

EONON A304

Eonon A304 Car DSP Amplifier User Manual

Model: A304

1. PRODUCT OVERVIEW

The Eonon A304 is a 16-pin car Digital Sound Processor (DSP) amplifier designed to enhance your car audio experience. It features a professional automotive DSP chip and a built-in Class D digital amplifier, delivering a powerful 4-channel x 50W maximum output. This unit provides excellent sound quality with adjustable bass, treble, and EQ tuning options. Its compact size and universal 16-pin power interface ensure a plug-and-play installation with compatible car stereos, eliminating the need for complex wiring. The durable aluminum alloy heat sink ensures stable performance and efficient heat dissipation.

Hi-Fi Dual-Core Audio Engine



Automotive-grade DSP +
TI Class-D amp chip for
high resolution sound and
efficient power output.



THD < 0.05% | SNR > 85dB |
20Hz–20kHz full-range



4×50W Golden Power

Drive OEM or component speakers with rich,
distortion-free dynamics and powerful headroom.

4X50W



Image 1.1: The Eonon A304 DSP Amplifier features a Hi-Fi Dual-Core Audio Engine and delivers 4x50W power to drive car speakers.

Automotive-Grade Power,Built to Last

Automotive-grade DSP/ADC/DAC chips, -40°C to 85°C for reliable high-temp operation.

Audio-grade low ESR electrolytic capacitors for reduced signal loss and cleaner, high-fidelity audio.

TVS diode + over-voltage/over-current protection for 12V power surges.

Automotive-grade Fe-Si-Al inductors for stable current and lower EMI noise in car audio.

Fanless design for silent, noise-free listening.

Copper base plate + thermal grease boost heat transfer by 50%, keeping $\leq 70^{\circ}\text{C}$ at full load.

Gold-plated connectors resist oxidation, 100K+ plug/unplug cycles.

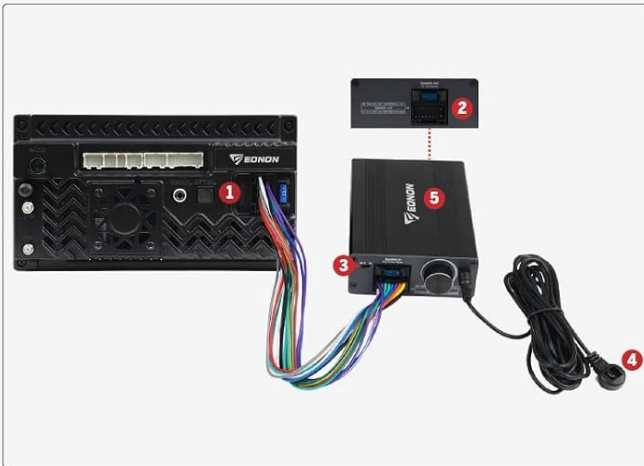
Image 1.2: Internal view of the Eonon A304, highlighting automotive-grade power components, low ESR electrolytic capacitors, TVS diode protection, Fe-Si-Al inductors, fanless design, and gold-plated connectors for durability and high-fidelity audio.

2. PACKAGE CONTENTS

Please check the package contents upon unboxing to ensure all components are present:

- 1 x Main Unit (Host)
- 1 x Remote Receiver
- 1 x Power Cable
- 1 x Remote Controller
- 1 x User Manual

Wiring Diagram



1. Connect to the power interface of the aftermarket car stereo.
2. Connect to the 16pin power cable of the aftermarket car radio.
Note: The other end of the 16-pin power cable needs to connect to the original car power connector.
3. ACC/Hi: Before installation, please manually set the DSP amplifier box to the desired startup mode.
4. Place the infrared receiver outside the dashboard to ensure proper signal reception.
5. During installation, please make sure the side with the Eonon logo is facing up.

What's in the Box



Product Dimensions



Image 2.1: Visual representation of the items included in the box and the physical dimensions of the Eonon A304 DSP Amplifier.

