ONKYO

NETWORK RECEIVER

R-N855

Instruction Manual

Thank you for purchasing an Onkyo product. Please read this manual carefully before making any connections or using this product. By following these instructions, you'll get the best audio performance and the most listening pleasure from your Onkyo product. Keep this manual for future reference.

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WARNING:

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

CAUTION:

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEI











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



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

Important Safety Instructions

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



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

- A. When the power-supply cord or plug is damaged,
- B. If liquid has been spilled, or objects have fallen into the apparatus,
- C. If the apparatus has been exposed to rain or water,
- D. If the apparatus does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the apparatus to its normal operation,
- E. If the apparatus has been dropped or damaged in any way, and
- F. When the apparatus exhibits a distinct change in performance this indicates a need for service.
- 16. Object and Liquid Entry

Never push objects of any kind into the apparatus through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock.

The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases shall be placed on the apparatus. Don't put candles or other burning objects on top of this unit.

17. Batteries

Always consider the environmental issues and follow local regulations when disposing of batteries.

18. If you install the apparatus in a built-in installation, such as a bookcase or rack, ensure that there is adequate ventilation.

Leave 20 cm (8") of free space at the top and sides and 10 cm (4") at the rear. The rear edge of the shelf or board above the apparatus shall be set 10 cm (4") away from the rear panel or wall, creating a flue-like gap for warm air to escape.

Precautions

- Recording Copyright—Unless it's for personal use only, recording copyrighted material is illegal without the permission of the copyright holder.
- AC Fuse—The AC fuse inside the unit is not userserviceable. If you cannot turn on the unit, contact the dealer from whom you purchased this unit.
- 3. Care—Occasionally you should dust the unit all over with a soft cloth. For stubborn stains, use a soft cloth dampened with a weak solution of mild detergent and water. Dry the unit immediately afterwards with a clean cloth. Don't use abrasive cloths, thinners, alcohol, or other chemical solvents, because they may damage the finish or remove the panel lettering.

4. Power

WARNING

BEFORE PLUGGING IN THE UNIT FOR THE FIRST TIME, READ THE FOLLOWING SECTION CAREFULLY.

AC outlet voltages vary from country to country. Make sure that the voltage in your area meets the voltage requirements printed on the unit's rear panel (e.g., AC 220-240 V, 50/60 Hz or AC 120 V, 60 Hz).

The power cord plug is used to disconnect this unit from the AC power source. Make sure that the plug is readily operable (easily accessible) at all times.

Pressing the [ON/STANDBY] button to select Standby mode does not fully disconnect from the mains. If you do not intend to use the unit for an extended period, remove the power cord from the AC outlet.

5. Preventing Hearing Loss Caution

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

6. Batteries and Heat Exposure Warning

Batteries (battery pack or batteries installed) shall not be exposed to excessive heat as sunshine, fire or the like.

7. Never Touch this Unit with Wet Hands—Never handle this unit or its power cord while your hands are wet or damp. If water or any other liquid gets inside this unit, have it checked by the dealer from whom you purchased this unit.

8. Handling Notes

- If you need to transport this unit, use the original packaging to pack it how it was when you originally bought it.
- Do not leave rubber or plastic items on this unit for a long time, because they may leave marks on the case.
- This unit's top and rear panels may get warm after prolonged use. This is normal.
- If you do not use this unit for a long time, it may not work properly the next time you turn it on, so be sure to use it occasionally.

Cautions regarding Wi-Fi and BLUETOOTH[®] features

[*] R-N855

This [*] uses radio waves in the 2.4 GHz and 5 GHz frequency bands. There are nations and regions

where the use of particular 5 GHz bands are prohibited outdoors, so do not use this unit outside in those places.

10. WARNING

Store small parts out of the reach of children and infants. If accidentally swallowed, contact a doctor immediately.

For British models

Replacement and mounting of an AC plug on the power supply cord of this unit should be performed only by qualified service personnel.

IMPORTANT

The wires in the mains lead are coloured in accordance with the following code:

Blue: Neutral Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

IMPORTANT

The plug is fitted with an appropriate fuse. If the fuse needs to be replaced, the replacement fuse must approved by ASTA or BSI to BS1362 and have the same ampere rating as that indicated on the plug. Check for the ASTA mark or the BSI mark on the body of the fuse. If the power cord's plug is not suitable for your socket outlets, cut it off and fit a suitable plug. Fit a suitable fuse in the plug.

For European Models

Restrictions: W52 and W53 bands are restricted it indoor operations only to all countries in EU. / Ограничения: Използването на ленти W52 и W53 не е позволено при дейности на закрито единствено във всички държави от ЕС. / Omezeni: Pásma W52 a W53 įsou ve všech zemích EU omezena pouze na používání v interiéru. / Begrænsninger: W52- og W53-band er begrænset til kun at omfatte indendørs brug i alle EU-lande. / Einschränkungen: Die Verwendung der Bänder W52 und W53 ist in allen EU-Länder auf Innenräume beschränkt. / Pirangud: Iainealad W52 ja W53 on möeldud kasutamiseks ainult siseruumides köigis EL-i riikides. / Пεрιορισμοί: Οι ζώνες W52 και W53 περιορίζονται μόνο σε ενέργειες σε εσωτερικούς χώρους σε όλες τις χώρες της ΕΕ. / Restricciones: Las bandas W52 y W53 esta restringidas a uso en interiores en todos los países de la Unión Europea. / Limitations : Les bandes W52 et W53 sont limitées à un usage intérieur dans tous les pays de l'UE. / Restrizioni: In tutti i paesi della UE le bande W52 e W53 possono essere utilizzate solo all'interno di edifici. / lerobežojumi: W52 un W53 joslas ir ierobežotas darbībai tikai iekštelpās visās ES valstīs. / Apribojimai: W52 ir W53 veikimo dažnių naudojimas viduje apribotas visose ES šalyse. / Korlátozšok : A W52 ès W53 sávok beltéri használata az Európai Unió minden országában tilos. / Beperkingen: het gebruik van de banden W52 en W53 is beperkt tot alleen binnenshuis gebruik in alle landen van de EU. / Ograniczenia: Pasma W52 oraz W53 we wszystkich krajach Unii Europejskiej ograniczone są tylko do użytkowania wewnątz budynków. / Restrições: As bandas W52 e W53 setás restritas a operações no interior em todos os países da UE. / Restricţii: Benzile W52 şi W53 pot fi utilizate doar în medii interioare în toate ţārile UE. / Obmedzenia: paśma W52 a W53 si vo všetkých krajiache EU obmedzena na prevádzku iba vo vnútri. / Omejitve: frekvenčna pasova W52 in W53 sta v vseh državah EU omejena le na delovanje v zaprtih prostorih. / Rajoitukset: W52-ja W53-kaistat on rajoitettu käytettävä

