

## DROK PAM8406 (Model 2001711002)

# DROK PAM8406 5W+5W Mini Audio Amplifier Board Instruction Manual

Model: 2001711002

## 1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your DROK PAM8406 5W+5W Mini Audio Amplifier Board. This digital stereo power amplifier module is designed for various audio projects, offering dual-channel output with efficient Class D amplification.

### Key Features:

- **Compact Design:** Mini power amplifier board suitable for DIY audio projects.
- **High Efficiency:** Over 90% efficiency with low quiescent current and noise suppression.
- **Protection Features:** Includes input reverse connection protection, short circuit protection, and over-heat protection.
- **Adjustable Modes:** Supports switchable Class D and Class AB amplifier types, and an external shutdown function.
- **Quality Components:** Features a black immersion gold circuit board, KEMET speaker capacitors, and gold-plated audio input terminals.

## 2. SAFETY INFORMATION

Please read and understand all safety precautions before operating this device. Improper use can result in electric shock, fire, or damage to the product.

- Ensure the power supply voltage is within the specified range (DC 5V).
- Avoid short-circuiting the output terminals.
- Do not expose the board to moisture or extreme temperatures.
- Handle with care to prevent damage to electronic components.
- Disconnect power before making any connections or adjustments.

### 3. PACKAGE CONTENTS

The package typically includes:

- 1 x DROK PAM8406 5W+5W Mini Audio Amplifier Board

*Note: Additional accessories like speakers, power supply, and audio cables are sold separately.*

### 4. PRODUCT OVERVIEW

Familiarize yourself with the components and layout of the amplifier board.

