



NETWORK STEREO RECEIVER

# TX-L20D

# Instruction Manual



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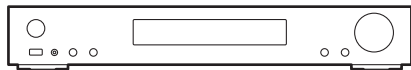
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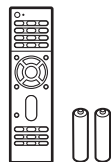


## What's in the box



Main unit (1)

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Remote controller (RC-934R) (1), batteries (AAA/R03) (2)

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DAB/FM antenna (1)

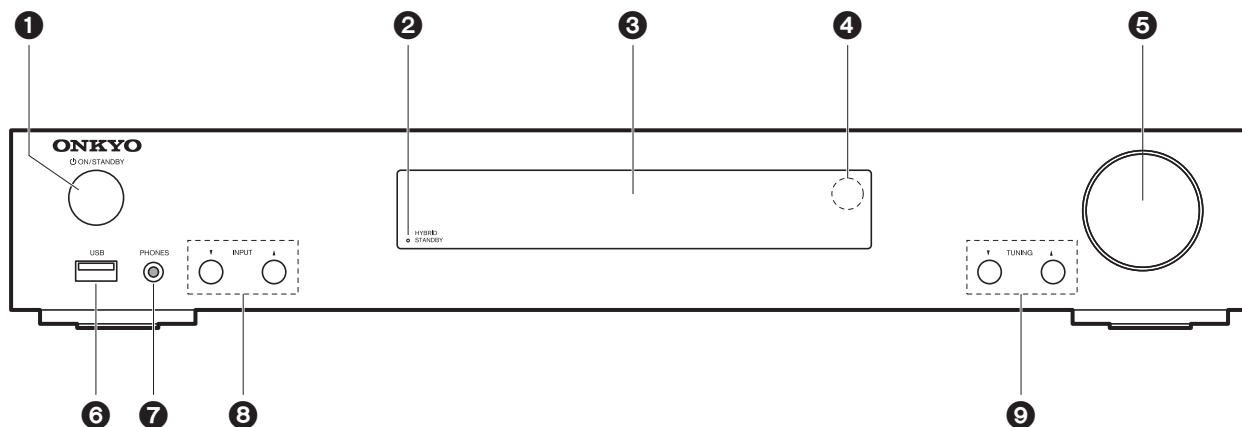
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- Connect speakers with 4  $\Omega$  to 8  $\Omega$  impedance.
- The power cord must be connected only after all other cable connections are completed.
- We will not accept responsibility for damage arising from the connection of equipment manufactured by other companies.
- Functionality may be introduced by firmware updates and service providers may cease services, meaning that some network services and content may become unavailable in the future. Furthermore, available services may vary depending on your area of residence.
- Specifications and appearance are subject to change without prior notice.



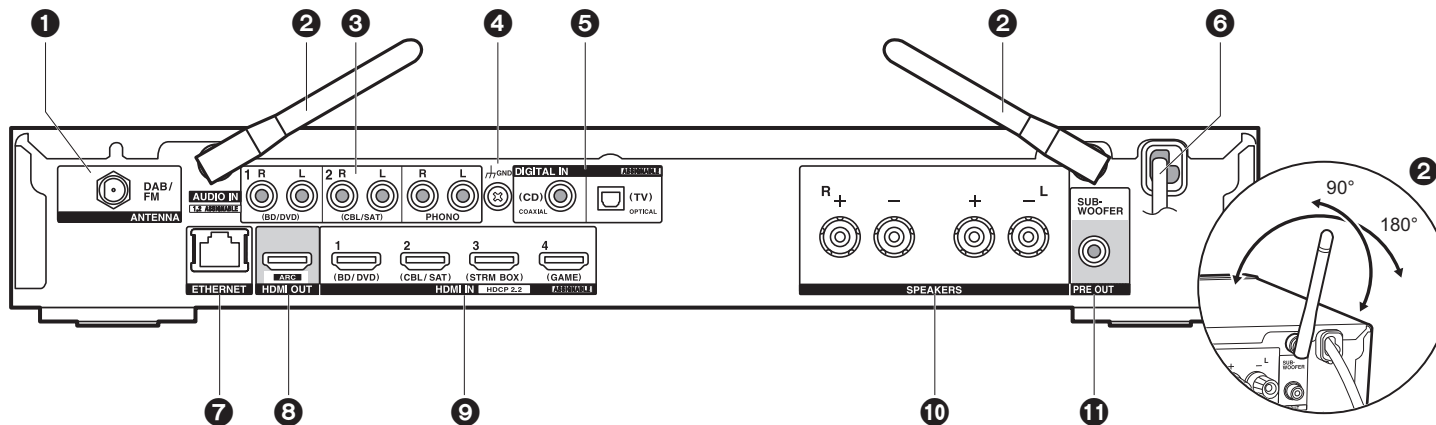
## Front Panel



1. ON/STANDBY button: Turns the unit on or into standby mode.
2. HYBRID STANDBY indicator: Lights if the unit enters standby mode when the features are enabled that continue to work when this unit is in standby, such as HDMI Standby Through and Network Standby.
3. Display (→P6)
4. Remote control sensor
5. Volume dial: Allows you to adjust the volume.
6. USB port: A USB storage device is connected so that music files stored in it can be played. You can also supply power (maximum 5 V/1 A) to USB devices with a USB cable.
7. PHONES jack: Stereo headphones with a mini plug ( $\phi$  3.5 mm) are connected.
8. INPUT button: Switches the input to be played. (BD/DVD / CBL/SAT / GAME / STRM BOX / CD / TV / PHONO / DAB / FM / NET / USB / BLUETOOTH)
9. TUNING buttons: Select the frequency of FM/DAB radio stations.



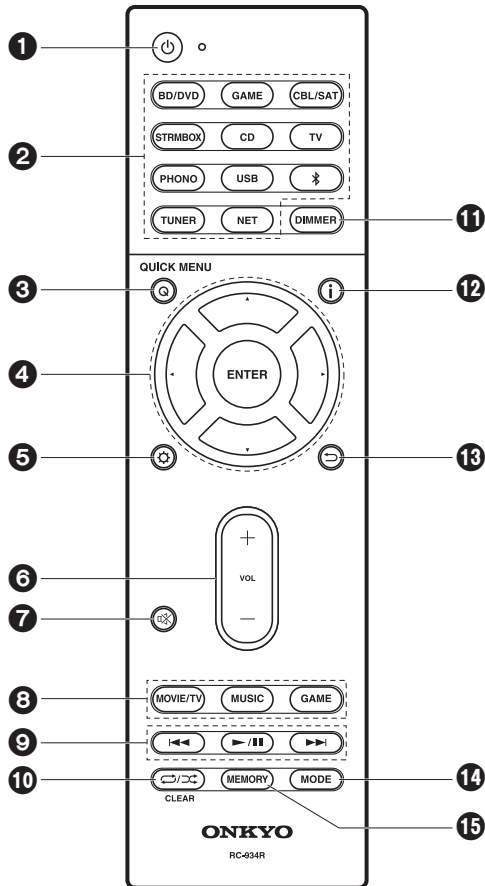
## Rear Panel



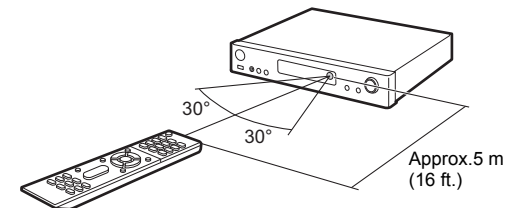
1. ANTENNA DAB/FM jack: Connect the supplied antenna.
2. Wireless antenna: Raise for Wi-Fi connection or when using a BLUETOOTH enabled device. The diagram shows the movable range for the wireless antenna. Do not try to force it beyond this range otherwise you may break it.
3. AUDIO IN jacks: Input AV component audio signals with an analog audio cable.
4. GND terminal: The ground wire of the turntable is connected.
5. DIGITAL IN OPTICAL/COAXIAL jacks: Input TV or AV component digital audio signals with a digital optical cable or digital coaxial cable.
6. Power cord
7. ETHERNET port: Connect to the network with an Ethernet cable.
8. HDMI OUT jack: Connect a HDMI cable to transfer video signals and audio signals to a TV.
9. HDMI IN jacks: Input video signals and audio signals with a HDMI cable connected to an AV component.
10. SPEAKERS terminals: Connect speakers with speaker cables.
11. SUBWOOFER PRE OUT jack: Connect a powered subwoofer with a subwoofer cable.



# Remote Controller

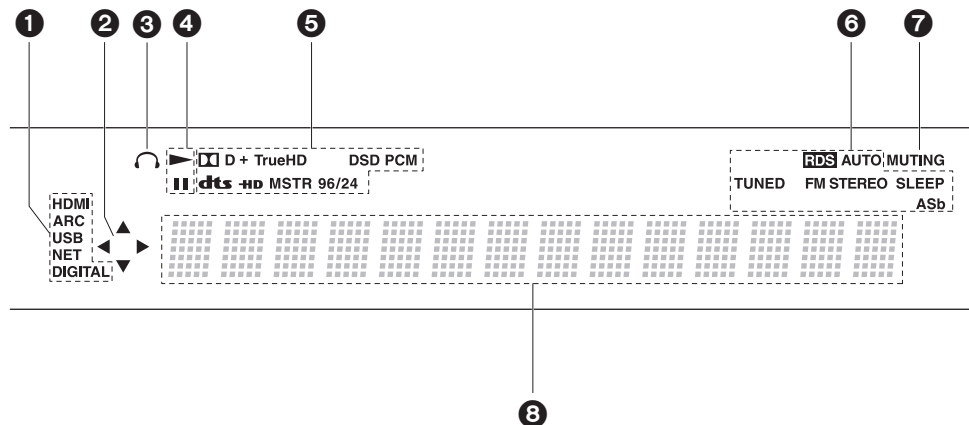


1. button: Turns the unit on or into standby mode.
2. Input selector buttons: Switches the input to be played.
3. Q (QUICK MENU) button: You can perform common settings on the TV screen. (→P28)
4. Cursors, ENTER button: Select the item with the cursors and press ENTER to confirm.
5. button: Displays the Setup menu. (→P31)
6. Volume buttons: Allows you to adjust the volume. This button also cancels the muting.
7. button: Temporarily mutes audio. Press again to cancel muting.
8. Listening mode buttons: Allows you to select the listening mode. (→P26)
9. Play buttons: You can start play of the Music Server or USB.
10. button: You can start repeat or random play of the Music Server or USB.
11. DIMMER button: You can adjust the brightness of the display in three steps. It cannot be turned off completely.
12. button: Switches the information on the display.
13. button: Returns the display to the previous state during setting.
14. MODE button: Switches tuning to an FM station between automatic tuning and manual tuning.
15. MEMORY button: Used to register FM/DAB radio stations.





# Display

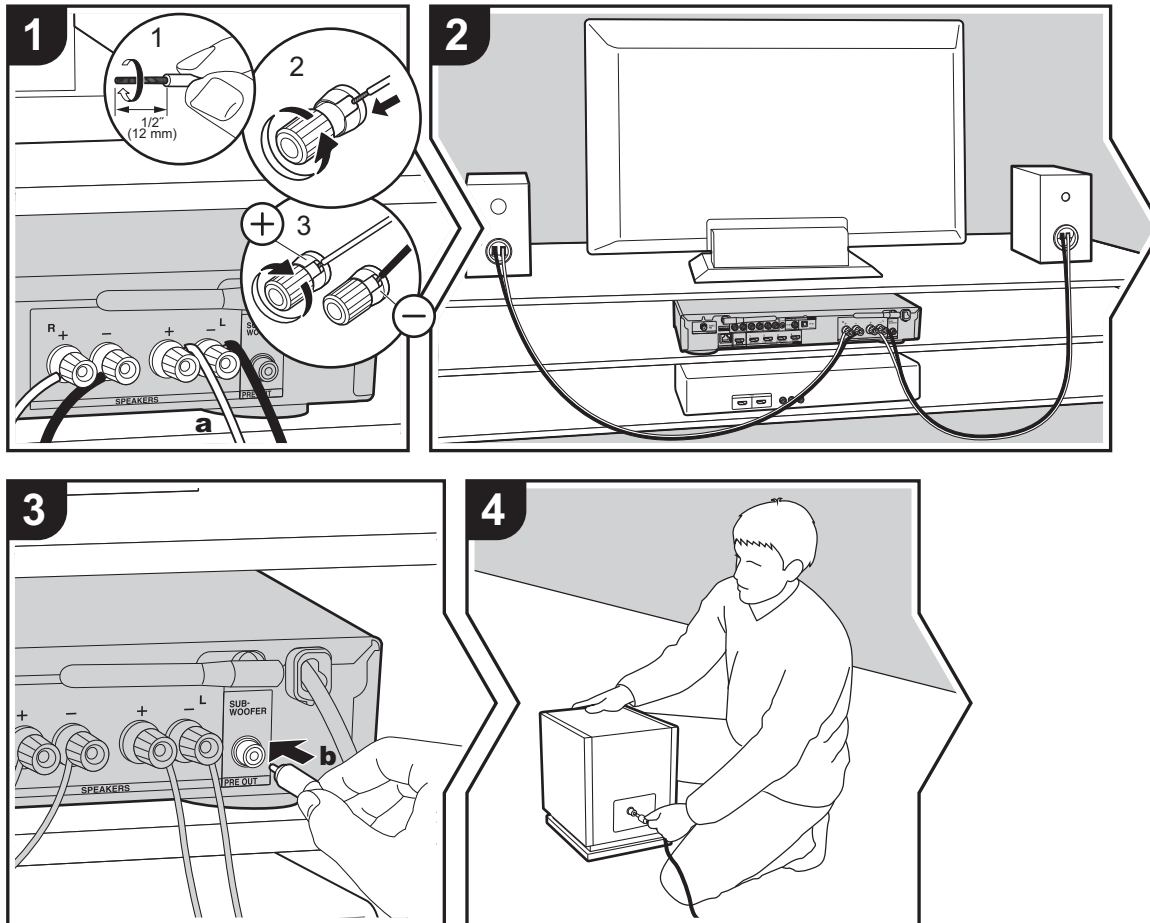


1. Lights in the following conditions.  
 HDMI: HDMI signals are input and selected.  
 ARC: Audio signals from the ARC compatible TV are input and selected.  
 USB: When "USB" is selected with the input selector and the unit is connected by USB and the USB device is selected. Flashes if the USB is not properly connected.  
 NET: When "NET" is selected with the input selector and the unit is connected to the network. It will flash if the connection to the network is not correct.  
 DIGITAL: Digital signals are input and the digital input selector is selected.
2. Lights when operating the "NET" or "USB" input selector indicating remote controller cursor operations are possible in screens showing list of tracks, for example.
3. Lights when headphones are connected.
4. Lights when operating the "NET" or "USB" input selector when tracks are played or paused.
5. Lights according to the type of input digital audio signals and the listening mode.
6. Lights in the following conditions.  
 RDS: Receiving RDS broadcasting.  
 AUTO: When FM tuning mode is auto.  
 TUNED: Receiving FM radio.  
 FM STEREO: Receiving FM stereo.  
 SLEEP: Sleep timer has been set.

- ASb: When Auto Standby function is enabled. (→P41)
7. Flashes when muting is on.
  8. Displays various information of the input signals. Characters that cannot be displayed on this unit are replaced with asterisks ( \* ).



# 1. Connect the Speakers

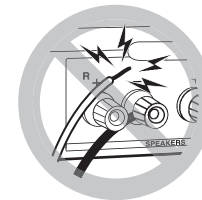


**a** Speaker cable, **b** Subwoofer cable

Refer to the illustration to connect the speaker system. Twist the wires of the speaker cable tightly before inserting into the SPEAKERS terminals. After inserting the cables, tighten the terminals firmly by turning to the right. Make correct connection between the unit's jacks and speaker's jacks (+ to + and - to -) for each channel. If connection is wrong, a bass sound may become poor due to reverse phase.

To connect a powered subwoofer, use a subwoofer cable and connect to the SUBWOOFER PRE OUT jack.

Make sure the exposed wires of the speaker cable do not stick out of the speaker terminals when connecting. If the exposed wires of the speaker cable touch the rear panel or the + and - wires touch each other, the protection circuit will be activated. (→P46)



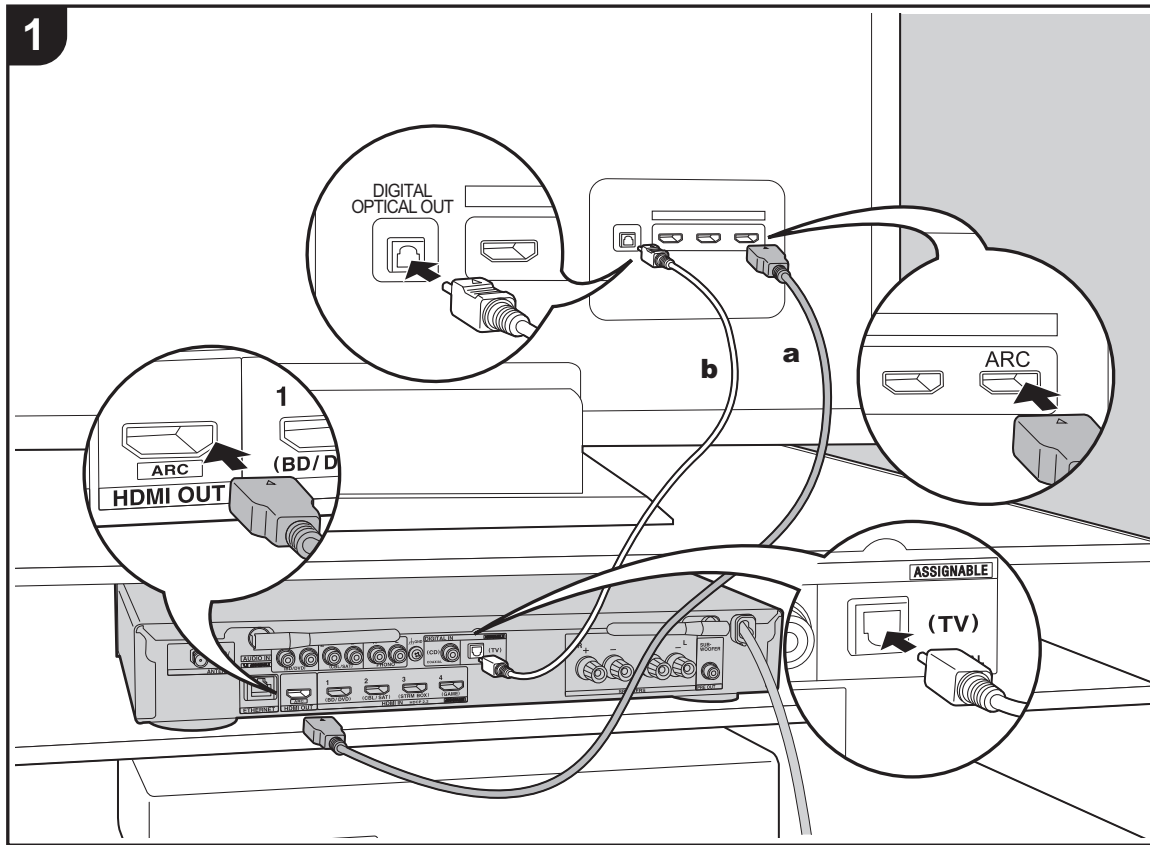
### Setup

Settings are required if a powered subwoofer is not connected. Make settings after all connections are complete. Press on the remote controller, and in the Setup menu displayed set "2. Speaker" - "Configuration"- "Subwoofer" to "No".