- Hereby, Onkyo & Pioneer Corporation declares that this product is in compliance with Directive 2014/53/ EU. The full text of the EU declaration of conformity is available at the following internet address: http://www.eu.onkyo.com/en/
- С настоящото Onkyo & Pioneer Corporation декларира, че този продукт е в съответствие с Директива 2014/53/ЕС. Цялостният текст на ЕС декларацията за съответствие може да се намери на следния интернет адрес: http:// www.eu.onkyo.com/en/
- Tímto Onkyo & Pioneer Corporation prohlašuje, že tento výrobek je v souladu se směrnicí 2014/53/EU. Úplné znění EU prohlášení o shodě je k dispozici na této internetové adrese: http://www.eu.onkyo.com/en/
- Hermed erklærer Onkyo & Pioneer Corporation, at dette produkt er i overensstemmelse med direktiv 2014/53/EU. EU-overensstemmelseserklæringens fulde tekst kan findes på følgende internetadresse: http://www.eu.onkyo.com/en/
- Hiermit erklärt Onkyo & Pioneer Corporation, dass dieses Produkt der Richtlinie 2014/53/EU entspricht.
 Der vollständige Text der EU-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar: http://www.eu.onkyo.com/en/
- Käesolevaga deklareerib Onkyo & Pioneer Corporation, et see toode vastab direktiivi 2014/53/ EL nõuetele. ELi vastavusdeklaratsiooni täielik tekst on kättesaadav järgmisel internetiaadressil: http://www.eu.onkyo.com/en/
- Με την παρούσα Onkyo & Pioneer Corporation, δηλώνει ότι αυτό το προϊόν πληροί την οδηγία 2014/53/ ΕΕ. Το πλήρες κείμενο της δήλωσης συμμόρφωσης ΕΕ διατίθεται στην ακόλουθη ιστοσελίδα στο διαδίκτυο: http://www.eu.onkyo.com/en/
- Por la presente, Onkyo & Pioneer Corporation declara que este producto es conforme con la Directiva 2014/ 53/UE. El texto completo de la declaración UE de conformidad está disponible en la dirección Internet siguiente: http://www.eu.onkyo.com/en/
- Le soussigné, Onkyo & Pioneer Corporation, déclare que ce produit est conforme à la directive 2014/53/ UE. Le texte complet de la déclaration UE de conformité est disponible à l'adresse internet suivante: http://www.eu.onkyo.com/en/
- Il fabbricante, Onkyo & Pioneer Corporation, dichiara che questo prodotto è conforme alla direttiva 2014/ 53/UE. Il testo completo della dichiarazione di conformità UE è disponibile al seguente indirizzo Internet: http://www.eu.onkyo.com/en/
- Ar šo Onkyo & Pioneer Corporation deklarē, ka šis produkts atbilst Direktīvai 2014/53/ES. Pilns ES atbilstības deklarācijas teksts ir pieejams šādā interneta vietnē: http://www.eu.onkyo.com/en/
- Aš, Onkyo & Pioneer Corporation, patvirtinu, kad šis produktas atitinka Direktyvą 2014/53/ES. Visas ES atitikties deklaracijos tekstas prieinamas šiuo interneto adresu: http://www.eu.onkyo.com/en/
- Onkyo & Pioneer Corporation igazolja, hogy ez a termék megfelel a 2014/53/EU irányelvnek. Az EUmegfelelőségi nyilatkozat teljes szövege elérhető a következő internetes címen: http:// www.eu.onkyo.com/en/
- Hierbij verklaar ik, Onkyo & Pioneer Corporation, dat dit product conform is met Richtlijn 2014/53/EU. De volledige tekst van de EU-conformiteitsverklaring

- kan worden geraadpleegd op het volgende internetadres; http://www.eu.onkvo.com/en/
- Onkyo & Pioneer Corporation niniejszym oświadcza, że ten produkt jest zgodny z dyrektywą 2014/53/UE.
 Pełny tekst deklaracji zgodności UE jest dostępny pod następującym adresem internetowym: http://www.eu.onkyo.com/en/
- O(a) abaixo assinado(a) Onkyo & Pioneer Corporation declara que este produto está em conformidade com a Diretiva 2014/53/UE. O texto integral da declaração de conformidade está disponível no seguinte endereço de Internet: http://www.eu.onkyo.com/en/
- Prin prezenta, Onkyo & Pioneer Corporation declară că acest produs este în conformitate cu Directiva 2014/53/UE. Textul integral al declarației UE de conformitate este disponibil la următoarea adresă internet: http://www.eu.onkyo.com/en/
- Onkyo & Pioneer Corporation týmto vyhlasuje, že tento produkt je v súlade so smernicou 2014/53/EÚ. Úplné EÚ vyhlásenie o zhode je k dispozícii na tejto internetovej adrese: http://www.eu.onkyo.com/en/
- Onkyo & Pioneer Corporation potrjuje, da ta izdelek skladen z Direktivo 2014/53/EU. Celotno besedilo izjave EU o skladnosti je na voljo na naslednjem spletnem naslovu: http://www.eu.onkyo.com/en/
- Onkyo & Pioneer Corporation vakuuttaa, että tämä tuote on direktiivin 2014/53/EU mukainen. EUvaatimustenmukaisuusvakuutuksen täysimittainen teksti on saatavilla seuraavassa internetosoitteessa: http://www.eu.onkyo.com/en/
- Härmed försäkrar Onkyo & Pioneer Corporation att den här produkten överensstämmer med direktiv 2014/53/EU. Den fullständiga texten till EUförsäkran om överensstämmelse finns på följande webbadress: http://www.eu.onkyo.com/en/
- Onkyo & Pioneer Corporation ovime izjavljuje da ovaj proizvod u skladu s Direktivom 2014/53/EU.
 Cjeloviti tekst EU izjave o sukladnosti dostupan je na sljedećoj internetskoj adresi: http://www.eu.onkyo.com/en/
- B'dan, Onkyo & Pioneer Corporation, niddikjara li dan il-prodott huwa konformi mad-Direttiva 2014/53/ UE. It-test kollu tad-dikjarazzjoni ta' konformiti tal-UE huwa disponibbli f'dan l-indirizz tal-Internet li gej: http://www.eu.onkyo.com/en/

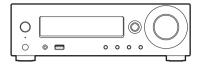
WEEE

http://www.onkyo.com/manual/weee/weee.pdf

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What's in the box



Main unit (1)



Remote controller (RC-952S) (1) Batteries (AAA/R03) (2)



DAB/FM wire antenna (1)

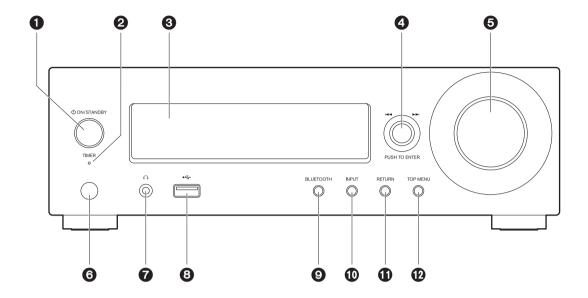


Power cord (1)



- The power cord must be connected only after all other cable connections are completed.
- Connect speakers with 4 Ω to 16 Ω impedance.
- 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.
- Specifications and appearance are subject to change without prior notice.

Front Panel



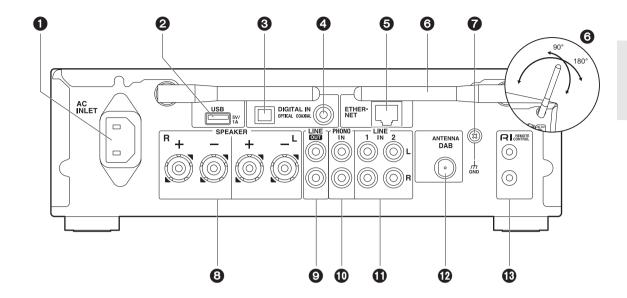
- 1. **⑤ON/STANDBY** button: Turns the unit on or to standby mode.
- 2. TIMER indicator: This lights when the alarm is set.
- Display (→P9)
- 4. PUSH TO ENTER dial (I◀◀/▶▶I):

When playing, turn left or right to select the folder or file, then press to confirm.

While the menu is displayed, turn the dial to select items and press to confirm the settings.

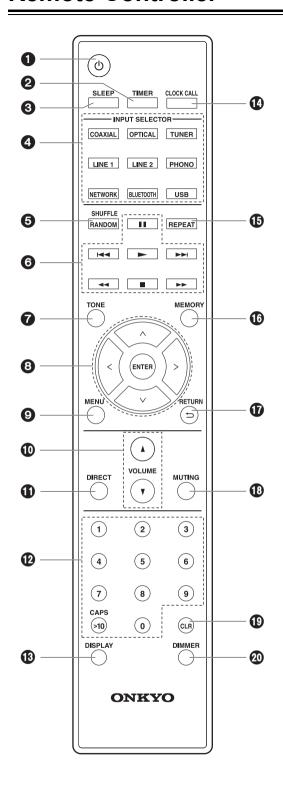
- Depending on the input, the operation may not start.
- 5. VOLUME dial : Adjust the volume. Adjust between 0 and 50.
- 6. Remote control sensor
- Headphone jack : Connect stereo headphones with a mini plug.
- USB port: Connect a USB storage device or HDD (hard disk drive) to play music files. You can also supply power (maximum 5 V/0.5 A) to USB devices with a USB cable.
 - When connecting a HDD that requires more than 5 V/0.5 A, connect to the USB port on the rear of the unit (maximum 5 V/1 A).
- 9. BLUETOOTH button: Switch to BLUETOOTH input.
- 10.INPUT button: Switches the input to be played.
- 11. RETURN button : Returns the display to the previous state.
- 12.TOP MENU button: Displays the settings menu.

