

## Polk Audio PAD5000.5

# Polk Audio PA D5000.5 5-Channel Class D Car Amplifier User Manual

## 1. INTRODUCTION

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This manual provides detailed instructions for the installation, operation, and maintenance of your Polk Audio PA D5000.5 5-Channel Class D Car Amplifier. The PA D5000.5 is designed to deliver high-quality audio performance in a compact and efficient package, suitable for various vehicle audio systems. Please read this manual thoroughly before attempting installation or operation to ensure proper use and to maximize the amplifier's performance and longevity.

## 2. SAFETY INFORMATION

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Always observe the following safety precautions during installation and operation:

- **Professional Installation Recommended:** Due to the complexity of car audio systems and the electrical nature of this product, professional installation is highly recommended.
- **Disconnect Battery:** Before beginning any wiring, always disconnect the vehicle's negative battery terminal to prevent electrical shorts and damage.
- **Proper Wiring:** Ensure all wiring is correctly routed and secured to prevent pinching, cutting, or abrasion. Use appropriate gauge wires for power, ground, and speakers.
- **Ventilation:** Install the amplifier in a location that allows for adequate air circulation to prevent overheating. Do not block cooling fins or vents.
- **Fuses:** Always use fuses of the specified rating. Never replace a fuse with one of a higher rating or bypass a fuse.
- **Water and Moisture:** This amplifier is designed to withstand certain elements, but avoid direct exposure to water or excessive moisture.
- **Volume Levels:** Prolonged exposure to high volume levels can cause hearing damage. Adjust volume to a safe and comfortable level.

## 3. PRODUCT OVERVIEW

### 3.1 Key Features

- Sophisticated unit designed to withstand various environmental elements.
- Stainless steel hardware throughout to prevent corrosion.
- Features short circuit protection and other marine-specific functionalities.
- High-speed MOSFET switching power supply for efficient operation.
- Equipped with preamp inputs for signal connection.
- Nickel-plated wire terminals and RCA connectors ensure maximum signal transfer.
- Comprehensive protection features: Thermal, DC offset, reverse DC voltage, and short circuit protection.

### 3.2 Package Contents

- Polk Audio PA D5000.5 PAD Series 5-Channel Amplifier
- Owner's Manual (this document)
- Mounting Hardware
- Remote Bass Level Control Knob

### 3.3 Amplifier Components



**Figure 1:** Top view of the Polk Audio PA D5000.5 amplifier. This image shows the sleek black casing with the Polk Audio logo and power/protection indicator lights. The heat sink fins are visible along the sides, designed for efficient heat dissipation.



**Figure 2:** Control panel and connection terminals of the Polk Audio PA D5000.5 amplifier. This view details the various input and output connections, gain controls, crossover settings, and the remote level control port. Key connections include power, ground, remote, RCA inputs, and speaker outputs.

## 4. SETUP AND INSTALLATION

## 4.1 Mounting Location

Choose a mounting location that is dry, well-ventilated, and secure. Avoid mounting the amplifier directly on carpet or in enclosed spaces that restrict airflow. Common locations include under seats, in the trunk, or behind rear seats. Ensure the amplifier is securely fastened to prevent movement during vehicle operation.

## 4.2 Power Wiring

1. **Power (B+):** Connect a suitable gauge power wire (e.g., 4-gauge) directly from the vehicle's positive battery terminal to the amplifier's B+ terminal. Install an in-line fuse holder within 18 inches (45 cm) of the battery.
2. **Ground (GND):** Connect a suitable gauge ground wire (e.g., 4-gauge) from the amplifier's GND terminal to a clean, unpainted metal surface on the vehicle chassis. Ensure a solid electrical connection. The ground wire should be as short as possible, ideally less than 3 feet (1 meter).
3. **Remote (REM):** Connect a remote turn-on wire (e.g., 18-gauge) from your head unit's remote output to the amplifier's REM terminal. This wire signals the amplifier to turn on and off with the head unit.

## 4.3 Signal Input (RCA)

Connect RCA cables from your head unit's preamp outputs to the corresponding RCA input jacks on the amplifier. The PA D5000.5 features inputs for Front, Rear, and Subwoofer channels. If your head unit has fewer RCA outputs, you may use the amplifier's input source switch (SUB/INT) to route signals internally.

## 4.4 Speaker Wiring

Connect your speakers to the amplifier's speaker output terminals. Ensure correct polarity (+ to + and - to -) for all speakers. The amplifier supports 4 channels for full-range speakers and a dedicated subwoofer channel. Refer to your speaker's impedance rating and the amplifier's specifications to ensure compatibility.

- **Channels 1-4:** Connect your front and rear full-range speakers.
- **Subwoofer Channel:** Connect your subwoofer. The 5th channel is 1-ohm stable for flexible subwoofer configurations.

