

DROK 2001711003

DROK 15W+15W PAM8620 Dual Channel Audio Amplifier Board Instruction Manual

Model: 2001711003

INTRODUCTION

This manual provides detailed instructions for the proper installation, operation, and maintenance of your DROK 15W+15W 2.0 Dual Channel Audio Amplifier Board. Please read this manual thoroughly before use to ensure optimal performance and safety.



SAFETY PRECAUTIONS

- Ensure the power supply voltage is within the specified DC 8-26V range. Incorrect voltage can damage the device.
- Avoid short circuits on 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.

PRODUCT FEATURES

The DROK 15W+15W Audio Amplifier Board is designed for high-fidelity audio applications, offering robust performance and protective features:

- **Wide Operating Voltage:** DC 8-26V, compatible with 12V and 24V power sources.
- **High Output Power:** Delivers 15W stereo (24V 8ohm) or 10W stereo (12V 8 ohm). Automatically limits power to 15W for 4 ohm or 2 ohm speakers.
- **Premium Construction:** Features a black immersion gold circuit board, PAM8620 chip, imported KEMET speaker capacitors, large-capacity filter capacitors, black copper terminal blocks, and gold-plated audio input terminals.
- **High Performance:** Class D power amplifier module with over 90% efficiency, general harmonic distortion noise less than 0.2%, low quiescent current, and noise suppression.
- **Comprehensive Protection:** Includes input reverse connection protection, short circuit protection, over-heat protection, overcurrent protection, overvoltage protection, and undervoltage protection. EMI is also allowed to pass.
- **Additional Functions:** Supports external mute function (MUTE: High level mute, factory default low level) and external shutdown (SD: chip shuts down at low electricity level, factory default high electricity level).

Additional function:

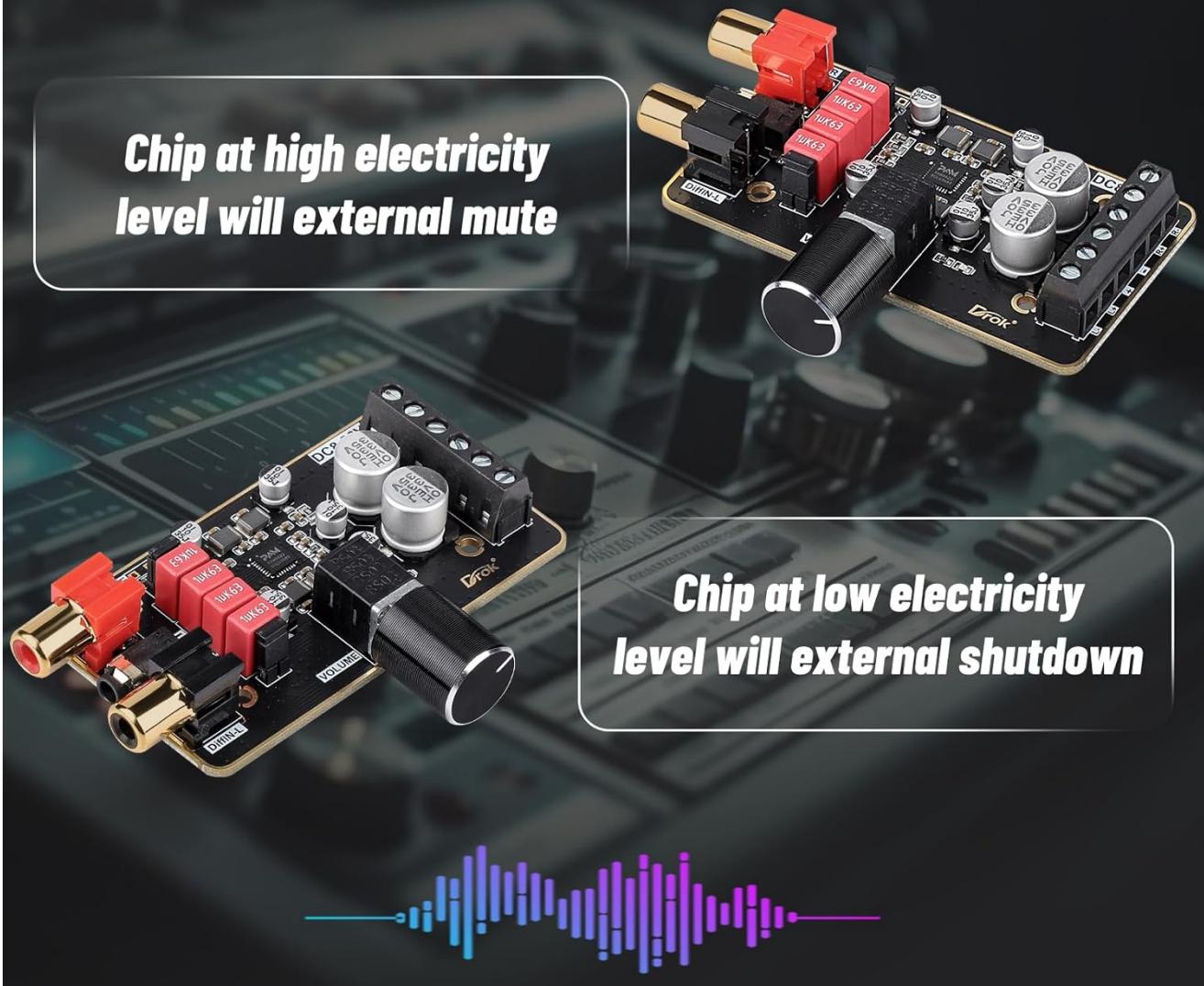


Image: Detailed view of the PAM8620 chip and high-quality components.

General harmonic distortion noise less 0.2%



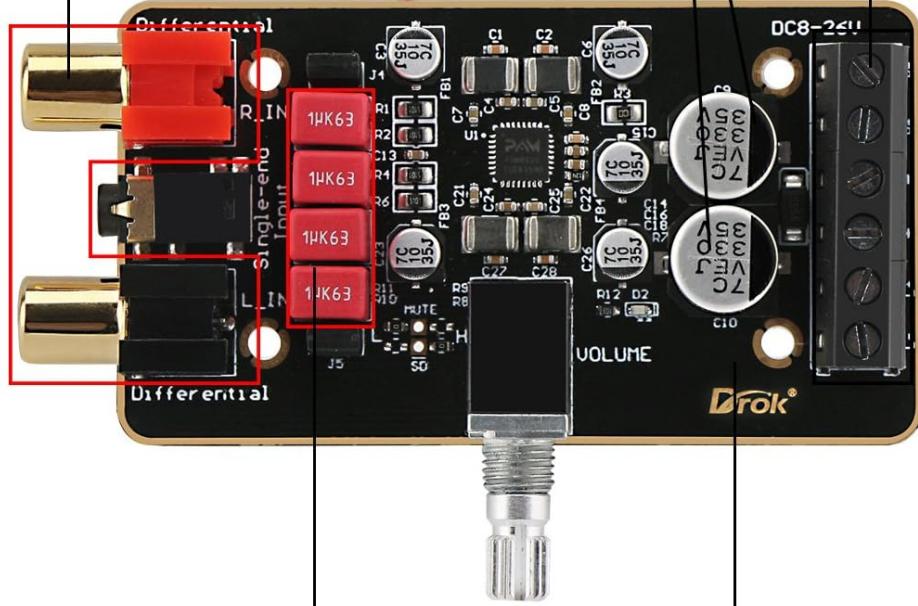
**Low quiescent current
and noise suppression**

Image: Visual representation of the amplifier board's safety protection features.

Large capacity filter capacitor per channel

Gold-plated audio input terminals

Pure black pure copper terminal



Import WIMA red audio capacity

High-grade pure black
Immersion gold circuit board

Image: Illustration of the amplifier board's high performance characteristics.

SPECIFICATIONS

Brand	DROK
Model Number	2001711003
Working Voltage	DC 8-26V
Output Power	15W + 15W Stereo (24V 8ohm) / 10W + 10W Stereo (12V 8 ohm)
Speaker Impedance	4-8 Ohm (Power automatically limited to 15W for 4 or 2 ohm speakers)
Efficiency	>90% (Class D)
Harmonic Distortion Noise	<0.2%
Dimensions	76mm x 42mm x 13mm (approx. 3 x 1.65 x 0.51 inches)
Weight	1.44 ounces