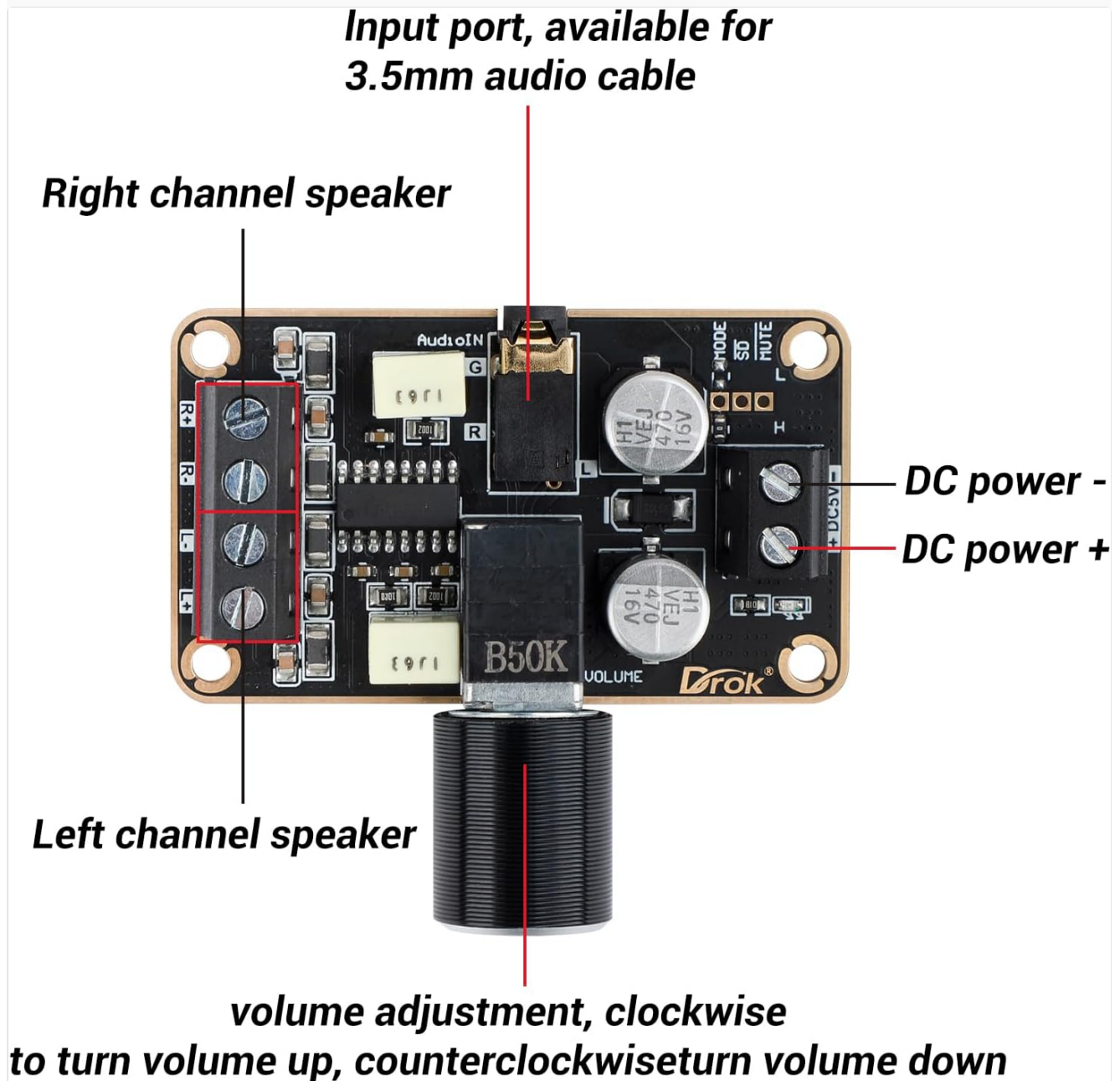


Figure 4.1: Amplifier Board Component Layout

This image displays the top view of the amplifier board with labels indicating the input port for a 3.5mm audio cable, DC power input terminals (DC power + and -), left and right channel speaker output terminals (L+, L-, R+, R-), and the volume adjustment knob.



Figure 4.2: Amplifier Board Bottom View with Mode Settings

This image shows the underside of the amplifier board, highlighting the jumper settings for MODE (Class D or Class AB) and SD (Shutdown Enable/Disable).

## Component Descriptions:

- **DC Power Input:** Connects to a DC 5V power source.
- **Audio Input Port:** 3.5mm jack for connecting audio sources.
- **Speaker Output Terminals:** Screw terminals for connecting left (L+, L-) and right (R+, R-) channel speakers.
- **Volume Adjustment Knob:** Rotates clockwise to increase volume, counter-clockwise to decrease volume.
- **MODE Jumper:** Selects amplifier type (High for Class D, Low for Class AB).
- **SD (Shutdown) Jumper:** Controls chip shutdown (High for Disable, Low for Enable).

## 5. SETUP

Follow these steps to correctly set up your amplifier board.

