

BOSS AR1600.4

BOSS AR1600.4 4-Channel Car Amplifier Instruction Manual

Model: AR1600.4

INTRODUCTION

Thank you for choosing the BOSS AR1600.4 4-Channel Car Amplifier. This manual provides essential information for the proper installation, operation, and maintenance of your amplifier. Please read it thoroughly before attempting installation or use to ensure optimal performance and safety.

SAFETY PRECAUTIONS

- Always disconnect the negative terminal of your vehicle's battery before any wiring connections to prevent electrical shorts.
- Ensure all wiring is properly routed and secured to prevent damage from sharp edges or moving parts.
- Use appropriate gauge wiring for power, ground, and speaker connections as specified in the installation section.
- Mount the amplifier securely in a location that allows for adequate ventilation and is protected from moisture and excessive heat.
- Avoid installing the amplifier in areas where it could interfere with the safe operation of the vehicle.
- This amplifier features 3-way protection circuitry (thermal, overload, and speaker short protection) to prevent damage. If the amplifier enters protection mode, diagnose and resolve the issue before resuming operation.

FEATURES

- **4-Channel Design:** Provides versatile audio configurations for various speaker setups.
- **MOSFET Power Supply:** Ensures efficient and stable power delivery.
- **High & Low Level Inputs:** Compatible with both factory and aftermarket head units.
- **Variable Low-Pass Crossover (35-160 Hz):** Allows precise tuning for subwoofers.
- **Fixed High-Pass Crossover (80 Hz):** Optimizes sound for full-range speakers.
- **Variable Bass Boost (0dB to +18dB):** Enhances low-frequency response.

- **Remote Subwoofer Level Control:** Conveniently adjust subwoofer output from the driver's seat.
- **Bridgeable:** Capable of bridging channels for increased power output to subwoofers.
- **3-Way Protection Circuitry:** Safeguards against thermal, overload, and speaker short conditions.

INSTALLATION

Mounting the Amplifier

Choose a mounting location that is dry, well-ventilated, and secure. Ensure there is sufficient space around the amplifier for air circulation to prevent overheating. Avoid mounting on carpet or in enclosed spaces without airflow.

Wiring Connections

Refer to the wiring diagram below for proper connection procedures. Always ensure correct polarity for all connections.

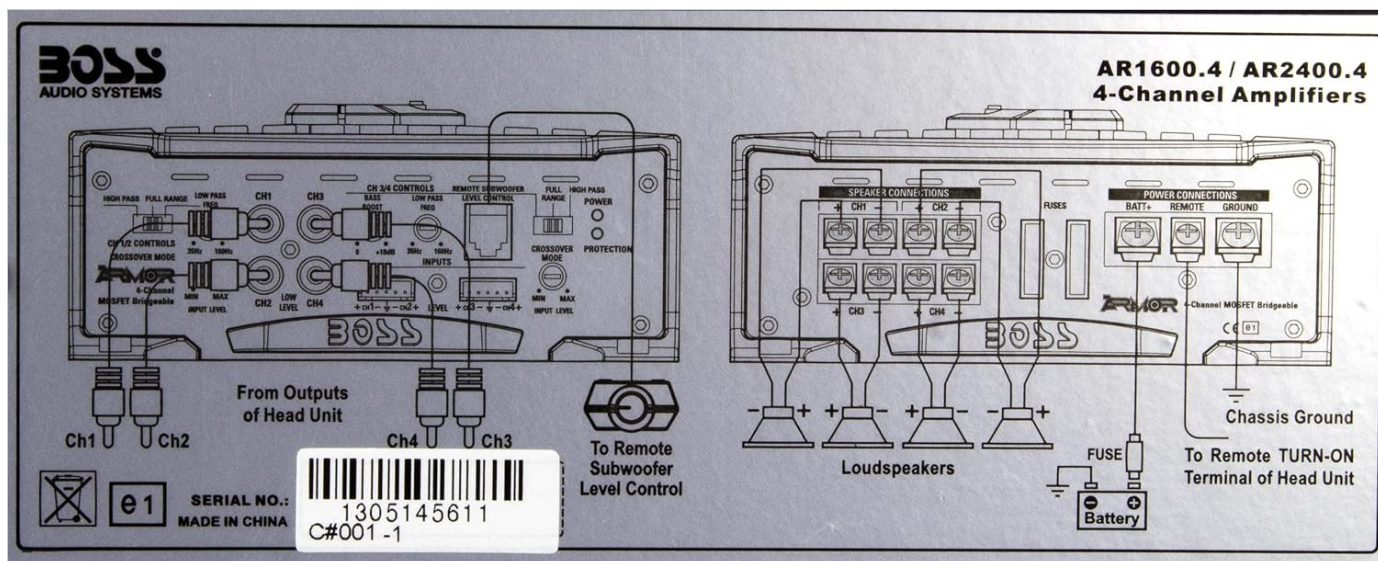


Image: Detailed wiring diagram for the BOSS AR1600.4 4-channel amplifier, illustrating connections for power, ground, remote turn-on, RCA inputs from the head unit, and speaker outputs to loudspeakers. It also shows the fuse placement and remote subwoofer level control connection.