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## 2. Connect the TV



**a** HDMI cable, **b** Digital optical cable

### To ARC TV

For a TV that supports the ARC (Audio Return Channel) (→P52) feature, use an HDMI cable and connect according to illustration "a". Choose an HDMI IN jack on the TV that supports ARC when connecting.

### To Non-ARC TV

For a TV that does not support the ARC (Audio Return Channel) feature, connect both the HDMI cable in illustration "a" and the digital optical cable in "b".



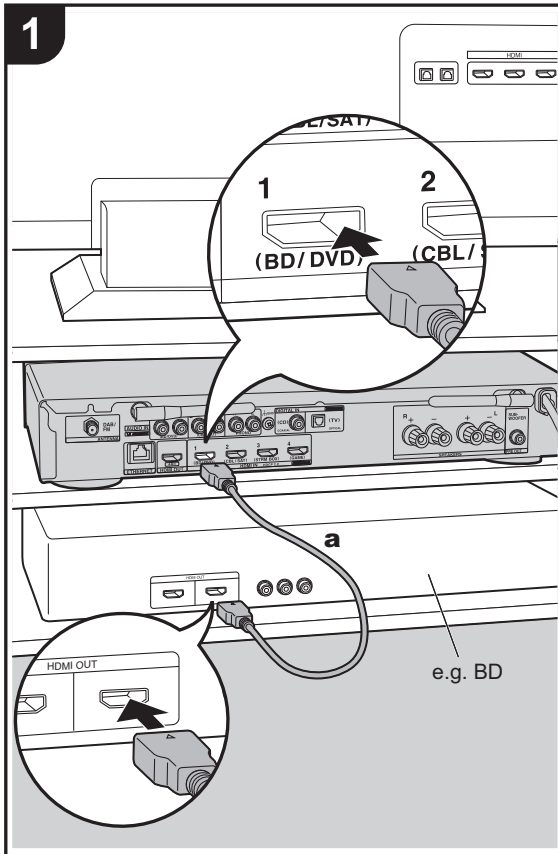
### Setup

- Settings are required to use the ARC function. Select "Yes" in "3. Audio Return Channel" (→P13) in the Initial Setup.
- Please refer to the TV's operation manual for directions on connections and setup for the TV.

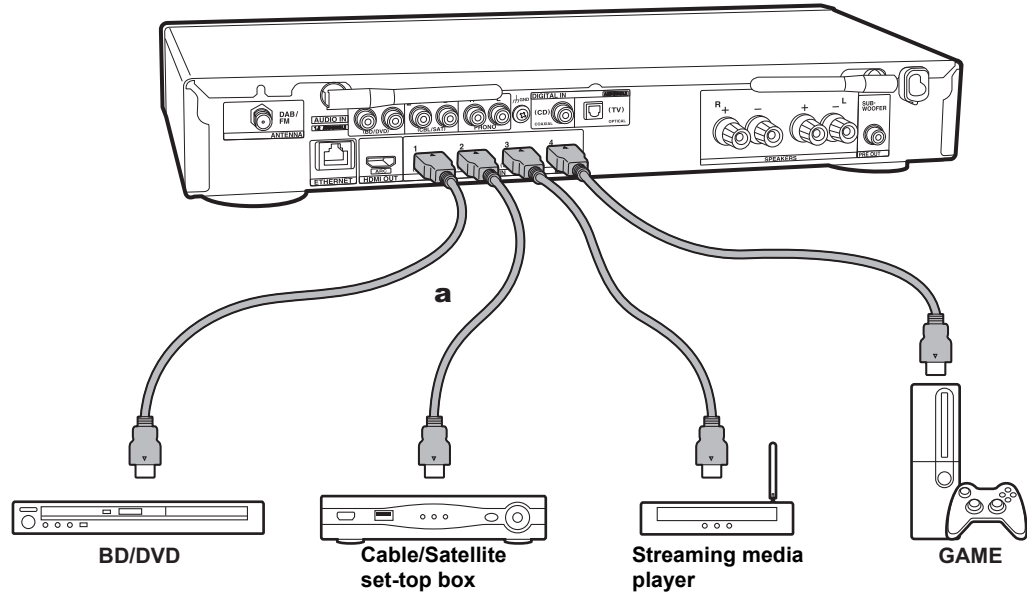




### 3. Connect the HDMI AV Components



a HDMI cable



This is an example of connection with an AV component that has an HDMI jack. With connection to an AV component that conforms with the CEC (Consumer Electronics Control) standard, you can use features such as the HDMI CEC feature that links with the input selector, and the HDMI Standby Through feature which allows you to play video and audio from AV components on the TV even when this unit is in standby mode. (→P52)

- To play 4K or 1080p video, use the high speed HDMI cable.

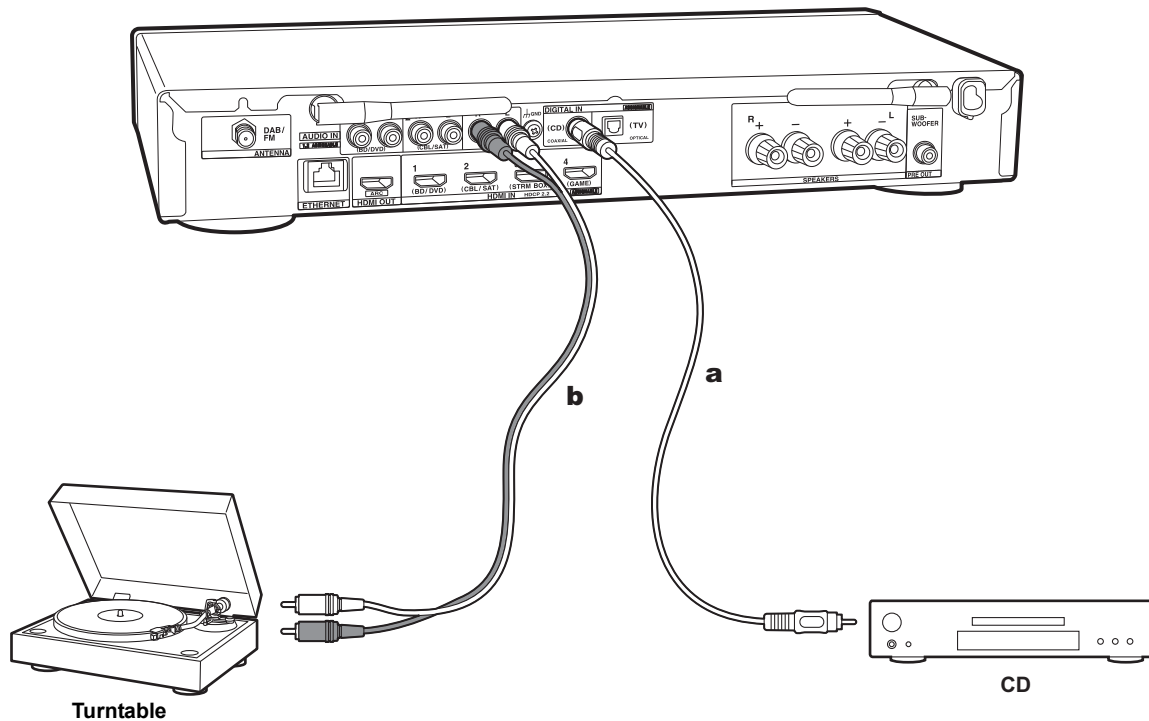


#### Setup

- Settings are required to use the HDMI CEC and HDMI Standby Through features. (→P37) Make settings after all connections are complete.
- To enjoy digital surround sound including Dolby Digital, audio output should be set to "Bitstream output" on the connected Blu-ray Disc player or other device.



## 4. Connect the Audio Components



**a** Digital coaxial cable, **b** Analog audio cable

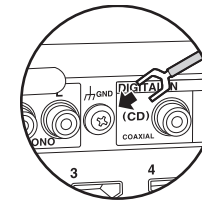
### Connecting a CD player

Use a digital coaxial cable to connect a CD player to the DIGITAL IN COAXIAL jack.

### Connecting a turntable

You can also connect a turntable that has an MM-type cartridge to the PHONO jack.

- If the turntable has a built-in audio equalizer, connect it to an AUDIO IN jack other than the PHONO jack. Further, if the turntable uses an MC type cartridge, install an audio equalizer compatible with the MC type cartridge between the unit and the turntable, then connect to any AUDIO IN jack other than the PHONO jack.

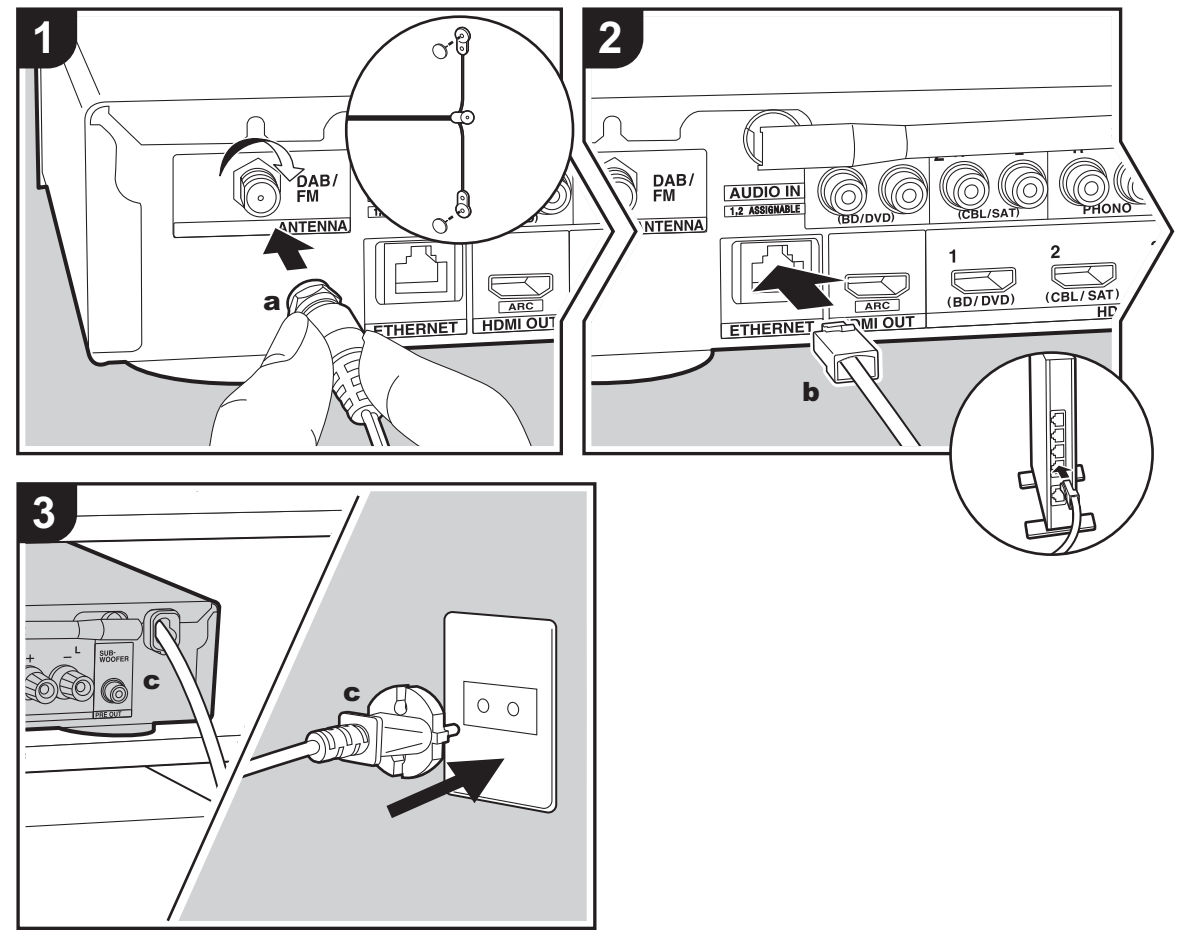


If the turntable has a ground wire, connect it to the GND terminal of this unit.

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# 5. Connect Other Cables



**a** DAB/FM antenna, **b** Ethernet cable, **c** Power cord

## Antenna Hookup

Connect the supplied DAB/FM antenna to the ANTENNA DAB/FM terminal. Make sure the plug is pushed in all the way, then fix in place by turning the nut to the right. Use a tack or similar to fix the antenna to a wall.



## Network Hookup

Connect this unit to the network using wired LAN or Wi-Fi (wireless LAN). You can enjoy network features such as internet radio by connecting the unit to the network. If you connect by wired LAN, connect with an Ethernet cable to the ETHERNET port as shown in the illustration. To connect by Wi-Fi, then after selecting "Wireless" in "2. Network Connection" (→P13) in Initial Setup, select the desired setting method and follow the onscreen instructions to configure the connection.

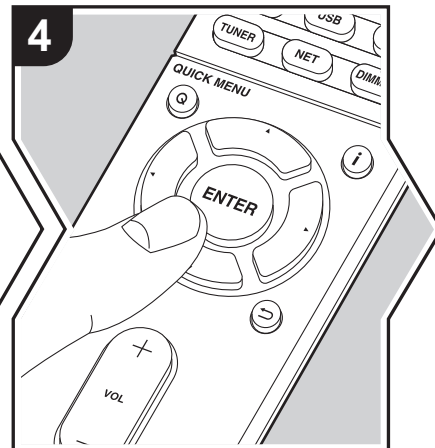
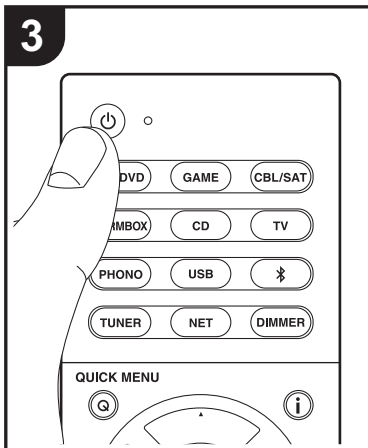
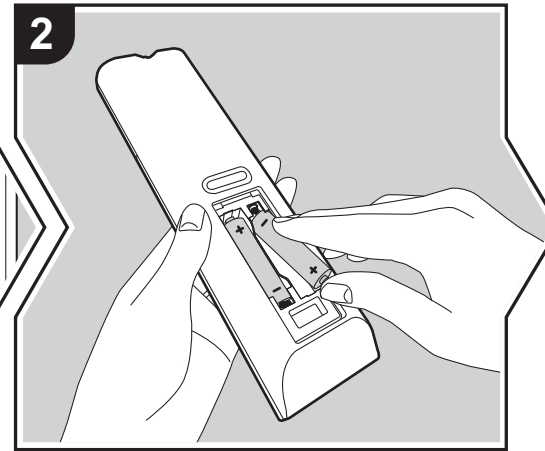
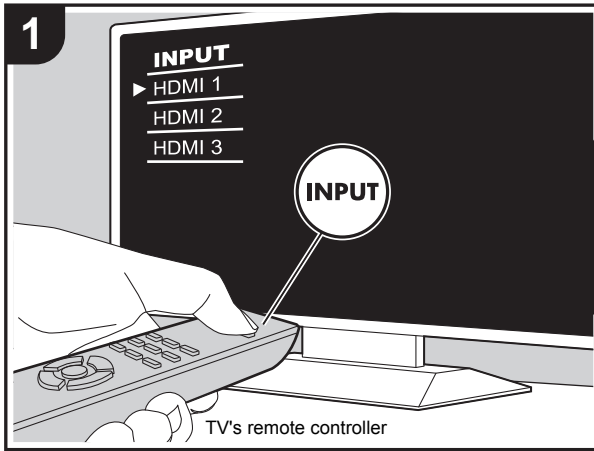
## Power Cord Hookup

Connect the power cord of this unit only after all other connections are completed.

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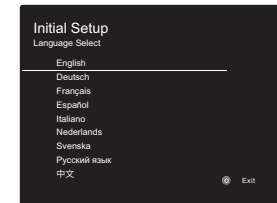


# Initial Setup with Auto Start-up Wizard



## Initial Setup starts automatically

1. Switch the input on the TV to that assigned to the unit.
2. Put batteries into the remote controller of this unit.
3. Press on the remote controller. When power is turned on for the first time, an Initial Setup screen is automatically displayed on the TV to allow you to make settings required for start up.



4. Follow the on-screen instructions to select the item with the cursors of the remote controller and press ENTER to confirm your selection.
  - To return to the previous screen, press .