Rear Panel

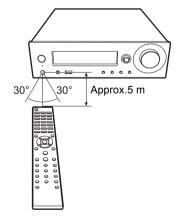


- 1. AC INLET: Connect the supplied power cord.
- USB port: Connect a USB storage device or HDD (hard disk drive) to play music files. You can also supply power (maximum 5 V/1 A) to USB devices with a USB cable.
- DIGITAL IN OPTICAL terminal: Input digital audio signals from an external device, such as a TV or CD player, with a digital optical cable.
- DIGITAL IN COAXIAL terminal: Input digital audio signals from an external device, such as a TV or CD player, with a digital coaxial cable.
- ETHERNET port : Connect to the network with an Ethernet cable.
- Wireless antenna: Used for Wi-Fi connection or when using a BLUETOOTH enabled device. Adjust their angles according to the connection status.
- GND terminal: Connect if the turntable connected to the PHONO IN jack has a ground wire.
- SPEAKER terminals : Connect speakers with speaker cables.
- LINE OUT jacks: Connect a recording device such as a cassette tape deck with an analog audio cable. You can also connect a subwoofer with built-in amplifier with a subwoofer cable. (→P10, 32 "LINE OUT/SW")
- 10.PHONO IN jacks: Connect a turntable (MM cartridge).
- 11.LINE IN jacks: Input audio signals from an external device, such as a TV or CD player, with an analog audio cable.
- 12.ANTENNA DAB terminal: Connect the supplied DAB/FM wire antenna.
- 13. RI REMOTE CONTROL jacks : Connect an Onkyo product with an RI jack using an RI cable to synchronize with this unit. (→P24)

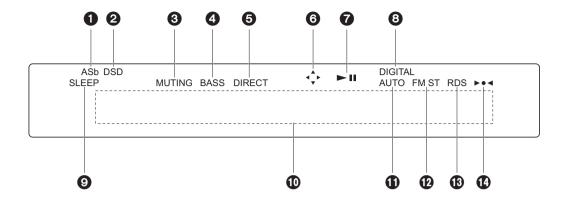
Remote Controller



- 1. (b) button: Turns the unit on or into standby mode.
- 2. TIMER button: Used to set the alarm.
- 3. SLEEP button: Set the sleep timer. When the time set (30, 60, or 90 minutes) has elapsed, the unit switches to standby. If SLEEP button is pressed after setting, the time remaining until sleep is displayed.
- 4. INPUT SELECTOR button: Switches the input to be played.
- 5. SHUFFLE/RANDOM button : Set shuffle play.
- 6. Play buttons:
 - ► : Start play.
 - II: Pause play.
 - : Stop playback.
 - I Move to the track before the one being played.
 - ▶► : Move to the next track.
 - ◄◄ and ▶► are not used.
 - Depending on the input, the operation may not start.
- 7. TONE button: Adjust the sound quality.
- 8. Cursors, ENTER button: Select the item with the cursors and press ENTER to confirm.
- 9. MENU button: Displays the setup menu.
- 10.VOLUME button : Adjust the volume. Adjust between 0 and 50.
- 11. DIRECT button: This enables the Direct function that shuts down processing that affects sound quality so sound closer to the original is reproduced. Press again to cancel.
- 12. Number buttons: Use to directly input the frequency of stations when tuning.
- DISPLAY button: Switches the information on the display.
- 14. CLOCK CALL button: Used to set the time.
- 15. REPEAT button: Set repeat play.
- 16.MEMORY button: Used to register favorite radio stations.
- 17.RETURN (♠) button : Returns the display to the previous state.
- 18.MUTING button: Temporarily mutes audio. Press again to cancel muting.
- 19. CLR button: Used when entering text, etc.
- 20. DIMMER button : Adjust the brightness of the display in three steps.



Display



- 1. Lights when "Auto Standby" (→P30) is set to "On".
- 2. Lights when the audio signal being input is DSD.
- 3. Flashes when muting is on.
- Lights when "PM Bass" (→P28) is "On" to emphasized the bass.
- Lights when the Direct function, which shuts down processing that affects sound quality so sound closer to the original is reproduced, is enabled.
- Lights when remote controller cursor operations are possible in screens showing list of tracks, for example.
- 7. Displays the play status.
- Lights when digital signals are input and the digital input is selected.
- 9. Lights when the sleep timer is set.
- 10.Message display : Displays information about tracks and menus.
 - Characters that cannot be displayed on this unit are replaced with asterisks (*).
 - · The following icons are displayed.

: Folder

♪ : Track title

: Playing

: Paused

: Artist

: Album

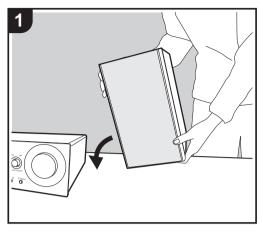
1 ∓ : 1-track repeat

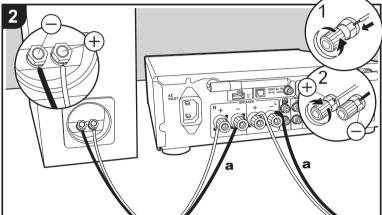
ाकः: Repeat within a folder

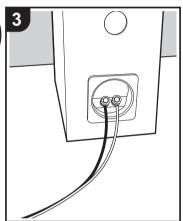
★ : Shuffle

- 11. Lights when automatic tuning is selected as the method for tuning radio stations.
- 12. Lights when FM stereo is being received.
- 13. Lights when RDS information is being received.
- 14. Lights when tuned into a radio station.

Connect the Speakers

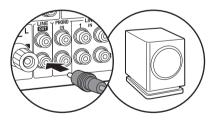






a Speaker cable

Refer to the illustration to connect your own speakers. After inserting the speaker cables, tighten the terminals firmly by turning to the right.

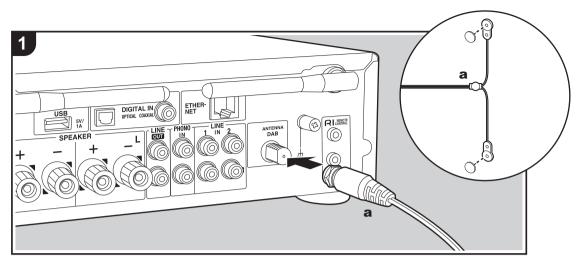


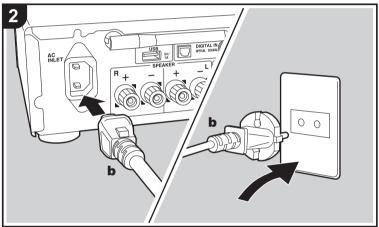
You can also connect a subwoofer with a built-in amplifier to boost bass playback even more. When connecting, make sure you connect to the Rch of the LINE OUT jacks using a subwoofer cable. Settings need to be changed when connecting a subwoofer. (**) P32 "LINE OUT/SW")



Also make sure the exposed wires of the speakers do not stick out of the speaker terminals when connecting. If the exposed wires of the speakers touch the rear panel or the + and - wires touch each other, the protection circuit may be activated and the power may turn off.

Connecting the Antennas and Power Cord, etc.





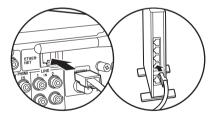
a DAB/FM wire antenna, b Power cord

Antenna Hookup

Move the antenna around while playing the radio to find the position with the best reception.

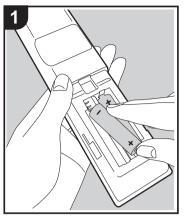
Power Cord Hookup

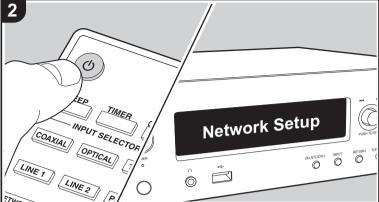
Connect the power cord to the power outlet after completing all other connections.



To connect to the network with a Ethernet cable, use the ETHERNET jack. When using Wi-Fi connection, make settings in initial settings (→P12). You can enjoy features such as internet radio and AirPlay by connecting to the network.

Power On & Initial Setup





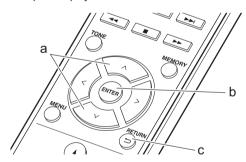
Wi-Fi connection settings

When you first turn the power on, the initial setup screen is displayed automatically, allowing you to easily make Wi-Fi connection settings.



To set, select the item with the cursors (a) on the remote controller and press ENTER (b) to confirm. To return to the previous display, press ≤ (c).

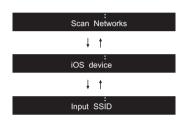
- Turn PUSH TO ENTER on the main unit to the left and right to select the item, then press the dial to confirm.
- If you want to use the unit without setting up a network, or want to set up the network at a later time, press (c) on the remote controller while "Network Setup" is displayed.



- 1. Press ENTER (b) when "Network Setup" is displayed.
- To make Wi-Fi settings, select "Wi-Fi". If you have connected with an ethernet cable, select "Wired(Exit)" with A/V (a) on the remote controller and press ENTER (b).