# wiring Example

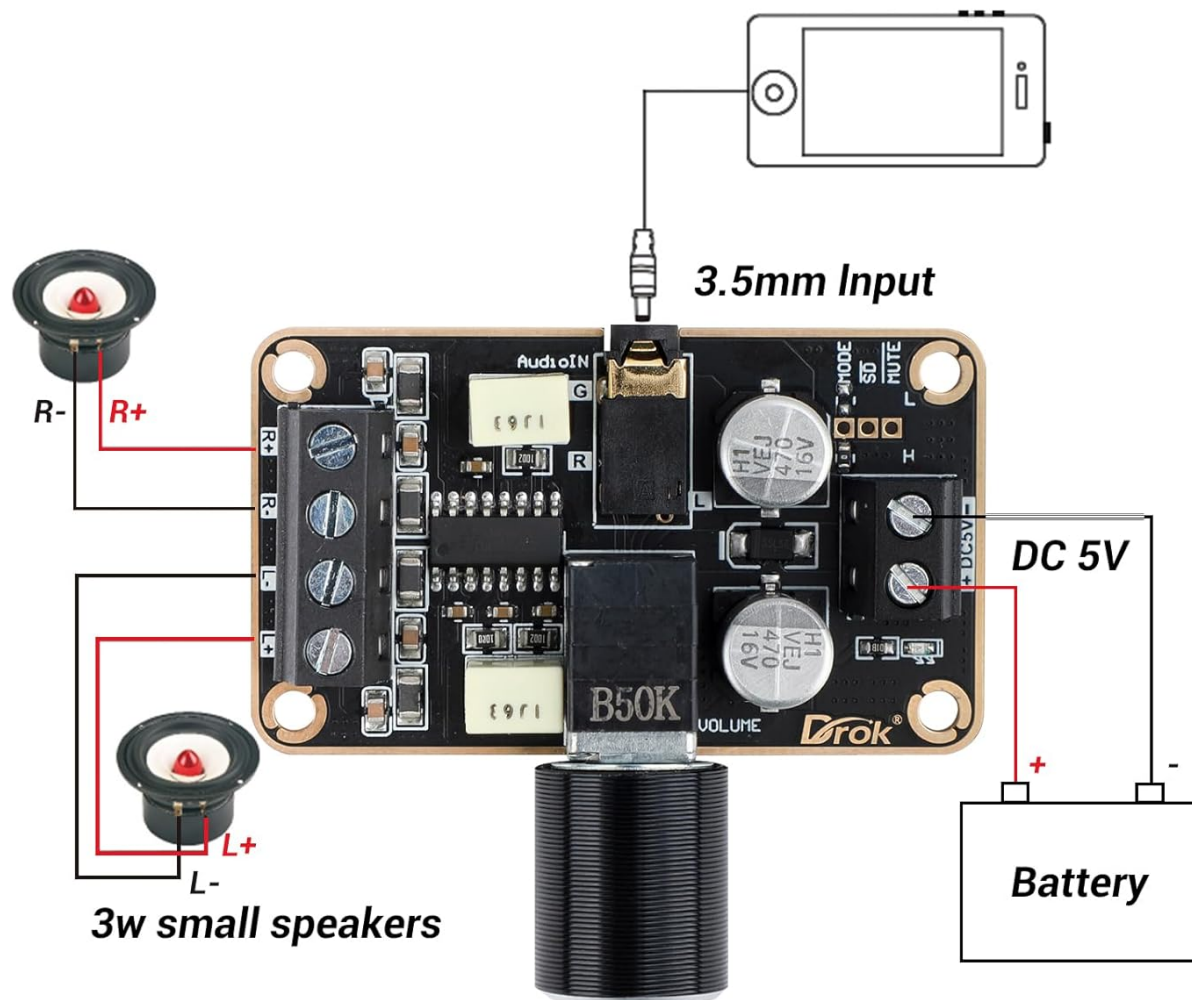


Figure 5.1: Basic Wiring Example

This diagram illustrates how to connect a 3.5mm audio input source, a DC 5V power supply (e.g., battery), and two small speakers to the amplifier board.

## Step-by-Step Connection:

1. **Connect Speakers:** Connect your speakers to the 'R+' and 'R-' terminals for the right channel, and 'L+' and 'L-' terminals for the left channel. Ensure correct polarity.
2. **Connect Power Supply:** Connect a DC 5V power source to the '+DC5V' and '-DC5V' terminals. Observe correct polarity (+ to +, - to -) to prevent damage. The board features input reverse connection protection.
3. **Connect Audio Input:** Plug your 3.5mm audio cable from your audio source (e.g., smartphone, MP3 player) into the 'Audio IN' port on the amplifier board.
4. **Set Mode (Optional):** If desired, adjust the MODE jumper. By default, it is set to high electricity level (Class D). For Class AB, set it to low electricity level.
5. **Set Shutdown (Optional):** If desired, adjust the SD jumper. By default, it is set to high electricity level (Shutdown Disable). For Shutdown Enable, set it to low electricity level.

## 6. OPERATING INSTRUCTIONS

Once connected, operate the amplifier board as follows:

1. **Power On:** Ensure all connections are secure, then apply power to the DC 5V input. The power indicator LED on the board should illuminate.
2. **Volume Control:** Rotate the volume knob clockwise to increase the audio output level and counter-clockwise to decrease it.
3. **Play Audio:** Start playing audio from your connected source.
4. **Mode Switching:** If you changed the MODE jumper, the amplifier will operate in either Class D (high efficiency, default) or Class AB (lower power consumption, higher fidelity for some applications).
5. **Shutdown Function:** If the SD jumper is set to 'Shutdown Enable' (low electricity level), applying a low signal to the SD pin will shut down the chip. The factory default is 'Shutdown Disable' (high electricity level).

