AAU074 only) 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.

Naming inputs

You can enter a name of up to 8 characters for inputs (except TUNER) and display it on the receiver's display.
This is convenient for labeling the jacks with the names of the connected components.

1 Press one of the input buttons to select the input you want to create an index name for.

You can also use INPUT SELECTOR on the receiver.

2 Press AMP MENU.

3 Press ↑/↓ repeatedly to select "SYSTEM", then press ⊕ or →.

4 Press ↑/↓ repeatedly to select "NAME IN", then press ⊕ or →.

The cursor flashes and you can select a character.

5 Press ↑/↓ to select a character, then press ←/→ to move the cursor to the next position.

If you made a mistake

Press ←/→ until the character you want to change flashes, then press ↑/↓ to select the correct character.

Tips

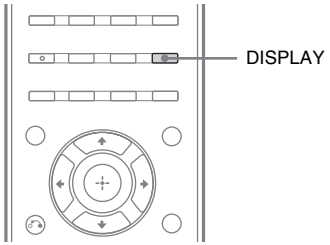
- You can select the character type as follows by pressing ↑/↓.
  Alphabet (upper case) ⟶ Numbers ⟶ Symbols
- To enter a blank space, press → without selecting a character.

6 Press ⊕.

The name you entered is registered.

Viewing information on the display

You can check the sound field, etc., by changing the information on the display.



Press DISPLAY repeatedly.

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

All inputs except the FM and AM band

Index name of the input[a] ⟶ Selected input ⟶ Sound field currently applied ⟶ Volume level ⟶ Stream info

FM and AM band

Program Service name[b] or preset station name[a] ⟶ Frequency ⟶ Program Type indication[b] ⟶ Radio Text indication[b] ⟶ Current Time indication (in 24-hour system mode)[b] ⟶ Sound field currently applied ⟶ Volume level

[a] Index name appears only when you have assigned one to the input or preset station (page 36, 41). Index name does not appear when only blank spaces have been entered, or it is the same as the input name.

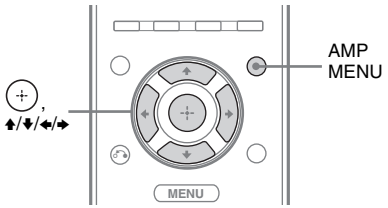
[b] During RDS reception only (Models of area code ECE, CEK, AU1 only) (page 42).

Note

Character or marks may not be displayed for some languages.

Using the Sleep Timer

You can set the receiver to turn off automatically at a specified time.



1 Press AMP MENU.

2 Press ↑/↓ repeatedly to select "SYSTEM", then press ⊕ or →.

3 Press ↑/↓ repeatedly to select "SLEEP", then press ⊕ or →.

4 Press ↑/↓ repeatedly to select the preset time you want, then press ⊕.

The display changes as follows:
OFF ⟷ 0-30-00 ⟷ 1-00-00 ⟷ 1-30-00 ⟷ 2-00-00

When sleep timer is being used, "SLEEP" indicator lights up in the display.

Note

A count down is displayed 1 minute before the receiver turns off.

Tip

To check the remaining time before the receiver turns off, repeat step 1 to 3 above. The remaining time appears on the display.

Recording

You can record from a video/audio component using the receiver. Refer to the operating instructions supplied with your recording component.

Recording onto a recording media

1 Press one of the input buttons to select the playback component.

You can also use INPUT SELECTOR on the receiver.

2 Prepare the playback component for playing.

For example, insert the video tape you want to copy into the VCR.

3 Prepare the recording component.

Insert a blank video tape, etc. into the recording component (VIDEO) for recording.

4 Start recording on the recording component, then start playback on the playback component.

Notes

- Some sources contain copy guards to prevent recording. In this case, you may not be able to record from the source.
- Only analog signals are output from the analog output jack (for recording).
- HDMI sound cannot be recorded.

Listening to FM/AM radio

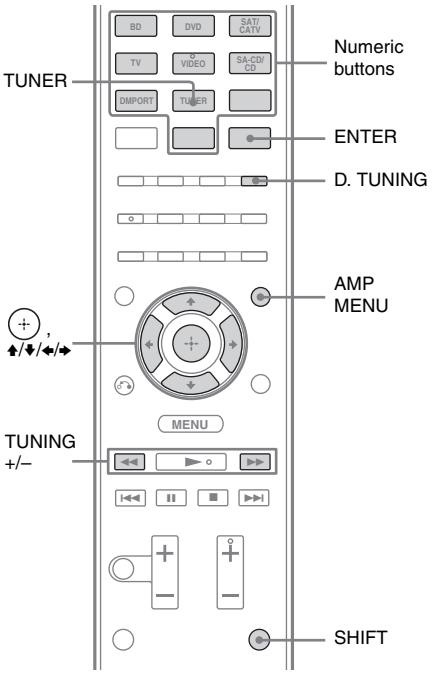
You can listen to FM and AM broadcasts through the built-in tuner. Before operation, make sure you have connected the FM and AM antennas (aerials) to the receiver (page 29).

Tip

The tuning scale for direct tuning differs depending on the area code as shown in the following table. For details on area codes, see page 5.

Area code	FM	AM
U2, CA2	100 kHz	10 kHz*
ECE, CEK, AU1	50 kHz	9 kHz

* The AM tuning scale can be changed (page 39).



Tuning into a station automatically (Automatic Tuning)

1 Press TUNER repeatedly to select the FM or AM band.

2 Press TUNING + or TUNING –.

Press TUNING + to scan from low to high; press TUNING – to scan from high to low.

The receiver stops scanning whenever a station is received.

Using the controls on the receiver

1 Turn INPUT SELECTOR to select the FM or AM band.
2 Press TUNING MODE repeatedly to select "AUTO".
3 Press TUNING + or TUNING –.

In case of poor FM stereo reception

If the FM stereo reception is poor and "ST" flashes on the display, select monaural audio so that the sound will be less distorted.

1 Press AMP MENU.
2 Press ↑/↓ repeatedly to select "TUNER", then press ⊕ or →.
3 Press ↑/↓ repeatedly to select "FM MODE", then press ⊕ or →.
4 Press ↑/↓ repeatedly to select "MONO", then press ⊕.
5 To return to stereo mode, repeat steps 1 to 4 and select "STEREO" in step 4.

Tuning into a station directly (Direct Tuning)

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

1 Press TUNER repeatedly to select the FM or AM band.

You can also use INPUT SELECTOR on the receiver.

2 Press D.TUNING.

3 Press and hold SHIFT, then press the numeric buttons to enter the frequency.

Example 1: FM 102.50 MHz
- Models of area code U2 and CA2:
  Select 1 ➡ 0 ➡ 2 ➡ 5
- Models of area code ECE, CEK and AU1:
  Select 1 ➡ 0 ➡ 2 ➡ 5 ➡ 0

Example 2: AM 1,350 kHz
Select 1 ➡ 3 ➡ 5 ➡ 0

4 Press and hold SHIFT, then press ENTER.

You can also use MEMORY/ENTER on the receiver.

Tip

If you have tuned in an AM station, adjust the direction of the AM loop antenna for optimum reception.

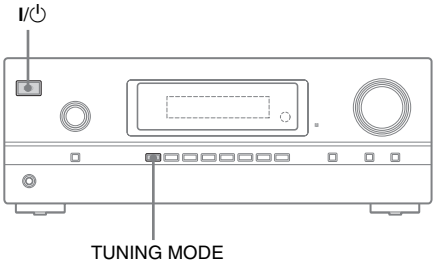
If you cannot tune in a station

Make sure you have entered the right frequency. If not, repeat steps 2 to 4. If you still cannot tune in a station, the frequency is not used in your area.

Changing the AM tuning scale

(Models of area code U2, CA2 only)

You can change the AM tuning scale to either 9 kHz or 10 kHz using the buttons on the receiver.



1 Press I/⏻ to turn off the receiver.

2 While holding down TUNING MODE, press I/⏻.

3 Change the current AM tuning scale to 9 kHz (or 10 kHz).

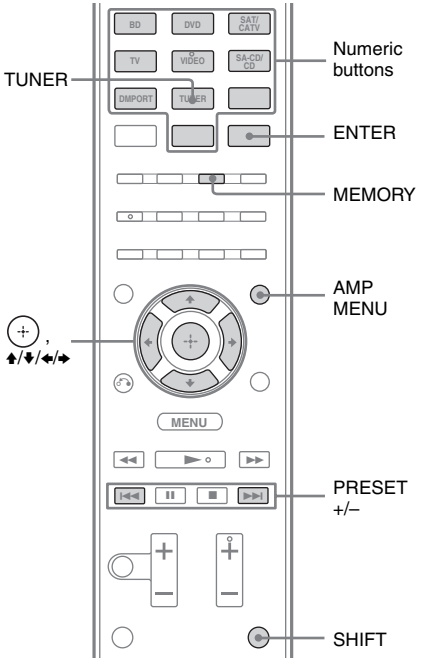
To reset the scale to 10 kHz (or 9 kHz), repeat the procedure above.