3. If you selected "Wi-Fi", select the setting method with ∧/ ∨ (a) on the remote controller and press ENTER (b).



 To redo the initial settings, press MENU on the remote controller, select "Wi-Fi" in "Network" - "Connection", then select "Wi-Fi Setup".

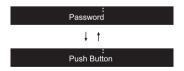
■ Scan Networks

From the list of SSID for access points such as wireless LAN routers, select the required SSID and make the settings.

 Select the SSID of the access point you want to connect with ∧/∨ (a) on the remote controller and press ENTER (b).



 Select "Password" or "Push Button" with \(\triangle \triangle \) (a) on the remote controller and press ENTER (b). If the access point has an automatic connection button, by selecting "Push Button" you can connect without entering a password.



3. If you select "Password", enter the password of the access point. For details on how to enter text, refer to "Entering text" (→P28).

If you select "Push Button", then after pressing and holding the automatic setting button on the access point for the required amount of time, press ENTER (b) on the remote controller.

- After "Check Network" is displayed, the information of the display switches when the Wi-Fi settings are complete.
 - If "Retry" appears on the display, press ENTER (b) to retry the settings.

■ iOS device

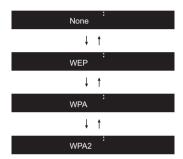
Set by sharing the iOS device's Wi-Fi settings with this unit.

- 1. Connect the iOS device by Wi-Fi.
- Select this device in the "SET UP NEW AIRPLAY SPEAKER..." item on the screen of the iOS device and select "Next".
 - This unit is displayed as "Onkyo R-N855 XXXXXX".
- 3. After "Check Network" is displayed on this unit, when the Wi-Fi settings are complete, the display changes. Select "Done" on the screen of the iOS device.

■ Input SSID

Set by entering the SSID of the access point you want to

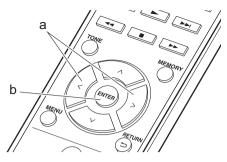
- Enter the SSID. For details on how to enter text, refer to "Entering text" (→P28).
- Select the authentication method with ∧/∨ (a) on the remote controller and press ENTER (b).



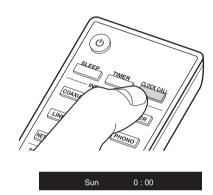
- If you select "None", proceed to step 3. If you select "WEP", "WPA", or "WPA2", enter the password.
- After "Check Network" is displayed, the information of the display switches when the Wi-Fi settings are complete.
 - If "Retry" appears on the display, press ENTER (b) to retry the settings.

Time Settings

By setting the time, you can use the alarm to start play (→P27).



1. Press CLOCK CALL.



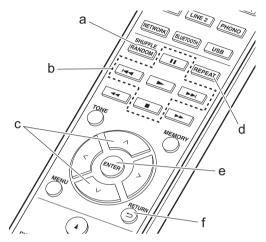
- 2. Press ENTER (b).
- Set the day of the week with </> (a), then press ENTER (b).
- 4. Use </> (a) to select either "24H" (24-hour display) or "12H" (12-hour display) and press ENTER (b).
- 5. Set the time with </> (a), then press ENTER (b).
- 6. Set the minutes with </> (a), then press ENTER (b). Setting ends automatically after a short time.
- Once you have completed the setting, the set time can be displayed for about 10 seconds by pressing CLOCK CALL.

USB Storage Device/HDD Playback

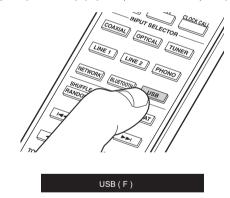
Basic operations

You can play music files by connecting a USB storage device or HDD (hard disk drive) to the USB port on the front or rear of the unit.

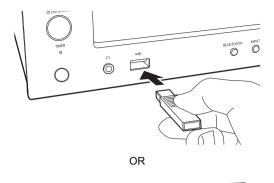
 The USB port on the front supports a maximum 5 V/ 0.5 A power supply. If the HDD requires more than this, connect to the USB port on the rear of the unit (maximum 5 V/1 A).

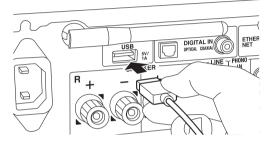


- 1. Turn the unit on.
- 2. Press USB to select "USB (F)" (USB port on the front panel) or "USB (R)" (USB port on the rear panel).



3. Plug your USB storage device or HDD into the USB port on the front or rear.





- 4. Press ENTER (e) after reading is complete.
- 5. Select the folder or music file with ∧/∨ (c) on the remote controller and press ENTER (e). To return to the previous display, press ≤ (f).
- 6. Use play buttons (b) to stop play or choose tracks to play.
- The display of album name and artist name is supported with MP3/WMA/Apple Lossless/FLAC/AAC/ DSD (DSF only) format music files.
- Characters that cannot be displayed by this unit appear as "*".
- 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.

Repeat play

1 字: Repeat play of the selected individual track. 口字: Repeat play of all tracks within a folder. To cancel repeat play, press REPEAT (d) several times until the icons disappear.

Shuffle Play

- Press SHUFFLE/RANDOM (a) during play to display
 ★ on the display.
 - ⇒ : Play tracks in a folder randomly.

 To copyol shuffly play, proces SHUEFI.

To cancel shuffle play, press SHUFFLE/RANDOM (a) to disappear the icon.

USB Storage / HDD Device Requirements

- Note that operation is not guaranteed with all USB storage devices or HDD.
- This unit can use USB storage devices that comply with the USB mass storage device class standard. (However, there are still devices that cannot be played by this unit even if they comply with the USB mass storage class standard.)
- The unit is also compatible with USB storage devices using the FAT16 or FAT32 file system formats. Other formats such as exFAT, NTFS, and HFS cannot be played by this unit.
- 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 the USB storage device or HDD comes with an AC adapter, 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

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 Laver-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 : 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, 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, 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, 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, 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, 88.2 kHz. 96 kHz. 176.4 kHz. 192 kHz
- · Quantization bit: 16 bit, 24 bit

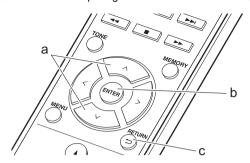
DSD (.dsf/.dff/.DSF/.DFF):

- Supported formats : DSF/DSDIFF
- Supported sampling rates: 2.8 MHz, 5.6 MHz, 11.2 MHz

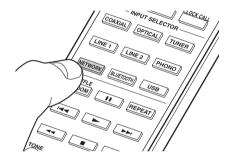
Internet Radio

Basic operations

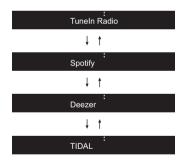
When this unit is connected to a network, you can listen to TuneIn or other preregistered Internet radio services.



- 1. Turn the unit on.
- 2. Press NETWORK.



 Select "TuneIn Radio" with ∧/∨ (a) on the remote controller and press ENTER (b).



- If "Connection Error." is displayed, check whether the network is properly connected.
- Select stations with ∧/∨ (a) on the remote controller and press ENTER (b). To return to the previous display, press ≤ (c).

The TuneIn My Presets function:

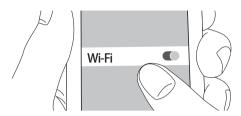
You can register a station you have played as a favorite.

- 1. Press ENTER (b) while playing TuneIn.
- Select "Add to My Presets" with ∧/∨ (a) on the remote controller and press ENTER (b).
- To play a favorite, select a registered station in "My Presets", displayed first when "TuneIn Radio" selected and press ENTER (b). To delete favorites, press ENTER (b) during play, select "Remove from My Presets" and press ENTER (b).

Spotify

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

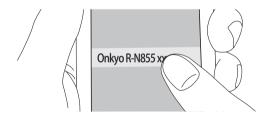
 Connect the smartphone to the network that this unit is connected to.



Click the Connect icon in the track play screen of the Spotify app.



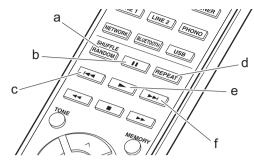
3. Select this unit.



- This unit is displayed as "Onkyo R-N855 XXXXXX".
- 4. This unit turns on automatically and the input selector changes to NET and streaming of Spotify starts.
 - If "Option" "PWR Setting" "NET Stby" is set to "Off" in the setup menu, manually turn the unit on and then press NETWORK on the remote controller.
- Refer to the following for Spotify settings: www.spotify.com/connect/
- The Spotify software is subject to third party licenses found here:

www.spotify.com/connect/third-party-licenses

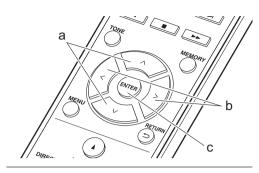
The following remote controller operations are also possible.

