Harmony Audio HA-A400.1

Harmony Audio HA-A400.1 Car Stereo Class D Mono Subwoofer Amplifier User Manual

Model: HA-A400.1

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your Harmony Audio HA-A400.1 Class D Mono Subwoofer Amplifier. Designed for car audio systems, this amplifier delivers powerful and clear audio performance, specifically optimized for subwoofers. Please read this manual thoroughly before installation and use to ensure proper function and safety.

Image 1.1: The Harmony Audio HA-A400.1 Class D Mono Subwoofer Amplifier, showcasing its compact design and brushed aluminum finish.

2. Safety Information

Always observe the following safety precautions to prevent injury or damage to the amplifier and vehicle:

- Disconnect the vehicle's negative battery terminal before any installation or wiring.
- Ensure all wiring is properly routed and secured to prevent pinching or damage.
- Use appropriate gauge wiring (4 Gauge recommended for power) and fuses as specified.
- Avoid mounting the amplifier in areas exposed to direct sunlight, excessive heat, moisture, or dust.
- Do not operate the amplifier if it is damaged or malfunctioning. Refer to the troubleshooting section or contact support.
- Professional installation is recommended for optimal performance and safety.

3. Setup and Installation

3.1. Wiring Connections

Proper wiring is crucial for the amplifier's performance and safety. Refer to the diagram below for power, ground, remote, and speaker connections.

Image 3.1: Close-up view of the power and speaker terminal block on the HA-A400.1 amplifier, showing connections for +12V, REM, GND, and MONO speaker output.

- **Power (+12V):** Connect to the positive terminal of the vehicle's battery using a 4-gauge power wire and an inline fuse (not included).
- **Ground (GND):** Connect to a clean, unpainted metal surface on the vehicle chassis using a 4-gauge ground wire. Ensure a solid connection.
- **Remote (REM):** Connect to the remote turn-on lead from your head unit. The amplifier also supports DC voltage offset for automatic turn-on if a switched 12V wire is unavailable.
- **Speaker Output (MONO):** Connect your subwoofer(s) to these terminals. This amplifier is stable down to 1 Ohm.

3.2. Input Connections

The amplifier accepts both low-level (RCA) and high-level (speaker wire) inputs.

Image 3.2: Control panel showing input connections (RCA) and various audio adjustment knobs.

- **Low-Level Input (RCA):** Connect RCA cables from your head unit's subwoofer output to the amplifier's "INPUT" RCA jacks.
- **High-Level Input (HA-EASY Adapter):** If your head unit does not have RCA outputs, use the included HA-EASY adapter. Connect your head unit's speaker wires to the adapter, then connect the adapter's RCA outputs to the amplifier's "INPUT" RCA jacks.

Image 3.3: The HA-EASY adapter for high-level input conversion and the remote bass controller.

3.3. Daisy Chain Feature

The amplifier features a daisy chain attribute, allowing for the connection of a second Harmony amplifier or accessory. By utilizing the empty remote terminal as a 12-volt switched output, it introduces opportunities for managing extra devices with low amperage triggers.

4. Operation and Adjustments

Once installed, adjust the amplifier settings for optimal audio performance.

Image 4.1: Detailed view of the amplifier's control panel for audio adjustments, including Gain, LPF, Subsonic Freq, and Boost.

- **Gain:** Adjusts the input sensitivity to match the output of your head unit. Start at minimum and slowly increase until desired volume is achieved without distortion.
- **LPF (Low Pass Filter):** Controls the upper frequency limit for the subwoofer. Typically set between 40Hz and 180Hz.
- **Subsonic Freq:** Filters out extremely low frequencies that are inaudible and can damage subwoofers. Typically set between 10Hz and 50Hz.
- **Boost:** Provides a bass boost (0 to 12 dB) at a specific frequency. Use sparingly to avoid distortion.

4.1. Remote Bass Control

The included remote bass controller allows convenient adjustment of the bass level from the driver's seat. It features a 0 to 12 dB boost range and a blue LED status light to confirm amplifier operation.

Image 4.2: The remote bass controller with its power indicator and adjustment knob for bass level.

5. Maintenance

The Harmony Audio HA-A400.1 amplifier requires minimal maintenance. Follow these guidelines to ensure longevity:

- Keep the amplifier clean and free of dust. Use a soft, dry cloth for cleaning.
- Periodically check all wiring connections to ensure they are secure and free from corrosion.
- Ensure adequate ventilation around the amplifier to prevent overheating.

6. Troubleshooting

If you experience issues with your amplifier, consult the following table before contacting support.

Problem	Possible Cause	Solution
No Power / Amplifier does not turn on	Blown fuse, loose power/ground/remote wire, no remote signal.	Check fuses, verify all power connections, ensure remote wire receives 12V when head unit is on.
No Sound Output	Input cables disconnected, speaker wires disconnected, gain too low, head unit settings.	Check RCA/speaker input connections, verify speaker wiring, adjust gain, check head unit volume and settings.

Problem	Possible Cause	Solution
Distorted Sound	Gain set too high, improper LPF/Subsonic settings, damaged speakers.	Reduce gain, adjust LPF/Subsonic filters, inspect speakers for damage.
Amplifier Overheats / Protection Mode	Insufficient ventilation, speaker impedance too low (below 1 Ohm), faulty wiring, prolonged high output.	Ensure proper airflow, verify speaker impedance (1 Ohm minimum), check for short circuits in wiring, reduce volume or gain.

7. Specifications

Key technical specifications for the Harmony Audio HA-A400.1 amplifier:

- **Model:** HA-A400.1
- **Type:** Class D Mono Amplifier
- **Peak Power Output:** 800 Watts
- **RMS Power @ 1 Ohm:** 400 Watts
- **RMS Power @ 2 Ohms:** 300 Watts
- **Frequency Response:** 10Hz - 180Hz
- **Signal-to-Noise Ratio:** 95dB (A-weighted)
- **Minimum Stable Impedance:** 1 Ohm
- **Voltage:** 12V - 14.4V DC
- **Recommended Power Wire Gauge:** 4 Gauge
- **Product Dimensions (L x W x H):** 13.23 x 8.11 x 4.43 inches
- **Weight:** 5 Pounds

8. Warranty and Support

For warranty information or technical support, please contact Harmony Audio directly. Keep your purchase receipt as proof of purchase for any warranty claims.
Visit the official Harmony Audio website for the most current support information and contact details.
Manufacturer: Harmony Audio