

# N20 Hardware Guide

The following guide is intended as an overview of your Aurender's hardware interface. Detailed installation information is found in the included (<https://aurender.zendesk.com/hc/en-us/articles/360052012074>) and a comprehensive Conductor App Overview and How-To guides are found here: (<https://aurender.zendesk.com/hc/en-us/categories/360001878173>).

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- Aurender N20
- AC Power Cord
- Quick Start Guide

**Not included:** An iOS (iPad or iPhone) or Android device is required to interface with and control your Aurender. The Aurender must be connected to a Local Area Network (LAN) via Ethernet (CAT5 or higher) in order to facilitate communication between your remote device and the Aurender. Please review the "Connect to Local Area Network (LAN)" section of the included (<https://drive.google.com/file/d/1SK-anXfEE6sx2JyJ9eU59F6N-220NaQeh/view?usp=sharing>) for more information on network connectivity.

## Digital Transport

This model is a high performance digital audio transport. It features digital outputs only - there are no analog outputs on board this model. Pair this model up with a high performance Digital-to-Analog Converter (DAC) for a complete digital front end solution.

## DAC Compatibility

AES/EBU and SPDIF outputs & inputs are universally compatible. However, with USB, compatibility between any two devices is not always guaranteed! Sometimes, special drivers or software provisions must be made to establish compatibility over USB. DACs that fully adhere to the USB Audio Class 2 (UAC2) protocol will be supported without issue.

For DSD playback, if the DAC supports the industry standard DoP protocol, then it will be compatible with Aurender's DSD output. DoP is a lossless, unadulterated transmission of DSD from source to DAC. It is NOT to be confused with DSD-to-PCM transcoding, which is usually less desirable from an audio performance perspective.

On some Aurender models (see "File Type & Resolution Support" comparison table below), "Native" DSD output is available via USB. However, only a very small handful of select DACs support "Native" DSD input FROM A LINUX BASED SOURCE. Most DACs that report Native DSD input only work with ASIO drivers for Windows computers. Native DSD compatibility must be detected and enabled on a case-by-case basis.

In general, if a DAC works with a Mac computer without the need for any custom drivers, it will work beautifully with Aurender servers as well. Consult your DAC manufacturer for confirmation of USB compatibility with a Linux based sourced component like Aurender.

# Front Panel



## 1. On/Off

With the AC switch on the rear in the ON position, simply press and release the front panel On/Off button to turn the Aurender on or off. The surrounding LED light will pulse while the unit is starting up or shutting down, and it will stop pulsing when fully turned on or off. Pressing and holding the On/Off button will trigger a forced shut down and this should be avoided. More information on proper shut down procedure is found here: <https://aurender.zendesk.com/hc/en-us/articles/360026675874-What-is-the-proper-way-to-shut-down-my-Aurender->

## 2. 8.8” Wide Front LCD Display

Front panel display preferences can be adjusted in the Conductor app in the “Front Display” section of the Settings menu. The display will automatically go dim after no playback or other activity has occurred for a period of 3 minutes.

## 3. Display Menu

Press the Display Menu button to cycle through various display options including Song Information and Playlist Menu. Playlists may be selected and played using the four buttons on the right side of the front panel display. Use the Previous (5) and Next (6) buttons to scroll between playlists. Use the Play/Pause (4) button to select a playlist. After the playlist is selected, press the Play/Pause button again to start playback.

## 4. Play/Pause

Press to start or stop playback. Press and hold for 8 seconds to manually engage Remote Support mode for technical support. More info on Remote Support mode here: (<https://aurender.zendesk.com/hc/en-us/articles/360026675894-How-can-I-contact-Aurender-Technical-Support->)

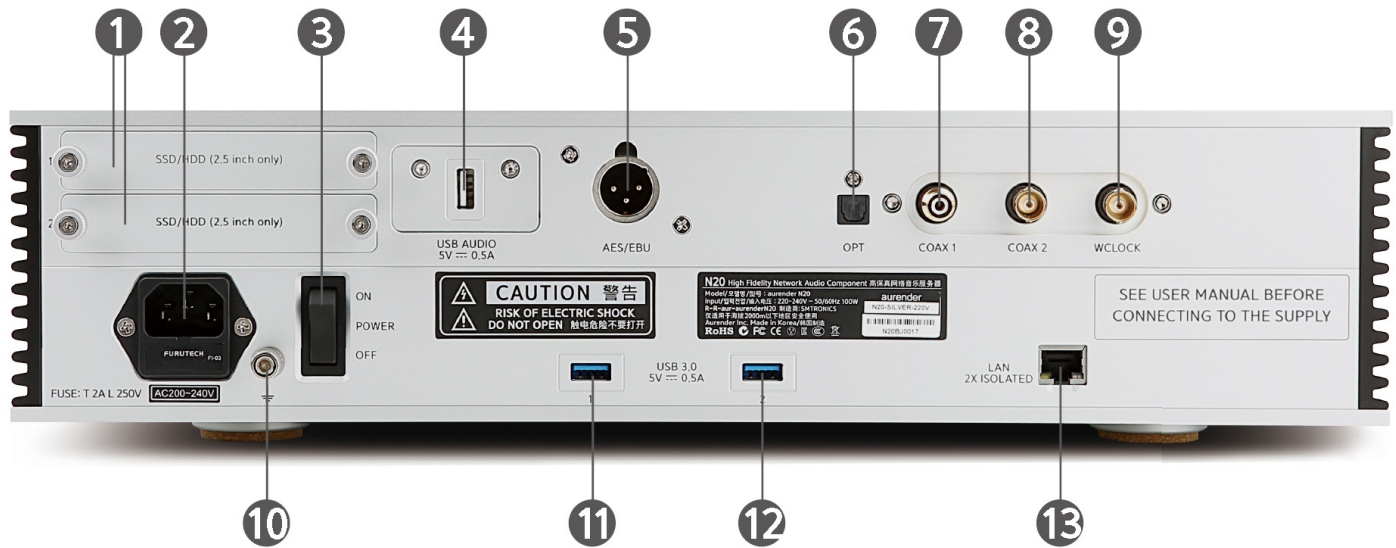
## 5. Previous track

Press to skip to the previous track.

