

BTZGNDMIO GF1002

PAM8403 Digital Sound Power Amplifier Board GF1002 User Manual

Model: GF1002 | Brand: BTZGNDMIO

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of the BTZGNDMIO PAM8403 Digital Sound Power Amplifier Board GF1002. This compact 5V 3W*2 HiFi Stereo Audio AMP Module is designed for various DIY audio projects, offering efficient stereo amplification in a small form factor. Please read this manual thoroughly before use to ensure optimal performance and safety.

2. SAFETY INFORMATION

- **Power Supply:** Use a stable 5V DC power supply. Exceeding 5.5V may damage the module. Ensure correct polarity when connecting power.
- **Static Electricity:** Handle the board with care to avoid electrostatic discharge, which can damage sensitive electronic components.
- **Short Circuits:** Prevent short circuits between components or connection points.
- **Environment:** Avoid exposing the module to moisture, extreme temperatures, or corrosive environments.
- **Soldering:** If soldering is required, ensure proper ventilation and use appropriate safety equipment.

3. PRODUCT OVERVIEW

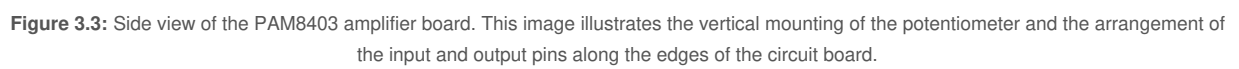
The PAM8403 amplifier board is a miniature stereo audio amplifier module. It features the PAM8403 digital amplifier chip, a volume control potentiometer, and clearly marked connection points for power, audio input, and speaker output.



Figure 3.1: Top-down view of the PAM8403 amplifier board. This image shows the overall layout, including the volume control potentiometer on the left, the PAM8403 chip, and the clearly labeled connection pads for power input, audio input, and speaker outputs.



Figure 3.2: Angled view of the PAM8403 amplifier board. This perspective highlights the PAM8403 integrated circuit chip and the green volume control potentiometer, providing a better sense of the module's compact dimensions.



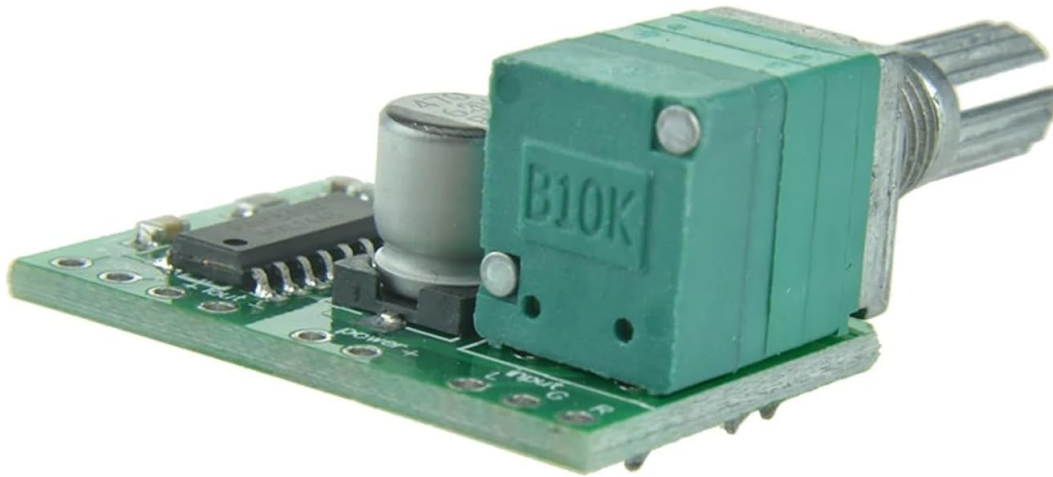


Figure 3.4: Another angled view of the PAM8403 amplifier board. This view emphasizes the small footprint of the module, with the potentiometer prominently displayed, indicating its role in volume adjustment.

4. SPECIFICATIONS

Feature	Specification
Amplifier Chip	PAM8403
Operating Voltage	DC 2.5V - 5.5V (Recommended 5V)
Output Power	3W + 3W (Stereo)
Speaker Impedance	4Ω - 8Ω (Recommended 4Ω)
Efficiency	Up to 90%
Model Number	GF1002 (Part Number: DKHKTTRWQ)
Brand	BTZGNDMIO

5. SETUP INSTRUCTIONS

Follow these steps to correctly set up your PAM8403 amplifier board:

1. **Identify Connections:** Locate the power input (+5V, GND), audio input (L, G, R), and speaker output (L+, L-, R+, R-) pads on the board. Refer to Figure 3.1 for visual guidance.
2. **Connect Speakers:** Connect your 4Ω or 8Ω speakers to the corresponding speaker output pads. Ensure correct polarity (L+ to speaker positive, L- to speaker negative, and similarly for R).
3. **Connect Audio Input:** Connect your audio source (e.g., smartphone, MP3 player, computer) to the audio input pads. 'L' is for the left channel, 'R' for the right channel, and 'G' is for common ground.
4. **Connect Power Supply:** Connect a regulated 5V DC power supply to the +5V and GND pads. **Double-check polarity before applying power.** Incorrect polarity can damage the module.
5. **Initial Volume Setting:** Turn the potentiometer (volume knob) to its minimum position before applying power to avoid sudden loud sounds.

6. OPERATING INSTRUCTIONS

Once the board is set up, follow these steps for operation:

1. **Power On:** Apply 5V DC power to the module.
2. **Play Audio:** Start playing audio from your connected source.
3. **Adjust Volume:** Slowly rotate the potentiometer clockwise to increase the volume to your desired level. Rotate counter-clockwise to decrease volume.
4. **Power Off:** To turn off, disconnect the 5V DC power supply.

7. MAINTENANCE

The PAM8403 amplifier board requires minimal maintenance:

- **Cleaning:** Keep the board clean and free from dust and debris. Use a soft, dry brush or compressed air for cleaning. Do not use liquids.
- **Storage:** Store the module in a dry, cool environment, away from direct sunlight and moisture, when not in use.
- **Inspection:** Periodically inspect connections for any signs of corrosion or loose wiring.

8. TROUBLESHOOTING

- **No Sound:**
 - Check if the 5V power supply is connected correctly and providing power.
 - Verify that the audio input source is playing and connected properly.
 - Ensure speakers are connected with correct polarity and are functional.
 - Check if the volume potentiometer is turned up.
- **Distorted Sound:**
 - Reduce the input audio level from your source.
 - Ensure the power supply is stable and not dropping below 2.5V under load.
 - Verify that the speaker impedance matches the recommended range (4Ω-8Ω).
- **Overheating:**

- Ensure adequate ventilation around the module.
- Check if the speaker impedance is too low, causing excessive current draw.

9. WARRANTY AND SUPPORT

For warranty information or technical support regarding your BTZGNDMIO PAM8403 Digital Sound Power Amplifier Board GF1002, please contact the seller or manufacturer directly through your purchase platform. Keep your purchase receipt or order details handy for faster service.