Note

All preset stations will be erased when you change the tuning scale.

Presetting FM/AM radio stations

You can preset up to 30 FM stations and 30 AM stations. Then you can easily tune in the stations you often listen to.



1 Press TUNER repeatedly to select the FM or AM band.

You can also use INPUT SELECTOR on the receiver.

2 Tune in the station that you want to preset using Automatic Tuning (page 38) or Direct Tuning (page 39).

Switch the FM reception mode, if necessary (page 38).

3 Press MEMORY.

You can also use MEMORY/ENTER on the receiver.

4 Press and hold SHIFT, then press the numeric buttons to select a preset number.

You can also press PRESET + or PRESET – to select a preset number.

5 Press and hold SHIFT, then press ENTER.

You can also use MEMORY/ENTER on the receiver.
The station is stored as the selected preset number.

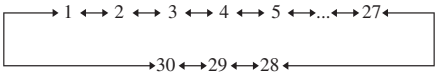
6 Repeat steps 1 to 5 to preset another station.

Tuning to preset stations

1 Press TUNER repeatedly to select the FM or AM band.

2 Press PRESET + or PRESET – repeatedly to select the preset station you want.

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



You can also press and hold SHIFT and then press the numeric buttons to select the preset station you want. To enter the selection, press and hold SHIFT then press ENTER.

Using the controls on the receiver

1 Turn INPUT SELECTOR to select the FM or AM band.
2 Press TUNING MODE repeatedly to select "PRESET".
3 Press TUNING + or TUNING – to select the preset station you want.

Naming preset stations

1 Press TUNER repeatedly to select the FM or AM band.

You can also use INPUT SELECTOR on the receiver.

2 Tune in the preset station you want to create an index name for (page 41).

3 Press AMP MENU.

4 Press ↑/↓ repeatedly to select "TUNER", then press ⊕ or →.

5 Press ↑/↓ repeatedly to select "NAME IN", then press ⊕ or →.

The cursor flashes and you can select a character.

6 Press ↑/↓ to select a character, then press ←/→ to move the cursor to the next position.

If you made a mistake

Press ←/→ until the character you want to change flashes, then press ↑/↓ to select the correct character.

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.

7 Press ⊕.

The name you entered is registered.

Note (Models of area code ECE, CEK, AU1 only)

When you name an RDS station and tune in that station, the Program Service name appears instead of the name you entered. (You cannot change the Program Service name. The name you entered will be overwritten by the Program Service name.)

Using the Radio Data System (RDS)

(For customers in Europe and Australia only)

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

Notes

- RDS is operable only for FM stations.
- 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.

Receiving RDS broadcasts

Simply select a station on the FM band using Direct Tuning (page 39), Automatic Tuning (page 38), or Preset Tuning (page 41).

When you tune in a station that provides RDS services, "RDS" lights up and the program service name appears on the display.

Note

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

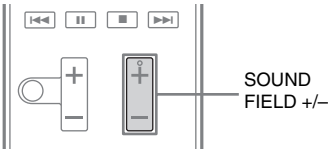
Tip

When a program service name is displayed, you can check the frequency by pressing DISPLAY repeatedly (page 36).

Enjoying Surround Sound

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 preprogrammed sound fields.



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

You can also press 2CH/A.DIRECT, A.F.D., MOVIE or MUSIC 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 component 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 only. There is no sound from the subwoofer.
Standard 2 channel stereo sources completely bypass the sound field processing and multi channel surround formats are downmixed to 2 channel except LFE signal.

■ A.DIRECT (Analog direct)

You can switch the audio of the selected input to 2 channel analog input. This function enables you to enjoy high quality analog sources without any adjusment.
When using this function, only the volume and front speaker level can be adjusted.

Notes

- When headphones are connected, "HP DIR" appears on the display.
- You cannot select Analog Direct when you select BD, DVD, and DMPORT as input.

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.

■ A.F.D. AUTO (A.F.D. Auto)

Presets the sound as it was recorded/encoded without adding any surround effects.

■ MULTI ST. (Multi Stereo)

Outputs 2 channel left/right signals from all speakers.
However, sound may not be output from certain speakers depending on the speaker settings.

Movie mode

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

■ C.ST.EX A (Cinema Studio EX DCS)

Reproduces the sound characteristics of the Sony Pictures Entertainment "Cary Grant Theater" cinema production studio. This is a standard mode, great for watching almost any type of movie.

■ C.ST.EX B (Cinema Studio EX DCS)

Reproduces the sound characteristics of the Sony Pictures Entertainment "Kim Novak Theater" cinema production studio. This mode is ideal for watching science-fiction or action movies with lots of sound effects.

■ C.ST.EX C (Cinema Studio EX DCS)

Reproduces the sound characteristics of the Sony Pictures Entertainment scoring stage. This mode is ideal for watching musicals or films where orchestra music is featured in the soundtrack.

■ V. M. DIM (V. Multi Dimension DCS)

Creates many virtual speakers from a single pair of actual surround speakers.

■ 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.

Music mode

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

■ HALL (Hall)

Reproduces the acoustics of a classical concert hall.

■ JAZZ (Jazz Club)

Reproduces the acoustics of a jazz club.

■ CONCERT (Concert)

Reproduces the acoustics of a 300-seat live house.

continued

■ STADIUM (Stadium)
Reproduces the feeling of a large open-air stadium.

■ SPORTS (Sports)
Reproduces the feeling of sports broadcasting.

■ PORTABLE (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)
Perform Dolby Pro Logic II Music mode decoding. This setting is ideal for normal stereo sources such as CDs.

When headphones are connected

You can only select this sound field if the headphones are connected to the receiver.

■ HP 2CH (Headphones 2CH)
This mode is selected automatically if you use headphones (except Analog Direct). Standard 2 channel stereo sources completely bypass the sound field processing and multi channel surround formats are downmixed to 2 channels except LFE signals.

■ HP DIR (Headphones Direct)
Outputs the analog signals without processing by the equalizer, sound field, etc.

If you connect a subwoofer
This receiver will generate a low frequency signal for output to the subwoofer when there is no LFE signal, which is a low-pass sound effect output from a subwoofer to a 2 channel signal.

Notes on sound fields
- Depends on the speaker pattern settings, some sound fields may not be available.
- The effects provided by the virtual speakers may cause increased noise in the playback signal.
- When listening with sound fields that employ the virtual speakers, you will not be able to hear any sound coming directly from the surround speakers.
- The sound fields for music and movie do not work in the following cases.
  – signals with a sampling frequency of more than 48 kHz is input.
  – Analog Direct is selected.
- When multi channel Linear PCM signals are received via an HDMI IN jack, “A.F.D. AUTO” will be selected automatically.
- When one of the sound fields for music is selected, no sound is output from the subwoofer if all the speakers are set to “LARGE” on the SPEAKER menu. However, the sound will be output from the subwoofer if
  – the digital input signal contains LFE signals.
  – the front and surround speakers are set to “SMALL”.
  – the sound field for movie is selected.
  – the portable audio is selected.

Tips
- You can identify the encoding format of DVD software, etc., by looking at the logo on the package.
- Sound fields with **DCS** marks use DCS technology. For details on Digital Cinema Sound (DCS), see “Glossary” (page 67).

To turn off the surround effect for movie/music
Press SOUND FIELD +/– repeatedly to select “2CH ST.” or “A.F.D. AUTO”.
You can also press 2CH/A.DIRECT repeatedly on the receiver to select “2CH ST.” or press A.F.D. repeatedly on the receiver to select “A.F.D. AUTO”.

When connecting Blu-ray disc players and other next generation HD players

Digital audio formats that this receiver can decode depend on digital audio input jacks for the connected component. This receiver supports the following audio formats.

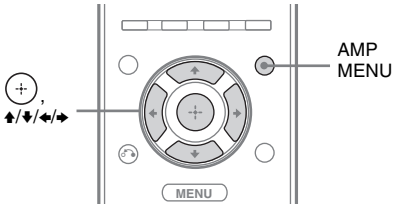
Audio format	Maximum number of channels	Connection of the playback component and the receiver	
		COAXIAL/OPTICAL	HDMI
Dolby Digital	5.1	○	○
DTS	5.1	○	○
Multi channel Linear PCM[a)]	7.1[b)]	×	○

[a)] Audio signals are output in another format if the playback component does not correspond to the format. For details, refer to the operating instructions of the playback component.

[b)] The signal will be downmixed to 5.1 channel.

