

Noise Canceling Headphones

Operating Instructions

사용설명서

MDR-NC500D



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English

Before operating the unit, please read this manual thoroughly and retain it for future reference.

WARNING

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

To reduce the risk of electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

Connect the AC power adaptor to an easily accessible AC outlet. Should you notice an abnormality in the AC power adaptor, disconnect it from the AC outlet immediately.

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

To reduce the risk of fire or electric shock, do not place objects filled with liquids, such as vases, on the AC power adaptor.

Features

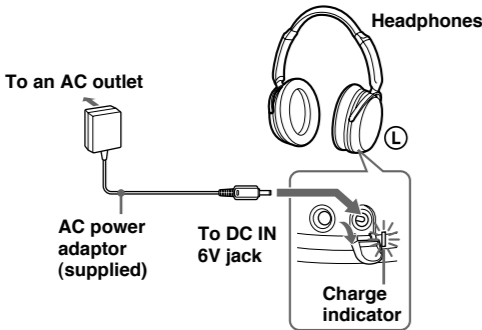
- Digital noise canceling headphones with the proprietary DNC software engine.** The high-precision canceling signal delivers predominant noise canceling performance.
- AI (Artificial Intelligence) Noise Canceling function.** Automatic selection of the optimal noise canceling mode based on intelligent analysis of environmental ambient noise.
- Digital equalizer delivers ideal frequency response and high-quality music reproduction.**
- High S/N ratio achieved through digital signal processing.**

- Lightweight design for extremely comfortable wearing.** Generous use of lightweight materials such as Magnesium and A7075 aluminum alloy.
- Pressure relieving urethane cushion in the earpad.** The earpad structure provides comfort without stress even after extended use.
- Built-in monitor function lets you silence the audio to hear externally.**

Charge the headphones

The headphones contains a rechargeable Lithium-Ion battery. Charge the battery before use.

Connect the supplied AC power adaptor to the DC IN 6V jack on the headphones and an AC outlet. The charge indicator lights up in orange and charging starts.



Charging is completed after about three hours, and the charge indicator goes out. Disconnect the AC power adaptor after the charging has finished.

- Notes**
- Use the AC power adaptor supplied with this unit. Do not use any other AC power adaptor since it may cause the unit to malfunction.

- Polarity of the plug**
- Avoid exposure to temperature extremes, direct sunlight, moisture, sand, dust or mechanical shock. Never leave in a car parked in the sun.
 - Charge in an environmental temperature of between 0°C and 40°C (between 32°F and 104°F). Otherwise, the battery may not be fully charged.

- If you haven't used the headphones for a long period of time, the life of the rechargeable battery may become short. This will improve when you repeat the charging and discharging process several times.
- When the battery life reduces to half, this may be the end of battery lifetime. For how to change batteries, consult your place of purchase or a Sony dealer.
- Do not store the headphones in hot places for a long period of time. When storing it for more than a year, charge the battery once a year to prevent over discharge.
- You cannot charge the rechargeable battery using the supplied connecting cord with battery case.

General charging and usage time

Charging time	Usage time ^{*1}
Approx. 3 hours ^{*2}	Approx. 15 hours ^{*3}

- ^{*1} At 1 kHz, 0.1 mW + 0.1 mW output
^{*2} Hours required to fully charge an empty battery
^{*3} Time stated above may vary, depending on ambient temperature or conditions of use.

When the rechargeable battery is low

When the rechargeable battery is low, short beeps sound from the unit for 8 seconds and the POWER indicator blinks slowly.

When the battery level is getting lower, a long beep sounds from the unit for 2 seconds and the POWER indicator blinks quickly, and all operations are stopped. Move the POWER switch to "OFF" in this case.

