AP20 Hardware Guide

The following guide is intended as an overview of your Aurender's hardware interface.

Detailed installation information is found in the included Quick Start Guide and a comprehensive Conductor App Overview and How-To guides are found in the Aurender Knowledge Base.

|Table of Contents|

1. Safety & Precautions

AP20 is a specialty component that is designed to interface with a variety of home audio equipment. Before purchasing and installing, please review the specifications and manuals of other equipment in your system that will interface with AP20.

Please do not hesitate to contact support@aurender.com for assistance as needed.

1. Be careful not to damage the device due to improper handling or dropping.

2. (Please note: The rubidium module is especially sensitive to physical shock.)

3. Do not disassemble the device.

4. Avoid exposure to oil, dust, water, high humidity or smoke.

5. Ensure that there is at least 5cm(2") of space on each side for proper ventilation.

6. Cleaning: Use a soft non-abrasive cloth to gently wipe the outside of the device. Water or other cleaning solutions should be avoided.

7. Should the product require hardware repair, work must be performed only by qualified technicians of Aurender headquarters or distributors/dealers. Failure to observe this precaution will void the warranty.

8. Shut down or unplug the power cable when not in use for an extended period or when there is severe lightning.

9. Be sure to shut the unit down when connecting or disconnecting cables.

10. Do not stack objects on top of AP20 and do not expose to water or liquid.

11. AP20 is very heavy and can generate significant heat, so be very careful when moving the device to avoid personal injury.

2. Product Warranty

Remote technical support is always free and available for any Aurender owner, regardless of warranty status. In the unlikely event of hardware repair becoming a necessity, Aurender's manufacturer's warranty covers the cost of parts, labor, and outbound shipping for 2 years following the purchase from an authorized Aurender dealer. The warranty is non-transferable. Damage caused by improper use or damage caused by repairs or modifications by individuals other than the manufacturer or its dealers is not covered by the warranty even within the warranty period.

Warranty claims and technical support inquiries can be made via email to support@aurender.com.

No registration is required for Aurender products. Simply retain your dated receipt/proof of purchase for any warranty claims.

3. Installation

3.1 Equipment and Included Accessories

The following equipment and accessories are included in the box:
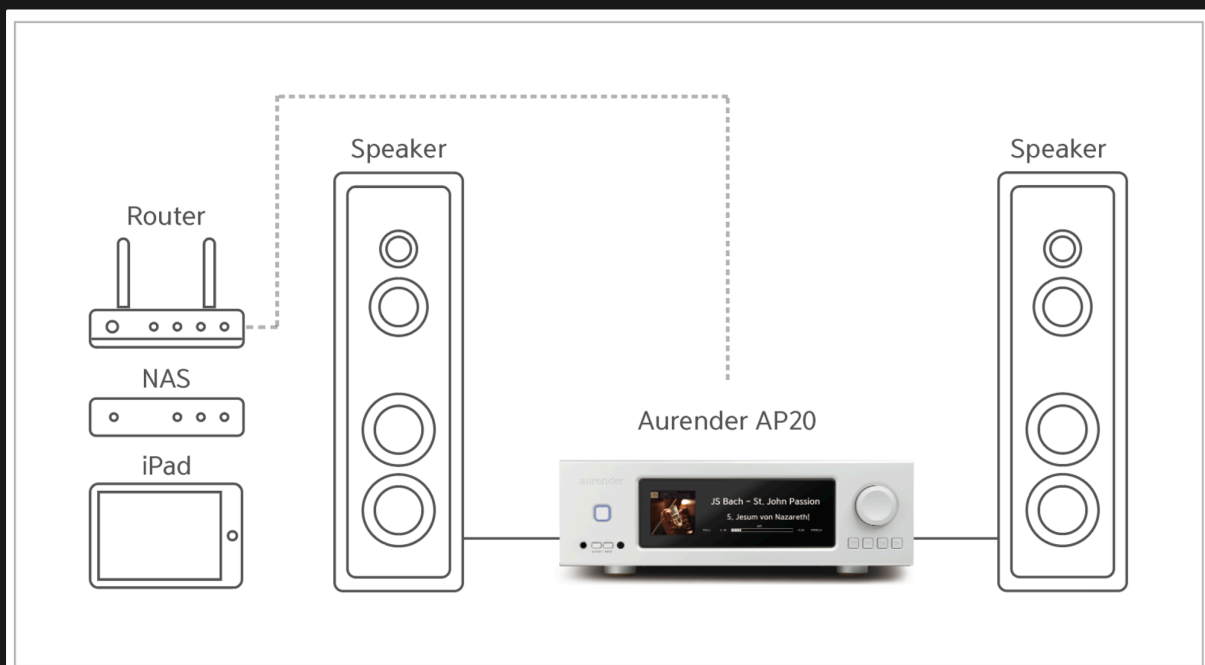
- Aurender AP20

- Hand-held Remote Control
- 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 Quick Start Guide for more information on network connectivity.

