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Skar Audio SK-M4004D

Skar Audio SK-M4004D Car Amplifier Instruction Manual

Model: SK-M4004D | Brand: Skar Audio

1. Introduction

The Skar Audio SK-M4004D is an ultra-compact, Class D full-range, four-channel car speaker amplifier. Engineered for both compactness and robust performance, this amplifier delivers the power and reliability expected from larger units. It features a high-speed MOSFET power supply and an efficient Class D design, making it powerful, reliable, and highly versatile. The SK-M4004D is ideal for installations where space is limited but power output cannot be compromised. It includes high-level input connections for systems lacking RCA outputs and an adapter harness for speaker outputs to facilitate easier and cleaner installation. Additional features include high pass, full-range, and low pass user controls, along with built-in 4-Way Protection Circuitry (Thermal, Voltage, Speaker, DC).

2. Product Features

- Ultra Compact MOSFET Full-Range 4-Channel Class D Car Amplifier
- RMS Power @ 2 Ohms: 140 Watts x 4 Channels (14.4v)
- RMS Power @ 4 Ohms: 100 Watts x 4 Channels (14.4v)
- Crossover Controls: HPF / Full-Range / LPF
- Frequency Response: 10Hz - 40kHz
- Hi-Level Input Connections: Yes
- 8 Gauge Power and Ground Input Terminals
- Built-in 4-Way Protection Circuitry (Thermal, Voltage, Speaker, DC)

3. Setup and Installation

Proper installation is crucial for optimal performance and safety. It is recommended that installation be performed by a qualified professional. Always disconnect the vehicle's battery before beginning any electrical work.

3.1. Unboxing and Inspection

Carefully remove the amplifier from its packaging. Inspect the unit for any signs of damage during transit. Ensure all

included accessories, such as the speaker output adapter harness, are present.



Figure 3.1: Top view of the Skar Audio SK-M4004D amplifier, showcasing the Skar Audio logo and compact design.



Figure 3.2: Side view of the Skar Audio SK-M4004D amplifier, showing the model number SK-M4004D.



Figure 3.3: The three included speaker output adapter harnesses for simplified wiring.

3.2. Mounting Location

Choose a mounting location that is dry, well-ventilated, and away from direct heat sources or moisture. Ensure adequate airflow around the amplifier for proper cooling. The compact size of the SK-M4004D allows for flexible placement, such as under seats or in tight compartments.

3.3. Wiring Connections

Refer to the diagrams below for proper wiring. Use 8-gauge power and ground wires for optimal performance. Ensure all connections are secure and properly insulated to prevent short circuits.



Figure 3.4: Input side of the amplifier, showing CH1/2 and CH3/4 controls, gain knobs, low input RCA jacks, and high input connections.



Figure 3.5: Power input terminals (GND, REM, +12V) and speaker output connections with power and protect indicator lights.

1. **Power Connection:** Connect the +12V terminal to the positive terminal of the car battery using an appropriate fuse (not included) within 18 inches of the battery.
2. **Ground Connection:** Connect the GND terminal to a clean, unpainted metal surface of the vehicle chassis. Ensure a solid ground connection.
3. **Remote Turn-On:** Connect the REM terminal to the remote output of your head unit or a switched 12V source.
4. **Speaker Outputs:** Connect your speakers to the designated speaker output terminals using the provided adapter harness. Pay attention to polarity.
5. **Input Connections:** Use RCA cables for low-level inputs from your head unit. If your head unit does not have RCA outputs, use the high-level input connections.

4. Operating Instructions

Once installed, the amplifier can be configured for optimal audio performance.

4.1. Gain Adjustment

The gain control adjusts the input sensitivity of the amplifier. Start with the gain set to minimum. Play a familiar piece of music at a moderate volume on your head unit. Slowly increase the amplifier's gain until you hear distortion, then back off slightly. This ensures the amplifier is receiving a strong, clean signal without clipping.

4.2. Crossover Settings

The SK-M4004D features selectable crossover controls (HPF / Full-Range / LPF) for each channel pair (CH1/2 and CH3/4). Adjust these settings based on the type of speakers connected to each channel:

- **HPF (High Pass Filter):** Use for full-range speakers or tweeters to block low frequencies that they cannot reproduce effectively.
- **LPF (Low Pass Filter):** Use for subwoofers to block high frequencies, allowing only bass to pass through.
- **FULL (Full-Range):** Allows all frequencies to pass through. Typically used for full-range speakers that do not require frequency filtering from the amplifier.

Adjust the frequency knob (50Hz - 500Hz) to fine-tune the crossover point for optimal sound quality and speaker protection.

5. Maintenance

The Skar Audio SK-M4004D is designed for durability and requires minimal maintenance. However, periodic checks can help ensure its longevity and performance.

- **Cleaning:** Keep the amplifier clean and free of dust and debris. Use a soft, dry cloth to wipe the exterior. Do not use harsh chemicals or abrasive cleaners.
- **Connections:** Periodically check all power, ground, remote, and speaker connections to ensure they are secure and free from corrosion. Loose connections can lead to poor performance or damage.
- **Ventilation:** Ensure that the amplifier's cooling fins are not obstructed. Proper ventilation is essential to prevent overheating.

6. Troubleshooting

If you experience issues with your amplifier, refer to the following common problems and solutions before contacting support.

Problem	Possible Cause	Solution
No Power / Power LED Off	Blown fuse, loose power/ground connection, no remote turn-on signal.	Check inline fuse, verify all power and ground connections, ensure remote wire is connected and receiving 12V.
Protect LED On	Overheating, short circuit in speaker wiring, speaker impedance too low, DC offset.	Allow amplifier to cool, check speaker wiring for shorts, verify speaker impedance matches amplifier's capabilities, consult a professional for DC offset.
No Sound Output	No input signal, incorrect gain setting, speaker wires disconnected, amplifier in protect mode.	Check RCA/high-level input connections, adjust gain, verify speaker connections, check if protect LED is on.
Distorted Sound	Gain set too high, improper crossover settings, poor ground connection, damaged speakers.	Reduce gain, adjust crossover settings, check ground connection, test speakers with another amplifier if possible.
Engine Noise / Whine	Poor grounding, RCA cables too close to power wires, faulty head unit.	Improve ground connection, route RCA cables away from power wires, consider a ground loop isolator.

7. Specifications

Feature	Detail
Model Number	SK-M4004D
RMS Power @ 2 Ohms	140 Watts x 4 Channels (14.4v)
RMS Power @ 4 Ohms	100 Watts x 4 Channels (14.4v)

Feature	Detail
Frequency Response	10Hz - 40kHz
Item Dimensions (L x W x H)	7.9 x 4.64 x 1.65 inches
Item Weight	3.74 pounds
Voltage	14.4 Volts (Maximum Supply)
Number of Channels	4
Mounting Type	Surface Mount
Country of Origin	China

8. Warranty Information

The Skar Audio SK-M4004D amplifier comes with a**2-year limited warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use. It does not cover damage caused by improper installation, accident, misuse, abuse, neglect, unauthorized modification, or repair. Please retain your proof of purchase for warranty claims.
Note: Opening the unit or attempting unauthorized repairs may void the warranty.

9. Customer Support

For further assistance, technical support, or warranty inquiries, please contact Skar Audio customer service. You can find contact information on the official Skar Audio website or through your authorized dealer.
Website: www.skaraudio.com
For the latest information and product updates, visit the official Skar Audio store on Amazon:Skar Audio Amazon Store

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