**To redo Initial Setup:** If you terminate the procedure on the way or want to change a setting made during Initial Setup, press on the remote controller, select "6. Miscellaneous" - "Initial Setup" in the Setup menu and press ENTER. To select the language displayed again, change "OSD Language". (→ P31)

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### 1. Source Connection

Check that each input source is connected correctly. Follow the guidance, select the input you want to confirm, start play of the selected player, and confirm that the images appear on the TV and that sound is played.

### 2. Network Connection

Set up Wi-Fi connection with an access point such as a wireless LAN router. There are the following two methods of connecting by Wi-Fi:

**"Scan Networks"**: Search for an access point from this unit. Find out the SSID of the access point beforehand.

**"Use iOS Device (iOS7 or later)"**: Share the iOS device's Wi-Fi settings with this unit.

If you select "Scan Networks", there are a further two choices of connection method. Check the following.

- **"Enter Password"**: Enter the password (or key) of the access point to connect.
- **"Push Button"**: If the access point has an automatic connection button, you can connect without entering a password.
- If the SSID of the access point is not displayed, then in the screen listing the SSIDs, select "Other..." with the ► button on the remote controller and press ENTER, then follow the on-screen instructions.



**Keyboard input:** To switch between upper and lower case,

select "A/a" on the screen and press ENTER. To select whether to mask the password with "\*" or display it in plain text, press MEMORY on the remote controller. Pressing CLEAR will delete all the input characters.

**Privacy policy:** A confirmation screen asking you to agree to the privacy policy is displayed during network setting. Select "Yes" and press ENTER to indicate agreement.

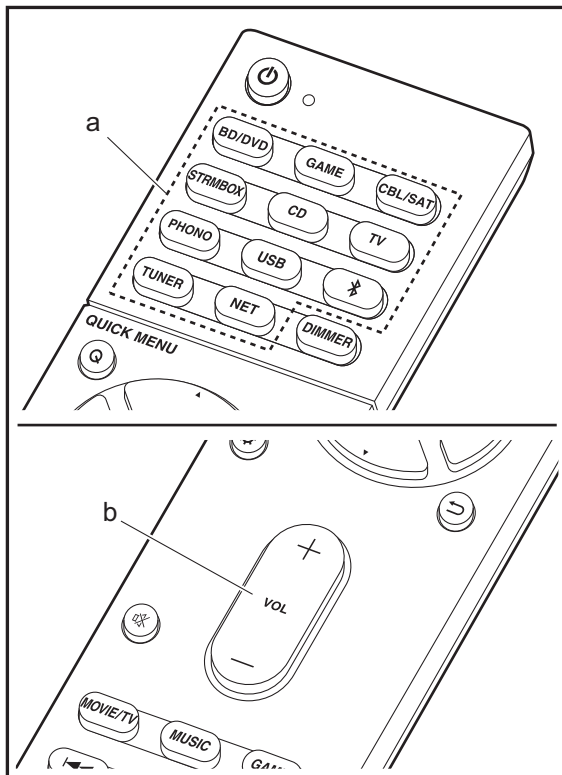
### 3. Audio Return Channel

If you have connected a TV that supports ARC, select "Yes". This unit's ARC setting turns on and you can listen to the TV's audio through this unit.

- If you select "Yes", the HDMI CEC function is enabled and power consumption increases during standby.



## AV Component Playback



### Basic operations

Play an AV component or TV connected to this unit with an HDMI cable or other cable.

1. Switch the input on the TV to that assigned to the unit.
2. Press the input selector (a) on the remote controller with the same name as the jack to which you connected the player to switch the input.

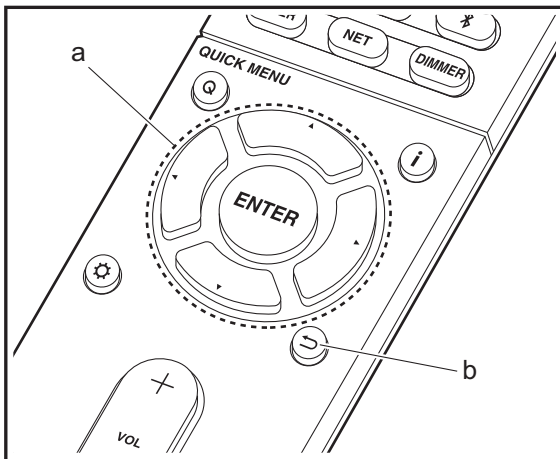
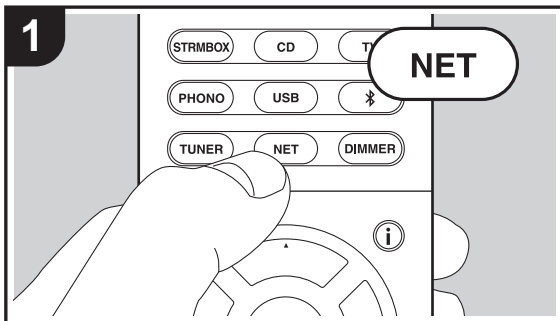
For example, press BD/DVD to play the player connected to the BD/DVD jack. Press TV to listen the TV's sound.

- Note that when the CEC link function works, the input switches automatically when you have connected a CEC compliant TV and player to this unit using HDMI connection.

3. Start play on the player.
4. Use VOL+/- (b) to adjust the volume.



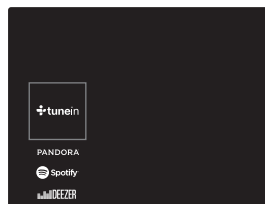
# Internet Radio



## Basic operations

When this unit is connected to a network, you can listen to TuneIn or other preregistered Internet radio services. Depending on the internet radio service, the user may need to register from their computer first.

1. Switch the input on the TV to that assigned to the unit.
2. Press NET on the remote controller.



3. Follow the on-screen instructions, using the cursors to select radio stations and programs, then press ENTER (a) to play. Play starts when 100% is displayed for buffering.
  - To return to the previous screen, press ← (b).
  - If you cannot select a network service, it will become selectable when the network function is started.

## Regarding the TuneIn Radio

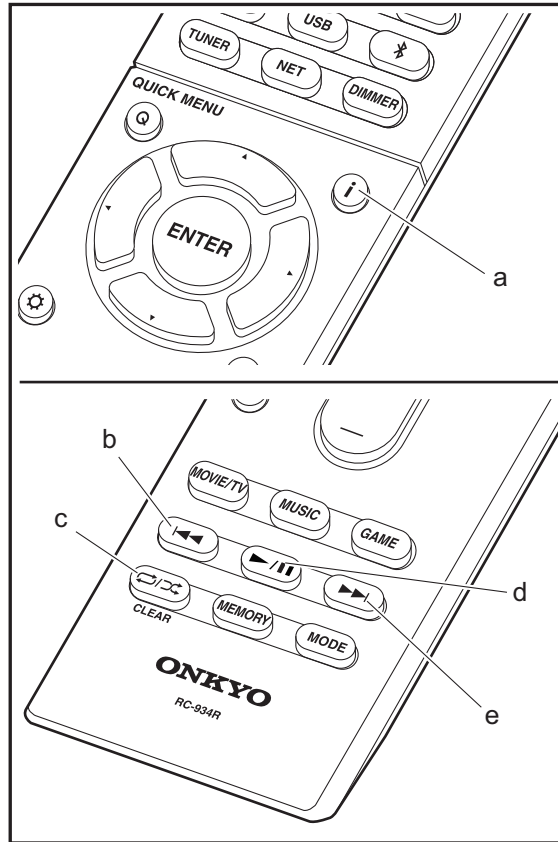
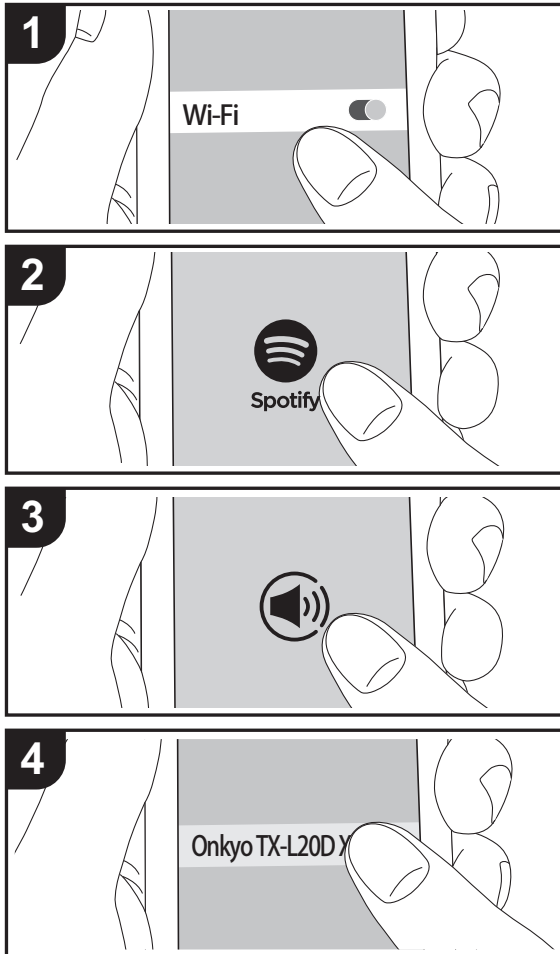
To display the TuneIn Radio menu during play, press ENTER (a) on the remote controller.

**Add to My Presets:** Registers radio stations being broadcast and programs in "My Presets". Once registered, "My Presets" is displayed in the level under TuneIn Radio. To play, select the program you like from "My Presets".

**Remove from My Presets:** Removes a radio station or program from "My Presets" in TuneIn Radio.



# Spotify



## Basic operations

Spotify Connect play is possible by connecting this unit to the same network as a smart phone or tablet. To enable Spotify Connect, install the Spotify application on your smartphone or tablet and create a Spotify premium account.

1. Connect the smartphone to the network that this unit is connected to.
2. Click the Connect icon in the track play screen of the Spotify app.
3. Select this unit.
4. This unit turns on automatically and the input selector changes to NET and streaming of Spotify starts.
  - If "5. Hardware" - "Power Management" - "Network Standby" is set to "Off" in the Setup menu, manually turn the unit on and then press NET on the remote controller.
  - Refer to the following for Spotify settings: [www.spotify.com/connect/](http://www.spotify.com/connect/)
  - The Spotify software is subject to third party licenses found here: [www.spotify.com/connect/third-party-licenses](http://www.spotify.com/connect/third-party-licenses)

The following remote controller operations are also possible.

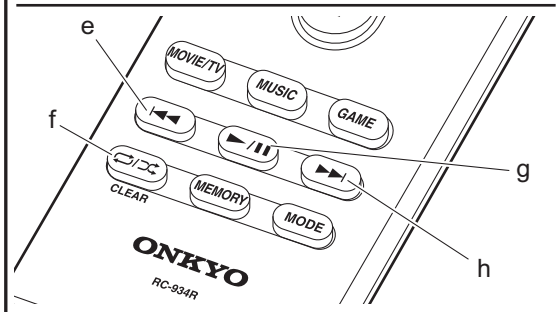
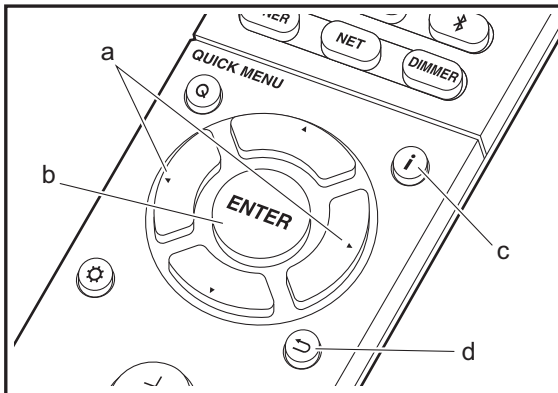
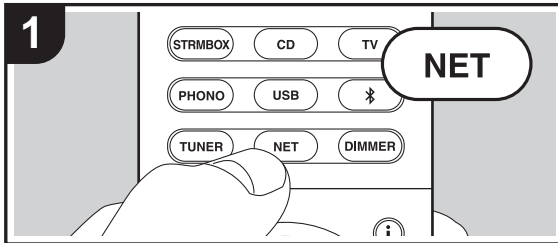
- (a) Pressed during play, this button changes the displayed track information.
- (b) This button plays the previous track.
- (c) This button lets you start repeat or random playback. Pressing this button repeatedly cycles through the repeat modes.
- (d) Pressed during play this button pauses playback. Pressed while paused, and it restarts play.
- (e) This button plays the next track.

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# Music Server



It is possible to stream music files stored on PCs or NAS devices connected to the same network as this unit. The network servers this unit is compatible with are those PCs with players installed that have the server functionality of Windows Media® Player 11 or 12, or NAS that are compatible with home network functionality. You may need to make some settings in advance to use Windows Media® Player 11 or 12. Note that only music files registered in the library of Windows Media® Player can be played.

## Configuring Windows Media® Player

### ■ Windows Media® Player 11

1. Turn on your PC and start Windows Media® Player 11.
2. In the "Library" menu, select "Media Sharing" to display a dialog box.
3. Select the "Share my media" check box, and then click "OK" to display the compatible devices.
4. Select this unit, click "Allow" and put a check mark next to the icon for this unit.
5. Click "OK" to close the dialog.
  - Depending of the version of Windows Media® Player, there may be differences in the names of items you can select.

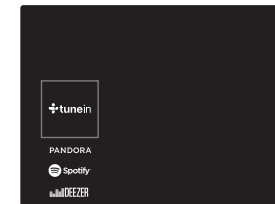
### ■ Windows Media® Player 12

1. Turn on your PC and start Windows Media® Player 12.
2. In the "Stream" menu, select "Turn on media streaming" to display a dialog box.
  - If media streaming is already turned on, select "More streaming options..." in the "Stream" menu to list players in the network, and then go to step 4.
3. Click "Turn on media streaming" to list players in the network.
4. Select this unit in "Media streaming options" and check that it is set to "Allow".
5. Click "OK" to close the dialog.
  - Depending of the version of Windows Media® Player,

there may be differences in the names of items you can select.

## Playing

1. Start the server (Windows Media® Player 11, Windows Media® Player 12, or NAS device) containing the music files to play.
2. Make sure that the PCs and/or NASs are properly connected to the same network as this unit.
3. Switch the input on the TV to that assigned to the unit.
4. Press NET on the remote controller.



5. With the cursors on the remote controller, select "Music Server", and then press ENTER (b).
6. Select the target server with the cursors on the remote controller and press ENTER (b) to display the items list screen.
7. With the cursors on the remote controller, select the music file to play, and then press ENTER (b) to start playback. To return to the previous screen, press (d).
  - If "No Item." is displayed, check whether the network is properly connected.
  - Depending on the server and share settings, the unit may not recognize it, or may not be able to play its music files. Furthermore, the unit cannot access pictures and videos stored on servers.
  - For music files on a server, there can be up to 20,000 tracks per folder, and folders may be nested up to 16 levels deep.

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The following remote controller operations are also possible.

- (a) When the folder or file lists are not shown on one screen, you can change the screen.
- (c) Pressed during play, this button changes the displayed track information. Pressed while a folder or file list is displayed, this button returns you to the play screen.
- (e) This button plays the previous track.
- (f) This button lets you start repeat or random playback. Pressing this button repeatedly cycles through the repeat modes.
- (g) Pressed during play this button pauses playback. Pressed while paused, and it restarts play.
- (h) This button plays the next track.

### Controlling Remote Playback from a PC

You can use this unit to play music files stored on your PC by operating the PC inside your home network. The unit supports remote playback with Windows Media® Player 12.

1. Turn on your PC and start Windows Media® Player 12.
2. Open the "Stream" menu and check that "Allow remote control of my Player..." is checked. Click "Turn on media streaming" to list players in the network.
3. Switch the input on the TV to that assigned to the unit.
4. Select and right-click the music file to play with Windows Media® Player 12. To remotely play a music file on another server, open the target server from "Other Libraries" and select the music file to play.
5. Select this unit in "Play to" to open the "Play to" window of Windows Media® Player 12 and start playback on the unit. If your PC is running on Windows® 8.1, click "Play to", and then select this unit.

If your PC is running on Windows® 10, click "Cast to Device", and select this unit. Operations during remote playback are possible from the "Play to" window on the PC. The playback screen is displayed on the TV connected to the HDMI output of the unit.

6. Adjust the volume using the volume bar on the "Play to" window.
  - Sometimes, the volume displayed on the remote playback window may differ from that appeared on the display of the unit. Also, when the volume is adjusted from this unit, this is not reflected in the "Play to" window.
  - Remote playback is not possible when using a network service or playing music files on a USB storage device.
  - Depending of the version of Windows®, there may be differences in the names of items you can select.

### Supported Audio Formats

This unit supports the following music file formats. Remote play of FLAC, DSD, and Dolby TrueHD is not supported.

#### MP3 (.mp3/.MP3):

- Supported formats: MPEG-1/MPEG-2 Audio Layer-3
- Supported sampling rates: 44.1 kHz, 48 kHz
- Supported bitrates: Between 8 kbps and 320 kbps and VBR.

#### WMA (.wma/.WMA):

- Supported sampling rates: 44.1 kHz, 48 kHz
- Supported bitrates: Between 5 kbps and 320 kbps and VBR.
- WMA Pro/Voice/WMA Lossless formats are not supported.

#### WAV (.wav/.WAV):

WAV files include uncompressed PCM digital audio.

- Supported sampling rates: 44.1 kHz, 48 kHz, 64 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
- Quantization bit: 8 bit, 16 bit, 24 bit

#### AIFF (.aiff/.aif/.aifc/.afc/.AIFF/.AIF/.AIFC/.AFC):

AIFF files include uncompressed PCM digital audio.