Enjoying the surround effect at low volume levels
(NIGHT MODE)

This function allows you to retain a theater like environment at low volume levels. This function can be used with other sound fields. When watching a movie late at night, you will be able to hear the dialog clearly even at a low volume level.



1 Press AMP MENU.

2 Press ↑/↓ repeatedly to select "AUDIO", then press ⊕ or →.

3 Press ↑/↓ repeatedly to select "NIGHT M.", then press ⊕ or →.

4 Press ↑/↓ repeatedly to select "NIGHT. ON", then press ⊕.

Note

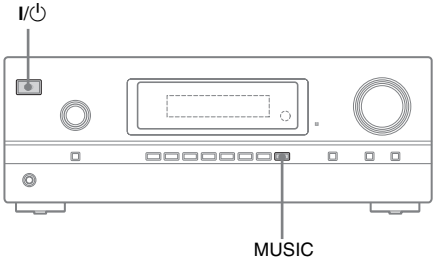
This function does not work in the following cases:
–signals with a sampling frequency of more than 48 kHz are being received.
–Analog Direct is selected.

Tip

While the NIGHT MODE is turned on, "D. RANGE" is automatically set to "COMP. MAX".

Resetting sound fields to the initial settings

Be sure to use the buttons on the receiver for this operation.



1 Press I/⏻ to turn off the receiver.

2 While holding down MUSIC, press I/⏻.

"S.F. CLEAR" appears on the display and all sound fields are reset to their initial setting.

What is "BRAVIA" Sync?

"BRAVIA" Sync is compatible with Sony TV, Blu-ray Disc/DVD player, AV amplifier, etc., that is equipped with the Control for HDMI function.
By connecting Sony components that are compatible with the "BRAVIA" Sync with an HDMI cable (not supplied), operation is simplified as follows:

- One-Touch Play (page 48)
- System Audio Control (page 49)
- System Power Off (page 50)
- Theater/Theatre Mode Sync (page 51)
- Audio Return Channel (page 51)

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 component, the Control for HDMI function may not work. Refer to the operating instructions of the component.

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 receiver and playback components Control for HDMI function automatically by setting the TV (page 47).
- If your TV is not compatible with the "Control for HDMI-Easy Setting" function, set the Control for HDMI function of the receiver, playback components and TV individually (page 48).

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 components via HDMI connection (page 23).
(The respective components must be compatible with the Control for HDMI function.)

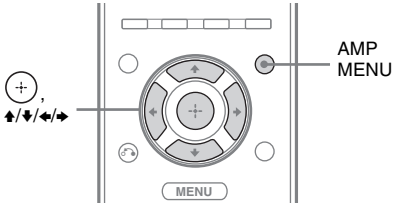
2 Turn on the receiver, TV and playback components.

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

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

continued

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



1 Perform the steps given in "If your TV is compatible with the "Control for HDMI-Easy Setting" function" (page 47).

2 Press AMP MENU.

3 Press ↑/↓ repeatedly to select "HDMI", then press ⊕ or →.

4 Press ↑/↓ repeatedly to select "CTRL.HDMI", then press ⊕ or →.

5 Press ↑/↓ repeatedly to select "CTRL ON", then press ⊕.
Control for HDMI function is activated.

6 Set the Control for HDMI function for the connected component to on.
If the Control for HDMI function for the connected component is already set to on, you do not need to change the setting.

For details on setting the TV and connected components, refer to the operating instructions of the respective components.

Notes

- Before you do the "Control for HDMI-Easy Setting" from the TV, be sure to turn on the TV, connected components and receiver.
- If the playback components 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 components do not support "Control for HDMI-Easy Setting", you need to set the Control for HDMI function for the connected components to on before you perform the "Control for HDMI-Easy Setting" from the TV.

Playing back components with one-touch operation

(One-Touch Play)

By a simple operation (one-touch), components connected to the receiver with HDMI connections start automatically. You can enjoy the sound/image from connected components.

When you set "PASS.THRU" to "AUTO" or "ON", sound and image can be output only from the TV while the receiver remains in standby mode.

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

Receiver and TV

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

Notes

- Depending on the TV, the start of the content may not be output.
- Depending on the settings, the receiver may not turns on when "PASS.THRU" is set to "AUTO" or "ON".

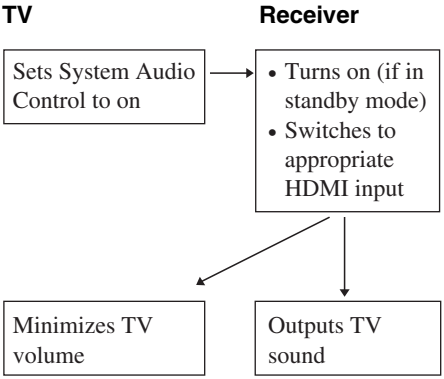
Tip

You can also select a connected component, 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.



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 be set to on and the TV sound will output from 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 receiver's volume is adjusted simultaneously.

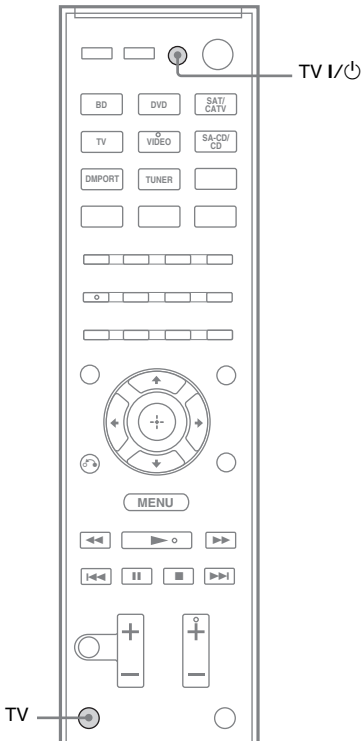
Notes

- If System Audio Control does not function according to your TV setting, refer to the operating instructions of the TV.
- When "CTRL.HDMI" is set to "CTRL ON", the "AUDIO.OUT" settings in the HDMI menu will set automatically depending on the System Audio Control settings.
- When you connect a TV that does not have System Audio Control function, the System Audio Control function does not work.
- If the TV is turned on before turning on the receiver, the TV sound will not be output for a moment.

Turning off the receiver with the TV

(System Power Off)

When you turn the TV off by using the POWER button on the TV's remote, the receiver and the connected components turn off automatically.
You can also use the receiver's remote to turn off the TV.



Press and hold TV, then press TV I/⏻.

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

Notes

- Set the TV Standby Synchro to on before using the System Power Off function. For details, refer to the operating instructions of the TV.
- Depending on the status, the connected components may not be turned off. For details, refer to the operating instructions of the connected components.

Enjoying movies with the optimum sound field

(Theater/Theatre Mode Sync)

Press the THEATER or THEATRE button on the remote of the receiver, TV, or the Blu-ray disc player, while pointing the remote toward the TV.

The sound field switches to “C.ST.EX B”. To return to the previous sound field, press the THEATER or THEATRE button again.

Note

The sound field may not switch depending on the TV.

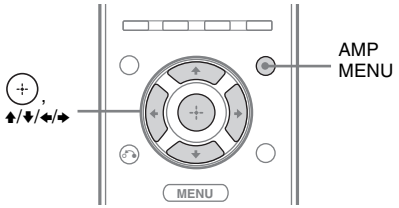
Tip

The sound field may be changed back to the previous one when you change the TV’s input.

Enjoying the TV sound via an HDMI cable

(Audio Return Channel)

The Audio Return Channel (ARC) function enables the TV outputs the audio signals to the receiver via a 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 OPTICAL IN or TV AUDIO IN jack.



1 Press AMP MENU.

2 Press ↑/↓ repeatedly to select “HDMI”, then press ⊕ or →.

3 Press ↑/↓ repeatedly to select “ARC”, then press ⊕ or →.

4 Press ↑/↓ repeatedly to select “ARC ON”, then press ⊕.

Notes

- This function does not work when you set “CTRL.HDMI” to “CTRL OFF” in the HDMI menu.
- This function is only available when
  - your TV is compatible with Audio Return Channel (ARC) function.
  - INPUT MODE is set to “AUTO”.

Switching between digital and analog audio (INPUT MODE)

When you connect components to both digital and analog input jacks on the receiver, you can fix the audio input mode to either of them, or switch from one to the other, depending on the type of material you intend to watch.

1 Turn INPUT SELECTOR on the receiver to select the input.

You can also use the input buttons on the remote.

2 Press INPUT MODE repeatedly on the receiver to select the audio input mode.

The selected audio input mode appears on the display.