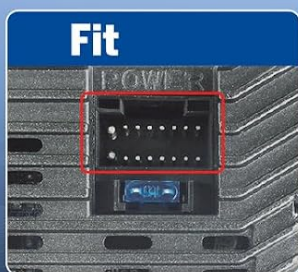
3. COMPATIBILITY

The Eonon A304 DSP Amplifier is compatible with all car stereos that feature a standard 16-pin power plug. This allows for a direct, wire-free, plug-and-play installation.

Important Note: If you are unsure about compatibility with your specific car stereo, please take a photo of your stereo's interface and consult with Eonon support for confirmation before installation.

Compatible Models

Suitable for all current Eonon car stereos, as well as other aftermarket car stereos with a standard 16-pin power connector.



Plug-and-Play Upgrade

Dual-start modes with ACC ignition control or HI-level trigger, compatible with all vehicle power systems.

Standard 16-pin power connector supports high-level 4-channel direct input for hassle-free, no-cut installation.



Image 3.1: Illustration of compatible and incompatible 16-pin power connectors for car stereos, demonstrating the plug-and-play upgrade capability of the Eonon A304.

4. SETUP AND INSTALLATION

The Eonon A304 is designed for easy, tool-free installation due to its compact size (90mm W × 122mm L × 37mm H) and standard 16-pin power connector.

Installation Steps:

1. Connect the provided power cable to the power interface of your aftermarket car stereo.
2. Connect the 16-pin power cable of the aftermarket car radio to the amplifier. **Note:** The other end of the 16-pin power cable needs to connect to the original car power connector.
3. **ACC/HI Setting:** Before final installation, manually set the DSP amplifier box to your desired startup mode (ACC

ignition control or HI-level trigger).

- 4. Place the infrared receiver outside the dashboard to ensure proper signal reception for the remote control.
- 5. During installation, ensure the side of the amplifier with the Eonon logo is facing upwards.

Wiring Diagram



- 1. Connect to the power interface of the aftermarket car stereo.
- 2. Connect to the 16pin power cable of the aftermarket car radio.
Note: The other end of the 16-pin power cable needs to connect to the original car power connector.
- 3. ACC/HI: Before installation, please manually set the DSP amplifier box to the desired startup mode.
- 4. Place the infrared receiver outside the dashboard to ensure proper signal reception.
- 5. During installation, please make sure the side with the Eonon logo is facing up.

What’s in the Box



Car DSP Box *1



Infrared Receiver *1



Power Cable *1



Remote Control *1



User Manual *1

Product Dimensions



Image 4.1: Detailed wiring diagram illustrating the connection process for the Eonon A304 DSP Amplifier with a car stereo.

5. OPERATING INSTRUCTIONS

The Eonon A304 offers flexible control and sound customization options to optimize your audio experience.

Sound Customization:

- **Bass Adjustment:** Adjust bass levels within the range of 50Hz - 300Hz.
- **Treble Adjustment:** Adjust treble levels within the range of 1kHz - 20kHz.

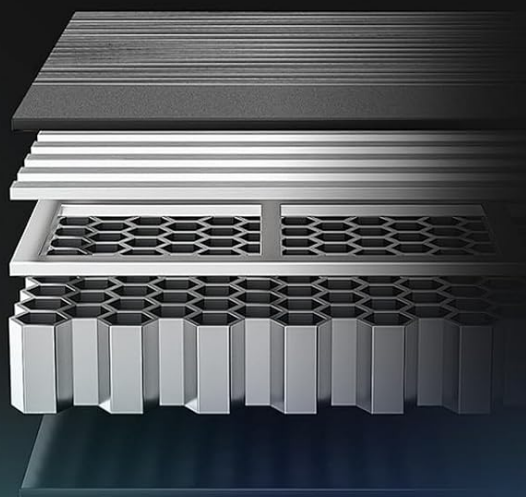
- **Volume Adjustment:** Fine-tune the overall volume within a range of -12dB to +12dB.
- **EQ Modes:** Select from six preset equalizer modes to suit your music genre or preference **FLAT**, **CLASSIC**, **POP**, **ROCK**, **JAZZ**, **VOCAL BOOST**.