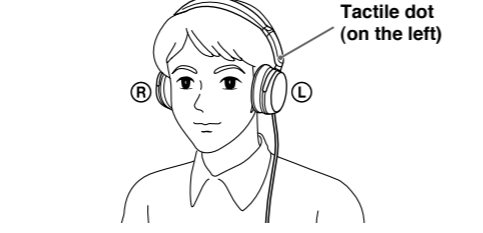
- Tips**
- When the battery runs out, you can supply the power to the headphones in one of the following ways:
 - Connect the headphones to the AC power adaptor by following the steps shown in "Charge the headphones."
 - You can use the headphones while charging.
 - Use the supplied connecting cord with battery case. See "How to use the connecting cord with battery case" for details.

Using your AC power adaptor abroad

You can use your AC power adaptor in any country or area that uses 100 V to 240 V AC, 50/60 Hz, by connecting a plug adaptor. If the country you visit employs a different shaped socket, use the correct plug adaptor. Consult your nearest travel bureau for the type of plug adaptor needed for your trip.

- 3** Put on the headphones.
 After confirming the cord on the left and the POWER switch on the right, put on the headphones.

Adjust the ear pads so as to cover your ears.

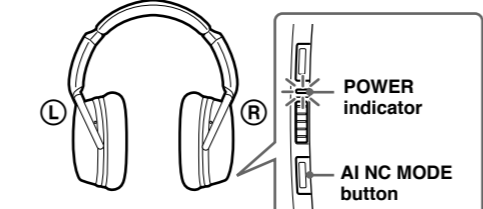


- 4** Start playing on the AV equipment connected to the headphones.

- Note**
 Playback is not available when there is no power.

Utilizing the AI Noise Canceling

- 1** Press the AI NC MODE button.
 When you press the AI NC MODE button and the POWER switch is set to "ON", sounds come from the headphones to inform you that the unit has started analyzing ambient sound components (approx. 3 seconds). During analysis, sound reproduction from the unit is stopped and the POWER indicator lights in pink.
 When analysis is completed, the most effective noise canceling mode is set automatically, and sound reproduction from the headphones starts.



AI Noise Canceling

AI Noise Canceling is a useful function that automatically selects one of the noise canceling modes. This function provides the most effective noise canceling mode by immediately analyzing ambient sound components when the AI NC MODE button is pressed.

- Tips**
- When the power of the headphones is turned on, mode A is set. (See "Noise canceling mode types," for details about Mode A.)
 - Press the AI NC MODE button again to reset the noise canceling mode if ambient noise has changed, such as when you move outdoors from a room.

To set the noise canceling mode manually

You can set the noise canceling mode manually (manual noise canceling).

- 1** Press and hold the AI NC MODE button for more than one second.
 Sounds (♪ ♪ ♪) come from the headphones to inform you that manual noise canceling is set.
- 2** Press the AI NC MODE button repeatedly to change the mode type.
 The POWER indicator blinks pink and a beep (s) sound(s) from the headphones. After that, the noise canceling mode is set. The number of POWER indicator blinks and the beep sounds depends on the mode selected. See "Noise canceling mode types."

- Tips**
- Mode A is selected when manual noise canceling is activated.
 - To change from manual noise canceling to AI Noise Canceling, press and hold the AI NC MODE button for more than one second. When you hear the sounds (♪ ♪ ♪) to inform you of the change to AI Noise Canceling, press the AI NC MODE button again. Ambient analysis starts and the most effective noise canceling mode is set automatically.

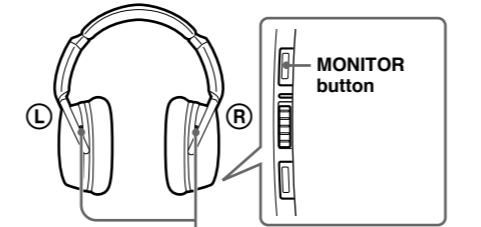
Noise canceling mode types

Mode names	Number of POWER indicator blinks (pink) and beep sounds
A	1
B	2
C	3

- A: Noise mainly in an airplane is effectively reduced.
 B: Noise mainly in a bus or a train is effectively reduced.
 C: Noise mainly found in an office environment (PC, copier, air ventilation, etc.) is effectively reduced.