Audio input modes

■ AUTO

Gives priority to digital audio signals when there are both digital and analog connections. If there are more than one digital connection, HDMI audio signals have priority over COAXIAL and OPTICAL audio signals. If there are no digital audio signals, analog audio signals are selected.

■ COAX

Specifies the digital audio signals input to the DIGITAL COAXIAL jack.

■ OPT

Specifies the digital audio signals input to the DIGITAL OPTICAL jack.

■ ANALOG

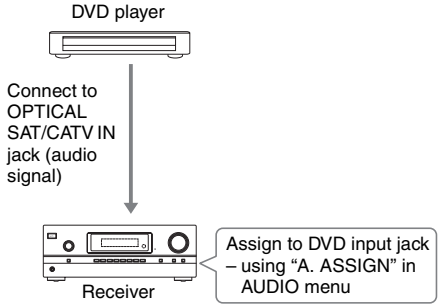
Specifies the analog audio signals input to the AUDIO IN (L/R) jacks.

Notes

- Some audio input modes may not be set up depending on the input.
- When the Analog Direct function is selected, audio input is set to "ANALOG" automatically and you cannot select other modes.

Enjoying the sound from other inputs

You can reassign audio signals to another input when they are not currently being used. For example, when you want to output the sound source for the DVD player using OPTICAL IN jack on the receiver:



1 Press AMP MENU.

2 Press ↑/↓ repeatedly to select "AUDIO", then press ⊕ or →.

3 Press ↑/↓ repeatedly to select "A. ASSIGN", then press ⊕ or →.

4 Press ↑/↓ repeatedly to select the input name you want to assign (for example, "DVD"), then press ⊕ or → to enter your selection.

5 Press ↑/↓ repeatedly to select the input jack you want to assign to the input which you selected in step 4.

To return to the previous display

Press ←.

continued

Assigning input jacks

Assignable audio input jacks		Input name				
		VIDEO	BD	DVD	SAT	SA-CD
Audio	DVD COAX	○	○	○*	○	○
	SAT OPT	○	○	○	○*	○
	ANALOG	○*	–	–	○	○*
	NONE	–	○*	–	–	–

* Initial setting

Notes

- When you assign the digital audio input, the INPUT MODE setting may change automatically (page 52).
- You cannot reassign more than one digital audio input to the same input.

Enjoying sound/images from the components connected to the DIGITAL MEDIA PORT

The DIGITAL MEDIA PORT (DMPORT) allows you to enjoy sound/images from a portable audio source or computer by connecting a DIGITAL MEDIA PORT adapter.
The DIGITAL MEDIA PORT adapters are available for purchase depending on the area. For details on connecting the DIGITAL MEDIA PORT adapter, see "4a: Connecting the audio components" (page 22).

Notes

- Depending on the DIGITAL MEDIA PORT adapter, video output may not be possible.
- Depending on the type of DIGITAL MEDIA PORT adapter, you can operate the connected component by using the remote. For details on the remote button operation, see page 16.

1 Press DMPORT.

You can also use the INPUT SELECTOR on the receiver to select "DMPORT".

2 Start playback of the connected component.

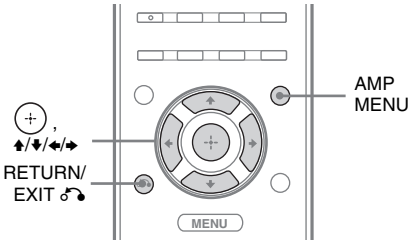
The sound is played back on the receiver and the image appears on the TV.
For details, refer to the operating instructions supplied with the DIGITAL MEDIA PORT adapter.

Tip

When listening to MP3 or other compressed music using a portable audio source, you can enhance the sound. Press SOUND FIELD +/– (or press MUSIC on the receiver) repeatedly to select "PORTABLE" (page 43).

Using the setting menu

By using the amplifier menus, you can make various adjustments to customize the receiver.



1 Press AMP MENU.

2 Press ↑/↓ repeatedly to select the menu you want, then press ⊕ or →

3 Press ↑/↓ repeatedly to select the parameter you want to adjust, then press ⊕ or →

4 Press ↑/↓ repeatedly to select the setting you want.

The setting is entered automatically.

To return to the previous display

Press ← or RETURN/EXIT ↩.

To exit the menu

Press AMP MENU.

Note

Some parameters and settings may appear dimmed on the display. This means that they are either unavailable or fixed and unchangeable.

Overview of the menus

The following options are available in each menu. For details, see the page in the parentheses.

Menu [Display]	Parameters [Display]	Settings	Initial setting
AUTO CAL[a] [A. CAL] (page 59)	Starts Auto Calibration [START]		
LEVEL [LEVEL] (page 59)	Test tone[c] [T. TONE]	OFF, AUTO ■■■[b]	OFF
	Front left speaker level [FL LVL]	FL –10.0 dB to FL +10.0 dB (0.5 dB per step)	FL 0 dB
	Front right speaker level [FR LVL]	FR –10.0 dB to FR +10.0 dB (0.5 dB per step)	FR 0 dB
	Center speaker level[c] [CNT LVL]	CNT –20.0 dB to CNT +10.0 dB (0.5 dB per step)	CNT 0 dB
	Surround left speaker level[c] [SL LVL]	SL –20.0 dB to SL +10.0 dB (0.5 dB per step)	SL 0 dB
	Surround right speaker level[c] [SR LVL]	SR –20.0 dB to SR +10.0 dB (0.5 dB per step)	SR 0 dB
	Subwoofer level[c] [SW LVL]	SW –20.0 dB to SW +10.0 dB (0.5 dB per step)	SW 0 dB
	Dynamic range compressor [D. RANGE]	COMP. MAX, COMP. STD, COMP. OFF	COMP. OFF
SPEAKER [SPKR] (page 60)	Speaker pattern [PATTERN]	For details, see page 60	3/2.1
	Front speakers size[c] [FRT SIZE]	LARGE, SMALL	LARGE
	Center speaker size[c] [CNT SIZE]	LARGE, SMALL	LARGE
	Surround speakers size[c] [SUR SIZE]	LARGE, SMALL	LARGE
	Front left speaker distance[c] [FL DIST.]	FL 1.0 m to FL 7.0 m (FL 3 ft to FL 22 ft) (0.1 m (1 ft) step)	FL 3.0 m (FL 9 ft)
	Front right speaker distance[c] [FR DIST.]	FR 1.0 m to FR 7.0 m (FR 3 ft to FR 22 ft) (0.1 m (1 ft) step)	FR 3.0 m (FR 9 ft)
	Center speaker distance[c] [CNT DIST.]	CNT 1.0 m to CNT 7.0 m (CNT 3 ft to CNT 22 ft) (0.1 m (1 ft) step)	CNT 3.0 m (CNT 9 ft)
	Surround left speaker distance[c] [SL DIST.]	SL 1.0 m to SL 7.0 m (SL 3 ft to SL 22 ft) (0.1 m (1 ft) step)	SL 3.0 m (SL 9 ft)

Menu [Display]	Parameters [Display]	Settings	Initial setting
	Surround right speaker distance[c] [SR DIST.]	SR 1.0 m to SR 7.0 m (SR 3 ft to SR 22 ft) (0.1 m (1 ft) step)	SR 3.0 m (SR 9 ft)
	Subwoofer distance[c] [SW DIST.]	SW 1.0 m to SW 7.0 m (SW 3 ft to SW 22 ft) (0.1 m (1 ft) step)	SW 3.0 m (SW 9 ft)
	Distance unit [DIST.UNIT]	METER, FEET	METER[f]
	Front speaker crossover frequency[d] [FRT CRS.]	CRS. 40 Hz to CRS. 200 Hz (10 Hz step)	CRS. 120 Hz
	Center speaker crossover frequency[d] [CNT CRS.]	CRS. 40 Hz to CRS. 200 Hz (10 Hz step)	CRS. 120 Hz
	Surround speaker crossover frequency[d] [SUR CRS.]	CRS. 40 Hz to CRS. 200 Hz (10 Hz step)	CRS. 120 Hz
SURROUND [SURR] (page 62)	Sound field selection [S.F. SELCT]	For details, see “Enjoying Surround Sound” (page 42).	A.F.D. AUTO
	Effect level [EFFECT]	EFCT. MAX, EFCT. STD, EFCT. MIN	EFCT. STD
EQ [EQ] (page 62)	Front speakers bass level [BASS]	BASS –10 dB to BASS +10 dB (1 dB per step)	BASS 0 dB
	Front speakers treble level [TREBLE]	TRE –10 dB to TRE +10 dB (1 dB per step)	TRE 0 dB
TUNER [TUNER] (page 63)	FM station receiving mode [FM MODE]	STEREO, MONO	STEREO
	Naming preset stations [NAME IN]	For details, see “Naming preset stations” (page 41).	
AUDIO [AUDIO] (page 63)	Synchronizes audio with video output [A/V SYNC]	SYNC ON, SYNC OFF	SYNC OFF
	Digital broadcast language selection [DUAL]	MAIN/SUB, MAIN, SUB	MAIN
	Digital audio input decoding priority[e] [DEC. PRIO]	DEC. AUTO, DEC. PCM	DEC. AUTO
	Digital audio input assignment [A. ASSIGN]	For details, see “Enjoying the sound from other inputs” (page 53).	
	Night mode [NIGHT M.]	NIGHT.OFF, NIGHT. ON	NIGHT.OFF