Power Connections



Image: Rear panel of the BOSS AR1600.4 amplifier, highlighting the power connection terminals (BATT+, REMOTE, GROUND) and the speaker connection terminals (CH1+, CH1-, CH2+, CH2-, etc.), along with the fuse slots.

- **BATT+ (12V Power):** Connect a direct wire from the positive terminal of the vehicle's battery. Use an appropriate gauge wire (e.g., 8-gauge or thicker for 1600W) and install an in-line fuse (not supplied) within 18 inches of the battery.
- **REMOTE (Remote Turn-On):** Connect to the remote turn-on output of your head unit. This wire turns the amplifier on and off with the head unit.
- **GROUND:** Connect a short wire (same gauge as BATT+) to a clean, unpainted metal surface of the vehicle's chassis. Ensure a good electrical connection.

Input Connections (RCA or High-Level)

- **Low-Level Inputs (RCA):** For best audio quality, connect RCA cables from your head unit's pre-amp outputs to the amplifier's CH1/CH2 and CH3/CH4 RCA inputs.
- **High-Level Inputs:** If your head unit does not have RCA outputs, use the supplied high-level input connectors. Connect the speaker wires from your head unit directly to these inputs.

Speaker Connections

- Connect your speakers to the amplifier's speaker terminals (CH1, CH2, CH3, CH4). Ensure correct polarity (+ to + and - to -).
- For bridged operation (e.g., for a subwoofer), connect the speaker to the CH1+ and CH2- terminals for one bridged channel, or CH3+ and CH4- for the other. Refer to the wiring diagram for specific bridged connections.

Remote Subwoofer Level Control

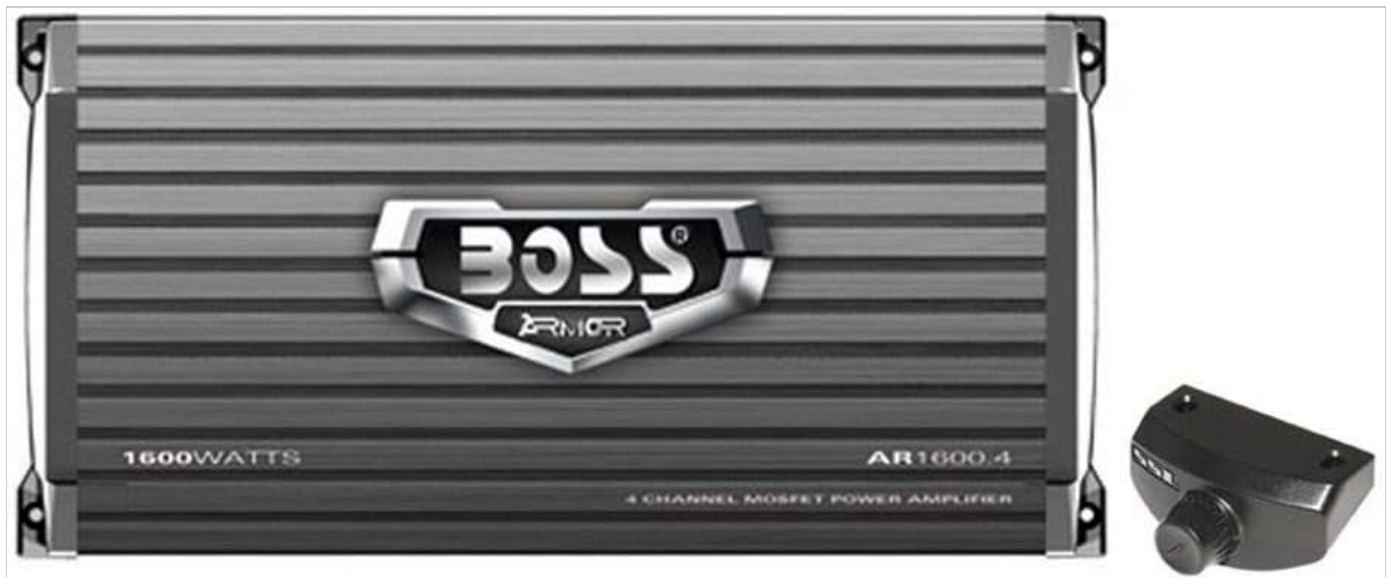


Image: The BOSS AR1600.4 amplifier shown alongside its wired remote subwoofer level control. This remote allows for convenient adjustment of bass levels from the vehicle's cabin.

