BOSS Audio Systems R3002

BOSS Audio Systems R3002 2-Channel Car Power Amplifier User Manual

Model: R3002

Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your BOSS Audio Systems R3002 2-Channel Car Power Amplifier. Please read this manual thoroughly before attempting installation or operation to ensure proper use and to prevent damage to the unit or your vehicle's audio system. Keep this manual for future reference.



Image: Front view of the BOSS Audio Systems R3002 2-Channel Car Power Amplifier. This image displays the amplifier's sleek black finish and the BOSS logo, indicating its overall design.

Safety Information

Always observe the following safety precautions during installation and operation:

- **Professional Installation Recommended:** If you are unsure about the installation process, consult a qualified professional car audio installer.
- **Disconnect Battery:** Before starting any wiring, disconnect the vehicle's negative battery terminal to prevent electrical shorts.
- **Proper Wiring:** Use appropriate gauge wiring for power, ground, and speakers as specified in the installation section. Incorrect wiring can cause overheating or damage.
- **Secure Mounting:** Mount the amplifier securely to prevent it from coming loose during sudden stops or accidents.
- **Ventilation:** Ensure adequate ventilation around the amplifier to prevent overheating. Do not mount in enclosed spaces without airflow.
- **Fuse Protection:** Always use the correct fuse rating for the power wire. The included wiring kit provides a 40 Amp ATC fuse.
- **Avoid Moisture:** Do not expose the amplifier to moisture or water.

Setup and Installation

Proper installation is crucial for optimal performance and safety. The R3002 amplifier is designed for 12V DC negative ground systems.

1. Mounting the Amplifier

Choose a mounting location that provides adequate ventilation and is protected from moisture. Common locations include under a seat, in the trunk, or behind a panel. Ensure the mounting surface is solid and secure.

1. Place the amplifier in the desired location and mark the mounting holes.
2. Drill pilot holes if necessary.
3. Secure the amplifier using appropriate screws.

2. Wiring Connections

The R3002 amplifier requires power, ground, remote turn-on, and audio input/output connections. A Rockville RWK10 10 Gauge Amp Installation Kit is included with this amplifier.



Image: Components of the Rockville RWK10 10 Gauge Amp Installation Kit. This image shows the various wires, fuse holder, fuse, and terminals included for amplifier installation.



Image: Rear panel of the BOSS R3002 amplifier, showing all input and output connections. This includes power terminals, RCA inputs, high-level inputs, crossover controls, and remote subwoofer level control port.

Power Wiring:

- **Power (+12V):** Connect the 10-gauge translucent blue power cable from the amplifier's +12V terminal to the positive terminal of the vehicle's battery. Install the gold-plated ATC inline fuse holder with the 40 Amp ATC fuse as close to the battery as possible (within 18 inches).
- **Ground (GND):** Connect the 10-gauge translucent black ground wire from the amplifier's GND terminal to a clean, unpainted metal surface on the vehicle's chassis. Ensure a good electrical connection.
- **Remote (REM):** Connect the 18-gauge blue remote cable from the amplifier's REM terminal to the remote turn-on output of your head unit. This wire turns the amplifier on and off with your car stereo.

Audio Input Wiring:

- **RCA Inputs (Low Level):** Connect the 17-foot high-grade twisted pair 100% copper RCA cable from the RCA outputs of your head unit to the amplifier's RCA INPUTS (L and R).
- **High Level Inputs:** If your head unit does not have RCA outputs, use the high-level input connector. Connect the speaker outputs from your head unit to the corresponding wires on the high-level input connector, then plug the

connector into the amplifier.

Speaker Output Wiring:

- Connect your speakers to the amplifier's speaker output terminals using the 16-gauge translucent blue SuperFlex speaker wire.
- For **stereo operation**, connect one speaker to each channel (e.g., Left speaker to CH1+ and CH1-, Right speaker to CH2+ and CH2-).
- For **bridged operation** (mono), connect a single speaker or subwoofer across the bridged output terminals (e.g., CH1+ and CH2-). Ensure the speaker impedance is 4 Ohms minimum for bridged mode.