3.2 Positioning AP20

1. Place the AP20 on a level, stable surface.
2. Place AP20 as close as possible to connected devices.
3. Use the shortest cables possible to connect to other devices.
4. Keep away from direct sunlight or heat sources.
5. Keep away from water, condensation, and high humidity.
6. Do not stack other items on top of the AP20 or it may prevent proper heat dissipation.
7. Leave at least 5cm(2") of space on all sides of the device for ventilation.

3.3 Connection

4. Anatomy of AP20

4.1 Front Panel

1. ON/OFF/Standby

   Pressing the illuminated power button will power the unit on and off. To power the AP20 on from standby, press the button once, so the Aurender display shows "Aurender AP20". If the AP20 is powered on, enter Standby mode by pressing the front panel button once, and the unit will turn off with a display message that says "shutting down, please wait". If the Aurender is powered on but the screen is off, you will hit the power button one time to wake the screen up and one more time to enter standby mode. *In standby mode, the Aurender is not reachable with the Conductor app. The power LED will flash during boot up and shut down. The flashing will stop when the boot procedure completes.

2. LCD Display

3. Volume Knob

   Adjusts the volume of the analog output. The volume can be adjusted in 0.5 dB increments from -128.00 dB to 0 dB, with the initial value set at -60 dB.

4. Headphone Jack

   1/4' Unbalance Headphone Jack

5. Output selection

   Press the button to toggle output: SPEAKER —HP —SPEAKER+XLR

6. Input selection

   Press the button to toggle input: AP20 —OPTICAL1 —OPTICAL2 —COAXIAL1 — COAXIAL2 —RCA1 —RCA2 —XLR

7. IR Receive Window

8. Display Menu Button

Press to cycle through 3 display options: Song Information, Playlist and IP Address.

Songs from playlists may be selected using the four buttons under the volume knob on the front panel display. Use buttons 10 and 12 to scroll between playlists and button 11 to select a playlist. After the playlist is selected, press button 11 again to start playback. Once the playlist is selected, buttons 10 and 12 can be used to select songs within the selected playlist.

9. Previous button

Press to skip to the previous track.
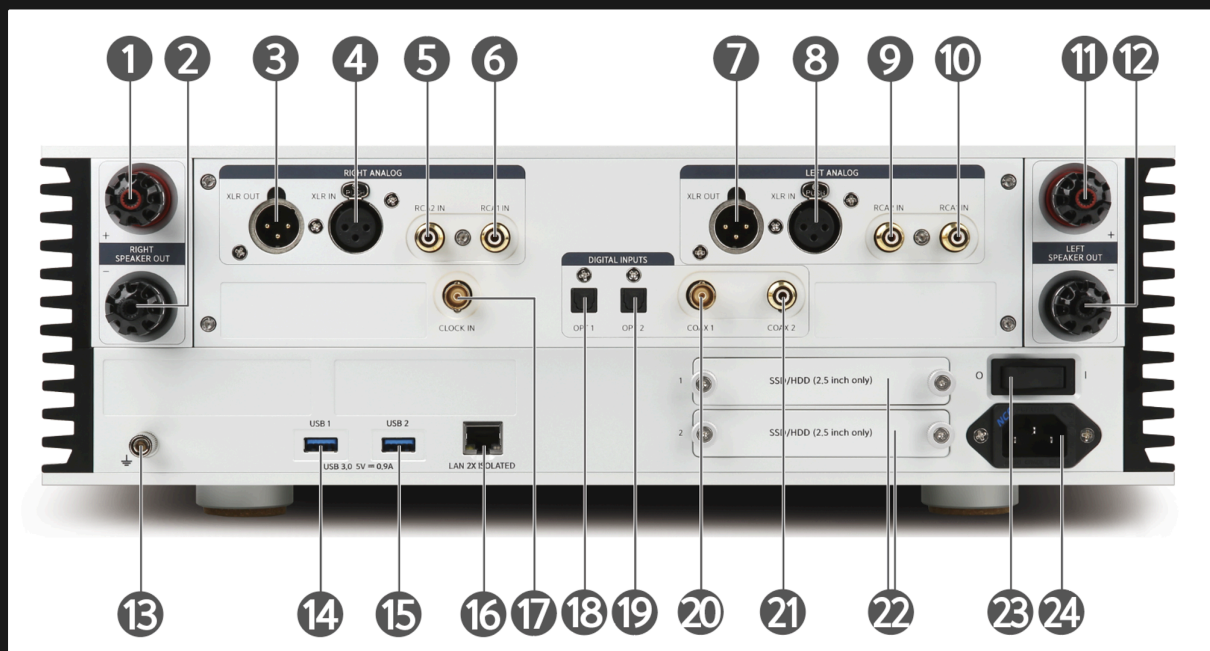
10. Play/Pause button