- Connect the remote level control cable to the 'REMOTE SUBWOOFER LEVEL CONTROL' port on the amplifier. Mount the control knob in a convenient location for easy access.

OPERATING CONTROLS

The BOSS AR1600.4 amplifier features various controls to fine-tune your audio system. Familiarize yourself with these controls before making adjustments.



Image: Front control panel of the BOSS AR1600.4 amplifier, displaying the CH 1/2 and CH 3/4 Crossover Mode switches, High Pass/Full Range/Low Pass frequency controls, Bass Boost, Input Level adjustments, and the Remote Subwoofer Level Control port.

Crossover Mode (CH 1/2 and CH 3/4)

- **HIGH PASS:** Allows frequencies above the set point to pass through. Useful for full-range speakers to prevent distortion from low bass.
- **FULL RANGE:** Allows all frequencies to pass through.
- **LOW PASS:** Allows frequencies below the set point to pass through. Essential for subwoofers.

Crossover Frequency (FREQ)

- Adjusts the cutoff frequency for the High Pass and Low Pass filters. For CH 1/2, the High Pass is fixed at 80Hz. For CH 3/4, the Low Pass is variable from 35Hz to 160Hz.

Input Level (MIN/MAX)

- Matches the amplifier's input sensitivity to the output level of your head unit. Start with the amplifier's input level at minimum and slowly increase it until you hear distortion, then back off slightly.

Bass Boost (0 to +18dB)

- Increases the output level of low frequencies. Use sparingly to avoid distortion and speaker damage.

Power and Protection Indicators

- **POWER (Green LED):** Illuminates when the amplifier is receiving power and operating normally.
- **PROTECTION (Red LED):** Illuminates when the amplifier's protection circuitry is activated due to thermal overload, speaker short, or DC offset. Turn off the system, diagnose the issue, and resolve it before restarting.

TROUBLESHOOTING

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
No audio output	No power to amplifier; RCA cables disconnected; Speaker wires shorted or disconnected; Amplifier in protection mode.	Check power, ground, and remote connections. Verify RCA and speaker connections. Check fuses. If protection LED is on, refer to protection section.
Amplifier goes into protection mode (Red LED)	Overheating; Speaker short circuit; Low impedance load; DC offset.	Ensure adequate ventilation. Check speaker wiring for shorts. Verify speaker impedance matches amplifier's capabilities. Allow amplifier to cool down.
Distorted sound	Input level set too high; Speaker impedance mismatch; Damaged speakers; Improper crossover settings.	Adjust input level. Check speaker impedance. Inspect speakers for damage. Adjust crossover settings appropriately.
No bass output	Low-pass filter not enabled or set too high; Bass boost set too low; Subwoofer wiring issue.	Ensure CH 3/4 crossover is set to LOW PASS and frequency is appropriate. Increase bass boost if desired. Check subwoofer connections.
Engine noise/whine	Poor ground connection; RCA cables routed too close to power wires; Ground loop.	Ensure ground connection is clean and secure. Reroute RCA cables away from power wires. Install a ground loop isolator if necessary.

SPECIFICATIONS

Feature	Specification
Model	AR1600.4
Channels	4
Max Power Output	1600 Watts
RMS Power (4 Ohm)	150W x 4
RMS Power (2 Ohm)	300W x 2
Bridged RMS Power (4 Ohm)	600W x 2
Power Supply	MOSFET
Low Pass Crossover	Variable 35-160 Hz
High Pass Crossover	Fixed 80 Hz
Bass Boost	Variable 0 to +18dB
Inputs	High & Low Level
Protection Circuitry	Thermal, Overload, Speaker Short
Operating Voltage	14.4 Volts
Dimensions (Overall)	12.3" (L) x 6.5" (W) x 2.8" (H)

Feature	Specification
Item Weight	6.9 pounds
UPC	791489116466
ASIN	B006C6E6HO

MAINTENANCE

- Keep the amplifier clean and free from dust and debris. Use a soft, dry cloth for cleaning.
- Ensure ventilation openings are not blocked to prevent overheating.
- Periodically check all wiring connections for tightness and corrosion.
- Do not expose the amplifier to extreme temperatures or moisture.

WARRANTY AND SUPPORT

For warranty information and technical assistance, please refer to the documentation included with your purchase or visit the official BOSS Audio Systems website.

Technical Assistance: 800-999-1236

Website: www.bossaudio.com

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

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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