continued

Menu [Display]	Parameters [Display]	Settings	Initial setting
HDMI [HDMI] (page 64)	Control for HDMI [CTRL.HDMI]	CTRL ON, CTRL OFF	CTRL ON
	HDMI Signal Pass Through [PASS.THRU]	ON, AUTO, OFF	OFF
	Setting HDMI audio input [AUDIO.OUT]	AMP, TV+AMP	AMP
	Subwoofer level for HDMI[e] [SW LEVEL]	SW AUTO, SW +10 dB, SW 0 dB	SW AUTO
	Subwoofer Low Pass Filter for HDMI[e] [SW L.P.F.]	L.P.F. ON, L.P.F. OFF	L.P.F. ON
	Audio Return Channel [ARC]	ARC ON, ARC OFF	ARC ON
SYSTEM [SYSTEM] (page 65)	Brightness of the display [DIMMER]	DIM MAX, DIM MID, DIM OFF	DIM OFF
	Sleep timer mode [SLEEP]	OFF, 0-30-00, 1-00-00, 1-30-00, 2-00-00	OFF
	Auto standby mode [AUTO.STBY]	STBY ON, STBY OFF	STBY ON
	Naming inputs [NAME IN]	For details, see “Naming inputs” (page 36).	

[a] For customers in Europe and Australia only.
[b] ■■■ represent a speaker channel (FL, FR, CNT, SL, SR, SW).
[c] Depends on the speaker pattern setting, some parameters may not be available.
[d] You cannot select this setting if your speaker is set to “LARGE”.
[e] This parameter is only available when HDMI input signals is detected.
[f] “FEET” for customers in the United States and Canada only.

AUTO CAL menu

(For customers in Europe and Australia only)

You can perform automatic calibration to get proper sound balance in your room.
For details, see “Calibrating the appropriate speaker settings automatically (AUTO CALIBRATION)” (page 30).

LEVEL menu

You can adjust the level of each speaker. These settings are applied to all sound fields.

■ T. TONE

Lets you adjust the speaker levels while listening to the test tone from your listening position.

- OFF
  The test tone is turned off.
- AUTO ■■■*
  The test tone is output from each speaker in sequence.

* ■■■ represent a speaker channel.

Adjusting the speaker level

You can adjust each speaker’s level using the following parameters.
For front left/right speakers, you can adjust the level from –10.0 dB to +10.0 dB in 0.5 dB steps. For other speakers, you can adjust the level from –20.0 dB to +10.0 dB in 0.5 dB steps.

■ FL LVL

■ FR LVL

■ CNT LVL

■ SL LVL

■ SR LVL

■ SW LVL

Note

Depends on the speaker pattern setting, some parameters may not be available.

■ D. RANGE

Lets you compress the dynamic range of the soundtrack. This may be useful when you want to watch movies at low volumes late at night. Dynamic range compression is possible with Dolby Digital sources only.

- COMP. MAX
  The dynamic range is compressed dramatically.
- COMP. STD
  The dynamic range is compressed as intended by the recording engineer.
- COMP. OFF
  The dynamic range is not compressed.

Tip

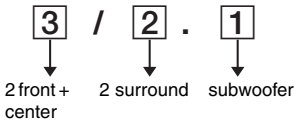
Dynamic range compressor lets you compress the dynamic range of the soundtrack based on the dynamic range information included in the Dolby Digital signal.
“COMP. STD” is the standard setting, but it only enacts light compression. Therefore, we recommend using the “COMP. MAX” setting. This greatly compresses 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 set the size and distance of the speakers connected to this receiver.

■ PATTERN

Lets you set the number of speakers connected to this receiver. It should be synchronize with the speakers settings.
For example:



Speaker pattern	Front left/right	Center	Surround left/right	Subwoofer
3/2.1	○	○	○	○
3/2	○	○	○	–
2/2.1	○	–	○	○
2/2	○	–	○	–
3/0.1	○	○	–	○
3/0	○	○	–	–
2/0.1	○	–	–	○
2/0	○	–	–	–

■ FRT SIZE

- LARGE
  If you connect large speakers that will effectively reproduce bass frequencies, select “LARGE”. Normally, select “LARGE”. However, if you have selected a speaker pattern without subwoofer, the front speakers are automatically set to “LARGE”.
- SMALL
  If the sound is distorted, or you feel a lack of surround effects when using multi channel surround sound, select “SMALL” to activate the bass redirection circuitry and output the front channel bass frequencies from the subwoofer. When the front speakers are set to “SMALL”, the center and surround speakers are also automatically set to “SMALL”.

■ CNT SIZE

- LARGE
  If you connect a large speaker that will effectively reproduce bass frequencies, select “LARGE”. Normally, select “LARGE”. However, if the front speakers are set to “SMALL”, you cannot set the center speaker to “LARGE”.
- SMALL
  If the sound is distorted, or you feel a lack of surround effects when using multi channel surround sound, select “SMALL” to activate the bass redirection circuitry and output the center channel bass frequencies from the front speakers (if set to “LARGE”) or subwoofer.

■ SUR SIZE

- LARGE
  If you connect large speakers that will effectively reproduce bass frequencies, select “LARGE”. Normally, select “LARGE”. However, if the front speakers are set to “SMALL”, you cannot set the surround speakers to “LARGE”.
- SMALL
  If the sound is distorted, or you feel a lack of surround effects when using multi channel surround sound, select “SMALL” to activate the bass redirection circuitry and output the surround channel bass frequencies from the subwoofer or other speaker that is set to “LARGE”.

Tip

The “LARGE” and “SMALL” settings for each speaker determine whether the internal sound processor will cut the bass signal from that channel. When the bass is cut from a channel, the bass redirection circuitry sends the corresponding bass frequencies to the subwoofer or other “LARGE” speakers.
However, since bass sounds have a certain amount of directionality, it is best not to cut them, if possible. Therefore, even when using small speakers, you can set them to “LARGE” if you want to output the bass frequencies from that speaker. On the other hand, if you are using a large speaker, but prefer not to have bass frequencies output from that speaker, set it to “SMALL”.
If the overall sound level is lower than you prefer, set all speakers to “LARGE”. If there is not enough bass, you can use the equalizer to boost the bass levels. For details, see page 57.

■ FL DIST.

■ FR DIST.

Lets you set the distance from your listening position to the front speakers.
If both front speakers are not placed an equal distance from your listening position, set the distance to the closest speaker.

■ CNT DIST.

Lets you set the distance from your listening position to the center speaker.

continued

■ SL DIST.

■ SR DIST.
Lets you set the distance from your listening position to the surround speakers.

■ SW DIST.
Lets you set the distance from your listening position to the subwoofer.

Notes
• Depends on the speaker pattern setting, some parameters may not be available.
• This function does not work in the following cases.
– Signals with a sampling frequency of more than 48 kHz are being received.
– the multi channel Linear PCM signals are received via an HDMI IN jack.
– Analog Direct is selected.

■ DIST.UNIT
Lets you select the unit of measure for setting distances.
• METER
The distance is displayed in meters.
• FEET
The distance is displayed in feet.

■ FRT CRS.
Lets you set the bass crossover frequency of the front speakers that have been set to "SMALL" in the SPEAKER menu.

■ CNT CRS.
Lets you set the bass crossover frequency of the center speaker that have been set to "SMALL" in the SPEAKER menu.

■ SUR CRS.
Lets you set the bass crossover frequency of the surround speakers that have been set to "SMALL" in the SPEAKER menu.

SURROUND menu

You can select the sound field you want for your listening pleasure.

■ S.F. SELCT
Lets you select the sound field you want. For details, see "Enjoying Surround Sound" (page 42).

Note
The receiver lets you apply the last selected sound field to an input whenever it is selected (Sound Field Link). For example, if you select "HALL" for the DVD input, then change to a different input and then return to DVD, "HALL" will automatically be applied again.

■ EFFECT
Lets you adjust the "presence" of the surround effect for the Cinema Studio EX A/B/C sound fields.

EQ menu

You can adjust the tonal quality (bass/treble level) of the front speakers.