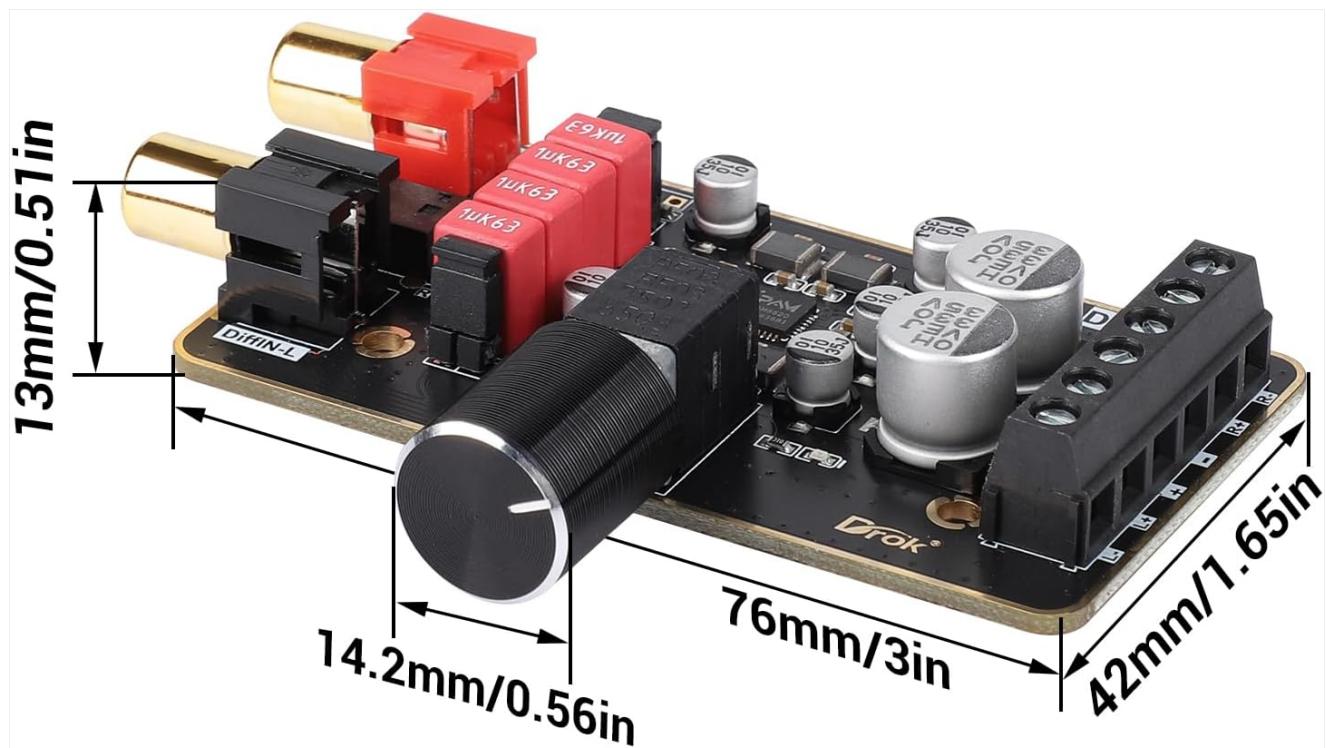


Image: Physical dimensions of the amplifier board.

PACKAGE CONTENTS

The package typically includes:

- 1x DROK 15W+15W PAM8620 Audio Amplifier Board
- (Note: Power supply and speakers are not included and must be purchased separately.)