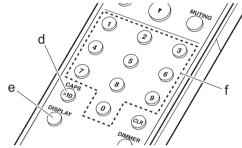


- (a) Start shuffle play.
- (b) Pause play.
- (c) Play the previous track.
- (d) Start repeat play.
- (e) Start play.
- (f) Play the next track.

Listening to the FM/DAB Radio

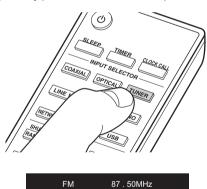
Listening to FM Radio





Tuning Automatically

- 1. Turn the unit on.
- 2. Repeatedly press TUNER to switch input to FM.



 When you press ∧/∨ (a) on the remote controller, automatic tuning starts, and searching stops when a station is found. "FM ST" indicator on the display lights when FM stereo station is being received.

When FM broadcasts are difficult to receive: Perform the procedure for "Tuning Manually". If you tune manually, the reception for FM broadcasts will be monaural rather than stereo, irrespective of the sensitivity of the reception.

Tuning Manually

- 1. Turn the unit on.
- 2. Repeatedly press TUNER to switch input to FM.



3. Press ENTER (c) on the remote controller so that the "AUTO" indicator on the display goes off.

- - 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.
 - After pressing PUSH TO ENTER on the main unit until the frequency display flashes, you can turn the dial left or right to tune stations.

Directly inputting the frequency

It allows you to directly enter the frequency of the radio station you want to listen to.

- 1. Turn the unit on.
- 2. Repeatedly press TUNER to switch input to FM.
- 3. Press CAPS (d) on the remote controller.
- Press the number buttons (f) on the remote controller to enter the frequency of the radio station within 8 seconds.
 - To enter 87.50, for example, press 8, 7, 5, 0. If you enter the wrong number, press CAPS (d) and reenter.

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 DISPLAY (e) on the remote controller in this state, you can use the following functions.

Displaying text information (Radio Text):

 While the name of the station is being displayed on the display, press DISPLAY (e) 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:

- While the name of the station is being displayed on the display, press DISPLAY (e) on the remote controller twice.
- Press </> (b) on the remote controller to select the Program Type you want to find, then press ENTER (c) 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)

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)

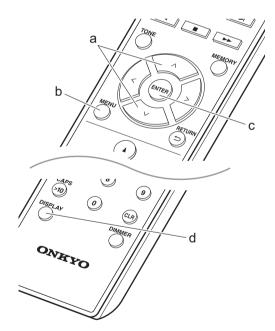
Oldies (Oldies music)

Folk M (Folk music)

Document (Documentary)

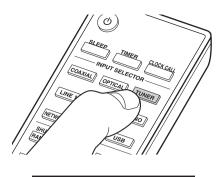
- The information displayed may sometimes not match the content being broadcast by the station.
- When a station is found, the station flashes on the display. Press ENTER (c) while this is happening to start receiving that station. If you don't press ENTER (c), the unit continues to search for another 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



Tuning

- 1. Turn the unit on.
- 2. Repeatedly press TUNER to switch input to DAB.



DAB

 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 MENU (b) on the remote controller, then use "DAB Scan" in "Option" - "Tuner Setting".
- Press ∧/∨ (a) on the remote controller to select the desired radio station.

Changing the order stations are displayed

You can sort the available stations alphabetically or by multiplex.

1. Press ENTER (c) 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

 Press the DISPLAY button (d) repeatedly to display more information about the selected DAB station.

Broadcast Information

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).

Signal Quality: Displays the signal quality.

0 - 59: Poor reception

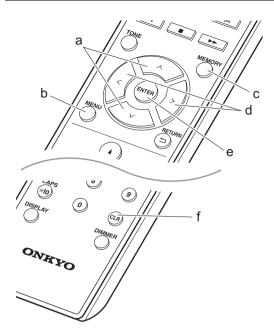
60 - 79: Good reception

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.

Registering a station



You can register a maximum of 40 radio stations, the sum of FM stations and DAB stations.

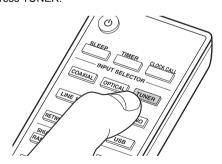
- 1. Tune into the radio station you want to register.
- 2. Press MEMORY (c) on the remote controller so that the preset number on the display flashes.



- 3. While the preset number is flashing (about 8 seconds), repeatedly press </> (d) on the remote controller to select a number between 1 and 40.
- Press MEMORY (c) on the remote controller again to register the station. When registered, the preset number stops flashing.

Selecting registered stations

1. Press TUNER.



2. Press </> (d) on the remote controller to select a preset number.

To delete a registered station :

- 1. Press TUNER.
- 2. Press </> (d) on the remote controller to select the preset number you want to delete.
- Press CLR (f) on the remote controller to delete the preset number.

To give a name to a registered station (FM stations only):

- 1. Press TUNER.
- 2. Press </> (d) on the remote controller to select a preset number.
- 3. Press MENU (b) on the remote controller.
- 4. Press ∧/∨ (a) on the remote controller to select "Option" "Tuner Setting" "NameEdit" and press ENTER (e).
- 5. Enter a name for the station. For details on how to enter text, refer to "Entering text" (→P28).

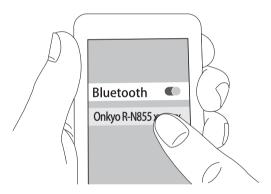
BLUETOOTH®

Pairing

- 1. Turn the unit on.
- When you press BLUETOOTH, "Now Pairing..." is displayed on the display, and the pairing mode is enabled.



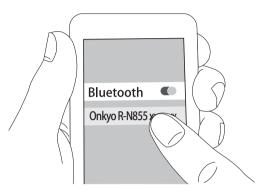
 Enable (turn on) the BLUETOOTH function of the BLUETOOTH enabled device, then select this unit from amongst the devices displayed. If a password is requested, enter "0000".



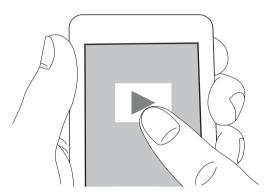
- This unit is displayed as "Onkyo R-N855 XXXXXX".
- 4. "Now Pairing..." on the display changes to the name of the BLUETOOTH enabled device.
- To connect another BLUETOOTH enabled device, press and hold BLUETOOTH until "Now Pairing..." is displayed, then perform step 3 above. This unit can store the data of up to eight paired devices.
- The coverage area is 15 meters. Note that connection is not always guaranteed with all BLUETOOTH enabled devices.

Playing back

- 1. Turn the unit on.
- 2. Perform the connection procedure on the BLUETOOTH enabled device.



- The input selector on this unit automatically switches to "BLUETOOTH".
- 4. Play the music files. Increase the volume of the BLUETOOTH enabled device to an appropriate level.



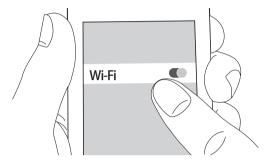
 Due to the characteristics of BLUETOOTH wireless technology, the sound produced on this unit may slightly be behind the sound played on the BLUETOOTH enabled device.

AirPlay[®]

Basic operations

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.

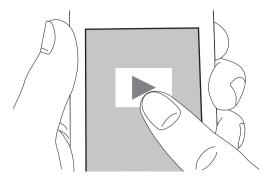
- 1. Turn the unit on.
- 2. Connect the iOS device to the same network as this



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".



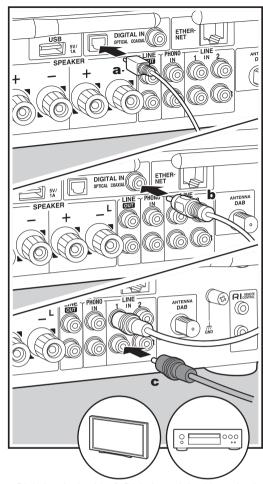
- This unit is displayed as "Onkyo R-N855 XXXXXX".
- If an "AirPlay PW" has been set on this unit, enter the password you set.
- 4. Play the music files on the iOS device.



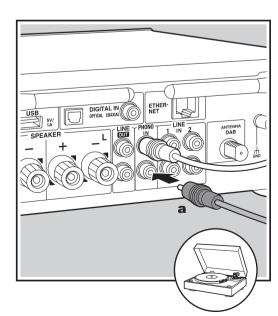
- In the setup menu displayed by pressing MENU on the remote controller, when "Option" - "PWR Setting" -"NET Stby" is set to "On", when play of AirPlay starts, this unit turns on automatically and play starts.
- Due to the characteristics of AirPlay wireless technology, the sound produced on this unit may slightly be behind the sound played on the AirPlayenabled device.
- SHUFFLE/RANDOM and REPEAT on the remote controller does not work. Operate from the iOS device.