- Supported sampling rates: 44.1 kHz, 48 kHz, 64 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz

- Quantization bit: 8 bit, 16 bit, 24 bit

#### AAC (.aac/.m4a/.mp4/.3gp/.3g2/.AAC/.M4A/.MP4/.3GP/.3G2):

- Supported formats: MPEG-2/MPEG-4 Audio
- Supported sampling rates: 44.1 kHz, 48 kHz, 64 kHz, 88.2 kHz, 96 kHz
- Supported bitrates: Between 8 kbps and 320 kbps and VBR.

#### FLAC (.flac/.FLAC):

- Supported sampling rates: 44.1 kHz, 48 kHz, 64 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
- Quantization bit: 8 bit, 16 bit, 24 bit

#### LPCM (Linear PCM):

- Supported sampling rates: 44.1 kHz, 48 kHz
- Quantization bit: 16 bit

#### Apple Lossless (.m4a/.mp4/.M4A/.MP4):

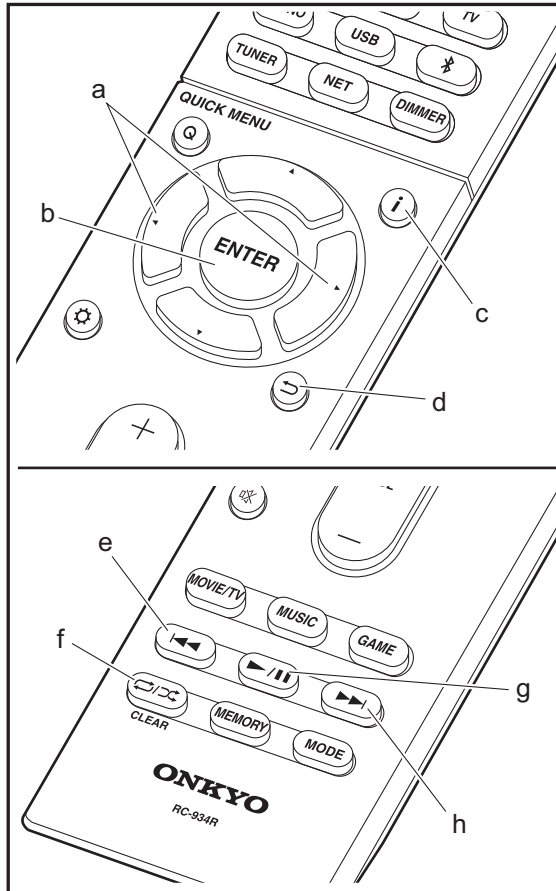
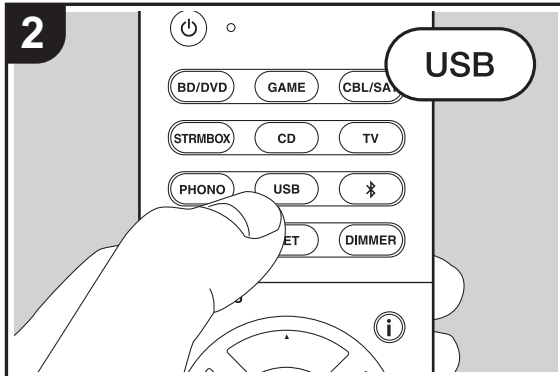
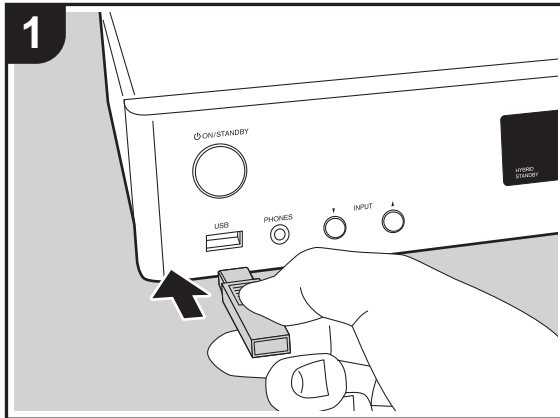
- Supported sampling rates: 44.1 kHz, 48 kHz, 64 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
- Quantization bit: 16 bit, 24 bit

#### DSD (.dsf/.dff/.DSF/.DFF):

- Supported formats: DSF/DSDIFF
- Supported sampling rates: 2.8 MHz, 5.6 MHz
- Variable bit-rate (VBR) files are supported. However, playback times may not be displayed correctly.
- Remote playback does not support the gapless playback.



# USB Storage Device



## Basic play

Play music files on a USB storage device.

1. Switch the input on the TV to that assigned to the unit.
2. Plug your USB storage device with the music files into the USB port on the front of this unit.
3. Press "USB" on the remote controller.
  - If the "USB" indicator flashes on the display, check whether the USB storage device is plugged in properly.
  - Do not unplug the USB storage device connected to this unit while "Connecting..." is on the display. This may cause data corruption or malfunction.
4. Press ENTER (b) on the remote controller in the next screen. The list of folders and music files on the USB storage device are displayed. Select the folder with the cursors and press ENTER (b) to confirm your selection.
  - To return to the previous screen, press ↵ (d).
5. With the cursors on the remote controller, select the music file, and then press ENTER (b) to start playback.
  - The USB port of this unit conforms with the USB 2.0 standard. The transfer speed may be insufficient for some content you play, which may cause some interruption in sound.

The following remote controller operations are also possible.

- (a) When the folder or file lists are not shown on one screen, you can change the screen.
- (c) Pressed during play, this button changes the displayed track information. Pressed while a folder or file list is displayed, this button returns you to the play screen.
- (e) This button plays the previous track.
- (f) This button lets you start repeat or random playback. Pressing this button repeatedly cycles through the repeat modes.
- (g) Pressed during play this button pauses playback. Pressed while paused, and it restarts play.
- (h) This button plays the next track.

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## USB Storage Device Requirements

- Note that operation is not guaranteed with all USB storage devices.
- This unit can use USB storage devices that comply with the USB mass storage device class standard. The unit is also compatible with USB storage devices using the FAT16 or FAT32 file system formats.
- If the USB storage device has been partitioned, each section will be treated as an independent device.
- Up to 20,000 tracks per folder can be displayed, and folders may be nested up to 16 levels deep.
- USB hubs and USB storage devices with hub functions are not supported. Do not connect these devices to the unit.
- USB storage devices with security function are not supported on this unit.
- If you connect a USB hard disk drive to the USB port of the unit, we recommend that you use its AC adapter to power it.
- Media inserted to the USB card reader may not be available in this function. Furthermore, depending on the USB storage device, proper reading of the contents may not be possible.
- We accept no responsibility whatsoever for the loss or damage to data stored on a USB storage device when that device is used with this unit. We recommend that you back up your important music files beforehand.

## Supported Audio Formats

For server playback and playback from a USB storage device, this unit supports the following music file formats. Note that sound files that are protected by copyright cannot be played on this unit.

### MP3 (.mp3/.MP3):

- Supported formats: MPEG-1/MPEG-2 Audio Layer 3
- Supported sampling rates: 44.1 kHz, 48 kHz

- Supported bitrates: Between 8 kbps and 320 kbps and VBR.

### WMA (.wma/.WMA):

- Supported sampling rates: 44.1 kHz, 48 kHz
- Supported bitrates: Between 5 kbps and 320 kbps and VBR.
- WMA Pro/Voice/WMA Lossless formats are not supported.

### WAV (.wav/.WAV):

WAV files include uncompressed PCM digital audio.

- Supported sampling rates: 44.1 kHz, 48 kHz, 64 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
- Quantization bit: 8 bit, 16 bit, 24 bit

### AIFF (.aiff/.aif/.aifc/.afc/.AIFF/.AIF/.AIFC/.AFC):

AIFF files include uncompressed PCM digital audio.

- Supported sampling rates: 44.1 kHz, 48 kHz, 64 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
- Quantization bit: 8 bit, 16 bit, 24 bit

### AAC (.aac/.m4a/.mp4/.3gp/.3g2/.AAC/.M4A/.MP4/.3GP/.3G2):

- Supported formats: MPEG-2/MPEG-4 Audio
- Supported sampling rates: 44.1 kHz, 48 kHz, 64 kHz, 88.2 kHz, 96 kHz
- Supported bitrates: Between 8 kbps and 320 kbps and VBR.

### FLAC (.flac/.FLAC):

- Supported sampling rates: 44.1 kHz, 48 kHz, 64 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
- Quantization bit: 8 bit, 16 bit, 24 bit

### Apple Lossless (.m4a/.mp4/.M4A/.MP4):

- Supported sampling rates: 44.1 kHz, 48 kHz, 64 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
- Quantization bit: 16 bit, 24 bit

### DSD (.dsf/.dff/.DSF/.DFF):

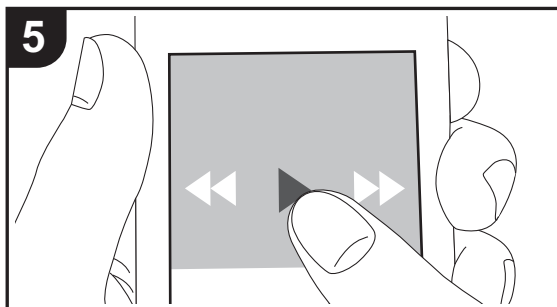
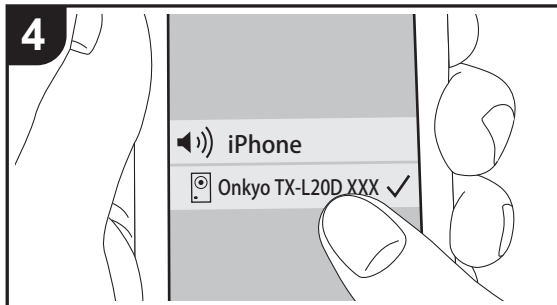
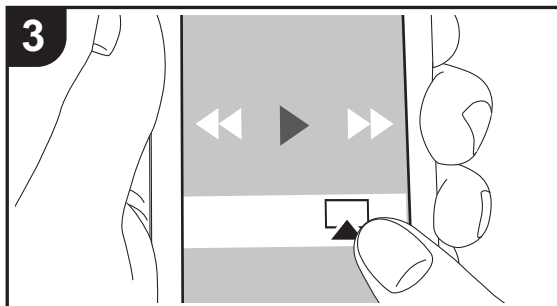
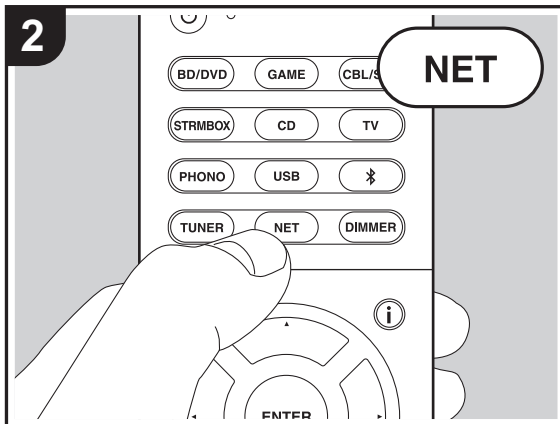
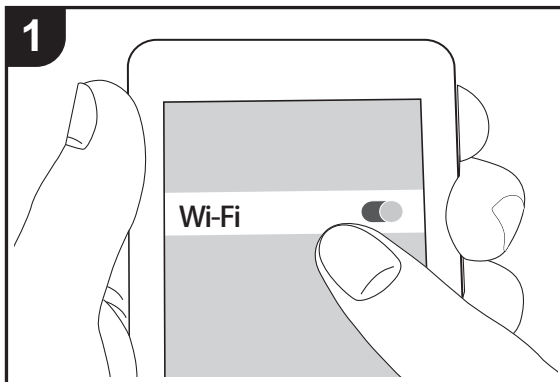
- Supported formats: DSF/DSDIFF
- Supported sampling rates: 2.8 MHz, 5.6 MHz

### Dolby TrueHD (.vr/.mlp/.VR/.MLP):

- Supported sampling rates: 44.1 kHz, 48 kHz, 64 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
- Variable bit-rate (VBR) files are supported. However, playback times may not be displayed correctly.
- This unit supports the gapless playback of the USB storage device in the following conditions. When playing WAV, FLAC and Apple Lossless, and the same format, sampling frequency, channels and quantization bit rate are played continuously.




# AirPlay®




## Basic play


You can wirelessly enjoy the music files on an iPhone®, iPod touch®, or iPad® connected to the same access point as this unit.

- Update the OS version on your iOS device to the latest version.

1. Connect the iOS device to the access point.
2. Press NET.
3. Tap the AirPlay icon  in the control center of the iOS device and select this unit from the list of devices displayed, and tap "Done".
4. Play the music files on the iOS device.

- The default status is for the Network Standby feature to be on, so when you do steps 3 and 4 above, this unit automatically comes on and input switches to "NET". To reduce the amount of power consumed in standby mode, press the  button on the remote controller, then in the Setup menu displayed set "5. Hardware" – "Power Management" – "Network Standby" to "Off".

- Due to the characteristics of AirPlay wireless technology, the sound produced on this unit may slightly be behind the sound played on the AirPlay-enabled device.

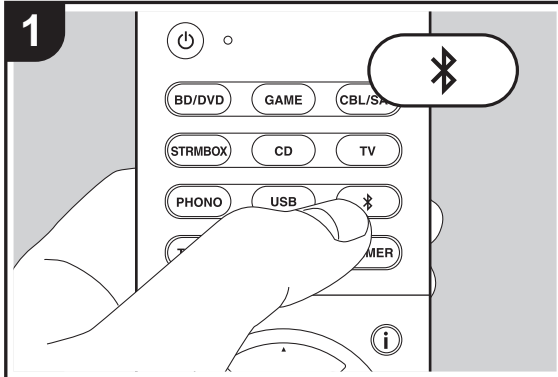
You can also play back music files on the computer with iTunes (Ver. 10.2 or later). Before operation, make sure this unit and the PC are connected to the same network, then press NET on this unit. Next, click the AirPlay icon  in iTunes, select this unit from the list of devices displayed, and start play of a music file.

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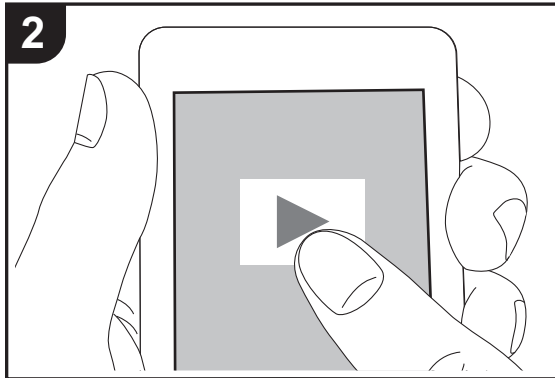
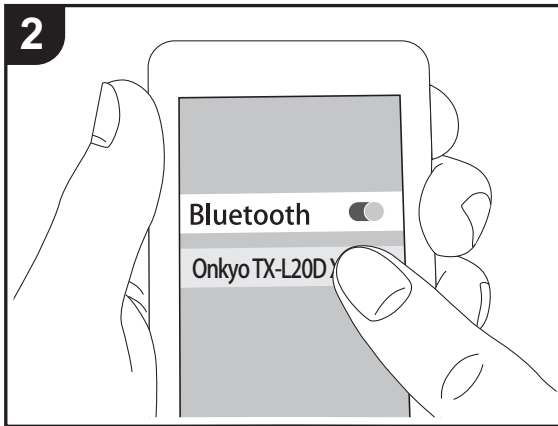
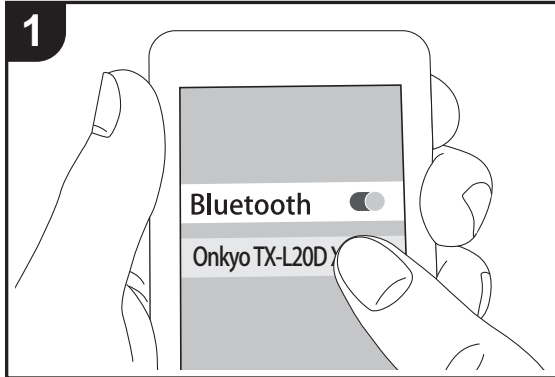


# BLUETOOTH® Playback

## Pairing



## Playing Back



## Pairing

1. When you press the button on the remote controller, "Now Pairing..." is displayed on this unit's display, and the pairing mode is enabled.

Now Pairing...

2. Enable (turn on) the BLUETOOTH function of the BLUETOOTH enabled device, then select this unit from amongst the devices displayed. If a password is requested, enter "0000".
  - To connect another BLUETOOTH enabled device, press and hold the button until "Now Pairing..." is displayed, then perform step 2 above. This unit can store the data of up to eight paired devices.
  - The coverage area is 15 meters (48 feet). Note that connection is not always guaranteed with all BLUETOOTH enabled devices.

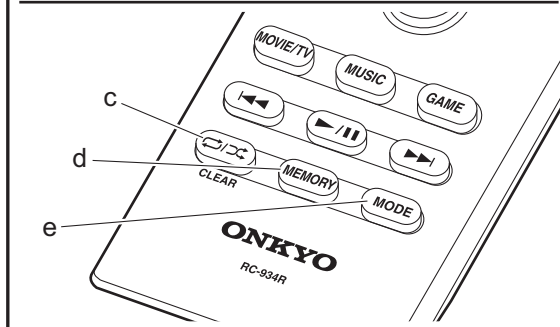
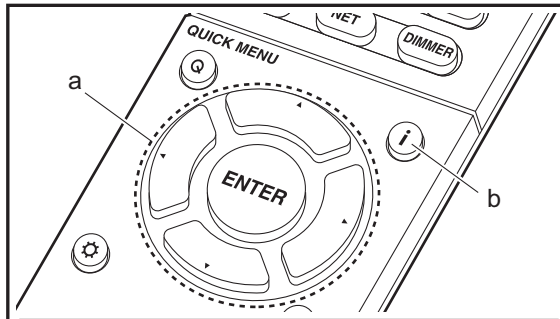
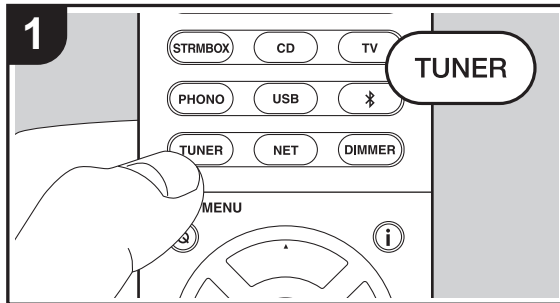
## Playing Back

1. When the unit is on, perform the connection procedure on the BLUETOOTH enabled device.
2. The input selector on this unit automatically switches to "BLUETOOTH".
3. Play the music files. Increase the volume of the BLUETOOTH enabled device to an appropriate level.
  - Due to the characteristics of BLUETOOTH wireless technology, the sound produced on this unit may slightly be behind the sound played on the BLUETOOTH enabled device.