■ BASS

■ TREBLE

Note
This function does not work in the following cases:
– signals with a sampling frequency of more than 48kHz are being received.
– the multi channel Linear PCM signals are received via an HDMI IN jack.
– Analog Direct is selected.

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 stations” (page 41).

AUDIO menu

You can make 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 (Delay time: 60 ms)
  The audio output is delayed so that the time gap between the audio output and visual display is minimized.
- SYNC OFF (Delay time: 0 ms)
  The audio output is not delayed.

Notes

- This parameter is useful when you use a large LCD or plasma monitor or a projector.
- This parameter is valid only when you use a sound field selected with the 2CH or A.F.D. buttons.
- This function does not work in the following cases:
  – signals with a sampling frequency of more than 48 kHz is input.
  – the multi channel Linear PCM signals are received via an HDMI IN jack.
  – Analog Direct function is selected (page 42).

■ DUAL

Lets you select the language you want to listen to during digital broadcast. This feature only functions for Dolby Digital sources.

- MAIN/SUB
  Sound of the main language will be output through the front left speaker and sound of the sub language will be output through the front right speaker simultaneously.
- MAIN
  Sound of the main language will be output.
- SUB
  Sound of the sub language will be output.

■ DEC. PRIO

Lets you specify the input mode for the digital signal input to the DIGITAL IN jacks or HDMI IN jacks.

- DEC. AUTO
  Automatically switches the input mode between DTS, Dolby Digital, or PCM.
- DEC. PCM
  When signals from the DIGITAL IN jack are selected, PCM signals are given priority (to prevent interruption when playback starts). However, when other signals are input, there may be no sound, depending on the format. In this case, set this item to “DEC. AUTO”. When signals from the HDMI IN jack are selected, only PCM signals are output from the connected player. When signals in any other format are received, set this item to “DEC. AUTO”.

Notes

- Even when “DEC. PRIO” is set to “DEC. PCM”, the sound may be interrupted at the very beginning of the first track depending on the CD being played back.
- When playback DTS CD, set “DEC. PRIO” to “DEC. AUTO”.

■ A. ASSIGN

Lets you assign the digital audio input to other input source. For details, see “Enjoying the sound from other inputs” (page 53).

continued

■ NIGHT M.

Lets you to retain a theater-like environment at low volume levels. For details, see “Enjoying the surround effect at low volume levels (NIGHT MODE)” (page 46).

- NIGHT.OFF
- NIGHT. ON

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 47).

■ PASS.THRU

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

- ON
  When the receiver is in the standby mode, 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 TV that is compatible with “BRAVIA” Sync. This setting saves power in the standby mode compared with the “ON” setting.
- OFF
  The receiver does not output HDMI signals when in the standby mode. Turn on the receiver to enjoy the connected component’s source on the TV. This setting saves power in the standby mode compared with the “ON” setting.

Notes

- This parameter is not available when “CTRL.HDMI” is set to “CTRL OFF”.
- When “AUTO” is selected, it may take a little more time for the image and sound to be output to the TV than when “ON” is selected.
- When the receiver is in standby mode, “HDMI” indicator will lights up if “PASS.THRU” is set to “AUTO” or “ON”. However, when “PASS.THRU” is set to “AUTO”, this indicator will lights off if no signals are detected.

■ AUDIO.OUT

Lets you set the HDMI audio output from the playback component connected to the receiver via an HDMI connection.

- AMP
  The HDMI audio signals from the playback component are only output to the speakers connected to the receiver. Multi channel sound can be played back as it is.

Note

Audio signals are not output from the TV’s speakers when “AUDIO.OUT” is set to “AMP”.

- TV+AMP
  The sound is output from TV’s speaker and the speakers connected to the receiver.

Notes

- The sound quality of the playback component depends on the TV’s sound quality, such as the number of channels, and the sampling frequency, etc. When the TV has stereo speakers, the sound output from the receiver is also stereo as that of the TV, even if you play back multi channel software.
- When you connect the receiver to an image display component (projector, etc.), sound may not be output from the receiver. In this case, select “AMP”.

■ SW LEVEL

Lets you set the level of the subwoofer to 0 dB or +10 dB when multi channel Linear PCM signals are input via an HDMI connection. You can set the level for each HDMI input independently.

- SW AUTO
  Automatically sets the level to 0 dB or +10 dB depending on the frequency.
- SW +10 dB
- SW 0 dB

Note

This parameter is only available when HDMI input signals are detected.

■ SW L.P.F.

Lets you set the low pass filter of the subwoofer when multi channel Linear PCM signals are input via an HDMI connection. Set the "SW L.P.F." if your connected subwoofer's crossover frequency do not have low pass filter.

- L.P.F. ON
  The low pass filter of the subwoofer's cut off frequency is set to 120 Hz.
- L.P.F. OFF
  The low pass filter of the subwoofer is turned off.

Note

This parameter is only available when HDMI input signals are detected.

■ ARC

Lets you enjoy the TV sound from the speakers connected to the receiver via an HDMI cable. For details, see "Enjoying the TV sound via an HDMI cable" (page 51).

- ARC ON
  Audio signal is input to the HDMI TV OUT jack.
- ARC OFF
  Audio signal is output through the TV OPTICAL IN jack or TV AUDIO IN jack.

Note

This parameter is not available when "CTRL.HDMI" is set to "CTRL OFF".

SYSTEM menu

You can customize the settings of the receiver.

■ DIMMER

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

■ SLEEP

Lets you set the Sleep Timer on the receiver to turn off automatically at the specific time. For details, see "Using the Sleep Timer" (page 37).

■ AUTO.STBY

Lets you set the receiver switch to standby mode automatically after 30 minutes 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.

■ NAME IN

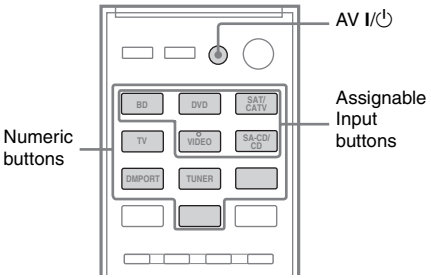
Lets you set the name of inputs. For details, see "Naming inputs" (page 36).

Changing the input button assignments

You can change the initial settings of the input buttons to suit the components in your system. For example, if you connect a Blu-ray disc player to the DVD jack on the receiver, you can set the DVD button on this remote to control the Blu-ray disc player.

Note

You cannot change the remote assignments for DMPORT, TUNER and TV input buttons.



1 While holding down the input button of which you want to change the assignment, hold down AV I/⏻.

Example: While holding down DVD, hold down AV I/⏻.

2 With the AV I/⏻ button held, release the input button you selected in step 1.

Example: With the AV I/⏻ button held, release DVD.

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

Example: Press 1, then release AV I/⏻. Now you can use the DVD button to control the Blu-ray disc player.

Categories and the corresponding buttons for BD, DVD, SAT/CATV, VIDEO and SA-CD/CD

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

[a)] 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.

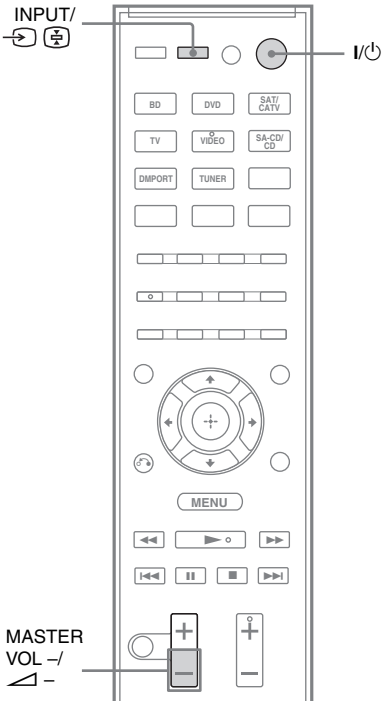
[b)] Sony DVD recorders are operated with a DVD1 or DVD3 setting. For details, refer to the operating instructions supplied with the DVD recorders.

[c)] Sony VCRs are operated with a VTR 2 or VTR 3 setting which corresponds to 8 mm and VHS respectively.

[d)] RM-AAU071 only.

[e)] RM-AAU074 only.

Clearing all the contents of the remote's memory



RM-AAU071 only

While holding down MASTER VOL –, press I/⏻ and INPUT.

RM-AAU074 only

While holding down – , press I/⏻ and ⏎/⏏.

The remote is reset to its initial settings.