You can also play the music files on a computer with iTunes (Ver. 10.2.2 or later). Make sure this unit and the computer are connected to the same network, click the AirPlay icon in iTunes, select this unit from the list of devices displayed, and start play of a music file.

Playing Audio from an External Device



 ${\bf a}$ Digital optical cable, ${\bf b}$ Digital coaxial cable, ${\bf c}$ Analog audio cable



a Analog audio cable

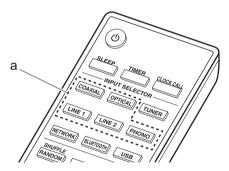
Connections

You can play the audio from external devices such as TVs, CD players, and turntables with MM cartridges through this unit. Connect as follows according to the output jacks on the external devices you are connecting. When using a digital optical cable, connect to the DIGITAL IN OPTICAL terminal on this unit. When using a digital coaxial cable, connect to the DIGITAL IN COAXIAL terminal on this unit. When connecting with an analog audio cable, connect the turntable to the PHONO IN jack and other external devices is to the LINE IN jacks on this unit.

- If the connected turntable has a built-in audio equalizer, connect it to the LINE IN jack.
- If the turntable has a ground wire, connect it to the GND terminal.



Playing Back



- 1. Turn the unit on.
- Press OPTICAL, COAXIAL, LINE 1, LINE 2, or PHONO (a) to match the terminal you have connected the device to switch the input of this unit.



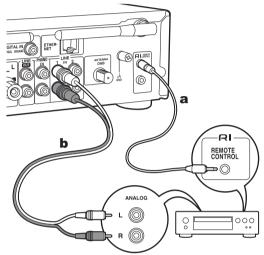
- 3. Start play on the player.
- When connected by a digital optical cable or a digital coaxial cable, this unit supports linear PCM signals of up to 192 kHz/24 bits for input.

Connecting with Onkyo RI Components

By connecting an Onkyo component with RI jack to the unit by using an RI cable and an analog audio cable, you can link the unit's power and input selection and enable operation with this unit's remote controller. For details, refer to the instruction manual of the component with the RI jack.

 When connecting an Onkyo CD player or MD deck, you need to change the name of the input selector.
 (→P31 "Selector Name")

Change the name of the jack to which the external device is connected, "COAXIAL", "OPTICAL", etc., to suit the device you have connected, either "CD" or "MD".



a RI cable, b Analog audio cable

- If there are two RI connectors, the funciton of the two connectors is the same. Both connectors can be used.
- Connection to RI connectors only does not work as the system. Connect also an analog audio cable correctly.
- Some components may not support all RI functions.

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

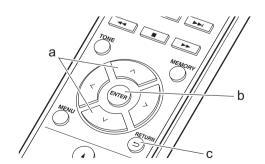
Windows Media® Player 11

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

Windows Media® Player 12

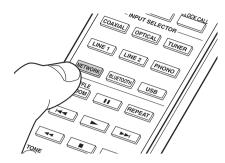
- 1. Turn on your PC and start Windows Media® Player 12.
- 2. In the "Stream" menu, select "Turn on media streaming" to display a dialog box.
 - If media streaming is already turned on, select "More streaming options..." in the "Stream" menu to list players in the network, and then go to step 4.
- Click "Turn on media streaming" to list players in the network.
- 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 Back



- 1. Turn the unit on.
- Start the server (Windows Media[®] Player 11, Windows Media[®] Player 12, or NAS device) containing the music files to play.
- 3. Make sure that the PCs and/or NASs are properly connected to the same network as this unit.

4. Press NETWORK.



 Press ∧/∨ (a) on the remote controller to select "Music Server", and then press ENTER (b).



- Select the server and music file with ∧/∨ (a) on the remote controller and press ENTER (b). To return to the previous display, press ≤ (c).
- If "Connection Error." is displayed, check whether the network is properly connected.
- Depending on the server being used and the files played, elapsed play time and remaining play time may not be displayed.
- 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.

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.
- 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. 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.
- 4. 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.
- 5. 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 on the version of Windows Media[®] Player, there may be differences in the names of items you can select.

Supported Audio Formats

This unit supports the following music file formats.

- Note that playback via wireless LAN of sampling rates of 88.2 kHz or higher, and DSD are not supported.
- Remote play of FLAC, and DSD is also not supported.
- Variable bit-rate (VBR) files are supported. However, playback times may not be displayed correctly.
- Remote playback does not support the gapless playback.

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 8 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, 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, 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, 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, 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) :

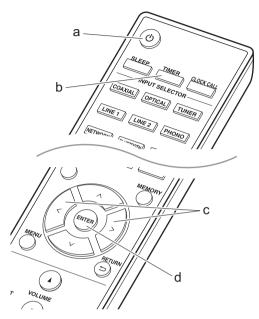
- Supported sampling rates: 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
- Quantization bit : 16 bit, 24 bit

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

- Supported formats : DSF/DSDIFF
- Supported sampling rates: 2.8 MHz, 5.6 MHz, 11.2 MHz

Using the Alarm to Start Play

At the set time, the unit switches on and starts play of the desired source. You can set two different timers, "TIMER 1" and "TIMER 2". Make sure that the clock on this unit is set correctly. You cannot use the timers if the clock has not been set.



1. Press TIMER (b).

Timer1 Set

To set "TIMER 1", proceed to step 2. To set "TIMER 2", press TIMER (b) once more.

- 2. Press ENTER (d) when "Timer Set" is displayed.
- 3. Press </> (c) to select the source to use for timer play, then press ENTER (d).
 - The sources you can select are "CD", "MD" and "TUNER".

To select "CD" or "MD", you first need to go to the settings menu and set "Option" - "Selector Name" to set an input for a jack to "CD" or "MD". If "CD" or "MD" is not set for an input, nothing is output when the timer starts.

To select "TUNER", you first need to have registered a station in a preset channel.

- If you have selected "TUNER", press </> (c) to select a preset number and press ENTER (d).
- Press </l>(c) to select "EVERY" or "ONCE" and press ENTER (d).

If you select "EVERY", select days of the week from amongst "EVERYDAY", "SUNDAY", "MONDAY", "TUESDAY", "WEDNESDAY", "THURSDAY", "FRIDAY", "SATURDAY", "MON-FRI", "TUE-SAT", and "SAT-SUN" and press ENTER (d).

If you select "ONCE", select a day of the week from amongst "SUNDAY", "MONDAY", "TUESDAY", "WEDNESDAY", "THURSDAY", "FRIDAY", or "SATURDAY" and press ENTER (d).

- Press </> (c) to set the start time for the alarm and press ENTER (d).
 - Next set the hour and minutes for the start time.
- Press </> (c) to set the end time for the alarm and press ENTER (d).

- Next set the hour and minutes for the end time.
- 8. Press </> (c) to set the volume (00 to 50) for the alarm and press ENTER (d).
- The TIMER indicator lights when the settings are complete, and the content you set is displayed on the display.
- 10.Press (b) (a) to switch the unit to standby.

Check whether the alarm setting is On or Off: When the TIMER indicator is on, the alarm is on. The alarm is off if the indicator is off.

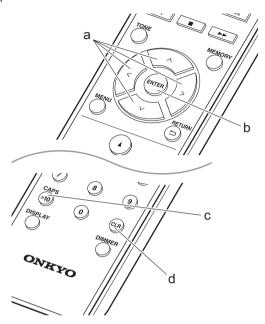
Turning the alarm setting On or Off: If the alarm is already set, you can turn the function on or off.

- 1. Press TIMER (b).
- "TIMER 1" is displayed. To modify "TIMER 1", proceed to step 3. To modify "TIMER 2", press TIMER (b) once more
- To turn off, press ENTER (d) when "Timer Off" is displayed.
 - To turn on, press ENTER (d) when "Timer On" is displayed.
 - Press </> (c) to select "Timer Call", then press ENTER (d) to check the content you set.
- 4. Press (b) (a) to switch the unit to standby.

Entering Text, Adjusting Sound Quality, etc.

Entering text

Text entry, for passwords, etc., uses the following procedure.