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# Listening to the FM/DAB Radio



## Listening to FM Radio

### Tuning Automatically

1. Press TUNER on the remote controller repeatedly to select "FM" on the display.
2. Press MODE (e) on the remote controller so that "AUTO" appears on the display.
3. When you press the cursor ▲/▼ buttons (a) on the remote controller, automatic tuning starts, and searching stops when a station is found. When tuned into a radio station, the "TUNED" indicator on the display lights. When tuned into a stereo FM station, the "FM STEREO" indicator lights.
  - No sound is output while the "TUNED" indicator is off.

### When FM broadcasts reception is poor

Radio waves may be weak depending on the building structure and environmental conditions. In that case, perform the procedure as explained below in "Tuning Manually" to manually select the desired station.

### Tuning Manually

1. Press TUNER on the remote controller repeatedly to select "FM" on the display.
2. Press MODE (e) on the remote controller to turn off "AUTO" on the display.
3. While pressing the cursor ▲/▼ buttons (a) on the remote controller, select the desired radio station.
  - The frequency changes by 1 step each time you press the button. The frequency changes continuously if the button is held down and stops when the button is released. Tune by looking at the display.

### To return to the auto tuning mode

Press MODE (e) on the remote controller again so that "AUTO" appears on the display. The unit tunes automatically into a radio station.

## Using RDS

RDS stands for Radio Data System and is a method of transmitting data in FM radio signals. In regions using RDS, the radio station name is displayed when you tune into a radio station broadcasting program information. When you press i (b) on the remote controller in this state, you can use the following functions.

### Displaying text information (Radio Text)

1. While the name of the station is being displayed on the display, press i (b) on the remote controller once. Radio Text (RT) broadcast by the station is displayed scrolling across the display. "No Text Data" is displayed when no text information is available.
  - Unusual characters may be displayed when the unit receives unsupported characters. However, this is not a malfunction. Also, if the signal from a station is weak, information may not be displayed.

### Search for stations by Program Type

1. While the name of the station is being displayed on the display, press i (b) on the remote controller twice.
2. Press the cursor ◀▶ buttons (a) on the remote controller to select the Program Type you want to find, then press ENTER (a) to start the search. The Program Types displayed are as follows:
  - None
  - News (News reports)
  - Affairs (Current affairs)
  - Info (Information)
  - Sport
  - Educate (Education)
  - Drama
  - Culture
  - Science (Science and technology)
  - Varied
  - Pop M (Pop music)
  - Rock M (Rock music)

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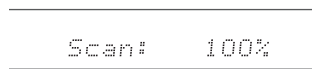



- Easy M (Middle of the road music)
- Light M (Light classics)
- Classics (Serious classics)
- Other M (Other music)
- Weather
- Finance
- Children (Children's programmes)
- Social (Social affairs)
- Religion
- Phone In
- Travel
- Leisure
- Jazz (Jazz music)
- Country (Country music)
- Nation M (National music)
- Oldies (Oldies music)
- Folk M (Folk music)
- Document (Documentary)

- The information displayed may sometimes not match the content being broadcast by the station.
3. When a station is found, the station flashes on the display. Press ENTER (a) while this is happening to start receiving that station. If you don't press ENTER (a), the unit continues to search for another station.
    - If no stations are found, the message "Not Found" is displayed.
    - Unusual characters may be displayed when the unit receives unsupported characters. However, this is not a malfunction. Also, if the signal from a station is weak, information may not be displayed.

### Listening to DAB Digital Radio

1. Press TUNER on the remote controller repeatedly to select "DAB" on the display.
  - The very first time you select DAB, the Auto Tuning function automatically scans the DAB Band 3 for the multiplexes (i.e., stations) available in your area.




- Once the scanning process is complete, the first station that was detected is selected.
  - If a new DAB station is introduced, or you move to a new area, press the  button on the remote controller, then in the Setup menu displayed set "6. Miscellaneous" – "Tuner" – "DAB Auto Scan".
2. Select the desired radio station with the cursors ▲ / ▼ buttons (a) on the remote controller.

### Changing the order stations are displayed

You can sort the available stations alphabetically or by multiplex.

1. Press MODE (e) repeatedly to set the method for sorting the display order from the following.
  - Alphabet (default setting):** Sort stations alphabetically.
  - Multiplex:** Sort stations by multiplex.

### Displaying DAB Radio Information

1. Press the  button (b) repeatedly to display more information about the selected DAB station.

**DLS (Dynamic Label Segment):** When tuned to a station that's broadcasting DLS text data, the text will scroll across the display.

**Program Type:** Displays the type of program.

**Bit Rate and Audio Mode:** Displays the station's bit rate and audio mode (Stereo, Mono).

**Quality:** Displays the signal quality.

0 - 59: Poor reception

60 - 79: Good reception

80 - 100: Excellent reception

**Multiplex Name:** Displays the name of the current multiplex.

**Multiplex Number and Frequency:** Displays the number and frequency of the current multiplex.





## Presetting a Radio Station

It allows you to register up to 40 of your favorite FM/DAB radio stations. Registering radio stations in advance allows you to tune into your radio station of choice directly.

1. Tune into the radio station you want to register.
2. Press MEMORY (d) on the remote controller so that the preset number on the display flashes.
3. While the preset number is flashing (about 8 seconds), repeatedly press the cursor ◀/▶ buttons (a) on the remote controller to select a number between 1 and 40.
4. Press MEMORY (d) on the remote controller again to register the station. When registered, the preset number stops flashing.

## Selecting a Preset Radio Station

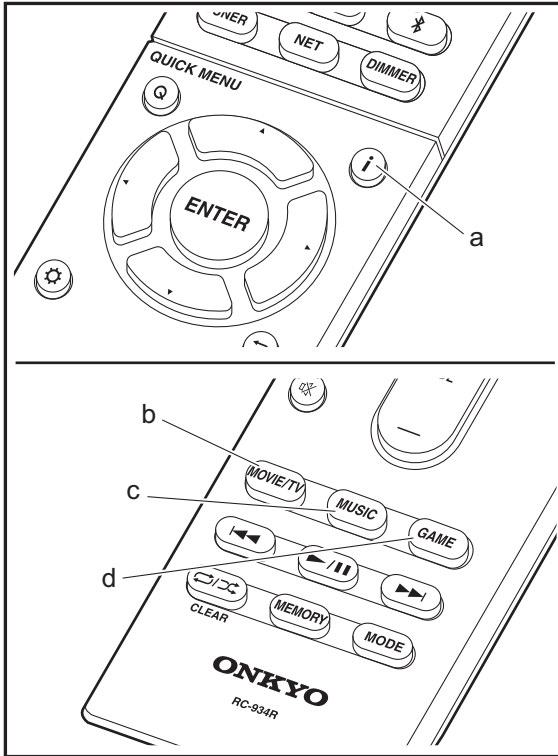
1. Press TUNER on the remote controller.
2. Press the cursor ◀/▶ buttons (a) on the remote controller to select a preset number.

## Deleting a Preset Radio Station

1. Press TUNER on the remote controller.
2. Press the cursor ◀/▶ buttons (a) on the remote controller to select the preset number to delete.
3. After pressing MEMORY (d) on the remote controller, press CLEAR (c) while the preset number is flashing to delete the preset number.
  - When deleted, the number on the display goes off.



# Listening Modes



## Regarding the Listening Modes

Press "MOVIE/TV" (b), "MUSIC" (c), or "GAME" (d) on the remote controller to select modes suited to movies or the television, music, or games respectively, enabling you to enjoy sound effects as follows.

The listening mode last selected with each button is remembered. If content you play is not supported by the listening mode you selected last, the listening mode that is standard for that content is selected automatically.

### Stereo

Press "MUSIC" (c) to select. This mode is suitable for playing music, with sound output from the front left and right speakers and subwoofer.

### Direct

In this mode, sound closer to the original is reproduced by shutting down processing that affects sound quality.

### Mono

Press "MOVIE/TV" (b) to select. In this mode, when the input signal is analog or PCM, the left and right speakers output the sound in monaural.

### T-D (Theater-Dimensional)

Press "MOVIE/TV" (b) or GAME (d) to select. In this mode, you can enjoy a virtual playback of multichannel surround sound even with only two or three speakers. This works by controlling how sounds reach the listener's left and right ears.

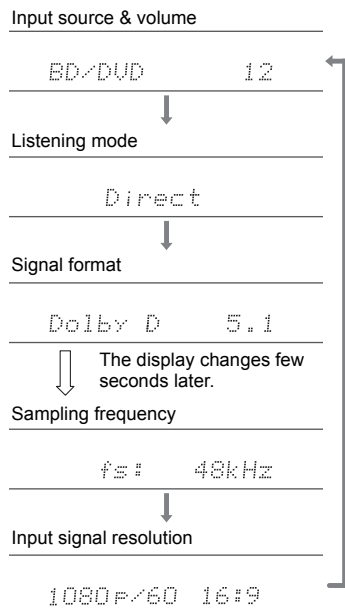
- With Dolby Digital and DTS input sources recorded with monaural or multiplex audio, you can select the "Dolby D", "Dolby D+", "DTS", or "DTS-HD MSTR" modes that play the source's format as is.
- Listening modes available when headphones are connected are: Mono, Direct and Stereo.

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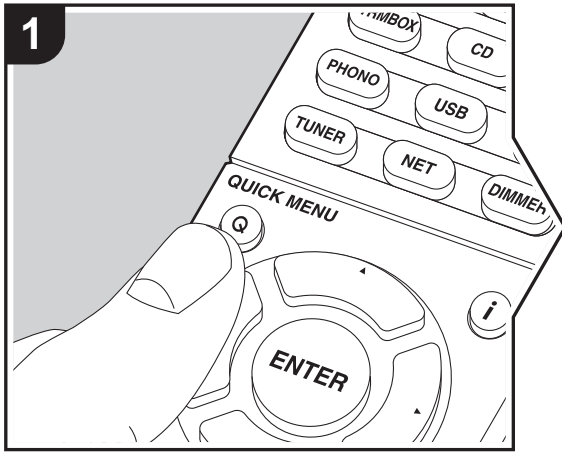
## How to Check Listening Modes and Other Information

Press **i** (a) repeatedly to switch the display of the main unit in order of:



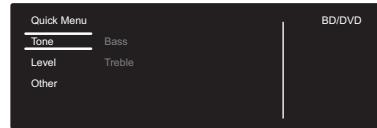


# Quick Menu



By pressing the Q button on the remote controller during play, you can adjust frequently used settings, such as the sound quality, using on-screen menus.

1. Press Q on the remote controller.
2. After the Quick Menu is displayed, select the content with ▲/▼ on the remote controller and press ENTER to confirm your selection.



- Change the initial values for each of the settings with the cursors ◀▶.
  - To return to the previous screen, press ↶.
3. To exit the settings, press Q.

### ■ Tone

**Bass:** Enhance or moderate the bass range of the front speakers.

**Treble:** Enhance or moderate the treble range of the front speakers.

- It cannot be set if the listening mode is Direct.

### ■ Level

**Subwoofer:** Adjust the speaker level of the subwoofer while listening to some sound.

- The adjustment you made will be reset to the previous status when you turn the unit to standby mode.

### ■ Other

**A/V Sync:** If the video is behind the audio, you can delay the audio to offset the gap. Different settings can be set for each input selector.

- It cannot be set if the listening mode is Direct.

**Music Optimizer:** Improve the quality of the compressed audio. Playback sound of lossy compressed files such as MP3 will be improved. The setting can be separately set to each input selector. The setting is effective in the signals of 48 kHz or less. The setting is not effective in the bitstream signals.

- It cannot be set if the listening mode is Direct.

**Late Night:** Make small sounds easily heard. It is useful when you need to reduce the volume while watching a movie late night. You can enjoy the effect only when playing Dolby series and DTS series input signals.

- The setting cannot be used in the following cases.
  - If "3. Audio Adjust" - "Dolby" - "Loudness Management" (→P34) in the Setup menu is set to "Off" when playing Dolby Digital Plus or Dolby TrueHD

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## Other Functions

### Playing Audio and Video from Separate Sources

It is possible to play audio and video from different sources. For example, you can play audio from the CD player and video from the BD/DVD player. The procedure in this case is as follows:

1. Press BD/DVD on the remote controller.
2. Press CD on the remote controller.
3. Start playback on the BD/DVD player and CD player.

Perform the following steps to play the video from a different source to suit the audio from a NET, USB or BLUETOOTH input source.

1. Press NET, USB or  on the remote controller to play the audio.
2. Press MODE on the remote controller and the video input select immediately preceding this operation can be played.
3. Start play of the video input source.
4. Each press of MODE displays or turns off the video.



## Supplementary information for player functions

Due to firmware (the software for the system) updates after you make your purchase or firmware changes during production of the product, there may be additions or changes to the features available compared to what is in the instruction manual.

For information about player functions that have been added or changed, see the following references.

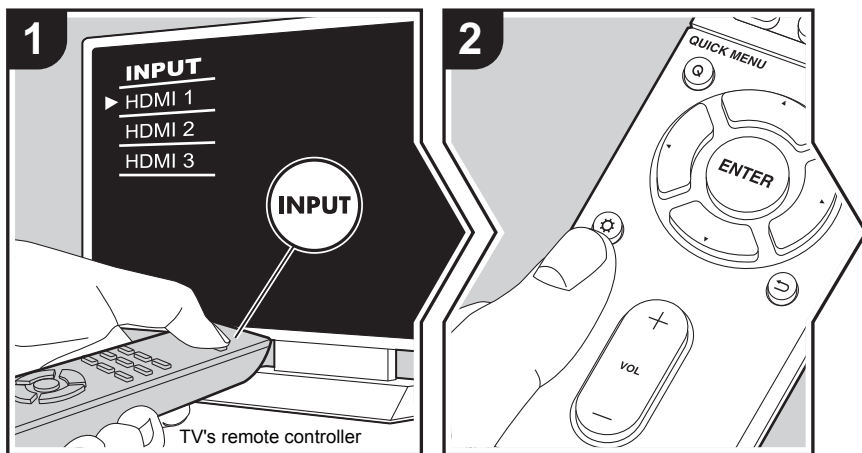
[Supplementary information for player functions](#)

>>> [Click here](#) <<<



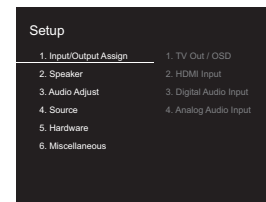


# Setup Menu



The unit allows you to configure advanced settings to provide you with an even better experience.

1. Switch the input on the TV to that assigned to the unit.
2. Press ⚙️ on the remote controller.
3. After the Setup menu is displayed, select the content with ▲/▼ on the remote controller and press ENTER to confirm your selection.



- Change the initial values for each of the settings with the cursors ◀️/▶️.
- To return to the previous screen, press ↶.
- 4. To exit the settings, press ⚙️.

## 1. Input/Output Assign

### ■ 1. TV Out / OSD

1080p -> 4K Upscaling	When using a TV that supports 4K, video signals input at 1080p can be automatically upscaled to 4K for output. "Off (Default Value)": When not using this function "Auto": Use this function • Select "Off" if your TV does not support 4K.
Super Resolution	When you have set "1080p -> 4K Upscaling" to "Auto", you can select the degree of video signal correction from "Off" and between "1" (weak) and "3" (strong).
OSD Language	Select the on-screen display language. English, German, French, Spanish, Italian, Dutch, Swedish, Russian, Chinese

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Impose OSD	Set whether or not to display the information on the TV when the volume is adjusted or input is changed, for example. "On (Default Value)": OSD displayed on the TV "Off": OSD not displayed on the TV • OSD may not be displayed depending on the input signal even if "On" is selected. If the operation screen is not displayed, change the resolution of the connected device.
Screen Saver	Set the time to start the screen saver. Select a value from "3 minutes (Default Value)", "5 minutes", "10 minutes" and "Off".

## ■ 2. HDMI Input

You can change input assignment between the input selectors and HDMI IN jacks.

BD/DVD	"HDMI 1 (HDCP 2.2)" to "HDMI 4 (HDCP 2.2)": Assign a desired HDMI IN jack to the BD/DVD input selector. If you do not assign a jack, select "-----". To select an HDMI IN jack already assigned to another input selector, change the input selector setting to "---" first. (Default Value is "HDMI 1 (HDCP 2.2)")
CBL/SAT	"HDMI 1 (HDCP 2.2)" to "HDMI 4 (HDCP 2.2)": Assign a desired HDMI IN jack to the CBL/SAT input selector. If you do not assign a jack, select "-----". To select an HDMI IN jack already assigned to another input selector, change the input selector setting to "---" first. (Default Value is "HDMI 2 (HDCP 2.2)")
GAME	"HDMI 1 (HDCP 2.2)" to "HDMI 4 (HDCP 2.2)": Assign a desired HDMI IN jack to the GAME input selector. If you do not assign a jack, select "-----". To select an HDMI IN jack already assigned to another input selector, change the input selector setting to "-----" first. (Default Value is "HDMI 4 (HDCP 2.2)")
STRM BOX	"HDMI 1 (HDCP 2.2)" to "HDMI 4 (HDCP 2.2)": Assign a desired HDMI IN jack to the STRM BOX input selector. If you do not assign a jack, select "-----". To select an HDMI IN jack already assigned to another input selector, change the input selector setting to "-----" first. (Default Value is "HDMI 3 (HDCP 2.2)")

CD	"HDMI 1 (HDCP 2.2)" to "HDMI 4 (HDCP 2.2)": Assign a desired HDMI IN jack to the CD input selector. If you do not assign a jack, select "-----". To select an HDMI IN jack already assigned to another input selector, change the input selector setting to "-----" first. (Default Value is "-----")
TV	"HDMI 1 (HDCP 2.2)" to "HDMI 4 (HDCP 2.2)": Assign a desired HDMI IN jack to the TV input selector. If you do not assign a jack, select "-----". To select an HDMI IN jack already assigned to another input selector, change the input selector setting to "-----" first. (Default Value is "-----")
PHONO	"HDMI 1 (HDCP 2.2)" to "HDMI 4 (HDCP 2.2)": Assign a desired HDMI IN jack to the PHONO input selector. If you do not assign a jack, select "-----". To select an HDMI IN jack already assigned to another input selector, change the input selector setting to "---" first. (Default Value is "-----")

## ■ 3. Digital Audio Input

You can change input assignment between the input selectors and DIGITAL IN COAXIAL/OPTICAL jacks. If you do not assign a jack, select "-----".