Press to start or stop playback.

To see the Device Information Display, press/hold the play button (#10) for about 5 seconds until the display blinks, release the button and wait. The Device Information Display shows your Server name, Network status, IP address, MAC address and among other details. To return to the normal display, press the menu button (#8) to select your preferred display option.

11. Next button

Press to skip to the next track.
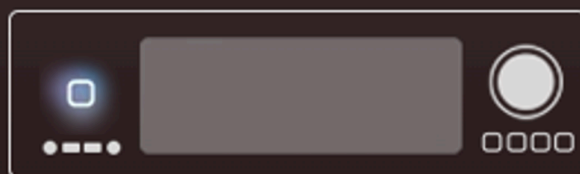
4.2 Rear Panel

1. SPEAKER OUT -RIGHT +

2. SPEAKER OUT -RIGHT -

3. Analog Audio Output - XLR Right

4. Analog Audio Input - XLR Right

5. Analog Audio Input - RCA2 Right

6. Analog Audio Input – RCA1 Right

7. Analog Audio Output - XLR Left

8. Analog Audio Input - XLR Left

9. Analog Audio Input - RCA2 Left

10. Analog Audio Input - RCA2 Left

11. SPEAKER OUT -LEFT +

12. SPEAKER OUT -LEFT -

13. EARTH TERMINAL

14. USB 3.0 Data Port 1

15. USB 3.0 Data Port 2

16. 1Gbps Double isolated LAN port

17. Master Clock INPUT

18. Digital Audio Input - Optical SPDIF 1

19. Digital Audio Input - Optical SPDIF 2

20. Digital Audio Input - Coaxial SPDIF 2 (BNC)

21. Digital Audio Input - Coaxial SPDIF 1 (RCA)

22. HDD or SSD 2.5" Slots

23. Power Switch

24. AC Power Socket

Connect to a power outlet with AC Power cord.

AP20

All-In-One Digital Source and Integrated Amp /
200 WPC into 8Ω, 350 WPC into 4Ω / Fully Linear PSU /
Analog R2R Volume Control / Reference Grade DAC /
Analog & Digital Inputs & Outputs / Headphone Output /
Master Clock Input / 2x User-Installable Storage Slots

5. Technical Specifications

ITEM	VALUE
Dimensions (WxHxD) & Weight	16.93 x 6.3 x 15.0 in. / 430 x 160 x 380 mm & 59.5 lbs. / 27 Kg
SSD for System and Cache	480G M.2 NVMe
CPU	Intel N4200 Quad Core
Music Storage	Tray for Easy User Installation 2 x 2.5"
Power Supply	Full-Linear
Display	8.8" 1920 x 480 WIDE IPS LCD
Clock Structure	Revised Full Differential System
Main Clock Accuracy	OCXO Based Precision Jitter Reducing Clock Generator
Digital Audio Inputs	1x RCA SPDIF / 1x BNC SPDIF / 2x TOSLINK up to 24-bit / 192 kHz
Data USB	2 x USB 3.0 (Rear)
Ethernet	1 x Double-Isolated Gigabit Ethernet
Analog Audio Outputs	1 x Balanced (XLR)
Analog Audio Inputs	2x RCA , 1 x XLR
Headphone Outputs	1 x 6.5mm Unbalanced
Speaker Output	4~8 ohm load 350W(4Ω) / 180 W(8Ω)
Volume Control	-67.35 dB 0dB, 0.25 dB step, Resister ladder relay attenuator from fror Conductor App and supplied IR remote control
USB Audio Output	PCM: Up to 32bit / 768kHz | DSD: DoP Up to 256, Native DSD Up to 5
DAC Chipset	AKM AK4497 Dual-Mono Design
Internal UPS	Super Capacitor Based Internal UPS