Operating Instructions

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

Controls and Indicators:

- **Input Level (Gain) Control:** Adjusts the input sensitivity of the amplifier to match the output level of your head unit. Start with the control at minimum and slowly increase until desired volume is achieved without distortion.
- **Bass Boost:** Provides a variable bass boost from 0 to +18dB at 45Hz. Use sparingly to avoid distortion.
- **Crossover Switch (LOW PASS / HIGH PASS / FULL RANGE):**
  - **LOW PASS:** Allows only frequencies below the set Low Pass Frequency to pass through. Ideal for subwoofers.
  - **HIGH PASS:** Allows only frequencies above the set High Pass Frequency to pass through. Ideal for full-range speakers or tweeters.
  - **FULL RANGE:** Allows all frequencies to pass through.
- **Low Pass Freq. / High Pass Freq. Control:**Adjusts the cutoff frequency for the low-pass or high-pass filter, ranging from 35 Hz to 160 Hz.
- **Remote Subwoofer Level Control:** Connects to the included remote level control for convenient adjustment of subwoofer output from the driver's seat.



Image: The remote subwoofer level control unit. This accessory allows for convenient adjustment of the subwoofer output level.

LED Indicators:

- **POWER LED (Green):** Illuminates when the amplifier is powered on and operating normally.
- **PROTECTION LED (Red):** Illuminates when the amplifier enters protection mode due to thermal overload, speaker short, or DC offset.

Maintenance

The BOSS Audio Systems R3002 amplifier requires minimal maintenance. Follow these guidelines to ensure longevity:

- **Cleaning:** Periodically wipe the amplifier's exterior with a soft, dry cloth. Do not use harsh chemicals or abrasive cleaners.
- **Ventilation:** Ensure that the amplifier's cooling fins and surrounding area remain free of dust and debris to maintain proper airflow.
- **Connections:** Occasionally check all wiring connections to ensure they are secure and free from corrosion.

Troubleshooting

If you experience problems with your R3002 amplifier, refer to the following common issues and solutions:

Problem	Possible Cause	Solution
No Power (Power LED Off)	Blown fuse, poor power/ground connection, no remote turn-on signal.	Check the inline fuse near the battery. Verify +12V, Ground, and Remote wire connections. Ensure head unit is on.

Problem	Possible Cause	Solution
Protection LED On	Overheating, speaker short circuit, speaker impedance too low, DC offset.	Allow amplifier to cool. Check speaker wiring for shorts. Verify speaker impedance meets specifications (2 Ohms stereo, 4 Ohms bridged).
No Sound Output	No audio input, incorrect gain setting, speaker wires disconnected.	Check RCA or high-level input connections. Adjust Input Level (Gain). Verify speaker wire connections at both amplifier and speakers.
Distorted Sound	Input gain too high, speaker impedance mismatch, damaged speakers.	Reduce Input Level (Gain). Check speaker impedance. Test with different speakers if possible.

Technical Specifications

- **Amplifier Class:** Class A/B
- **Technology:** MOSFET
- **Number of Output Channels:** 2
- **Total Peak Power Output:** 600 Watts
- **Max Power Output @ 2 Ohms:** 300 Watts x 2 Channels
- **Max Bridged Power Output @ 4 Ohms:** 600 Watts x 1 Channel
- **RMS Power Output @ 4 Ohms:** 125 Watts x 2 Channels
- **Tri-Mode Operation:** Yes
- **Soft Turn-On Circuit:** Yes
- **Frequency Response:** 9 to 50,000 Hz
- **Total Harmonic Distortion (THD) @ RMS Output:** 0.01%
- **Signal-to-Noise Ratio (SNR):** 102 dB
- **Variable Low Pass Crossover:** 35 to 160 Hz
- **Variable High Pass Crossover:** 35 to 160 Hz
- **Minimum Speaker Impedance (Stereo):** 2 Ohms
- **Minimum Speaker Impedance (Bridged Mode):** 4 Ohms
- **Dimensions (L x W x H):** 10.4375" x 9.156625" x 2.25" (approximately 26.5 cm x 23.2 cm x 5.7 cm)
- **Item Weight:** Approximately 8 pounds (3.6 kg)

Warranty Information

BOSS Audio Systems products are designed and manufactured to the highest quality standards. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official BOSS Audio Systems website. Keep your purchase receipt as proof of purchase for warranty claims.

Customer Support

If you require further assistance or have questions not covered in this manual, please contact BOSS Audio Systems

customer support. You can typically find contact information on the official BOSS Audio Systems website or on the product packaging.

Website: www.bossaudio.com

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