## 5. OPERATING INSTRUCTIONS

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The PA D5000.5 features several adjustable controls to fine-tune your audio system. These controls are located on the amplifier's control panel (refer to Figure 2).

### 5.1 Input Selection (SUB/INT)

- **SUB:** Select this if you are providing a dedicated RCA input signal for the subwoofer channel.
- **INT (Internal):** Select this if you want the subwoofer channel to receive its signal internally from the front or rear channels, typically when a dedicated subwoofer RCA output is not available from the head unit.

### 5.2 Level Controls (Gain)

Adjust the LEVEL controls for Front, Rear, and Subwoofer channels to match the output voltage of your head unit. Start with the gain set to minimum and slowly increase it until the desired volume is achieved without distortion. Using an oscilloscope for precise gain setting is recommended to prevent clipping.

### 5.3 Crossover Settings

The amplifier includes adjustable crossover filters to optimize sound distribution to your speakers.

- **HPF (High-Pass Filter):** Allows frequencies above the set point to pass through. Use for full-range speakers

to prevent them from playing low bass frequencies. Adjustable from 40Hz to 400Hz.

- **LPF (Low-Pass Filter):** Allows frequencies below the set point to pass through. Use for subwoofers to ensure they only play bass frequencies. Adjustable from 40Hz to 220Hz.
- **BPF (Band-Pass Filter):** Allows a specific range of frequencies to pass through. This can be used for mid-range speakers or specific system designs.
- **SONIC:** A bass boost control for the subwoofer channel, adjustable from 0 to +12dB at 45Hz. Use sparingly to avoid distortion.

## 5.4 Channel Mode

- **ST (Stereo):** Standard stereo operation for the front and rear channels.
- **RR (Rear):** This setting may be used for specific bridging or input configurations, consult a professional installer if unsure.

## 5.5 Remote Level Control

Connect the included remote bass level control knob to the dedicated port. This allows for convenient adjustment of the subwoofer output level from the driver's seat.

# 6. MAINTENANCE

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The Polk Audio PA D5000.5 amplifier requires minimal maintenance. Follow these guidelines to ensure optimal performance:

- **Cleaning:** Periodically wipe the amplifier's exterior with a soft, dry cloth. Do not use harsh chemicals or abrasive cleaners.
- **Connections:** Annually check all power, ground, remote, RCA, 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 and surrounding area remain free of obstructions to maintain proper airflow.

# 7. TROUBLESHOOTING

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If you experience issues with your amplifier, refer to the following troubleshooting guide. If problems persist, consult your authorized Polk Audio dealer or a professional installer.

Problem	Possible Cause	Solution
Amplifier does not turn on (Power LED off)	No power, ground, or remote signal; Blown fuse.	Check power, ground, and remote wire connections. Verify in-line and amplifier fuses. Ensure remote wire is receiving 12V from head unit.
Amplifier turns on but no sound	No input signal; Incorrect gain settings; Loose speaker wires; Head unit issue.	Check RCA cable connections. Adjust gain levels. Verify speaker wire connections and polarity. Test head unit functionality.
Distorted sound	Gain set too high; Improper crossover settings; Speaker impedance mismatch; Damaged speakers.	Reduce gain level. Adjust HPF/LPF settings. Verify speaker impedance is within amplifier's rated range. Inspect speakers for damage.

Problem	Possible Cause	Solution
Amplifier goes into protection mode (Protection LED on)	Overheating; Short circuit in speaker wiring; Speaker impedance too low; DC offset.	Ensure adequate ventilation. Check all speaker wires for shorts to ground or each other. Verify speaker impedance. Allow amplifier to cool down.
Hissing or background noise	Poor grounding; RCA cable interference; Gain set too high.	Ensure a solid, clean ground connection. Route RCA cables away from power wires. Reduce gain levels.
Turn-off pop	Head unit remote turn-off delay; Ground loop.	Ensure head unit turns off before amplifier. Check ground connections. Consider a ground loop isolator if necessary.

## 8. SPECIFICATIONS

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The following specifications are for the Polk Audio PA D5000.5 amplifier:

- **Model Number:** PAD5000.5
- **Product Dimensions:** 6.69 x 5.91 x 3.15 inches
- **Item Weight:** 4.4 pounds
- **Power Output (RMS):** 100 Watts x 4 channels; 400 Watts x 1 channel (subwoofer)
- **Amplifier Class:** Class D
- **Batteries Required:** 1 12V battery (for vehicle operation)
- **Manufacturer:** Polk Audio
- **First Available:** October 25, 2011

## 9. WARRANTY AND SUPPORT

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For warranty information and technical support, please refer to the warranty card included with your product or visit the official Polk Audio website. You can also find more information and contact details through the [Polk Audio Store on Amazon](#).

Polk Audio is committed to providing high-quality products and customer satisfaction. If you have any questions or require assistance, do not hesitate to contact their support team.