Hearing environmental sound for safety

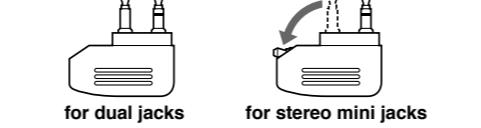
If the MONITOR button is pressed and held while the POWER switch is set to ON, playback silences then you can hear the surrounding environment.



- Note**
 Environmental sound might not be heard if the microphone is covered with your fingers.

When using in an airplane

- The supplied plug adaptor can be connected to the dual or stereo mini jacks in an airplane.



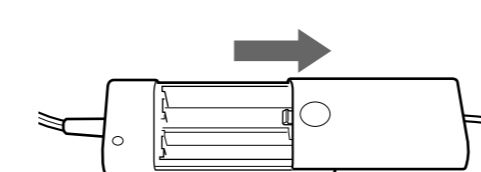
- Do not use the headphones when use of electronic equipment is prohibited, or when use of personal headphones for in-flight music services are prohibited.

How to use the connecting cord with battery case

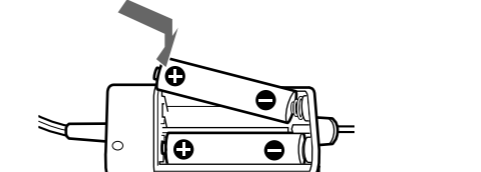
You can continue to use the unit, even when the rechargeable battery in the headphones runs out, by connecting the supplied connecting cord with battery case.

Use the connecting cord with battery case by inserting two size AA alkaline batteries.

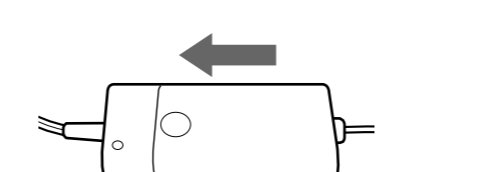
- 1** Open the lid of the battery case.



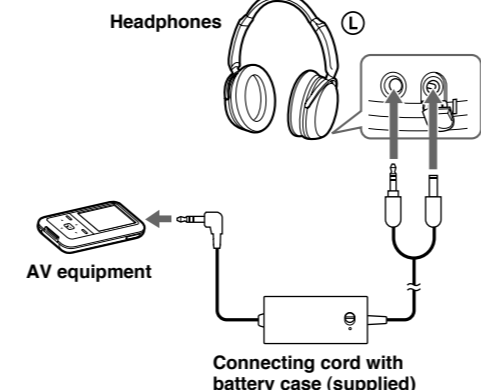
- 2** Insert two size AA alkaline batteries. Make sure of direction, matching the ⊕ marks in the case with those on the batteries.



- 3** Close the lid.

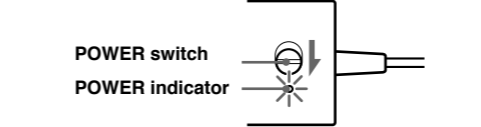


- 4** Connect the supplied connecting cord with battery case to both the headphones and AV equipment.



- Notes**
- When connecting the cord, insert the plug fully into the jack so that the green sign on the metal parts cannot be seen.
 - When disconnecting the cord, pull it out by holding the plug. If the cord is pulled forcibly the wire may break.

- 5** Set the POWER switch of the headphones to "OFF," and then set the POWER switch of the battery case to "ON."
 The POWER indicator on the battery case lights up green.



See steps 2 to 4 of "Listening to music" for the following setting steps.
 After use, set the POWER switch of both the headphones and the battery case to "OFF."

- Tips**
- The power supply of the rechargeable battery is consumed first, unless the battery runs out.
 - If you connect and turn on the connecting cord with battery case in advance when the rechargeable battery is low, you can use the headphones uninterrupted, even after the battery in the headphones runs out.