### Demonstration Video:

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Video 6.1: DROK 5W+5W Mini Amplifier Board Overview

This video provides a visual overview and demonstration of the DROK 5W+5W Mini Amplifier Board, showcasing its features and basic operation.

## 7. SPECIFICATIONS

Parameter	Value
Working Voltage	DC 5V
Output Power	5W (2Ω 5V) / 3W (4Ω 5V) / 1.8W (8Ω 5V)
Input Method	Monaural Input
Efficiency	Over 90%
General Harmonic Distortion Noise	Less than 10%
Number of Channels	2 (Dual Channel)
Mounting Type	Surface Mount
Material	Circuit Board
Item Weight	0.64 ounces
Package Dimensions	3.74 x 2.83 x 0.55 inches
Model Number	2001711002

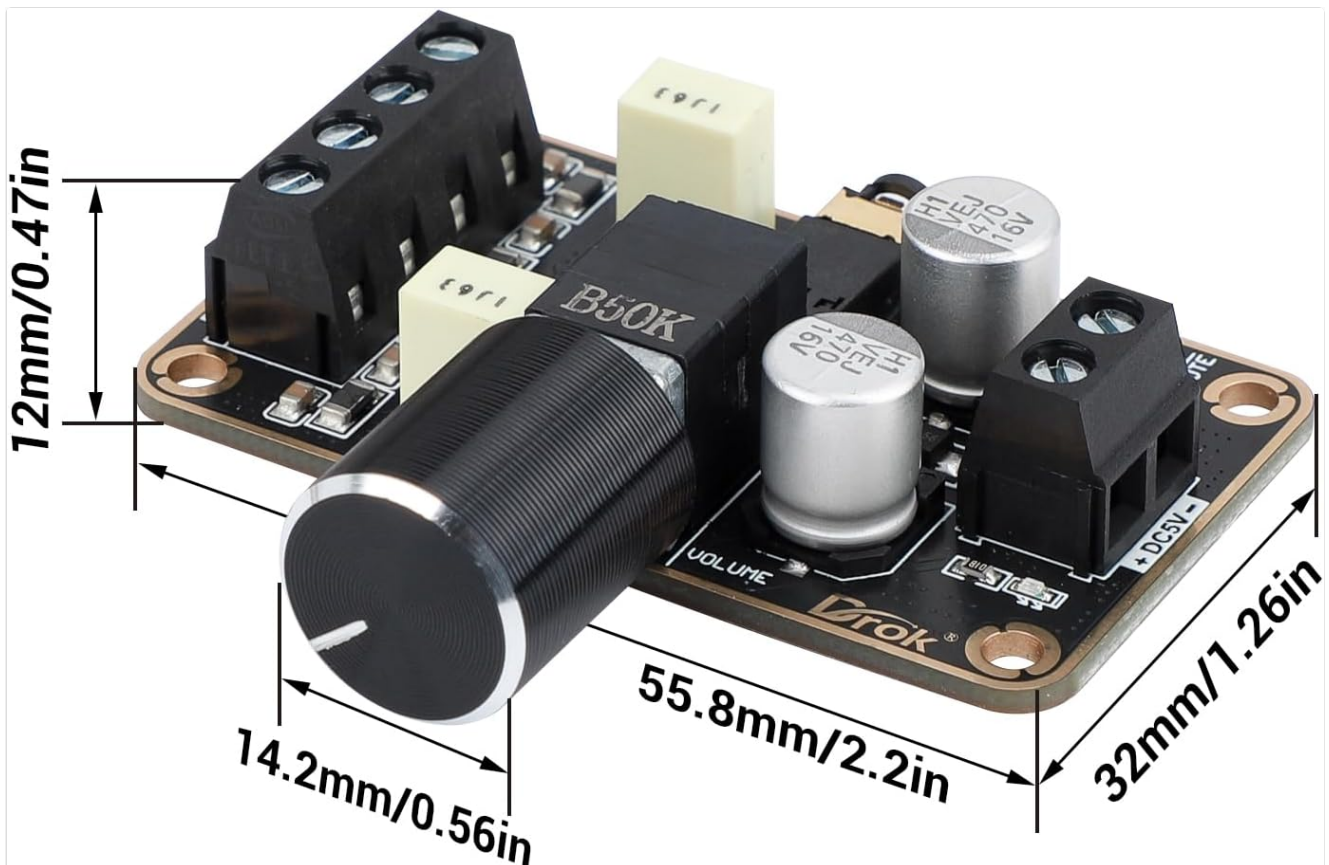


Figure 7.1: Amplifier Board Dimensions

This image provides the physical dimensions of the amplifier board, including length, width, and height of the components.