BD/DVD	"COAXIAL", "OPTICAL" : Assign a desired DIGITAL IN jack to the BD/DVD input selector. (Default Value is "-----")
CBL/SAT	"COAXIAL", "OPTICAL" : Assign a desired DIGITAL IN jack to the CBL/SAT input selector. (Default Value is "-----")
GAME	"COAXIAL", "OPTICAL" : Assign a desired DIGITAL IN jack to the GAME input selector. (Default Value is "-----")
STRM BOX	"COAXIAL", "OPTICAL" : Assign a desired DIGITAL IN jack to the STRM BOX input selector. (Default Value is "-----")
CD	"COAXIAL", "OPTICAL" : Assign a desired DIGITAL IN jack to the CD input selector. (Default Value is "COAXIAL")
TV	"COAXIAL", "OPTICAL" : Assign a desired DIGITAL IN jack to the TV input selector. (Default Value is "OPTICAL")
PHONO	"COAXIAL", "OPTICAL" : Assign a desired DIGITAL IN jack to the PHONO input selector. (Default Value is "-----")





- Supported sampling rates for PCM signals (stereo, mono) from a digital input are 32kHz, 44.1kHz, 48kHz, 88.2kHz, 96kHz/16bit, 20bit, and 24bit.

#### ■ 4. Analog Audio Input

You can change input assignment between the input selectors and AUDIO IN jacks. If you do not assign a jack, select "-----".

BD/DVD	"AUDIO 1" to "AUDIO 2": Assign a desired AUDIO IN jack to the BD/DVD input selector. (Default Value is "AUDIO 1")
CBL/SAT	"AUDIO 1" to "AUDIO 2": Assign a desired AUDIO IN jack to the CBL/SAT input selector. (Default Value is "AUDIO 2")
GAME	"AUDIO 1" to "AUDIO 2": Assign a desired AUDIO IN jack to the GAME input selector. (Default Value is "-----")
STRM BOX	"AUDIO 1" to "AUDIO 2": Assign a desired AUDIO IN jack to the STRM BOX input selector. (Default Value is "-----")
CD	"AUDIO 1" to "AUDIO 2": Assign a desired AUDIO IN jack to the CD input selector. (Default Value is "-----")
TV	"AUDIO 1" to "AUDIO 2": Assign a desired AUDIO IN jack to the TV input selector. (Default Value is "-----")
PHONO	(Default Value is "PHONO") The setting cannot be changed.

## 2. Speaker

You can make changes to the connection environment of the speakers and change the volume level. This setting cannot be selected if headphones are connected or audio is output from the speakers of the TV because "5. Hardware" - "HDMI" - "Audio TV Out" is set to "On".

### ■ 1. Configuration

Subwoofer	Set whether a subwoofer is connected or not. "Yes (Default Value)": When subwoofer is connected "No": When subwoofer is not connected
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### ■ 2. Crossover

Front	Select the crossover frequency from "40Hz" to "200Hz" to start outputting frequencies for each channel. (Default Value is "120Hz") "Full Band": Full band will be output. • If "Configuration" - "Subwoofer" is set to "No", "Front" will be fixed to "Full Band" and the low pitched range of the other channels will be output from the front speakers. Refer to the instruction manual of your speakers to make the setting.
LPF of LFE	Set the low-pass filter for LFE (low-frequency effect) signals in order to pass lower frequency signals than the set value and thus cancel unwanted noises. The low-pass filter will be effective only on sources with LFE channel. The value from "80Hz" to "120Hz (Default Value)" can be set. "Off": Do not use this function
Double Bass	This can be selected only when "Configuration" - "Subwoofer" is set to "Yes" and "Front" is set to "Full Band". Boost bass output by feeding bass sounds from the front left and right speakers to the subwoofer. "On": Bass output will be boosted "Off": Bass output will not be boosted



### ■ 3. Distance

Set the distance from each speaker to the listening position.

Front Left	Specify the distance between each speaker and the listening position. (Default Value is "12.0ft/3.60m")
Front Right	Specify the distance between each speaker and the listening position. (Default Value is "12.0ft/3.60m")
Subwoofer	Specify the distance between each speaker and the listening position. (Default Value is "12.0ft/3.60m")


- Default values vary depending on the regions.
- Distance units can be switched by pressing MODE on the remote controller. When the unit is set as feet, you can set between 0.1 ft and 30.0 ft in increments of 0.1 ft. When the unit is set as meters, you can set between 0.03 m and 9.00 m in increments of 0.03 m.

### ■ 4. Level Calibration

Front Left	Select a value between "- 12 dB" and "+ 12 dB" (in 1 dB increments). A test tone will be output each time you change the value. Select the desired level (Default Value is "0 dB").
Front Right	Select a value between "- 12 dB" and "+ 12 dB" (in 1 dB increments). A test tone will be output each time you change the value. Select the desired level (Default Value is "0 dB").
Subwoofer	Select a value between "- 15 dB" and "+ 12 dB" (in 1 dB increments). A test tone will be output each time you change the value. Select the desired level (Default Value is "0 dB").

### 3. Audio Adjust

#### ■ 1. Multiplex/Mono

Multiplex Input Channel	Set the audio channel or language to be output when playing multiplex audio or multilingual TV broadcasts etc. "Main (Default Value)": Main channel only "Sub": Sub channel only "Main / Sub": Main and sub channels will be output at the same time. • If multiplex audio is being played, "1+1" will be displayed on the display of this unit when  on the remote controller is pressed.
Mono Input Channel	Set the input channel to use for playing any 2 ch digital source such as Dolby Digital, or 2 ch analog/PCM source in the Mono listening mode. "Left": Left channel only "Right": Right channel only "Left + Right (Default Value)": Left and right channels

#### ■ 2. Dolby

Loudness Management	When playing Dolby TrueHD, enable the dialog normalization function which keeps the volume of dialog at a certain level. Note that when this setting is Off, the Late Night function that allows you to enjoy surround at low volumes is fixed to off when playing Dolby Digital Plus/Dolby TrueHD. "On (Default Value)": Use this function "Off": Do not use this function
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### ■ 3. LFE Level

Set the low-frequency effect (LFE) level for Dolby Digital series, DTS series, Multichannel PCM, and DSD signals.

LFE Level	Select the low-frequency effect (LFE) level of each type of signal from "0 dB (Default Value)" to "-∞ dB". If the low-frequency effect sound is too strong, select "-20 dB" or "-∞ dB".
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### ■ 4. Volume

Maximum Volume	Set the maximum value to avoid too high volume. Select "Off (Default Value)" or a value between "30" and "49".
Headphone Level	Adjust the output level of the headphones. Select a value between "-12 dB" and "+12 dB". (Default Value is "0 dB")

## 4. Source

### ■ 1. IntelliVolume

Adjust the volume level difference between the devices connected to the unit. Select the input selector to configure.

IntelliVolume	Select a value between "-12 dB" and "+12 dB". Set a negative value if the volume of the target device is larger than the others and a positive value if smaller. To check the audio, start playback of the connected device. (Default Value is "0 dB")
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### ■ 2. Name Edit

Set an easy name to each input. The set name will be shown on the main unit display. Select the input selector to configure.

Name Edit	<ol style="list-style-type: none"> <li>Select a character or symbol with the cursors and press ENTER. Repeat it to input 10 or less characters. "A/a": Switches between upper and lower cases. (Pressing MODE on the remote controller also toggles between upper and lower cases) "←" "→": Moves the cursor to the arrow direction. "⊞": Removes a character on the left of the cursor. "␣": Enters a space. <ul style="list-style-type: none"> <li>Pressing CLEAR on the remote controller will remove all the input characters.</li> </ul> </li> <li>After inputting, select "OK" with the cursors and press ENTER. The input name will be saved.</li> </ol>
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- To name a preset radio station, press TUNER on the remote controller, select FM/DAB and select the preset number.
- This cannot be set if the "NET", "USB" or "BLUETOOTH" input is selected.



### ■ Audio Select

Select the priority for input selection when multiple audio sources are connected to one input selector, such as connections to both the "BD/DVD" HDMI IN jack and the "BD/DVD" AUDIO IN jack. The setting can be separately set to each input selector button. Select the input selector to configure. Note that there are some default values you cannot change.

Audio Select	<p>"ARC": When giving priority to input signal from ARC compatible TV.</p> <ul style="list-style-type: none"> <li>The setting can be selected only when "5. Hardware" - "HDMI" - "Audio Return Channel" is set to "Auto" and also the "TV" input is selected.</li> </ul> <p>"HDMI": When giving priority to input signal from HDMI IN jacks</p> <ul style="list-style-type: none"> <li>The setting can be selected only when the input is assigned to the HDMI jack in the "1. Input/Output Assign" - "HDMI Input" setting.</li> </ul> <p>"COAXIAL": When giving priority to input signal from DIGITAL IN COAXIAL jacks</p> <ul style="list-style-type: none"> <li>The setting can be selected only when the input is assigned to the COAXIAL jack in the "1. Input/Output Assign" - "Digital Audio Input" setting.</li> </ul> <p>"OPTICAL": When giving priority to input signal from DIGITAL IN OPTICAL jacks</p> <ul style="list-style-type: none"> <li>The setting can be selected only when the input is assigned to the OPTICAL jack in the "1. Input/Output Assign" - "Digital Audio Input".</li> </ul> <p>"Analog": To always output analog audio independently of the input signal</p> <ul style="list-style-type: none"> <li>The setting can be selected only when the input is assigned to the AUDIO IN jack in the "1. Input/Output Assign" - "Analog Audio Input" setting.</li> </ul> <p>(Default Value: BD/DVD: HDMI, CBL/SAT: HDMI, GAME: HDMI, STRM BOX: HDMI, CD: COAXIAL, TV: OPTICAL, PHONO: Analog)</p>
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PCM Fixed Mode	<p>Select whether to fix input signals to PCM (except multi-channel PCM) when you have selected "HDMI", "COAXIAL", or "OPTICAL" in the "Audio Select" setting. Set this item to "On" if noise is produced or truncation occurs at the beginning of a track when playing PCM sources. Select "Off (Default Value)" normally.</p> <ul style="list-style-type: none"> <li>Changing "Audio Select" changes the setting to "Off".</li> </ul>
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- The setting cannot be changed when "TUNER", "NET", "USB" or "BLUETOOTH" input is selected.

### ■ Video Select

When "TUNER", "NET", "USB" or "BLUETOOTH" input is selected, you can set the input from which video is displayed on the TV.

Video Select	<p>"Last (Default Value)": Select the video input played immediately prior.</p> <p>"BD/DVD", "CBL/SAT", "GAME", "STRM BOX", "CD", "TV", "PHONO": Play the video from the selected input.</p> <ul style="list-style-type: none"> <li>This setting is effective for an input selector which is assigned in "1. Input/Output Assign" - "HDMI Input".</li> </ul>
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- If the OSD language is set to Chinese, you can only select this setting when "TUNER" is selected as input.



## 5. Hardware

### ■ 1. HDMI

HDMI CEC	<p>Setting to "On" enables the input selection link and other link functions with HDMI connected CEC compliant device.</p> <p>"On": Use this function  "Off (Default Value)": Do not use this function</p> <p>When changing this setting, turn off and then on again the power of all connected components.</p> <ul style="list-style-type: none"> <li>Depending on the TV set, a link may need to be configured on the TV.</li> <li>Setting to "On" and closing the on-screen menu displays the name of the CEC-compatible components and "CEC On" on the display of this unit.</li> <li>Power consumption in standby mode may increase if "On" is set. (Depending on the TV status, the unit will enter the normal standby mode.)</li> <li>If you operate the volume dial on the unit when this setting is "On" and audio is output from the TV speakers, audio will be output also from the speakers connected to the unit. If you want to output from only either of them, change the unit or TV settings, or reduce the volume of the unit.</li> <li>If abnormal operation occurs when you set the setting to "On", set it to "Off".</li> <li>When connecting a non-CEC compatible component, or when you are not sure whether it is compatible, set the setting to "Off".</li> </ul>
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HDMI Standby Through	<p>When this is set to anything other than "Off", you can play the video and audio of an HDMI connected player on the TV even if the unit is in standby mode. Only "Auto" and "Auto (Eco)" can be selected if "HDMI CEC" is set to "On". If you select anything else, set "HDMI CEC" to "Off". (Default Value is "Off")</p> <ul style="list-style-type: none"> <li>Power consumption in standby mode increases if set to anything other than "Off".</li> </ul> <p>"BD/DVD", "CBL/SAT", "GAME", "STRM BOX", "CD", "TV", "PHONO": For example, if you select "BD/DVD", you can play the equipment connected to the "BD/DVD" jack on the TV even if the unit is in standby mode. Select this setting if you have decided which player to use with this function.</p> <p>"Last": You can play the video and audio of the input selected immediately prior to the unit being switched to standby on the TV. When "Last" is selected, you can switch the input of the unit with the remote controller even in the standby mode.</p> <p>"Auto", "Auto (Eco)": Select one of these settings when you have connected equipment that conforms to the CEC standard. You can play the video and audio of the input selected on the TV, irrespective of what input was selected immediately prior to the unit being switched to standby, using the CEC link function.</p> <ul style="list-style-type: none"> <li>To play players on the TV that do not conform to the CEC standard, you will need to turn the unit on and switch to the relevant input.</li> <li>When using TV that complies with the CEC standard, you can reduce the power consumption in standby mode by selecting "Auto (Eco)".</li> </ul>
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Audio TV Out	<p>You can enjoy audio through the speakers of the TV while this unit is on.</p> <p>"On": Use this function</p> <p>"Off (Default Value)": Do not use this function</p> <ul style="list-style-type: none"> <li>The setting is fixed to "Auto" if "HDMI CEC" is set to "On". If you change this setting, set "HDMI CEC" to "Off".</li> <li>Listening mode cannot be changed while "Audio TV Out" is set to "On" and audio is being output through the speakers of the TV.</li> <li>Depending on your TV set or input signal of the component, audio may not output through the speakers of the TV even if this setting is set to "On". In such case, audio is output from the speakers of the unit.</li> <li>If you operate the volume dial on this unit when audio that is being input through this unit for output from the TV speakers, audio is output from this unit. If you do not want to output audio from the unit, change the unit or TV settings, or reduce the volume of the unit.</li> </ul>
Audio Return Channel	<p>You can enjoy sound of the HDMI connected ARC compatible TV through the speakers connected to the unit.</p> <p>To use this function, set "HDMI CEC" to "On" in advance.</p> <p>"Auto": When enjoying the TV sound through the speakers connected to the unit</p> <p>"Off": When not using the ARC function</p>
Auto Lip Sync	<p>This setting automatically corrects any desynchronization between the video and audio signals based on data from the HDMI LipSync compatible TV.</p> <p>"On (Default Value)": Automatic correction will be enabled.</p> <p>"Off": Automatic correction will be disabled.</p>

## ■ 2. Network

- When LAN is configured with a DHCP, set "DHCP" to "Enable" to configure the setting automatically. To assign fixed IP addresses to each component, you must set "DHCP" to "Disable" and assign an address to this unit in "IP Address" as well as set information related to your LAN, such as Subnet Mask and Gateway.

Wi-Fi	<p>Connect the unit to network via wireless LAN router.</p> <p>"On": Wireless LAN connection</p> <p>"Off (Wired) (Default Value)": Wired LAN connection</p>
Wi-Fi Setup	<p>You can configure wireless LAN settings by pressing ENTER when "Start" is displayed.</p> <ul style="list-style-type: none"> <li>Refer to "2. Network Connection" (➔P13) in Initial Setup for details.</li> </ul>
Wi-Fi Status	<p>The information of the connected access point will be displayed.</p> <p>"SSID": SSID of the connected access point.</p> <p>"Signal": Signal strength of the connected access point.</p> <p>"Status": Status of the connected access point.</p>
MAC Address	<p>This is the MAC address of this unit.</p> <p>This value is specific to the component and cannot be changed.</p>
DHCP	<p>"Enable (Default Value)": Auto configuration by DHCP</p> <p>"Disable": Manual configuration without DHCP</p> <p>If selecting "Disable", you must set "IP Address", "Subnet Mask", "Gateway", and "DNS Server" manually.</p>
IP Address	Displays/Sets the IP address.
Subnet Mask	Displays/Sets the subnet mask.
Gateway	Displays/Sets the gateway.
DNS Server	Displays/Sets the primary DNS server.
Proxy URL	Displays/Sets the proxy server URL.
Proxy Port	Displays/Sets the proxy server port number when you enter "Proxy URL".