Notes

- The use of manganese batteries is not recommended, since this type of battery has an extremely short usage time.
- The battery case supplies the power to the headphones for operation purposes only. It does not charge the internal rechargeable battery in the headphones.
- The POWER indicator of the battery case becomes dim when the battery life is reaching the limit. Replace the battery with new ones at the time.
- The supplied connecting cord with battery case is only for these headphones. Do not connect to other equipment.

Battery life

Battery type	Approx. hours ^{*1}
Sony Alkaline LR6 (size AA) battery	10 hours ^{*2}

- ^{*1} Output at 1 kHz, 0.1 mW + 0.1 mW
^{*2} Time stated above may vary, depending on ambient temperature or conditions of use.

After use

Turn off the power of the headphones.

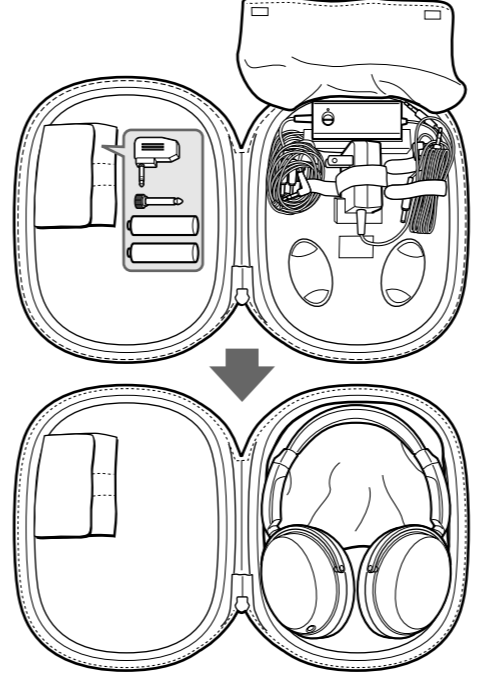
Flat Storage

The housings rotate to make them flat for easy storage in the carrying case (supplied), or in a seat pocket. Restore to their usual position before using.



Putting the headphones in the carrying case

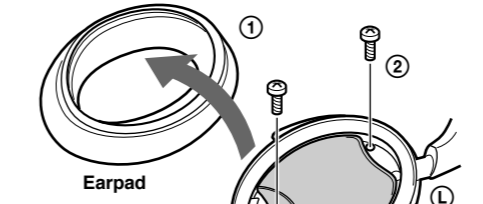
Rotate the housings to be flat before putting them in the carrying case.



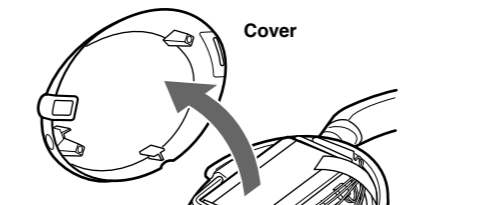
Disposing of the unit

The unit contains a rechargeable Lithium-Ion battery. For environmental conservation, be sure to remove the built-in rechargeable batteries from the unit before disposing, and dispose of the batteries appropriately.

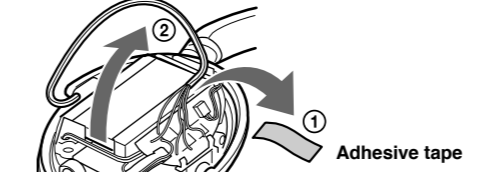
- 1** Pull off the earpad on the left housing, and unwind the two screws located as in the illustration.



- 2** Turn down the left housing and pull off the outer cover.



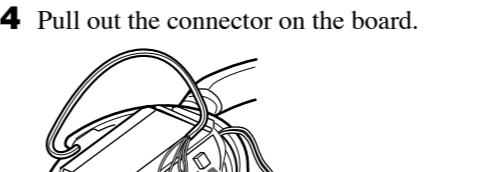
- 3** Keep the cord away from the rechargeable battery.
 First, remove the adhesive tape on the surface of the battery. Then, loosen the cord just beside the rechargeable battery.



