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› Eujgoov ZK-2001 TPA3221 Amplifier Module User Manual

Eujgoov ZK-2001

Eujgoov ZK-2001 TPA3221 Amplifier Module User Manual

Model: ZK-2001 | Brand: Eujgoov

1. INTRODUCTION

The Eujgoov ZK-2001 is a pure rear amplifier board featuring the TPA3221 chip, designed for 2.1 channel audio systems. This module offers flexible output configurations, including dual-channel and PBTL single-channel modes, with robust power output and integrated protection mechanisms. This manual provides essential information for the proper installation, operation, and maintenance of your amplifier module.

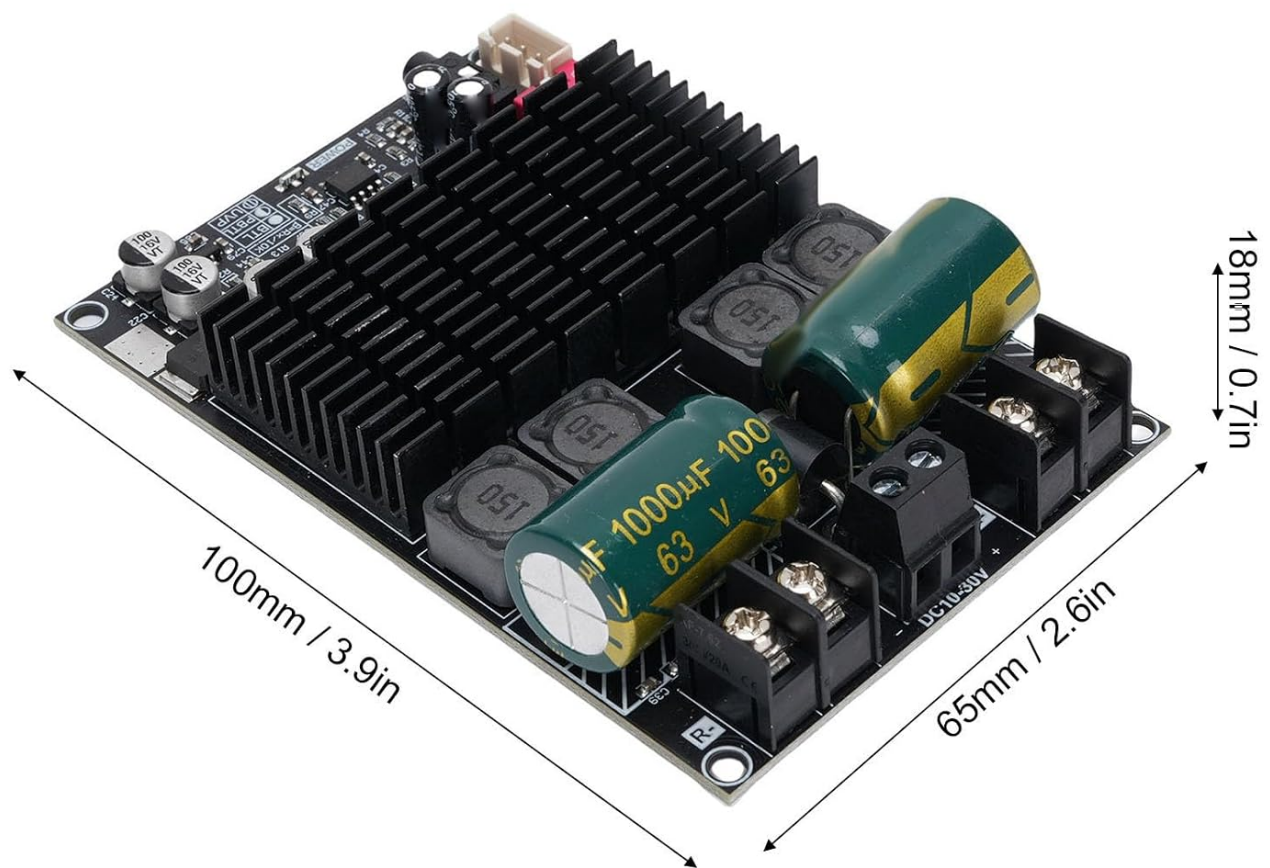


Figure 1.1: Top view of the Eujgoov ZK-2001 TPA3221 Amplifier Module. This image shows the overall layout of the amplifier board, including the heatsink, capacitors, and various connection terminals.