## 6. Next track

Press to skip to the next track.

# Rear Panel



## 1. User-installable SSD/HDD Slots

The N20 is supplied 2 bays for user-installable storage. The unit does not include built-in storage. If it is your intent to import and store digital audio files on the N20, you will need to install the appropriate hard drive(s)/SSD(s) first. Please refer to (<https://aurender.zendesk.com/hc/en-us/articles/360045605693>)

## 2. AC Power Socket

Connect an IEC AC Power cord to a grounded power source/outlet.

## 3. AC Power Switch

Press the top of the rocker switch to turn AC power on, press the bottom to turn it off. The rear panel power switch should be used to turn the unit off only after the unit has been shut down via the front panel On/Off button or via the app. The front panel On/Off button LED light will pulse while the unit shuts down. Once it is dimly lit after shut down procedure is complete, it is safe to flip the rear panel AC power switch to the “off” position. More information on proper shut down procedure is found here: [What is the proper way to shut down my Aurender?](<https://aurender.zendesk.com/hc/en-us/articles/360026675874-What-is-the-proper-way-to-shut-down-my-Aurender->)

Because N20 has UPS circuitry inside, it will take some time for the unit to be drained of power after the power switch turned off.

## 4. Dedicated proprietary USB Audio Class 2.0 Output

Aurender’s filtered and isolated USB port is designed to connect to asynchronous USB DACs. Use a USB 2.0 certified A/B cable to connect with a compatible USB DAC.

## 5. AES/EBU XLR Output

Connects to an AES/EBU XLR input of a DAC. Use 110 ohm AES/EBU cable.

## 6. TOSLINK Optical Output (SPDIF)

Connects to the optical input of a DAC. Use a TOSLINK optical cable.

### **7. Coaxial RCA Output (SPDIF)**

Connects to a digital coaxial input of a DAC.

### **8. Coaxial BNC (SPDIF) Output**

Connects to a coaxial input of a DAC.

### **9. Coaxial BNC Word Clock Input**

Connects to the BNC output of the master/word clock. Use a 75 ohm coaxial cable. Configure word clock input preferences in the “Advanced 2” section of the Settings menu.

### **10. Earth/Ground Terminal**

Optionally connect to an external ground.

### **11-12. USB 3.0 Data Port 1, 2**

These USB data ports can be used to copy files from USB memory devices or for connectivity with compatible external control devices (eg. dCS USB-to-RS232 dongle, MSB ProI25-to-Clock module, Constellation pre-amps, etc.). For best audio performance, these ports should not be used as USB audio outputs.

### **13. Double Isolated Gigabit Ethernet Port**

This model uses 2 transformers in the Ethernet port circuit for superior noise filtration without detrimental signal loss.

The Aurender must be connected to your Local Area Network via Ethernet (CAT5 or higher). In case there is no Ethernet connection available in the location where your Aurender is to be installed, please see the following support article for other options: [What if I do not have an Ethernet/LAN connection in my listening room?](<https://aurender.zendesk.com/hc/en-us/articles/360026840553-What-if-I-do-not-have-an-Ethenet-LAN-connection-in-my-listening-room->)

## **File Type & Resolution Support**

View a comparison table of file type and sample rate support by model and output/input here (<https://www.notion.so/2e2261cddc904b5e9372b4917bfa0aef>)

## **Positioning**

- Place your device on a flat and stable surface.
- Keep away from heat sources, such as radiators.
- Do not stack other products on top of the Aurender.
- Allow space around the device for ventilation.
- Do not place inside an enclosed cabinet without ventilation.

# Precautions & Safeguards

Please read the following instructions carefully before setting up the Aurender Music Player.

- The super-capacitor power cache acts as an uninterruptible power supply. In case of any sudden power failures, the Aurender N20 will power itself down safely. Even so, proper shut down procedure should be observed to turn off your N20 whenever possible.
- All devices should be turned off before making any power cables or analog/digital interconnections.
- Only plug your Aurender into grounded plugs and grounded sockets.
- Do not drop the device to avoid internal damage.
- Do not disassemble the device. Doing so may cause inadvertent damage that would not be covered under warranty.
- Keep magnetic materials away from Aurender. Hard drives and other internal electronics are subject to damage from magnetic interference.
- Do not expose device to oil, dust, water, high humidity, or smoke.
- Keep ventilation openings free from obstruction.
- When cleaning, use only a soft cloth. Keep out of contact with water or other liquids.
- All servicing must be performed by an authorized dealer or distributor. Otherwise, the warranty will be voided.
- Unplug power cord during severe lightning storms (after shutting down properly).
- Please note that hard drives can break down. Do not consider your Aurender the “Master” copy of your precious music library! Rather, maintain a separate master copy and consider your Aurender as a secondary backup copy. It is important to back up your music collection periodically to a separate memory device. In the event of drive failure, Aurender is not responsible for any loss of data. The drive manufacturer will only replace faulty drives under warranty and do not compensate for any loss of data.