Friendly Name	<p>Change the device name for this unit which is shown on other devices connected to the network to an easily recognized name. This is set to Onkyo TX-L20D * * * * * at the time of purchase. (" * " stand for alphanumeric characters identifying each unit)</p> <ol style="list-style-type: none"> <li>1. Press ENTER to display the Edit screen.</li> <li>2. Select a character or symbol with the cursors and press ENTER. Repeat it to input 31 or less characters. "A/a": Switches between upper and lower cases. (Pressing MODE on the remote controller also toggles between upper and lower cases.) " ← " " → ": Moves the cursor to the arrow direction. " ⊞ ": Removes a character on the left of the cursor. " ⊞ ": Enters a space.</li> <li>• Pressing CLEAR on the remote controller will remove all the input characters.</li> <li>3. After inputting, select "OK" with the cursors and press ENTER. The input name will be saved.</li> </ol>
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AirPlay Password	<p>You can set a password of up to 31 characters so that only registered users can use AirPlay.</p> <ol style="list-style-type: none"> <li>1. Press ENTER to display the Edit screen.</li> <li>2. Select a character or symbol with the cursors and press ENTER. Repeat it to input 31 or less characters. "A/a": Switches between upper and lower cases. (Pressing MODE on the remote controller also toggles between upper and lower cases.) " ← " " → ": Moves the cursor to the arrow direction. " ⊞ ": Removes a character on the left of the cursor. " ⊞ ": Enters a space.</li> <li>• To select whether to mask the password with "*" or display it in plain text, press MEMORY on the remote controller.</li> <li>• Pressing CLEAR on the remote controller will remove all the input characters.</li> <li>3. After inputting, select "OK" with the cursors and press ENTER. The input password will be saved.</li> </ol>
Usage Data	<p>As a means of improving the quality of our products and services, our company may collect information about your usage over the network. Select "Yes" if you agree to our collecting this information. Select "No" if you do not want us to collect this information. (Default Value is "No")</p> <p>You can set this after confirming the Privacy Policy. When you select "Usage Data" and press ENTER, the Privacy Policy is displayed. (The same screen is displayed once also when setting up the network connection.) If you agree to the collection of the information, this setting also becomes "Yes". Note that if you agree to the Privacy Policy but select "No" for this setting, the information will not be collected.</p>
Network Check	<p>You can check the network connection. Press ENTER when "Start" is displayed.</p>

- Wait for a while if "Network" cannot be selected. It will appear when the network feature is started.



■ 3. Bluetooth

Bluetooth	Select whether or not to use the BLUETOOTH function. "On (Default Value)": Enables connection with a BLUETOOTH enabled device by using the BLUETOOTH function. Select "On" also when making various BLUETOOTH settings. "Off": When not using the BLUETOOTH function
Auto Input Change	The input of the unit will automatically be switched to "BLUETOOTH" when connection is made from a BLUETOOTH enabled device to the unit. "On (Default Value)": The input will automatically become "BLUETOOTH" when a BLUETOOTH enabled device is connected. "Off": The function is disabled. • If the input is not switched automatically, set to "Off" and change the input manually.
Auto Reconnect	This function automatically reconnects to the BLUETOOTH enabled device connected last when you change the input to "BLUETOOTH". "On (Default Value)": Use this function "Off": Do not use this function • This may not work with some BLUETOOTH enabled devices.
Pairing Information	You can initialize the pairing information saved on this unit. Pressing ENTER when "Clear" is displayed initializes the pairing information stored in this unit. • This function does not initialize the pairing information on the BLUETOOTH enabled device. When pairing the unit again with the device, be sure to clear the pairing information on the BLUETOOTH enabled device in advance. For information on how to clear the pairing information, refer to the BLUETOOTH enabled device's instruction manual.
Device	Displays the name of the BLUETOOTH enabled device connected to the unit. • The name is not displayed when "Status" is "Ready" and "Pairing".

Status	Displays the status of the BLUETOOTH enabled device connected to the unit. "Ready": Not paired "Pairing": Paired "Connected": Successfully connected
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- Wait for a while if "Bluetooth" cannot be selected. It will appear when the BLUETOOTH function is started up.

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#### ■ 4. Power Management

Sleep Timer	Allows the unit to enter standby automatically when the specified time elapses. Select from "30 minutes", "60 minutes", and "90 minutes". "Off (Default Value)": Does not turn the unit to standby automatically.
Auto Standby	This setting places the unit on standby automatically after 20 minutes of inactivity without any video or audio input. (When "USB Power Out at Standby" or "Network Standby" is on, this becomes the HYBRID STANDBY mode which reduces the increase in power consumption to a minimum.) "On (Default Value)": The unit will automatically enter standby mode ("ASb" will stay lit). "Off": The unit will not automatically enter standby mode. <ul style="list-style-type: none"> <li>"Auto Standby" is displayed on the display of this unit and TV screen 30 seconds before the Auto Standby comes on.</li> </ul>
Auto Standby in HDMI Standby Through	Enable or disable "Auto Standby" while "HDMI Standby Through" is on. "On": The setting will be enabled. "Off": The setting will be disabled. <ul style="list-style-type: none"> <li>This setting cannot be set to "On" if "Auto Standby" is set to "Off".</li> </ul>
USB Power Out at Standby	Devices connected to the USB port are supplied with electricity even when this unit is in standby mode when this function is "On". (Default Value is "Off") <ul style="list-style-type: none"> <li>When using this feature, power consumption increases even when the unit is on standby, however, the increase in power consumption is kept to a minimum by automatically entering the HYBRID STANDBY mode, where only essential circuits are operating.</li> </ul>

Network Standby	When this feature is turned "On (Default Value)", you can turn on the power of the unit via the network using an application that can control this unit. <ul style="list-style-type: none"> <li>When "Network Standby" is used, the power consumption increases even when the unit is on standby. However, the increase in power consumption is kept to a minimum by automatically entering the HYBRID STANDBY mode, where only the essential circuit is operating.</li> <li>"Network Standby", which suppresses power consumption, may be disabled when the network connection is lost. Use the power button on the remote controller or this unit to turn the unit on if this happens.</li> </ul>
Bluetooth Wakeup	This function wakes up the unit on standby by connecting a BLUETOOTH enabled device. "On": Use this function "Off (Default Value)": Do not use this function <ul style="list-style-type: none"> <li>Setting to "On" increases the power consumption even when the unit is on standby. However, the increase in power consumption is kept to a minimum by automatically entering the HYBRID STANDBY mode, where only the essential circuit is operating.</li> <li>This setting is fixed to "Off" if "5. Hardware" - "Bluetooth" - "Auto Input Change" is set to "Off".</li> </ul>

- Wait for a while if "Network Standby" and "Bluetooth Wakeup" cannot be selected. It will appear when the network feature is started.



## 6. Miscellaneous

### ■ 1. Tuner

DAB Auto Scan	You can run the auto scan when new DAB stations are added or when you move house.
DAB DRC	With the DRC (Dynamic Range Control) setting, you can reduce the dynamic range of DAB digital radio so that you can still hear quiet parts even when listening at low volume levels - ideal for listening to the radio late at night when you don't want to disturb anyone. "Off (Default Value)" : DRC off "Large" : Large reduction in dynamic range "Small" : Small reduction in dynamic range

### ■ 2. Firmware Update

Update Notice	Availability of a firmware update will be notified via network. "Enable (Default Value)": Notify updates "Disable": Do not notify updates
Version	The current firmware version will be displayed.
Update via NET	Press ENTER to select when you want to update the firmware via network. • You will not be able to select this setting if you do not have Internet access or there is nothing to update.
Update via USB	Press ENTER to select when you want to update the firmware via USB. • You will not be able to select this setting if a USB storage device is not connected or there is nothing to update in the USB storage device.

- Wait for a while if "Firmware Update" cannot be selected. It will appear when the network feature is started.

### ■ 3. Initial Setup

You can make the Initial Setup from the Setup menu.

- Wait for a while if "Initial Setup" cannot be selected. It will appear when the network feature is started.

### ■ 4. Lock

Setup Parameter	Lock the Setup menu to protect the settings. "Locked": The menu is locked. "Unlocked (Default Value)": The menu is unlocked.
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### ■ 5. Load Default

Load Default	Reset the unit to return the settings to the status at the time of shipment. Reset is complete when "Clear" is displayed on the display and the unit switches to standby. Your settings will also be initialized when you reset, so note down your settings before starting reset.
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# Firmware Update

## Update function of this unit

This unit has functionality to update the firmware (the system software) over a network or by the USB port. This enables us to make improvements to a variety of operations and to add features.

## How to update firmware

There are two methods for updating the firmware: via network and via USB. The update may take about 20 minutes to complete for either method: via network or via USB. Furthermore, existing settings are guaranteed regardless of the method used for update.

Note that when this unit is connected to a network, you may see notifications about firmware updates on the display. To execute updating, select "Update" with the cursor buttons of the remote controller and press ENTER. "Completed!" is displayed when the update is complete.

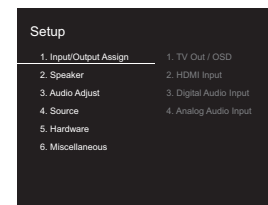
- For the latest information on updates, visit our company's website. There is no need to update the firmware on this unit if there is no update available.
- During an update, do not
  - Disconnect and reconnect any cable, USB storage device or headphones, or perform any operation on the component such as turn off its power
  - Accessing this unit from a PC or smartphone using an application

**Disclaimer:** The program and accompanying online documentation are furnished to you for use at your own risk. We will not be liable and you will have no remedy for damages for any claim of any kind whatsoever concerning your use of the program or the accompanying online documentation, regardless of legal theory, and whether arising in tort or contract.

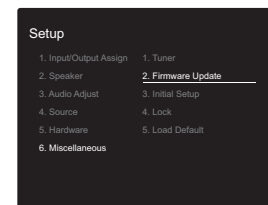
In no event will we be liable to you or any third party for any special, indirect, incidental, or consequential damages of any kind, including, but not limited to, compensation, reimbursement or damages on account of the loss of present or prospective profits, loss of data, or for any other reason whatsoever.

## Updating the Firmware via Network

- Check that the unit is turned on, and the connection to the Internet is secured.
  - Turn off the controller component (PC etc.) connected to the network.
  - Stop any playing Internet radio, USB storage device, or server content.
  - When "5. Hardware" - "HDMI" - "HDMI CEC" in the System Setup menu is set to "On", set it to "Off".
  - The description may differ from the on-screen display but that will not change the way to operate or the function.
1. Switch the input on the TV to that assigned to the unit.
  2. Press on the remote controller.



3. Select "6. Miscellaneous" - "Firmware Update" - "Update via NET" with the cursors in order, then press ENTER.



- If "Firmware Update" is grayed out and cannot be selected, wait for a while until it starts up.
- You will not be able to select "Update via NET" if there is nothing to update.

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4. Press ENTER with "Update" selected to start update.
  - During the update, the TV screen may go black depending on the updated program. In that case, check the progress on the display of this unit. The TV screen will remain black until the update is complete and the power is turned on again.
  - "Completed!" is displayed when the update is complete.
5. Press  $\odot$  ON/STANDBY on this unit to turn the unit into standby mode. The process is completed and your firmware is updated to the latest version.
  - Do not use  $\odot$  on the remote controller.

**If an error message is displayed:** When an error occurs, "\*-\*-\* Error!" is displayed on the display of this unit. ("\*" represents an alphanumeric character.) Check the following:

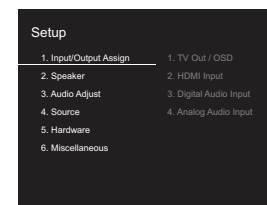
- \* -01, \* -10: Ethernet cable not found. Connect the Ethernet cable properly.
- \* -02, \* -03, \* -04, \* -05, \* -06, \* -11, \* -13, \* -14, \* -16, \* -17, \* -18, \* -20, \* -21: Internet connection error. Check the following:
  - The router is turned on
  - This unit and the router are connected via the network. Try to disconnect and then connect again the power to the unit and router. This may solve the problem. If you are still unable to connect to the Internet, the DNS server or proxy server may be temporarily down. Check the service status with your ISP provider.
- **Others:** Disconnect then reconnect the AC power cord, then repeat from the beginning.

### Updating via USB

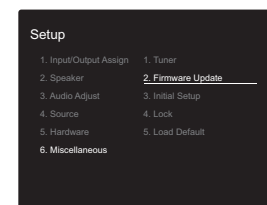
- Prepare a 128 MB or larger USB storage device. FAT16 or FAT32 file system format.
  - Media inserted in a USB card reader may not be used for this function.
  - USB storage devices with security function are not

supported.

- USB hubs and USB devices with hub function are not supported. Do not connect these devices to the unit.
  - Delete any data stored on the USB storage device.
  - Turn off the controller component (PC etc.) connected to the network.
  - Stop any playing Internet radio, USB storage device, or server content.
  - When "5. Hardware" - "HDMI" - "HDMI CEC" in the Setup menu is set to "On", set it to "Off".
  - Some USB storage devices may take long to load, may not be loaded correctly, or may not be correctly fed depending on the device or their content.
  - We will not be liable whatsoever for any loss or damage of data, or storage failure arising from the use of the USB storage device with this unit. Thank you for your understanding.
  - The description may differ from the on-screen display but that will not change the way to operate or the function.
1. Connect the USB storage device to your PC.
  2. Download the firmware file from our company's website to your PC and unzip.  
Firmware files are named in the following way:  
ONKSLM0002\_S20000SASASOO2\_\*\*\*.zip  
Unzip the file on your PC. The number of unzipped files and folders varies depending on the model.
  3. Copy all unzipped files and folders to the root folder of the USB storage device.
    - Make sure to copy the unzipped files.
  4. Connect the USB storage device to the USB port of this unit.
    - If you connect a USB hard disk drive to the USB port of the unit, we recommend that you use its AC adapter to power it.
    - If the USB storage device has been partitioned, each section will be treated as an independent device.
  5. Switch the input on the TV to that assigned to the unit.
  6. Press  $\odot$  on the remote controller.



7. Select "6. Miscellaneous" - "Firmware Update" - "Update via USB" with the cursors in order, then press ENTER.



- If "Firmware Update" is grayed out and cannot be selected, wait for a while until it starts up.
  - You will not be able to select "Update via USB" if there is nothing to update.
8. Press ENTER with "Update" selected to start update.
    - During the update, the TV screen may go black depending on the updated program. In that case, check the progress on the display of this unit. The TV screen will remain black until the update is complete and the power is turned on again.
    - During the update, do not turn off, or disconnect then reconnect the USB storage device.
    - "Completed!" is displayed when the update is complete.
  9. Remove the USB storage device from this unit.
  10. Press  $\odot$  ON/STANDBY on this unit to turn the unit into standby mode. The process is completed and your firmware is updated to the latest version.



- Do not use ⏻ on the remote controller.

**If an error message is displayed:** When an error occurs, "\*-\*-\* Error!" is displayed on the display of this unit. ("\*" represents an alphanumeric character.) Check the following:

- **\* -01, \* -10:** USB storage device not found. Check whether the USB storage device or USB cable is correctly inserted to the USB port of this unit. Connect the USB storage device to an external power source if it has its own power supply.
- **\* -05, \* -13, \* -20, \* -21:** The firmware file is not present in the root folder of the USB storage device, or the firmware file is for another model. Retry from the download of the firmware file.
- **Others:** Disconnect then reconnect the AC power cord, then repeat from the beginning.



# Troubleshooting

## Before starting the procedure

Problems may be solved by simply turning the power on/off or disconnecting/connecting the power cord, which is easier than working on the connection, setting and operating procedure. Try the simple measures on both the unit and the connected device. If the problem is that the video or audio is not output or the HDMI linked operation does not work, disconnecting/connecting the HDMI cable may solve it. When reconnecting, be careful not to wind the HDMI cable since if wound the HDMI cable may not fit well. After reconnecting, turn off and on the unit and the connected device.

- This unit contains a microPC for signal processing and control functions. In very rare situations, severe interference, noise from an external source, or static electricity may cause it to lockup. In the unlikely event that this happens, unplug the power cord from the wall outlet, wait at least 5 seconds, and then plug it back in.
- We are not responsible for reparations for damages (such as CD rental fees) due to unsuccessful recordings caused by the unit's malfunction. Before you record important data, make sure that the material will be recorded correctly.

## If operation becomes unstable

### Try restarting the unit

The issue may be fixed by restarting this unit. After switching this unit to standby, press and hold ON/STANDBY on this unit for 5 or more seconds to restart the unit. (The settings in the unit are maintained.) If restarting the unit doesn't fix the problem, try to disconnect and then connect again the power to the unit and other connected components.

### Resetting the unit (this resets the unit settings to the default)

If restarting the unit doesn't fix the problem, resetting the unit

to the status at the time of shipment may solve the problem. Your settings will also be initialized when you reset, so note down your settings before doing the following.

1. Press on the remote controller, select "6. Miscellaneous" - "Load Default" in the Setup screen and press ENTER.
2. Select "Yes", and then press ENTER.
3. The unit switches to standby and the settings are reset.

## Power

### Cannot turn on the unit

- Make sure that the power cord is properly plugged into the wall outlet.
- Unplug the power cord from the wall outlet, wait 5 seconds or more, then plug it in again.

### The unit turns off unexpectedly

- The unit automatically switches to standby when the "5. Hardware" - "Power Management" - "Auto Standby" setting in the Setup menu functions.
- If "CHECK SP WIRE" appears on the display, the speaker cables may be short-circuited. Make sure bare speaker wires are not touching each other or the back panel of the unit, then turn the unit on again.
- The protective circuit function may have been activated because the temperature of the unit rose abnormally. If this happens, then the power will continue to turn off after you have turned the unit on again. Make sure the unit has plenty of space for ventilation around it, wait for the unit to cool down sufficiently, and then try turning it on again.

**WARNING:** If smoke, smell or abnormal noise is produced by the unit, unplug the power cord from the wall outlet immediately and contact the dealer or our company's support.

## Audio

- Confirm that the connection between the output jack on the device and the input jack on this unit is correct.
- Make sure that none of the connecting cables are bent, twisted, or damaged.
- If the MUTING indicator on the display flashes, press on the remote controller to cancel muting.
- While headphones are connected to the PHONES jack, no sound is output from the speakers.
- When "4. Source" - "Audio Select" - "PCM Fixed Mode" in the Setup menu is set to "On", no sound is played when signals other than PCM are input. Change the setting to Off.