2. PRODUCT FEATURES

- **Power Amplifier Chip:** Utilizes the TPA3221 for efficient audio amplification.
- **Flexible Speaker Compatibility:** Supports 3-8Ω, 20-100W speakers in dual-channel mode and 2-8Ω, 50-200W speakers in PBTL single-channel mode.
- **Efficient Heat Dissipation:** Equipped with a multi-fin heatsink for quiet and prolonged operation.
- **High-Quality Audio:** Delivers clear sound with fast response, strong medium frequency, and smooth high frequencies.
- **Robust Protection Mechanisms:** Includes under-voltage, overheating, over-current, short-circuit, and reverse polarity protection.
- **Compact Design:** Features a compact size and reasonable structure for various audio systems.
- **Shielded Cable:** Includes a 3-pin dual-end shielded cable for stable connections.

TPA3221

Pure power amplifier board

Professional-level design

Easier to install

One-click bridging

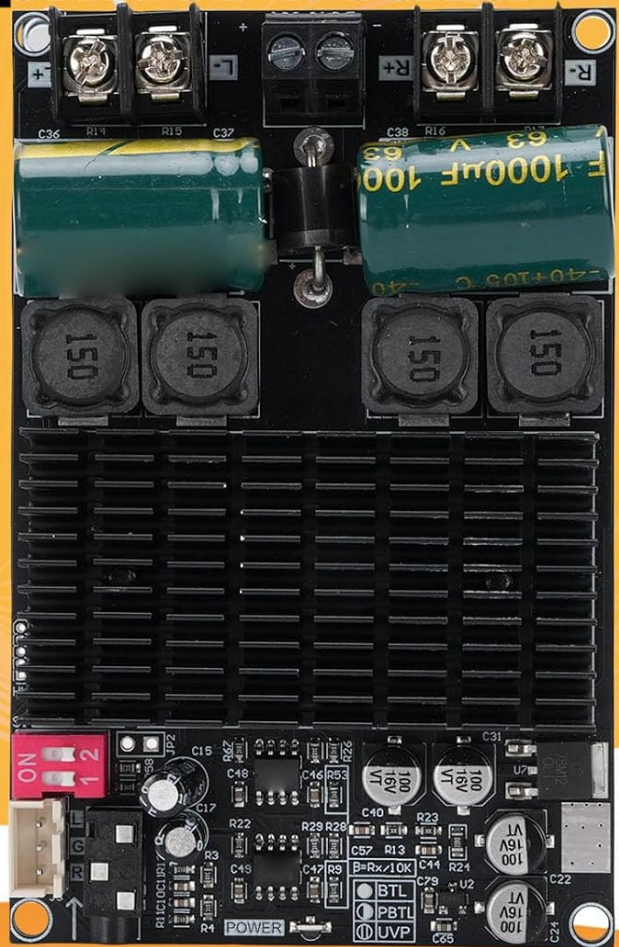
MCU intelligent anti-POP sound

Two gain Settings are available: 28dB and 38dB

Bridge 200W

Dual-channel 100W+100W

Input reverse connection prevention



A 3P DOUBLE-ENDED SHIELDED WIRE IS GIVEN AS A GIFT

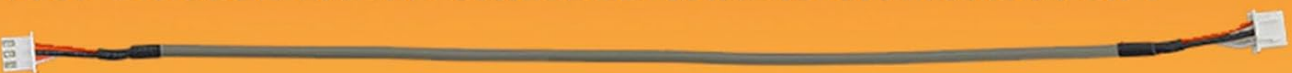


Figure 2.1: Overview of key features of the TPA3221 Pure Power Amplifier Board. This image highlights aspects such as one-click bridging, intelligent anti-POP sound, gain settings, and input reverse connection prevention.

3. WHAT'S IN THE BOX

Please check the package contents upon receipt to ensure all items are present:

- 1 x Eujgoov ZK-2001 Amplifier Board
- 1 x 3-pin Dual-End Shielded Cable
- 1 x User Manual (English)

4. SETUP AND INSTALLATION

Follow these steps for proper installation of your amplifier module:

1. **Power Supply Connection:** Connect a DC 10-30V power supply to the designated input port (DC10-30V). Ensure correct

polarity.