## 8. TROUBLESHOOTING

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

- **No Sound Output:**

- Check all wiring connections, especially power and speaker terminals, for secure contact and correct polarity.
- Ensure the audio input cable is fully inserted and functional.
- Verify the audio source is playing and its volume is turned up.
- Confirm the power indicator LED on the board is lit. If not, check the power supply.

- **Distorted Sound:**

- Reduce the input volume from your audio source or the amplifier's volume knob to prevent clipping.
- Ensure speakers are correctly matched to the amplifier's impedance and power output.
- Check for loose or faulty speaker connections.

- **Overheating:**

- Ensure adequate ventilation around the amplifier board.
- Verify that the speaker impedance is not too low, which can cause excessive current draw.
- Reduce the output volume if operating at high levels for extended periods.

- **Power LED Not On:**

- Check the DC 5V power supply connection and ensure it is providing the correct voltage.

- Verify the power supply is capable of delivering sufficient current.
- Check for any short circuits in the power input wiring.

## 9. MAINTENANCE

To ensure the longevity and optimal performance of your DROK amplifier board, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to gently clean the board. Avoid using liquids or abrasive cleaners.
- **Storage:** Store the board in a dry, dust-free environment when not in use.
- **Inspection:** Periodically inspect connections for looseness or corrosion.
- **Environmental Conditions:** Operate the board within its specified temperature and humidity ranges.




## 10. WARRANTY AND SUPPORT


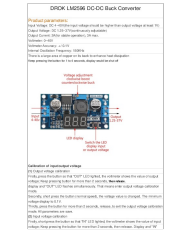
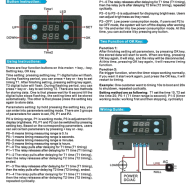
DROK products are designed for reliability and performance. For specific warranty details and technical support, please refer to the official DROK brand store or contact customer service.

- **Warranty:** Each product purchased from DROK typically includes a one-year service period. Quality issues may qualify for a replacement.
- **Support:** For further assistance, visit the [DROK Brand Store on Amazon](#).

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### Related Documents - PAM8406 (Model 2001711002)

	<p><a href="#">Drok SKU:200088 Timing Relay Module - Technical Specifications and Functions</a></p> <p>Detailed technical specifications, features, and 18 operational functions of the Drok SKU:200088 timing relay module. Includes parameters, usage restrictions, and operation instructions for electronic control.</p>
	<p><a href="#">DROK DC Multimeter 6.5-100V 100A User Manual</a></p> <p>This document provides instructions and specifications for the DROK DC Multimeter, model PZEM-051. Learn about its parameters, wiring diagrams, test ranges, display formats, and key operations including backlight control and data reset.</p>
	<p><a href="#">DROK Timer Relay 200350: Technical Specifications, Modes, and Operation</a></p> <p>Comprehensive guide to the DROK 200350 Timer Relay, detailing its module description, technical specifications, seven working modes (P1-P7), timing range selection, wiring diagrams, UART communication, and parameter setting procedures.</p>

	<p><a href="#">DROK Boost Converter 200150 User Manual</a></p> <p>This document provides a detailed introduction and operating instructions for the DROK Boost Converter 200150, covering display functions, simple mode, and fully functional mode operations, including parameter saving, loading, and input voltage protection settings.</p>
	<p><a href="#">DROK LM2596 DC-DC Buck Converter: Specifications and Calibration Guide</a></p> <p>Comprehensive details and step-by-step instructions for the DROK LM2596 DC-DC Buck Converter, covering product parameters, voltage calibration, and operational features.</p>
	<p><a href="#">DROK 2001711005 Digital Timer Relay Module: Instructions and Specifications</a></p> <p>Detailed instructions, parameter settings, and wiring guide for the DROK 2001711005 digital timer relay module. Learn how to configure timing, working modes, and power settings.</p>