SETUP

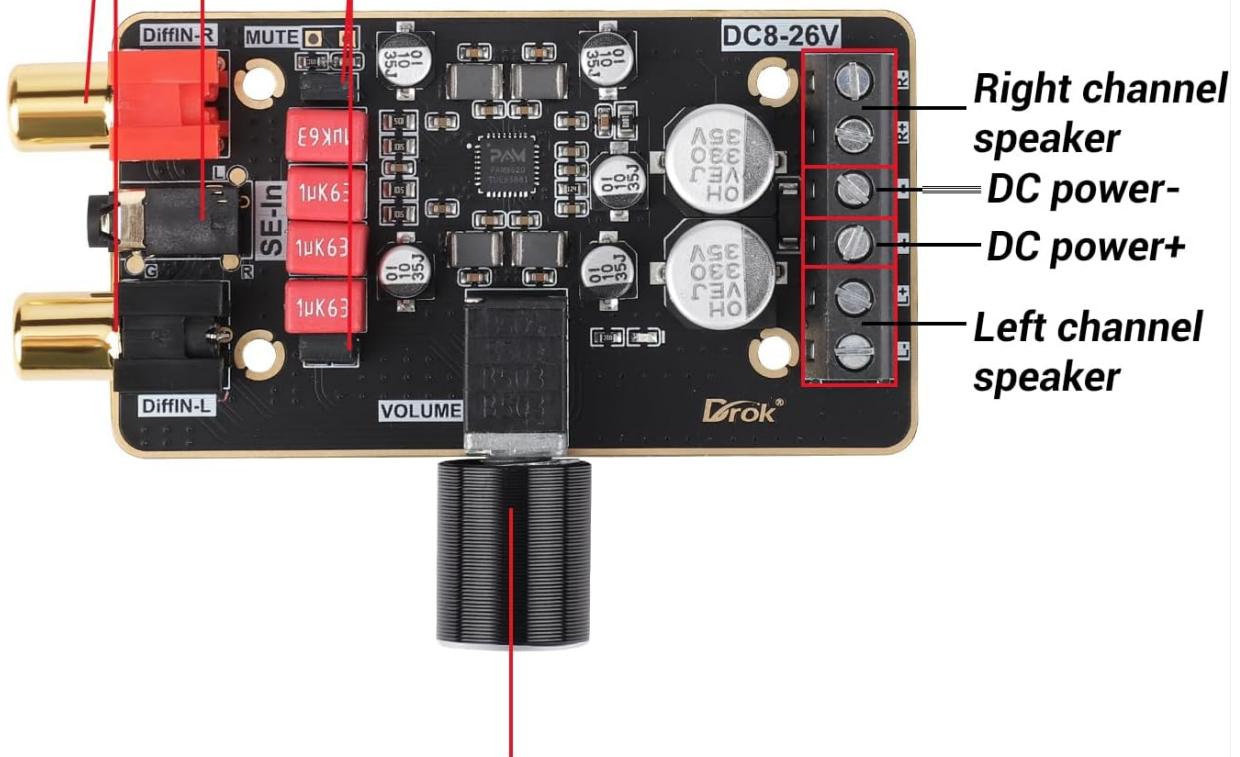
Follow these steps to set up your amplifier board:

1. **Power Connection:** Connect a DC 8-26V power supply to the "DC8-26V" terminal block. Ensure correct polarity (DC power+ and DC power-).
2. **Speaker Connection:** Connect your speakers to the output terminal blocks. The right channel speaker connects to "Right channel speaker" terminals (R+ and R-), and the left channel speaker connects to "Left channel speaker" terminals (L+ and L-). Ensure correct polarity for each speaker.
3. **Audio Input:**
 - **3.5mm Audio Cable (Single-ended input):** Connect a 3.5mm audio cable to the "Single input port". If using this input, ensure the two jumpers (labeled "SE-IN") are removed.
 - **RCA Input (Differential input):** Connect RCA cables to the "DiffIN-R" (Right) and "DiffIN-L" (Left) ports. This input is for audio equipment supporting differential output. If using this input, ensure the two jumpers (labeled "SE-IN") are installed.

Difference RCA input port can be connected the audio equipment which can support the difference output.

Single input port, can be connected 3.5mm audio cable.

When you connect the difference input, the two jumpers need to remove.



Volume adjustment: clockwise to increase, anticlockwise to decrease.

Image: Overview of the amplifier board's input and output terminals.