2. **Audio Input:** Connect your audio source to the XH2.54-3P audio input terminal using the provided 3-pin dual-end shielded cable or a 3.5mm stereo audio socket.
3. **Speaker Connection (Dual Channel Mode):** For stereo output, connect your left speaker to the 'L+' and 'L-' terminals and your right speaker to the 'R+' and 'R-' terminals.
4. **Speaker Connection (PBTL Single Channel Mode):** To enable PBTL (bridged) mode, set Switch No. 1 to the ON position. In this mode, connect the horn output by paralleling R+ and L+ together, and R- and L- together. The default audio input is the left channel, but both left and right channels can be connected simultaneously.
5. **Gain Setting:** Use Dip Switch No. 2 to select the desired gain size. Refer to the 'Explanation' table on the board for specific settings (e.g., ON for 28dB, OFF for 38dB).

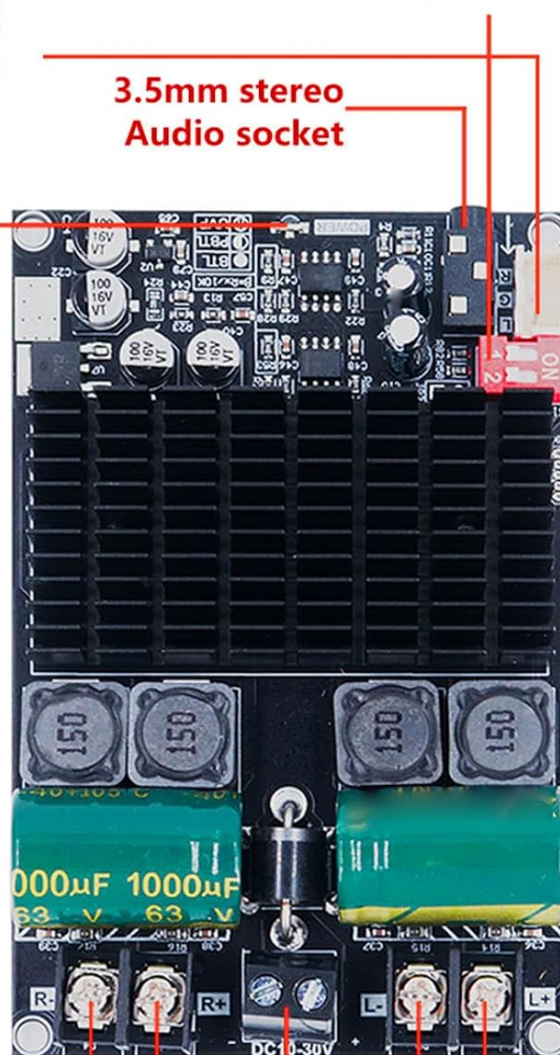
**XH2.54-3 p
Audio input terminal
(3P double-ended wire included)**

Dip switch

**3.5mm stereo
Audio socket**

Indicator light
Constant Light: Stereo mode
Slow flash: Bridge mode
Flash: Low voltage indication