1. Select the characters or symbols with $\wedge/\vee/</>> (a)$.

abc<mark>d</mark>efghij

- 2. Press ENTER (b) to confirm the selected character. Repeat this to enter text.
 - Press CAPS (c) to change the characters to be enter, for example to switch between upper and lower case.
 - Press CLR (d) to delete all the input characters.
- After completing input, select "OK" with \(\lambda/\

$A/a \leftarrow \rightarrow BSOK$

 Turn PUSH TO ENTER on the main unit to the left and right to select the characters, then press the dial to confirm

Characters that can be entered

а													
	а	b	С	d	е	f	g	h	i	j	k	П	m
	n	0	р	q	r	s	t	u	٧	W	Х	У	z
	1	2	3	4	5	6	7	8	9	0	-	^	
	,		/	;	:	@	[]	S	р	а	С	е
	A/a					<-	->	В	S	0	Κ		

Α													
	Α	В	С	D	Е	F	G	Н	-	J	K	L	М
	Ν	0	Р	Q	R	S	Т	U	٧	W	Χ	Υ	Ζ
	!	"	#	\$	%	&	,	()	_	=	~	П
	<	>	?	+	*	`	{	}	S	р	а	С	е
	A/a					<-	->	В	S	0	K		

Space: A single space the size of a character is entered.

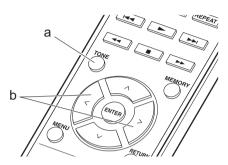
A/a : Switches between characters displayed. (a→A)

← (left) / → (right) : Select to move the cursor.

BS (backspace): Removes a character on the left of the cursor. The cursor moves left.

OK: Confirms the entered content.

Adjusting the sound quality



- Repeatedly press TONE (a) to select the item to adjust.
- 2. Set with </> (b).

Bass: Adjust the bass. (-6 to +6)

Treble: Adjust the treble. (-6 to +6)

Balance: Adjust the balance of the sounds output from the left and right speakers. (L6 to R6)

PM Bass : When "On", this enables the PM Bass function that emphasizes the bass.

Direct: When "On", this enables the Direct function that shuts down processing that affects sound quality so sound closer to the original is reproduced.

 When the Direct function is enabled, Bass, Treble, Balance, and PM Bass are disabled and you will be unable to set them.

Supplementary Information for Player Functions

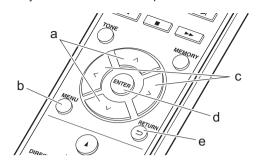
Due to firmware (the software for the system) updates after you make your purchase or firmware changes during production of the product, there may be additions or changes to the features available compared to what is in the instruction manual.



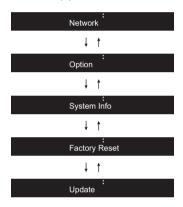
http://www.onkyo.com/manual/upd/nap/2.pdf

Advanced Settings

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



- 1. Press MENU (b) on the remote controller.
- Select the item with \(/ \varphi \) (a) on the remote controller and press ENTER (d) to confirm.



- Select the settings with ∧/∨/</> (a, c) on the remote controller and press ENTER (d) to confirm.
 - To return to the previous screen, press **◆** (e).
- 4. To exit the settings, press MENU (b).

Network

■ Connection

Select the type connection to the network. Select the item with </> (c) on the remote controller and press ENTER (d).

"Wi-Fi": To connect via wireless LAN "Wired" (Default Value): To connect via wired LAN Perform "Wi-Fi Setup" if you select "Wi-Fi".

■ Wi-Fi Setup

Make Wi-Fi connection settings. (→P12) This can be set only when "Wi-Fi" is selected in "Connection".

■ SSIE

The SSID of the connected access point is displayed.

■ Signal

The signal strength of the connected access point is displayed.

■ St

The connection status of the access point is displayed.

■ DHCP

Select the item with </> (c) on the remote controller and press ENTER (d).

"On" (Default Value): Auto configuration by DHCP "Off": Manual configuration without DHCP If selecting "Off", you must set "IP Address", "Subnet Mask", "Gateway", and "DNS" manually.

■ IP Address

Displays/Sets the IP address.

■ Subnet Mask

Displays/Sets the subnet mask.

■ Gateway

Displays/Sets the gateway.

DNS

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

Change the device name for this unit which is shown on other devices connected to the network to an easily recognized name. You can input up to 31 characters. For details on how to enter text, refer to "Entering text" (→P28).

■ AirPlay PW

You can set a password of up to 31 characters so that only registered users can use AirPlay. For details on how to enter text, refer to "Entering text" (→P28).

■ Network Check

You can check the network connection. The confirmation results are displayed when you press ENTER (d).

Option

■ PWR Setting

Auto Standby

This setting places the unit on standby automatically after 20 minutes of inactivity without any audio input. Select the item with </> (c) on the remote controller and press ENTER (d). "On" (Default Value): The unit will automatically enter standby mode. "Off": The unit will not automatically enter standby mode.

NET Stby	When this feature is turned "On", you can turn on the power of the unit via the network using an application that can control this unit. Select the item with (c) on the remote controller and press ENTER (d). • Setting to "On" (Default Value) increases the power consumption even when the unit is on standby. • "NET Stby", which suppresses power consumption, may be disabled when the network connection is lost.
BT Wakeup	This function wakes up the unit on standby by connecting a BLUETOOTH enabled device. Select the item with (c) on the remote controller and press ENTER (d). "On": Use this function "Off" (Default Value): Do not use this function • Setting to "On" increases the power consumption even when the unit is on standby. • This setting is fixed to "Off" if "Bt Setting" - "InputChange" is set to "Off".

■ Tuner Setting

This is displayed only when "FM" or "DAB" is selected as the input source.

the input sourc	
Search Level	You can choose to have only those FM stations with strong reception selected when tuning into stations automatically if tuning regularly stops on FM stations with weak reception. Select the item with (c) on the remote controller and press ENTER (d). "Normal" (Default Value) "Strong": Select only stations with strong reception.
DAB 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. Select the item with (c) on the remote controller and press ENTER (d). "0" (Default Value): DRC off "1": Large reduction in dynamic range "1/2": Small reduction in dynamic range
Preset Write	Add the tuned station to the presets.
Preset Erase	Delete the tuned station from the presets.
NameEdit (FM stations only)	You can give names to the stations that you have registered. For details on how to enter text, refer to "Entering text" (→P28).

■ Bt Setting

■ Bt Setting	
Bluetooth	Select whether or not to use the BLUETOOTH function. Select the item with (c) on the remote controller and press ENTER (d). "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
InputChange	The input of the unit will automatically be switched to "BLUETOOTH" when connection is made from a BLUETOOTH enabled device to the unit. Select the item with (c) on the remote controller and press ENTER (d). "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.
AutoReconnect	This function automatically reconnects to the BLUETOOTH enabled device connected last when you change the input to "BLUETOOTH". Select the item with (c) on the remote controller and press ENTER (d). "On" (Default Value): Use this function "Off": Do not use this function This may not work with some BLUETOOTH enabled devices.
Pairing Info	You can initialize the pairing information saved on this unit. press ENTER (d) to initialize 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 connected BLUETOOTH enabled device.
St	Displays the connection status of the BLUETOOTH enabled device.

■ Selector Name

This is displayed only when "COAXIAL", "OPTICAL", "LINE1", or "LINE2" is selected as the input source. You can change the name of the input for the terminal to which you have connected a CD player or other external source to "CD" or "MD". You cannot change the name of the input for multiple jacks to "CD" or "MD". If you select "None" (Default Value), the name returns to the original input name.

Select the item with </> (c) on the remote controller

and press ENTER (d).

■ LINE OUT/SW

Change the settings according to the devices connected to the LINE OUT jacks on this unit. When changing this setting, perform without devices connected to the LINE OUT jacks.

Select the item with </> (c) on the remote controller and press ENTER (d).

"LINE OUT" (Default Value): When connecting recording devices, such as a cassette tape deck

"SW PREOUT": When connecting a subwoofer with built-in power amplifier

System Info

The MAC address of this unit and the current firmware version will be displayed.

Select "MAC address" or "Firmware" with \land / \lor (a) on the remote controller.

Factory Reset

Reset the settings of this unit to the status at the time of shipment. We recommend that you take a note of the settings you have changed before going ahead with a factory reset. To reset, select "Reset Start" with \land/\lor (a) on the remote controller and press ENTER (d). Press ENTER (d) again to start the reset. The unit will be placed on standby automatically when initializing is completed.

Update

"Update" is not displayed if there are no firmware updates.

■ via Network

Press ENTER (d) to select when you want to update the firmware via network.

■ via USB

Press ENTER (d) to select when you want to update the firmware via USB.

Firmware Update

The updating function on 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

There are two methods for updating the firmware: via network and via USB. The update may take about 5 minutes to complete for either method: via network or via USB. Furthermore, existing settings are guaranteed regardless of the method used for update.