wiring Example

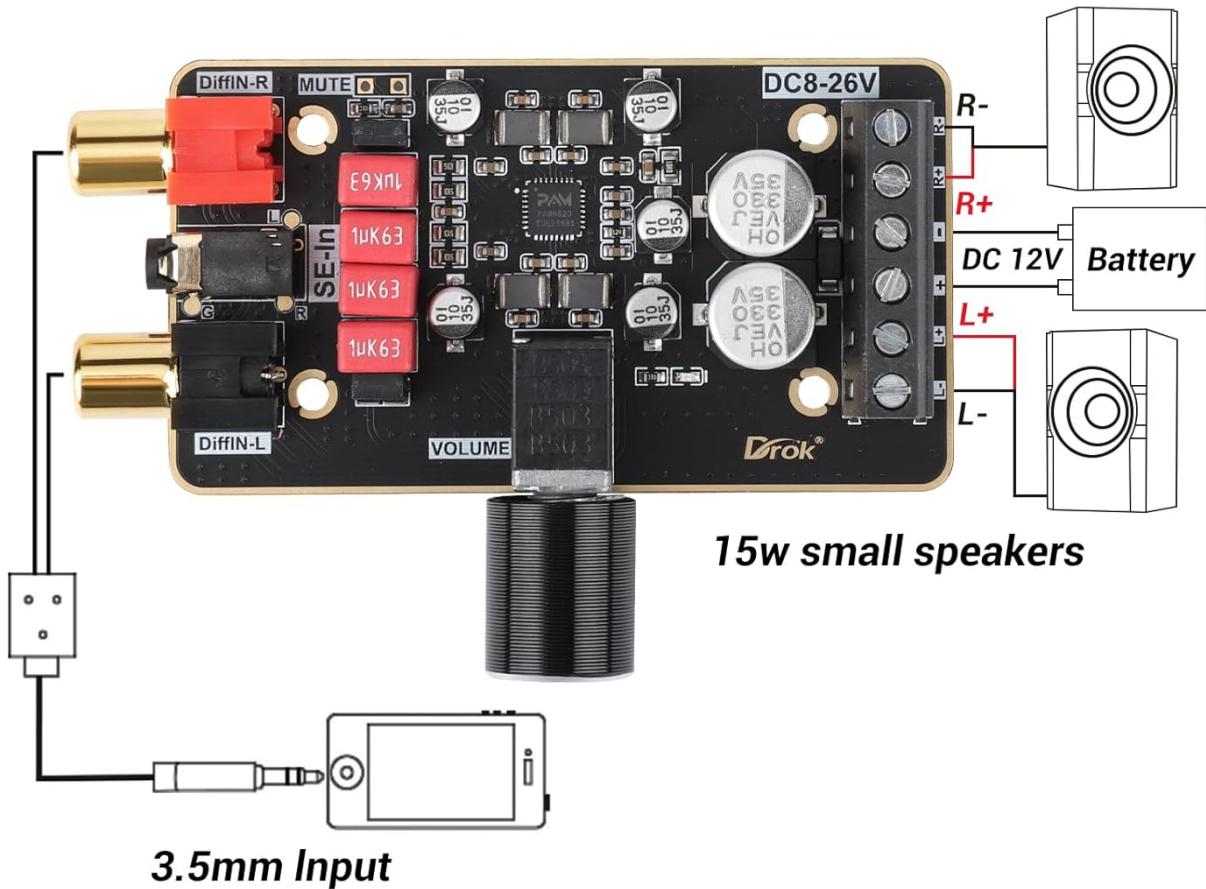


Image: A wiring example demonstrating connection of a 3.5mm audio source and two 15W speakers to the amplifier board, powered by a 12V DC battery.

OPERATING INSTRUCTIONS

Once all connections are securely made and power is applied:

- **Volume Adjustment:** Use the "VOLUME" knob to adjust the audio output level. Rotate clockwise to increase volume, and counter-clockwise to decrease volume.
- **Mute Function:** The board supports an external mute function. By default, the mute is at a low level. A high-level signal applied to the MUTE pin will mute the audio output.
- **Shutdown Function:** The board supports an external shutdown function. By default, the shutdown is at a high electricity level. A low-level signal applied to the SD pin will shut down the chip.

Input reverse connection protection



Short circuit protection

Over heat protection.



Image: Explanation of how to use the external mute and shutdown features.

MAINTENANCE

- Keep the amplifier board clean and free from dust. Use a soft, dry cloth for cleaning.
- Ensure adequate ventilation around the board to prevent overheating, especially during prolonged use at high volumes.
- Regularly check all connections for tightness and corrosion.
- Avoid placing heavy objects on the board or subjecting it to physical shock.

TROUBLESHOOTING

Problem	Possible Cause	Solution

No sound output	Incorrect power connection, loose speaker wires, incorrect audio input selection (jumpers), muted state, or low volume.	Verify power supply and polarity. Check all speaker and audio input connections. Ensure correct jumper settings for single-ended or differential input. Adjust volume. Check mute/shutdown status.
Distorted audio	Input signal too high, speaker impedance mismatch, or faulty speaker.	Reduce input signal level. Ensure speakers are within the recommended 4-8 Ohm range. Test with different speakers.
Overheating	Lack of ventilation, prolonged high-volume use, or short circuit.	Ensure proper airflow around the board. Reduce volume or usage time. Check for short circuits.
Humming or noise	Ground loop, interference from other electronics, or poor quality audio cables.	Ensure proper grounding. Separate audio cables from power cables. Use shielded audio cables. Consider a ground loop isolator if necessary.

WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the official DROK website or contact your retailer. Keep your purchase receipt for warranty claims.

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