EXPLANATION		
S1	①	②
ON 	PBTL_ ON	GAIN= 28dB
OFF 	PBTL_ OFF	GAIN= 38dB

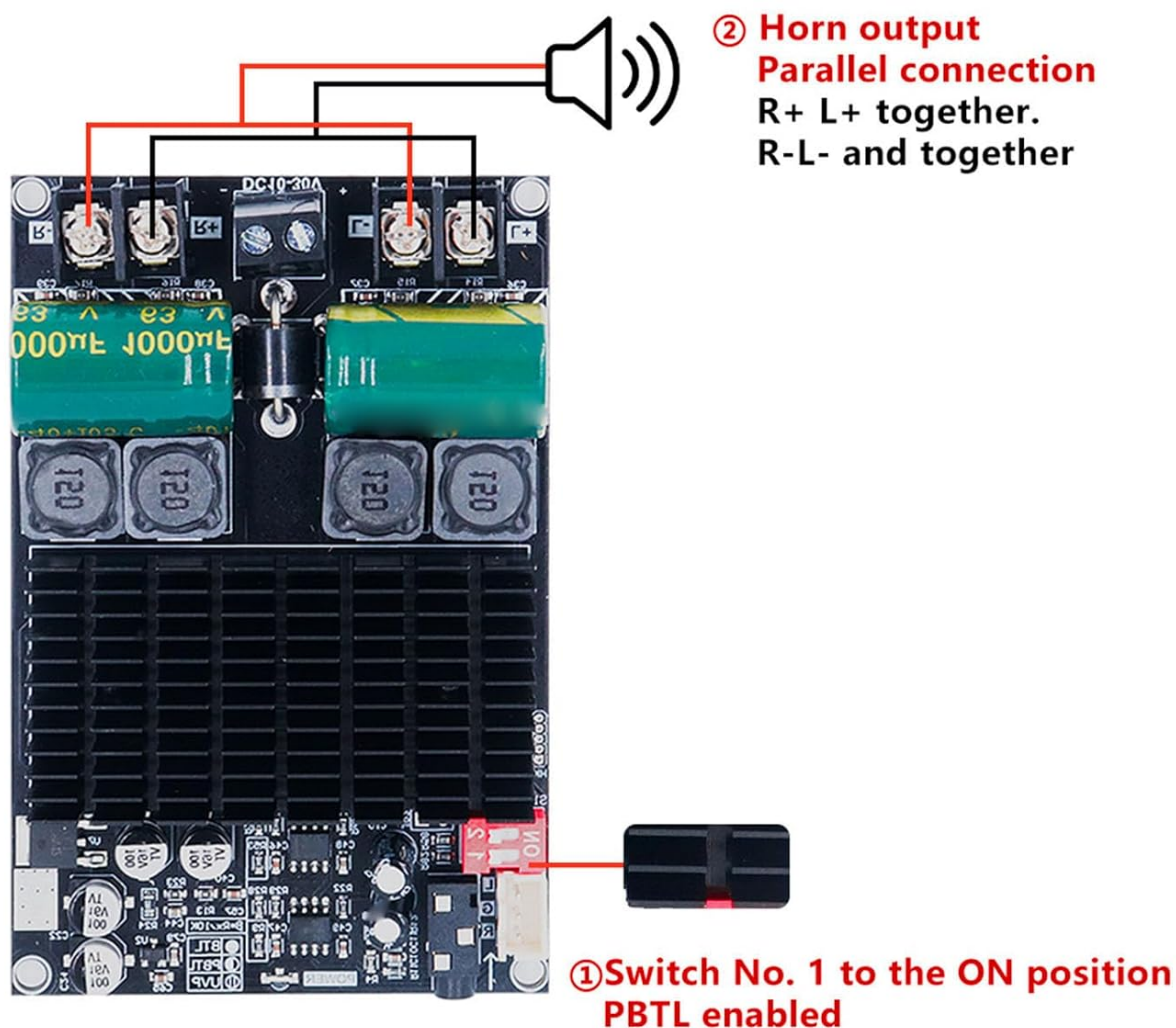


Left channel output

Right channel output

DC10-30V power supply input port

Figure 4.1: Detailed view of the amplifier board's connections and switches. This image shows the audio input terminal, 3.5mm stereo audio socket, dip switches, indicator light, and output terminals.



Cut off the power first and then perform the bridging operation
In PBTL mode, the default audio input is left channel,
but both left and right channels can also be connected simultaneously
The No. 2 dip switch can select the gain size

Figure 4.2: Illustration of horn output parallel connection for PBTL mode. This diagram shows how to connect speakers when Switch No. 1 is in the ON position for bridged output.

5. OPERATING INSTRUCTIONS

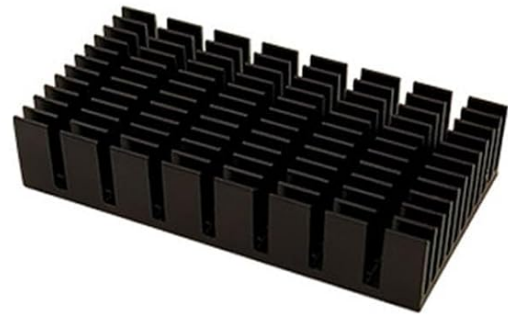
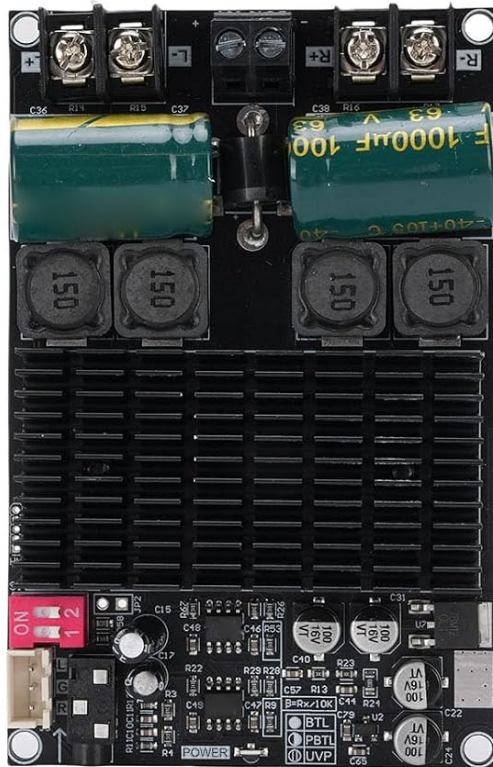
Once the module is correctly installed and powered, it will begin operation. Observe the indicator light for status:

- **Constant Light:** Indicates Stereo mode (dual channel).
- **Slow Flash:** Indicates Bridge mode (PBTL single channel).
- **Flash:** Indicates low voltage. Address the power supply issue immediately.

To switch between dual channel and PBTL modes, adjust Switch No. 1. Ensure the power is cut off before performing any bridging operations.

6. SPECIFICATIONS

Specification	Value
Item Type	Pure Post Amplifier Board
Product Material	PCB
Power Amplifier Chip	TPA3221
Applicable Speaker (Dual Channel Mode)	3-8Ω, 20-100W
Applicable Speaker (PBTL Single Channel Mode)	2-8Ω, 50-200W
Maximum Power (Dual Channel Mode)	2 x 70W at 24V 4Ω, 2 x 100W at 30V 4Ω
Maximum Power (PBTL Mode)	150W at 30V 3Ω, 200W at 30V 2Ω, 110W at 30V 4Ω
Heat Dissipation	Multi-fin heatsink
Product Size	Approx. 100 x 65 x 18 mm / 3.9 x 2.6 x 0.7 inches
Item Weight	Approx. 4.2 ounces
Manufacturer	Eujgoov
Model Number	Eujgoovhp8m7eb4xa



**MULTI-TOOTH HEAT SINK
ENHANCE THE HEAT DISSIPATION AREA**



**THE BACK HAS A WINDOW
HEAT DISSIPATION**



Figure 6.1: Various views of the amplifier module, including the multi-tooth heat sink and the ZK-2001 model label. This image also shows the back of the board with a window for heat dissipation.

7. SAFETY PRECAUTIONS

The Eujgoov ZK-2001 amplifier board incorporates several protection mechanisms to ensure safe operation. However, it is crucial to adhere to the following guidelines:

- **Power Supply:** Always use a power supply within the specified DC 10-30V range. Ensure correct polarity to prevent reverse polarity damage.
- **Speaker Impedance:** Connect speakers with impedance ratings appropriate for the selected operating mode (dual channel or PBTL) to avoid over-current conditions.
- **Ventilation:** Ensure adequate ventilation around the amplifier module to prevent overheating, especially during prolonged high-power operation.
- **Handling:** Avoid touching the heatsink or other components when the module is powered on, as they may become hot.
- **Short Circuits:** Prevent any short circuits between terminals or components. The module has short-circuit protection, but

repeated short circuits can cause damage.

- **Moisture:** Keep the module away from moisture and liquids.

8. TROUBLESHOOTING

If you encounter issues with your amplifier module, consider the following:

- **No Sound:**

- Check power supply connection and voltage.
- Verify audio input source and cable connections.
- Ensure speaker connections are secure and correct.
- Check if the indicator light is on and stable (or slowly flashing for PBTL).

- **Distorted Sound:**

- Reduce input audio volume.
- Check speaker impedance compatibility.
- Ensure power supply is stable and sufficient.

- **Module Overheating:**

- Ensure adequate ventilation around the heatsink.
- Verify speaker impedance is within specifications.
- Reduce output power if operating at maximum for extended periods.

- **Indicator Light Flashing Rapidly:** This indicates low voltage. Check your power supply.

9. MAINTENANCE

The Eujgoov ZK-2001 amplifier module is designed for durability and requires minimal maintenance:

- **Cleaning:** Periodically clean the module with a soft, dry cloth to remove dust. Ensure the module is powered off and disconnected before cleaning. Do not use liquid cleaners.
- **Ventilation:** Ensure the heatsink remains free of dust and obstructions to maintain optimal cooling performance.
- **Connections:** Periodically check all cable connections to ensure they are secure and free from corrosion.

10. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided at the point of purchase or contact your retailer. Keep your purchase receipt as proof of purchase.

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

Anonymous

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