Note

Be careful not to break the internal wires.

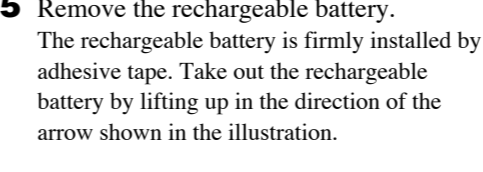
- 4** Pull out the connector on the board.



Note

Be careful not to break the internal wires when disconnecting the connector.

- 5** Remove the rechargeable battery.
 The rechargeable battery is firmly installed by adhesive tape. Take out the rechargeable battery by lifting up in the direction of the arrow shown in the illustration.



Note

Remove the rechargeable battery, taking care not to damage it.



Precautions

The headphones contain a noise canceling circuit.

What is noise canceling?
 The noise canceling circuit actually senses outside noise with built-in microphones and sends an equal-but-opposite canceling signal to the headphones.

- The noise canceling effect may not be pronounced in a very quiet environment, or some noise may be heard.
- The noise canceling effect may vary depending on how you wear the headphones.

- The noise canceling function works for noise in the low frequency band primarily. Although noise is reduced, it is not canceled completely.
- When you use the headphones in a train or a car, noise may occur depending on street conditions.
- Howling may occur if you do not wear the headphones correctly.
- Howling may occur if you place an object such as finger close to inside of the headphones. Keep it away from the headphones.
- Mobile phones may cause interference and noise. To avoid interference, use noise canceling feature only with wireless transmitters turned off (Airplane Mode). Interference noise can also occur from nearby mobile phones. Should this occur, locate the headphones further away from the mobile phone.

Notes on usage

- Clean the headphones with a soft dry cloth.
- Do not leave the plug dirty otherwise the sound may be distorted.
- Be sure to consult a Sony dealer when the earpads become dirty or damaged, or when the headphones require repair work.
- Do not leave the stereo headphones in a location subject to direct sunlight, heat or moisture.

Note on headphones Preventing hearing damage

Avoid using headphones at high volume. Hearing experts advise against continuous, loud and extended play. If you experience a ringing in your ears, reduce the volume or discontinue use.

Do not listen with the headphones while driving or cycling

As your headphones reduce surrounding sound, it may cause a traffic accident. Also avoid using them where hearing must not be impaired, for example, at a railroad crossing, a construction site, etc.

If you have any questions or problems concerning the system that are not covered in this manual, please consult your nearest Sony dealer.

Troubleshooting

No sound

- Turn on the headphones.
- When connecting the connecting cord with battery case, turn on the power of the battery case.
- Check that the rechargeable battery is not depleted.
- When connecting the connecting cord with battery case, check that the batteries have not expired.
- Check the connection of the headphones and the AV equipment.
- Check that the connected AV equipment is turned on.
- Turn up the volume of the connected AV equipment.

Muffled sound

- Turn down the volume of the connected AV equipment.
- Charge the headphones.
- Replace the alkaline batteries in the battery case with new ones.

Power does not turn on

- Check if the battery has expired (the POWER indicator dims).
 - If the power does not turn on, even after charging the headphones, the rechargeable battery may be damaged. Consult your place of purchase or a Sony dealer in this case.
- When you are using the headphones with the connecting cord with battery case, set the POWER switch on the battery case to "OFF," then to "ON" again.
- Replace the alkaline batteries in the battery case with new ones.

No operation works

- Set the POWER switch of the headphones to "OFF," confirm the connections, and then set the POWER switch back to "ON."
- Reset the headphones.
 - Insert a pointed object, such as the tip of a clip, into the hole located under the RESET button on the right housing, and press until the button slightly rebounds.