Check the following if the above does not fix the problem:

### There is no sound from the TV

- Change the input selector on this unit to the position of the terminal to which the TV is connected.
- If the TV doesn't support the ARC function, along with connection by HDMI, connect the TV and this unit using a digital optical cable, digital coaxial cable or analog audio cable.

### No sound from a connected player

- Change the input selector on this unit to the position of the terminal to which the player is connected.
- Check the digital audio output setting on the connected component. On some game consoles, such as those that support DVD, the default setting is OFF.
- With some DVD-Video discs, you need to select an audio output format from a menu.



**A speaker produces no sound**

- Make sure that the polarity of the speaker cables (+ / -) is correct, and that no bare wires are in contact with the metal part of speaker terminals.
- Make sure that the speaker cables are not shorting.
- Check that the speaker connections have been made correctly. (➔P7)
- Depending on the source and current listening mode, not much sound may be produced by the surround speakers. Select another listening mode to see if sound is output.

**The subwoofer produces no sound**

- When you play source material that contains no information in the LFE channel, the subwoofer produces no sound.

**Noise can be heard**

- Using cable ties to bundle RCA cables with power cords, speaker cable, etc. may degrade the audio performance, so refrain from doing it.
- An audio cable may be picking up interference. Try repositioning your cables.

**The beginning of audio received via HDMI cannot be heard**

- Since it takes longer to identify the format of an HDMI signal than it does for other digital audio signals, audio output may not start immediately.

**Sound suddenly reduces**

- When the temperature inside the unit exceeds a certain temperature for extended periods, the volume may be reduced automatically to protect the circuits.

**■ Listening Modes**

- To enjoy digital surround playback, such as Dolby Digital, the audio signals need to pass through a connection via HDMI cable, digital coaxial cable or digital optical cable. Audio output should be set to bitstream output on the connected Blu-ray Disc player or other device.
- Press **i** on the remote controller several times to switch the display of this unit to check the input format.

Check the following if the above does not fix the problem:

**About DTS signals**

- With media that switches suddenly from DTS to PCM, PCM playback may not start immediately. In such cases, you should stop your player for about 3 seconds and then resume playback.
- With some CD and LD players, you will not be able to playback DTS material properly even though your player is connected to a digital input on the unit. This is usually because the DTS bitstream has been processed (e.g., output level, sampling rate, or frequency response changed) and the unit does not recognize it as a genuine DTS signal. In such cases, you may hear noise.
- Playing DTS program material, using the pause, fast forward, or fast reverse function on your player may produce a short audible noise. This is not a malfunction.

**■ Video**

- Confirm that the connection between the output jack on the device and the input jack on this unit is correct.
- Make sure that none of the connecting cables are bent, twisted, or damaged.
- When the TV image is blurry or unclear, power code or connection cables of the unit may have interfered. In that case, keep distance between TV antenna cable and cables of the unit.
- Make sure the switching of input screens is proper at the

monitor side such as a TV.

Check the following if the above does not fix the problem:

**There is no video**

- Change the input selector on this unit to the position of the terminal to which the player is connected.

**There is no picture from a source connected to an HDMI IN terminal**

- To display video from the connected player on the TV while the unit is in standby, you need to enable "5. Hardware" - "HDMI" - "HDMI Standby Through" in the Setup menu. Refer to (➔P37) for information about HDMI Standby Through.
- Check if "Resolution Error" is displayed on this unit's display when video input via HDMI IN jack is not displayed. In this case, the TV does not support the resolution of the video input from the player. Change the setting on the player.
- Reliable operation with an HDMI-to-DVI adapter is not guaranteed. In addition, video signals from a PC are not supported.

**Images flicker**

- It is possible that the resolution of the player is not compatible with the TV's resolution. If you have connected the player to this unit with an HDMI cable, try changing the output resolution on the player. There also may be an improvement if you change the screen mode on the TV.

**Video and audio are out of sync**

- Video may be delayed relative to audio depending on the settings and connections with your television. To adjust, press **Q** on the remote controller, and adjust in "Other" - "A/V Sync" in "Quick Menu".

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### ■ Linked operation

**There is no linked operation with CEC compliant devices, such as a TV**

- In the Setup menu of the unit, set "5. Hardware" - "HDMI" - "HDMI CEC" to "On".
- It is also necessary to set HDMI linking on the CEC compliant device. Check the instruction manual.

### ■ FM broadcasts

**Radio reception is poor or there is a lot of noise.**

- Re-check the antenna connection.
- Move the antenna away from the speaker cable or the power cord.
- Move the unit away from your TV or PC.
- Passing cars and airplanes can cause interference.
- Concrete walls weaken radio signals.
- Listen to the station in mono.
- FM reception may become clearer if you use the antenna jack on the wall used for the TV.

### ■ BLUETOOTH function

- Try plugging/unplugging the power of the unit and try turning on/off the BLUETOOTH enabled device. Restarting the BLUETOOTH enabled device may be effective.
- The BLUETOOTH enabled devices must support the A2DP profile.
- Near components such as microwave oven or cordless phone, which use the radio wave in the 2.4 GHz range, a radio wave interference may occur, which disables the use of this unit.
- If there is a metallic object near the unit, BLUETOOTH connection may not be possible as the metal can effect on the radio waves.

Check the following if the above does not fix the problem:

#### Cannot connect with this unit

- Check that the BLUETOOTH function of the BLUETOOTH enabled device is enabled.

#### Music playback is unavailable on the unit even after successful BLUETOOTH connection

- When the audio volume of your BLUETOOTH enabled device is set low, the playback of audio may be unavailable. Turn up the volume on the BLUETOOTH enabled device.
- Some BLUETOOTH enabled devices may be equipped with a Send/Receive selector switch. Select Send mode.
- Depending on the characteristics or specifications of your BLUETOOTH enabled device, playback on this unit may not be possible.

#### Sound is interrupted

- There may be a problem with the BLUETOOTH enabled device. Check the information on the internet.

#### The audio quality is poor after connection with a BLUETOOTH enabled device

- The BLUETOOTH reception is poor. Move the BLUETOOTH enabled device closer to the unit or remove any obstacle between the BLUETOOTH enabled device and this unit.

### ■ Network function

- If you cannot select a network service, it will become selectable when the network function is started. It may take about a minute to start up.
- When NET is blinking, this unit is not properly connected to the home network.
- Try plugging/unplugging the power supply of this unit and the router, and try rebooting the router.
- If the desired wireless LAN router is not in the access point list, it may be set to hide SSID or the ANY connection may be off. Change the setting and try again.

Check the following if the above does not fix the problem:

#### Cannot access the Internet radio

- Certain network service or contents available through the unit may not be accessible in case the service provider terminates its service.
- Make sure that your modem and router are properly connected, and make sure they are both turned on.
- Make sure that the LAN side port on the router is properly connected to this unit.
- Make sure that connecting to Internet from other components is possible. If connecting is not possible, turn off all components connected to the network, wait for a while, and then turn on the components again.
- If a specific radio station is unavailable for listening, make sure the registered URL is correct, or whether the format distributed from the radio station is supported by this unit.
- Depending on ISP, setting the proxy server is necessary.
- Make sure that the used router and/or modem is supported by your ISP.

#### Cannot access the network server

- This unit needs to be connected to the same router as the network server.
- This unit is compatible with Windows Media® Player 11 or 12 network servers or NAS that are compatible with home network functionality.





- You may need to make some settings on Windows Media® Player. (➔P17)
- When using a PC, only music files registered in the Windows Media® Player library can be played.

#### **Playback stops while listening to music files on the network server**

- Make sure the network server is compatible with this unit.
- When the PC is serving as the network server, try quitting any application software other than the server software (Windows Media® Player 12, etc.).
- If the PC is downloading or copying large files, the playback may be interrupted.

#### **■ USB storage device**

##### **USB storage device is not displayed**

- Check whether the USB storage device or USB cable is correctly inserted to the USB port of the unit.
- Disconnect the USB storage device from the unit, and then try reconnecting.
- Performance of the hard disk that receive power from the USB port of the unit is not guaranteed.
- Depending on the type of format, the playback may not be performed normally. Check the type of the file formats that is supported.
- USB storage devices with security functions may not be played.

#### **■ Wireless LAN Network**

- Try plugging/unplugging the power supply of wireless LAN router and the unit, check the wireless LAN router power-on status, and try reboot of the wireless LAN router.

Check the following if the above does not fix the problem:

##### **Cannot access wireless LAN network**

- The wireless LAN router setting may be switched to Manual. Return the setting to Auto.
- Try the manual set-up. The connection may succeed.
- When the wireless LAN router setting is at stealth mode (mode to hide the SSID key) or when ANY connection is off, the SSID is not displayed. Change the setting and try again.
- Check that the setting of SSID and encryption (WEP, etc.) is correct. Make sure the network settings of the unit is properly set.
- Connection to an SSID that includes multi-byte characters is not supported. Name the SSID of the wireless LAN router using single-byte alphanumeric characters only and try again.

##### **Connected to an SSID different to the SSID selected**

- Some wireless LAN routers allow you to set multiple SSIDs for one unit. If you use the automatic setting button on such a router, you may end up connecting with a different SSID from the SSID you wanted to connect to. Use the connection method requiring you to enter a password if this happens.

##### **Playback is interrupted and communication does not work**

- You may not receive radio waves due to bad radio wave conditions. Shorten the distance from the wireless LAN access point or remove obstacles to improve visibility, and try again. Place the unit away from microwave ovens or other access points. It is recommended to place the

wireless LAN router (access point) and the unit in the same room.

- If there is a metallic object near the unit, wireless LAN connection may not be possible as the metal can effect on the radio wave.
- When other wireless LAN devices are used near the unit, several issues such as interrupted playback and communication may occur. You can avoid these issues by changing the channel of your wireless LAN router. For instructions on changing channels, see the instruction manual provided with your wireless LAN router.
- There may not be enough bandwidth available in wireless LAN. Connect using an Ethernet cable.

#### **■ Remote Controller**

- Make sure that the batteries are installed with the correct polarity.
- Install new batteries. Do not mix different types of batteries, or old and new batteries.
- Make sure that this unit is not subjected to direct sunshine or inverter-type fluorescent lights. Relocate if necessary.
- If this unit is installed in a rack or cabinet with colored-glass doors or if the doors are closed, the remote controller may not work reliably.

#### **■ Display**

##### **The display doesn't light**

- The display may go dim while the Dimmer is working, and may also turn off. Press DIMMER button and change the brightness level of the display.



## ■ Others

### Strange noises can be heard from this unit

- If you have connected another unit to the same wall outlet as this unit, this noise may be an effect from the other unit. If the symptoms improve by unplugging the power cord of the other unit, use different wall outlets for this unit and the other unit.



# General Specifications

## Amplifier (Audio) section

Rated Output Power (IEC)  
 2 ch × 85 W at 4 ohms, 1 kHz, 1 ch driven of 1% THD

Input Sensitivity and Impedance (1 kHz 85 W/4 Ω)  
 200 mV/47 kΩ (LINE (Unbalance))  
 6.0 mV/47 kΩ (PHONO MM)

Rated RCA Output Level and Impedance  
 1 V/470 Ω (SUBWOOFER PRE OUT)

Phono Overload  
 30 mV (MM 1 kHz 1%)

Frequency Response  
 10 Hz - 40 kHz/+1 dB, -3 dB

Tone Control Characteristics  
 ±10 dB, 90 Hz (BASS)  
 ±10 dB, 7.5 kHz (TREBLE)

Signal to Noise Ratio  
 80 dB (IHF-A, LINE IN, SP OUT)  
 70 dB (IHF-A, PHONO IN, SP OUT)

Speaker Impedance  
 4 Ω - 8 Ω

Headphone Output Impedance  
 102 Ω

Headphone Rated Output  
 85 mW (32 Ω, 1 kHz, 10% THD)

## Tuner Section

FM Tuning Frequency Range  
 87.5 MHz - 108.0 MHz, RDS

DAB Tuning Frequency Range  
 174.928 MHz - 239.200 MHz

Preset Channel  
 40

## Network Section

Ethernet LAN  
 10BASE-T/100BASE-TX

Wireless LAN  
 IEEE 802.11 a/b/g/n standard  
 (Wi-Fi® standard)

5 GHz/2.4 GHz band

## BLUETOOTH Section

Communication system  
 BLUETOOTH Specification version 4.1+LE

Frequency band  
 2.4 GHz band

Modulation method  
 FHSS (Freq Hopping Spread Spectrum)

Compatible BLUETOOTH profiles  
 A2DP 1.2  
 AVRCP 1.3  
 HOGP-Host (Client)  
 HOGP-HID Device (Server)  
 HID Service (HIDS)

Supported Codecs  
 SBC  
 AAC

Transmission range (A2DP)  
 20 Hz - 20 kHz (Sampling frequency 44.1 kHz)

Maximum communication range  
 Line of sight approx. 15 m ( \* )

\* The actual range will vary depending on factors such as obstacles between devices, magnetic fields around a microwave oven, static electricity, cordless phone, reception sensitivity, antenna's performance, operating system, software application, etc.

## General

Power Supply  
 AC 100 - 240 V, 50/60 Hz

Power Consumption  
 55 W  
 0.38 W (Stand-by)  
 16 W (No-sound)  
 2 W (HDMI Standby Through)  
 2 W (Network Standby)

Dimensions (W × H × D)  
 435 mm × 70 mm × 331.5 mm  
 17-1/8" × 2-3/4" × 13-1/16"

Weight  
 4 kg (8.8 lbs)

## HDMI

Input  
 IN1 (BD/DVD, HDCP2.2), IN2 (CBL/SAT, HDCP2.2), IN3 (STRM BOX, HDCP2.2), IN4 (GAME, HDCP2.2)

Output  
 OUT (HDCP2.2)

Supported  
 Deep Color, x.v.Color™, LipSync, Audio Return Channel, 3D, 4K 60Hz, CEC, Extended Colorimetry (sYCC601, Adobe RGB, Adobe YCC601), Content Type, HDR

Audio Format  
 Dolby TrueHD, Dolby Digital, Dolby Digital Plus, DTS, DTS-HD Master Audio, DTS-HD High Resolution Audio, DTS 96/24, DTS-HD Express, DSD, PCM

Maximum Video Resolution  
 4k 60 Hz (YCbCr 4:4:4)

## Audio Inputs

Digital  
 OPTICAL (TV)  
 COAXIAL (CD)

Analog  
 1 (BD/DVD), 2 (CBL/SAT), PHONO (designated)

## Audio Outputs

Analog  
 SUBWOOFER PRE OUT

Speaker Outputs  
 FRONT L/R

Phones  
 PHONES (Front, φ 3.5 mm)

## Others

USB: 1 (Front, Ver.2.0, 5 V/1 A)  
 Ethernet: 1

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## About HDMI

### Compatible Functions

HDMI (High Definition Multimedia Interface) is a digital interface standard for connecting TVs, projectors, Blu-ray Disc/DVD players, set-top boxes, and other video components. Until now, several separate video and audio cables have been required to connect AV components. With HDMI, a single cable can carry control signals, digital video, and digital audio (2-channel PCM, multichannel digital audio, and multichannel PCM).

**HDMI CEC functionality:** By connecting devices and HDMI cables that comply with the CEC (Consumer Electronics Control) specification of the HDMI standard, a variety of linked operation become possible between devices. You can enjoy features such as linking input switching with the input selector and players, control volume using the remote controller of the TV, and automatically switching this unit to standby when the TV is turned off. The unit is designed to link with products that comply with the CEC standard, and that linked operation is not always guaranteed with all CEC devices.

**ARC (Audio Return Channel):** By connection a TV that supports ARC with a single HDMI cable, you can not only output the audio and video from this unit to the TV, but also input the audio from the TV to this unit.

**HDMI Standby Through:** Even if this unit is in standby, the input signals from AV components are transmitted to the TV.

**Deep Color:** By connecting devices supporting Deep Color, video signals input from the devices can be reproduced on the TV with even more colors.

**x.v.Color™:** This technology realizes even more realistic colors by broadening the color gamut.

**3D:** You can transmit 3D video signals from AV components to the TV.

**4K:** This unit supports 4K (3840 × 2160p) and 4K SMPTE (4096 × 2160p) video signals.

**LipSync:** This setting automatically corrects any desynchronization between the video and audio signals based on data from the HDMI LipSync compatible TV.

### Supported Audio Formats

**2-channel linear PCM:** 32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz, 16/20/24 bit

**Multi-channel linear PCM:** Maximum 5.1 channels, 32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz, 16/20/24 bit

**Bitstream:** Dolby Digital, Dolby Digital Plus, Dolby TrueHD, DTS, DTS-HD High Resolution Audio, DTS-HD Master Audio

**DSD:** Supported sampling rates: 2.8 MHz  
Your Blu-ray Disc/DVD player must also support HDMI output of the above audio formats.

### Supported Resolutions

**Copyright protection technology:** HDCP1.4/HDCP2.2

**Color space (Color Depth):** 720 × 480i 60Hz, 720 × 576i 50Hz, 720 × 480p 60Hz, 720 × 576p 50Hz, 1920 × 1080i 50/60Hz, 1280 × 720p 24/25/30/50/60Hz, 1680 × 720p 24/25/30/50/60Hz, 1920 × 1080p 24/25/30/50/60Hz, 2560 × 1080p 24/25/30/50/60Hz, 4K (3840 × 2160p) 24/25/30Hz, 4K SMPTE (4096 × 2160p) 24/25/30Hz : RGB/YCbCr4:4:4 (8/10/12 bit), YCbCr4:2:2 (12 bit)  
4K (3840 × 2160p) 50/60Hz, 4K SMPTE (4096 × 2160p) 50/60Hz : RGB/YCbCr4:4:4 (8 bit), YCbCr4:2:2 (12 bit), YCbCr4:2:0 (8/10/12 bit)



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