Additional Information

Glossary

■ Cinema Studio EX

A surround sound mode that can be regarded as the compilation of Digital Cinema Sound technology, delivers the sound of a dubbing theater using three technologies: "Virtual Multi Dimensions," "Screen Depth Matching," and "Cinema Studio Reverberation."
"Virtual Multi Dimensions," the virtual speaker technology, creates a virtual multi-surround environment with actual speakers up to 7.1 channels, and brings the surround sound experience of a theater with the latest facilities into your home.
"Screen Depth Matching" reproduces treble attenuation, fullness, and depth of sound usually created in a theater using sound emission from behind the screen. This is then added to the front and center channels.
"Cinema Studio Reverberation" reproduces the sound characteristics of state-of-the-art dubbing theaters and recording studios, including Sony Pictures Entertainment's dubbing studios. There are three modes, A/B/C, available according to the studio type.

■ Component video

A format for transmitting video signal information consisting of three separate signals: luminance Y, chrominance Pb, and chrominance Pr. High quality pictures, such as DVD video or HDTV pictures, are transmitted more faithfully. The three jacks are color - coded green, blue and red.

■ Composite video

A standard format for transmitting video signal information. The luminance signal Y and chrominance signal C are combined and transmitted together.

continued

■ Deep Colour (Deep Color)

Video signals for which the color depth of signals passing through an HDMI jack have been raised.
The number of colors that could be expressed by 1 pixel was 24 bits (16,777,216 colors) with the current HDMI jack. However, the number of colors which can be expressed by 1 pixel will be 36 bits, etc., when the receiver corresponds to Deep Colour (Deep Color). Since the gradation of the depth of a color can be expressed more finely with more bits, continuous color changes can be more smoothly expressed.

■ Digital Cinema Sound (DCS)

A unique sound reproduction technology for home theater developed by Sony, in cooperation with Sony Pictures Entertainment, for enjoying the exciting and powerful sound of movie theaters at home. With this "Digital Cinema Sound" developed by integrating a DSP (Digital Signal Processor) and measured data, the ideal sound field intended by filmmakers can be experienced at home.

■ Dolby Digital

Digital audio encoding/decoding technology developed by Dolby Laboratories, Inc. It consists of front (left/right), center, surround (left/right) and subwoofer channels. It is a designated audio standard for DVD video and also known as 5.1 channel surround. Since surround information is recorded and reproduced in stereo, more realistic sound with fuller presence is delivered than with Dolby surround.

■ Dolby Pro Logic II

This technology converts 2 channel stereo recorded audio into 5.1 channel for playback. There is a MOVIE mode for movies and MUSIC mode for stereo sources such as music. Old movies encoded in the traditional stereo format can be enhanced with 5.1 channel surround sound.

■ Dolby Surround (Dolby Pro Logic)

Audio processing technology developed by Dolby Laboratories, Inc. Center and mono surround information is matrixed into two stereo channels. When reproduced, audio is decoded and output in 4 channel surround sound. This is the most common audio processing method for DVD video.

■ DTS Digital Surround

Digital audio encoding/decoding technology for theaters developed by DTS, Inc. It compresses audio less than Dolby Digital, delivering a higher quality sound reproduction.

■ HDMI (High-Definition Multimedia Interface)

HDMI (High-Definition Multimedia Interface) is an interface that supports both video and audio on a single digital connection, allowing you to enjoy high quality digital picture and sound. The HDMI specification supports HDCP (High-bandwidth Digital Contents Protection), a copy protection technology that incorporates coding technology for digital video signals.

■ L.F.E. (Low Frequency Effects)

Sound effects of low frequencies which are output from a subwoofer in Dolby Digital or DTS, etc. By adding a deep bass with a frequency between 20 to 120 Hz, audio becomes more powerful.

■ PCM (Pulse Code Modulation)

A method of converting analog audio to digital audio for easy enjoyment of digital sound.

■ Sampling frequency

To convert analog audio to digital, analog data should be quantified. This process is called sampling, and the number of times per second the analog data is quantified is called the sampling frequency. A standard music CD stores data quantified at 44,100 times per second, which is expressed as a sampling frequency of 44.1 kHz. Generally speaking, a higher sampling frequency means better sound quality.

■ x.v.Colour (x.v.Color)

x.v.Colour (x.v.Color) is a more familiar term for the xvYCC standard proposed by Sony, and is a trademark of Sony. xvYCC is an international standard for color space in video. This standard can express a wider colour range than the currently used broadcast standard.

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.
- The AC power cord (mains lead) must be changed only at a qualified service shop.
- (Models of area code U2, CA2 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.

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.

continued

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 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 components, be sure to turn off and unplug the receiver.

On cleaning

Clean the cabinet, panel, and controls with a soft cloth slightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder, or solvent, such as alcohol or benzine.

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.

Audio

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

- Check that the speakers and components are connected correctly and securely.
- Check that all speaker cords are connected correctly.
- Check that both the receiver and all components are turned on.
- Check that MASTER VOLUME is not set to “VOL MIN”.
- Check that headphones are not connected.
- Press MUTING (RM-AAU071 only) or 🔇 (RM-AAU074 only) on the remote to cancel the muting function.
- Check that you have selected the correct component 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.

There is no sound from a specific component.

- Check that the component is connected correctly to the audio input jacks for that component.
- Check that the cord(s) used for the connection is (are) fully inserted into the jacks on both the receiver and the component.

There is no sound from one of the front speakers.

- Connect a pair of headphones to the PHONES jack to verify that sound is output from the headphones. If only one channel is output from the headphones, the component may not be connected to the receiver correctly. Check that all the cords are fully inserted into the jacks on both the receiver and the component. If both channels are output from the headphones, the front speaker may not be connected to the receiver correctly. Check the connection of the front speaker which is not outputting any sound.
- Make sure you have connected to both the L and R jacks of an analog component, and not only to either the L or R jack. Use an audio cord (not supplied).

There is no sound from analog 2 channel sources.

- Check that the INPUT MODE is not set to "AUTO" (page 52) and the DIGITAL connection is not made for the selected input.
- Check that the INPUT MODE is not set to "AUTO" (page 52) and the "A. ASSIGN" function is not used to reassign the audio input of another source to the selected input (page 53).
- Check that the INPUT MODE is not set to "COAX" or "OPT".

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

- Check that the INPUT MODE is not set to "ANALOG" (page 52).
- Check that the Analog Direct is not being used.
- Check that the "A. ASSIGN" function is not used to reassign the audio input of another source to the selected input (page 53).
- Set "ARC" to "ARC OFF" when no sound is output from TV OPTICAL IN jack during TV input (page 58).

The source sound input to the HDMI jack is not output from the receiver or the TV speaker.

- Check the HDMI connection (page 23).
- You cannot listen to the Super Audio CD by connecting HDMI.
- Depending on the playback component, you may need to set up the component. Refer to the operating instructions supplied with each component.
- Be sure to use a High Speed HDMI cable when you view images or listen to sound during Deep Colour (Deep color) transmission.

The left and right sounds are unbalanced or reversed.

- Check that the speakers and components are connected correctly and securely.
- Adjust the level parameters using the LEVEL menu (page 56).

"- - - - - -" appears on the display.

- Check that your component is connected to the COAXIAL or OPTICAL jack. If no signal is input through the COAXIAL or OPTICAL jack, "- - - - - -" appears on the display and this is not a malfunction.

There is severe hum or noise.

- Check that the speakers and components 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 components away from the TV.
- The plugs and jacks are dirty. Wipe them with a cloth slightly moistened with alcohol.

continued

There is no sound, or only a very low-level sound is heard from the center/ surround.

- Select a CINEMA STUDIO EX mode (page 43).
- Check that the speaker settings are appropriate using the AUTO CAL menu or "PATTERN" in the SPEAKER menu. Then check that sound is output from each speaker correctly, using "T. TONE" in the LEVEL menu.
- Adjust the speaker level (page 34).

There is no sound from the subwoofer.

- Check that the subwoofer is connected correctly and securely.
- Make sure you have turned on your subwoofer.
- Depending on the selected sound field, no sound output from the subwoofer.
- Check "PATTERN" in the SPEAKER menu (page 60).

The surround effect cannot be obtained.

- Make sure you have selected the sound field for movie or music mode (page 43).
- Sound fields do not function for signals with a sampling frequency of more than 48 kHz.

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 setting (the settings for the audio output) of the connected component. For example, when connecting the "PlayStation 3", set the BD/DVD audio output format to "Bitstream" on the "PlayStation 3".
- Set "AUDIO.OUT" to "AMP" in the HDMI menu.

Recording cannot be carried out.

- Check that the components are connected correctly.
- Select the source component using the input buttons.

There is no sound from the component connected to the DIGITAL MEDIA PORT adapter.

- Adjust the volume of this receiver.
- The DIGITAL MEDIA PORT adapter and/or component is not connected correctly. Turn off the receiver, then reconnect the DIGITAL MEDIA PORT adapter and/or component.
- Check the DIGITAL MEDIA PORT adapter and/or component device to make sure it supports this receiver.

Video

There is no picture or an unclear picture appears on the TV screen or monitor.