- 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.
- When performed over the network, it may take even more time depending on the connection status.
- · During an update, do not
 - Disconnect and reconnect any cable or USB storage device, 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.
- 1. Press MENU on the remote controller to display "Network" on the display.



Press ∧/∨ and ENTER to select "Update" - "via Network" in order.



- "Update" is not displayed if there are no firmware updates.
- 3. Press ENTER to start the firmware update.
 - "Completed" is displayed when the update is complete.
- 4. Press (b) to switch the unit to standby. The process is

completed and your firmware is updated to the latest version.

If an error message is displayed: When an error occurs, "* - * * Error!" is displayed on the display of this unit. 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 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.
- 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.
- 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.
- 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:

 ONKHIM **** _ ********* _ *** zip
 Unzip the file on your PC. The number of unzipped files and folders varies depending on the model.
- Copy all unzipped files and folders to the root folder of the USB storage device.
 - Make sure to copy the unzipped files.
- 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. Press MENU on the remote controller to display "Network" on the display.



Press ∧/∨ and ENTER to select "Update" - "via USB" in order



• "Update" is not displayed if there are no firmware

updates.

- 7. Press ENTER to start the firmware update.
 - "Completed" is displayed when the update is complete.
- 8. Press $\dot{\mathbb{O}}$ to switch the unit to standby. The process is completed and your firmware is updated to the latest version.
- 9. Remove the USB storage device from this unit.

If an error message is displayed: When an error occurs, "* - ** Error!" is displayed on the display of this unit. 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 power cord, then repeat from the beginning.

Troubleshooting

Before starting the procedure

When operation is unstable, problems may be solved by simply turning the power on or to standby or disconnecting/connecting the power cord, rather than reviewing settings and operations. Try the simple measures on both the unit and the connected device. If the problem isn't fixed after referring to

"Troubleshooting", resetting the unit to the status at the time of shipment may solve the problem. Note that your settings will also be initialized when you reset, so we recommend that you note down your settings before doing the following.

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

- Press MENU on the remote controller, select "Factory Reset" - "Reset Start" and press ENTER.
- 2. Press ENTER.
- The unit switches to standby and the settings are reset.

Power

■ Cannot turn on the unit

• 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 "Option" "PWR Setting" "Auto Standby" setting in the setup menu functions.
- Check if the speaker cable wires are touching the rear panel or if the + side and - side have shorted. If there is contact or shorting, the unit will switch to standby automatically.
- If the power turns off and indicators around the VOLUME dial on the front panel continually blink, there may have been a malfunction with the amplifier or the protection circuit may have tripped. The protection circuit may trip in the following cases.
 - When playing at high volumes. Reduce the volume if this occurs.
 - When the wires in the speaker cables have touched the rear panel or other wires. Reconnect the wires so they do not protrude from the speaker terminals if this occurs.

If the same symptoms such as being unable to turn the unit on happen repeatedly, unplug the power cord from the wall outlet immediately and contact the dealer or our company's support.

Volume reduces after switching to standby

 This unit protects circuits by reducing the volume to 40 the next time the unit is switched on if the volume was above 40 when it was switched to standby.

Sound distorted when played at high volume

 Sound may be distorted when you play with the volume set above 30 with Bass settings made or with the "PM Bass" function enabled. Press TONE on the remote controller and reduce the level of the "Bass" or set "PM Bass" to "Off". (→P28)

There is no audio from external devices

- There is no sound if this unit is muted. Press MUTING on the remote controller to cancel muting.
- Confirm that the connection between the output jack on the external device and the input jack on this unit is correct.
- Change the input selector on this unit to the position of the terminal to which the external device 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.

The display doesn't light

The display may go dim while the DIMMER is working.
 Press DIMMER button and change the brightness level of the display.

Wi-Fi Connection

 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.

■ Cannot connect to the access point

- 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.
- 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.

■ Connected to an SSID different to the SSID selected

 Some access points 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

- Shorten the distance from the 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 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 access point 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 the access point. For instructions on changing channels, see the instruction manual provided with the access point.

Cannot Play USB storage device / HDD

- 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.
- This unit may not recognize USB storage devices and HDDs as proper devices sometimes. Try switching this unit to standby and then turning it on again.
- Depending on the type of format, the playback may not be performed normally. Check the type of the file formats that is supported. (**)P15)
- Cautions regarding USB and HDD devices (→P15)

FM reception is poor

- Re-check the antenna connection.
- Separate the antenna from speaker cables and the power cord.
- · Move the unit away from your TV or PC.
- Passing cars and airplanes can cause interference.
- · Concrete walls weaken radio signals.
- FM reception may become clearer if you use the antenna jack on the wall used for the TV.
- FM reception improves if the tuning mode is set to manual (→P18). However, reception will be monaural rather than stereo.

Network function

- If you cannot select a network service, it will become selectable when the network function is started.
- Try plugging/unplugging the power supply of this unit and the router, and try rebooting the router.

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.
- 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. Furthermore, 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

- 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.

■ The album names and artist names for the Music Server are not displayed

- Meta data, such as album names and artist names, needs to be recognized on the server for distribution to this unit, so this depends on the specifications of the NAS or server you are using.
- The file formats supported depend on the NAS or server software. For details, contact the manufacturer of NAS or the server software.

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.
- In order to respond to operations on the remote controller of this unit, the BLUETOOTH enabled device must support the AVRCP profile.
- Note that operation with the remote controller is not always guaranteed with all BLUETOOTH enabled devices.

■ Cannot connect with this unit

- Check that the BLUETOOTH function of the BLUETOOTH enabled device is enabled.
- If an already paired unit cannot be connected, delete the pairing information on the BLUETOOTH enabled device, then pair again.

■ 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.
- Some BLUETOOTH enabled devices may be equipped with a Send/Receive selector switch. Select Send mode.

■ Sound is interrupted

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

General Specifications

Audio Section	General
Rated Output Power (IEC)	Power Supply
2 ch \times 70 W at 4 ohms, 1 kHz, 2 ch driven of 1%	AC 220 - 230 V, 50/60 Hz
THD	Power Consumption
THD+N (Total Harmonic Distortion+Noise)	60 W
0.08% (1 kHz, 8 ohms, 1 W)	0.2 W (Standby)
Input Sensitivity and Impedance (1 kHz, 100 W/8 Ω)	22 W (No-sound)
200 mV/47 kΩ (LINE (Unbalance))	2.8 W (Network Standby)
3.5 mV/47 kΩ (PHONO MM) Rated RCA Output Level and Impedance	Dimensions (W × H × D)
200 mV/2.2 kΩ (LINE OUT)	275 mm × 87.7 mm × 303 mm
Phono Overload	Weight 6.1 kg
70 mV (MM 1 kHz 0.5%)	0.1 kg
Frequency Response	Audio Inputs
5 Hz - 60 kHz/+1 dB, -3 dB (Direct)	Analog
Tone Control Characteristics	LINE IN 1, 2
±6 dB (100 Hz (Bass))	PHONO IN
±6 dB (10 kHz (Treble))	Digital
Signal to Noise Ratio	OPTICAL
106 dB (IHF-A, LINE IN, SP OUT)	COAXIAL
80 dB (IHF-A, PHONO IN, SP OUT)	
Supported Speaker Impedance	Audio Outputs
4 Ω - 16 Ω	LINE OUT
Headphone Output Impedance	L/R
68 Ω	SPEAKER
Headphone Rated Output	L/R
90 mW (32 Ω, 1 kHz, 10% THD)	Phones
	Ø 3.5 mm stereo mini
Tuner Section	
Tuning Frequency Range (FM)	USB
87.5 MHz - 108.0 MHz, RDS	Front/Rear USB
Preset Channel	Type A, USB2.0 High Speed
40 District Turner	DC Output
Digital Tuner DAB+	5 V, 1 A (Rear) / 5 V, 0.5 A (Front)
DAB+	
Network Section	
ETHERNET LAN	
10BASE-T/100BASE-TX	
Wireless LAN (Wi-Fi)	
IEEE 802.11 a/b/g/n standard	
5 GHz/2.4 GHz band	
BLUETOOTH Section	
Communication system	
BLUETOOTH Specification version 4.1+LE	
Frequency band	
2.4 GHz (2.402 GHz - 2.480 GHz)	
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	

application, etc.

sensitivity, antenna's performance, operating system, software

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AirPlay works with iPhone, iPad, and iPod touch with iOS 4.3.3 or later, Mac with OS X Mountain Lion or later, and PC with iTunes 10.2.2 or later.

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