Controls:

The amplifier can be operated using both the included remote control and the convenient onboard knob. Voice prompts provide clear operational feedback for a user-friendly experience.



Image 5.1: Overview of the smart sound modes (EQ presets) and the customizable bass and treble adjustment features of the Eonon A304.

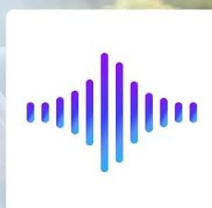


Durable Aluminum Heat Sink for Stable Performance

Solid aluminum alloy housing with reinforced ribs and heat sink design ensures excellent heat dissipation, durability, and stability even on rough roads and during long listening sessions.

Control with Ease

Remote + Knob + Voice Prompt



Adjust without distraction.

Image 5.2: Depiction of the remote control, manual knob, and voice prompt features for easy operation of the Eonon A304 DSP Amplifier.

6. SPECIFICATIONS

Feature	Specification
Operating Voltage	DC 12V
Standby Current	$\leq 1\text{mA}$
Standby Power Consumption	$\leq 0.1\text{W}$
Signal-to-Noise Ratio (SNR)	80dB

Feature	Specification
Separation	80dB
Total Harmonic Distortion (THD)	≤ 0.1%
Signal Input Voltage	14VPP
Signal Output Voltage	25VPP
Sampling Frequency	48K
Frequency Response Range	20Hz - 20kHz
Bass Adjustment Range	50Hz - 300Hz
Treble Adjustment Range	1kHz - 20kHz
Volume Adjustment Range	-12dB - +12dB
EQ Modes	FLAT / CLASSIC / POP / ROCK / JAZZ / VOCAL BOOST
Rated Power	4CH × 40W
Max Power	4CH × 50W
Input Impedance	4Ω (VS-ON)
Output Impedance	4Ω
Dimensions (W × L × H)	90mm × 122mm × 37mm

7. TROUBLESHOOTING

- If you encounter any issues with your Eonon A304 DSP Amplifier, please refer to the following common troubleshooting steps:
- **No Power:** Ensure all power connections are secure and correctly plugged into both the car stereo and the amplifier. Verify the car's fuse for the stereo system is intact.
 - **No Sound:** Check all speaker connections. Confirm the input source on your car stereo is correctly selected. Ensure the amplifier's volume is not set to minimum or muted.
 - **Distorted Sound:** Reduce the volume level on both the car stereo and the amplifier. Check for loose speaker wires or damaged speakers. Ensure the EQ settings are not overly aggressive.
 - **Remote Control Not Working:** Check the battery in the remote control. Ensure the infrared receiver is properly positioned and not obstructed.
 - **Intermittent Sound:** Inspect all wiring for loose connections or damage. Ensure the amplifier is not overheating (though the aluminum heat sink is designed to prevent this).
- If the problem persists after attempting these steps, please contact Eonon customer support for further assistance.

8. MAINTENANCE

- To ensure the longevity and optimal performance of your Eonon A304 DSP Amplifier, follow these maintenance guidelines:
- **Cleaning:** Use a soft, dry cloth to clean the exterior of the amplifier. Avoid using harsh chemicals, solvents, or abrasive cleaners, as these can damage the finish.
 - **Ventilation:** Ensure the amplifier is installed in a location with adequate airflow to prevent overheating. Do not block the heat sink fins.
 - **Connections:** Periodically check all wiring connections to ensure they are secure and free from corrosion.
 - **Environmental Conditions:** Avoid exposing the amplifier to extreme temperatures, direct sunlight for prolonged periods, or excessive moisture.

9. WARRANTY AND SUPPORT

For warranty information, please refer to the warranty card included with your product or visit the official Eonon website. Keep your purchase receipt as proof of purchase for any warranty claims.

For technical support, product inquiries, or assistance with installation and operation, please contact Eonon customer service through their official channels. You can typically find contact information on the Eonon website or in the included user manual.

Online Resources: For additional support and product information, visit the [EONON Store on Amazon](#).

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question