- Select the appropriate input using the input buttons.
- Set your TV to the appropriate input mode.
- Move your audio components away from the TV.
- Depending on the DIGITAL MEDIA PORT adapter, video output may not be possible.

The source image input to the VIDEO IN or COMPONENT VIDEO IN jacks is not output from the TV.

- Check that your component is connected to the MONITOR OUT jack (page 20).
- Make sure "CTRL.HDMI" is set to "CTRL OFF" in HDMI menu (page 58).

The source image input to the HDMI jack is not output from the TV.

- Check the HDMI connection (page 23).
- Depending on the playback component, you may need to set up the component. Refer to the operating instructions supplied with each component.
- Be sure to use a High Speed HDMI cable when you view images or listen to sound during Deep Colour (Deep color) transmission.

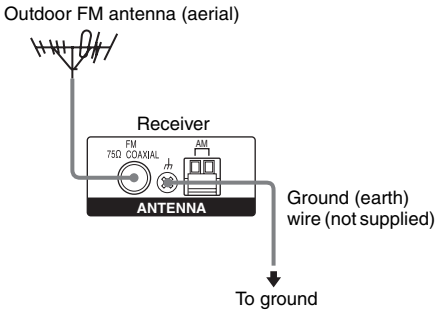
Recording cannot be carried out.

- Check that the components are connected correctly.
- Select the source component using the input buttons (page 35).

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. If you connect the receiver to an outdoor antenna (aerial), ground it against lightning. To prevent a gas explosion, do not connect the ground (earth) wire to a gas pipe.



Radio stations cannot be tuned in.

- Check that the antennas (aerials) are connected securely. Adjust the antennas (aerials) and connect an external antenna (aerial), if necessary.
- The signal strength of the stations is too weak (when tuning in with automatic tuning). Use direct tuning.
- Make sure you set the tuning interval correctly (when tuning in AM stations with direct tuning).
- No stations have been preset or the preset stations have been cleared (when tuning by scanning preset stations). Preset the stations (page 40).
- Press DISPLAY repeatedly so that the frequency appears on the display.

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.*

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

* Models of area code ECE, CEK, AU1 only.

Control for HDMI

The Control for HDMI function does not work.

- Check the HDMI connection (page 23).
- Make sure "CTRL.HDMI" is set to "CTRL ON" in the HDMI menu (page 58).
- Make sure the connected component is compatible with the Control for HDMI function.
- Check the Control for HDMI settings on the connected component. Refer to the operating instructions of the connected component.
- Repeat the procedures of "Preparing for the "BRAVIA" Sync" if you change the HDMI connection, connect/disconnect the AC power cord (mains lead), or when there is a power failure (page 47).

continued

No sound is output from the receiver and TV speaker while using the System Audio Control function.

- Make sure the TV is compatible with the System Audio Control function.
- If the TV does not have System Audio Control function, set the "AUDIO.OUT" settings in HDMI menu to
  – "TV+AMP" if you want to listen to the sound from the TV speaker and receiver.
  – "AMP" if you want to listen to the sound from the receiver.
- When you connect the receiver to a video component (projector, etc.), sound may not be output from the receiver. In this case, select "AMP".
- If you cannot listen to the sound of a component connected to the receiver
  – Select appropriate input (BD, DVD, SAT/CATV) when you want to watch a program on a component connected via HDMI connection to the receiver.
  – Change the TV channel when you want to watch a TV broadcast.
  – Select the component or input you want to watch when you watch a program on the component connected to the TV. Refer to the operating instructions of the TV on this operation.

When the receiver is in standby mode, there is no image or sound on the TV.

- When the receiver is in standby mode, image and sound are output from the HDMI component selected the last time you turned off the receiver. If you are enjoying other component, play the component and perform the One-Touch Play operation, or turn on the receiver to select the HDMI component you want to enjoy.
- Make sure "PASS.THRU" is set to "ON" in the HDMI menu if you connect components not compatible with the "BRAVIA" Sync to the receiver (page 64).

Remote commander

The remote does not function.

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

Others

The receiver is turned off automatically.

- The "AUTO.STBY" function is working (page 58).

Error messages

If there is a malfunction, the display shows a message. You can check the condition of the system by the message. See the following table to solve the problem. 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 32) to solve the problem.

PROTECTOR

Irregular current is output to the speakers, or the upper panel of the receiver is covered with something. The receiver will automatically turn off after a few seconds. Check the speaker connection and turn on the power again.

If you are unable to remedy the problem using the troubleshooting guide

Clearing the receiver's memory may remedy the problem (page 30). However, note that all memorized settings will be reset to their initial settings and you will have to readjust all settings on the receiver.

If the problem persist

Consult your nearest Sony dealer. Note that if service personnel changes some parts during repair, these parts may be retained.

Reference sections for clearing the receiver's memory

To clear	See
All memorized settings	page 30
Customized sound fields	page 46

Specifications

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION: (Models of area code U2 only)

With 8 ohm loads, both channels driven, from 20 – 20,000 Hz; rated 90 watts per channel minimum RMS power, with no more than 0.09% total harmonic distortion from 250 milliwatts to rated output.

Amplifier section

Models of area code U2[1)]

Minimum RMS Output Power
(8 ohms, 20 Hz – 20 kHz, THD 0.09%)
90 W + 90 W

Stereo Mode Output Power
(8 ohms, 1 kHz, THD 1%)
100 W + 100 W

Surround Mode Output Power[2)]
(8 ohms, 1 kHz, THD 10%)
130 W per channel

Models of area code CA2, ECE, CEK, AU1[1)]

Minimum RMS Output Power
(8 ohms, 20 Hz – 20 kHz, THD 0.09%)
85 W + 85 W

Stereo Mode Output Power
(8 ohms, 1 kHz, THD 1%)
100 W + 100 W

Surround Mode Output Power[2)]
(8 ohms, 1 kHz, THD 10%)
130 W per channel

[1)]Measured under the following conditions:

Area code	Power requirements
U2, CA2	120 V AC, 60 Hz
ECE, CEK, AU1	230 V AC, 50 Hz

[2)]Reference power output for front, center and surround speakers. Depending on the sound field settings and the source, there may be no sound output.

continued

Frequency response

Analog	10 Hz – 70 kHz, +0.5/–2 dB (with sound field and equalizer bypassed)

Input

Analog	Sensitivity: 500 mV/ 50 kohms S/N[3]: 96 dB (A, 500 mV[4])
Digital (Coaxial)	Impedance: 75 ohms S/N: 100 dB (A, 20 kHz LPF)
Digital (Optical)	S/N: 100 dB (A, 20 kHz LPF)

Output (analog)

AUDIO OUT	Voltage: 500 mV/ 10 kohms
SUBWOOFER	Voltage: 2 V/1 kohm

Equalizer

Gain levels	±6 dB, 1 dB step

[3]INPUT SHORT (with sound field and equalizer bypassed).
[4]Weighted network, input level.

FM tuner section

Tuning range	87.5 MHz – 108.0 MHz
Antenna (aerial)	FM wire antenna (aerial)
Antenna (aerial) terminals	75 ohms, unbalanced
Intermediate frequency	10.7 MHz

AM tuner section

Tuning range

Area code	Tuning scale	
	10 kHz step	9 kHz step
U2, CA2	530 kHz – 1,710 kHz	531 kHz – 1,710 kHz
ECE, CEK, AU1	–	531 kHz – 1,602 kHz

Antenna (aerial)	Loop antenna (aerial)
Intermediate frequency	450 kHz

Video section

Inputs/Outputs

Video:	1 Vp-p, 75 ohms
COMPONENT VIDEO:	
	Y: 1 Vp-p, 75 ohms
	P_B/C_B: 0.7 Vp-p, 75 ohms
	P_R/C_R: 0.7 Vp-p, 75 ohms
	80 MHz HD Pass Through

General

Power requirements

Area code	Power requirements
U2, CA2	120 V AC, 60 Hz
ECE, CEK	230 V AC, 50/60 Hz
AU1	230 V AC, 50 Hz

Power output (DIGITAL MEDIA PORT)

DC OUT:	5V, 0.7A MAX

Power consumption

Area code	Power consumption
U2, CA2, ECE, CEK, AU1	230 W

Dimensions (width/height/depth) (Approx.)	430 mm × 157.5 mm × 322 mm (17 in × 6 1/4 in × 12 3/4 in) including projecting parts and controls
Mass (Approx.)	7.4 kg (16 lb 6 oz)

For details on the area code of the component you are using, see page 5.

Design and specifications are subject to change without notice.

- Standby power consumption: 0.3 W
- Halogenated flame retardants are not used in the certain printed wiring boards.

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* 4 1 6 8 0 4 3 1 4 * (1)

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