

BTZGNDMIO ZK-APTX3

BTZGNDMIO ZK-APTX3 2.1 Channel TPA3255 Amplifier Board User Manual

Model: ZK-APTX3

[Information](#)[Features](#)[Setup](#)[Operation](#)[Maintenance](#)[Introduction](#)[Safety](#)[Troubleshooting](#)[Specifications](#)[Warranty & Support](#)

1. INTRODUCTION

Thank you for choosing the BTZGNDMIO ZK-APTX3 2.1 Channel Qualcomm Amplifier Board. This high-performance audio amplifier is designed to deliver powerful and clear sound for your home theater or audio projects. Featuring two original TI TPA3255 power amplifier chips, it provides a robust 300W+300W+600W output, making it suitable for driving a variety of speakers and subwoofers. This manual provides essential information for proper setup, operation, and maintenance to ensure optimal performance and longevity of your amplifier board.

2. SAFETY INFORMATION

- **Power Supply:** Use only a DC power supply within the specified range of 18-50VDC. Exceeding this voltage can damage the device.
- **Polarity:** Ensure correct power polarity. Reverse polarity connection is prohibited and will cause damage.
- **Ventilation:** Ensure adequate ventilation around the amplifier board to prevent overheating. Do not obstruct the heat sink or cooling fan.
- **Environment:** Avoid exposing the device to moisture, dust, or extreme temperatures.
- **Handling:** Handle the board with care to avoid damaging electronic components. Avoid touching components while the device is powered on.
- **Professional Installation:** If you are unfamiliar with electronic components, seek professional assistance for installation.

3. KEY FEATURES

- **High Power Output:** 2.1 Channel configuration with 300W for left channel, 300W for right channel, and 600W for subwoofer output.

- **Advanced Amplifier Chips:** Utilizes two original TI TPA3255 power amplifier chips for superior audio quality and efficiency.
- **Wide Voltage Support:** Compatible with 18-50VDC power supplies.
- **Efficient Cooling System:** Features an increased and thickened heat sink with copper strips and a silent fan for effective heat dissipation, ensuring stable performance even under high loads.
- **Integrated Design:** Compact and integrated design for various audio applications.

4. SETUP GUIDE

Follow these steps to properly set up your ZK-APTX3 amplifier board:

4.1 Component Overview

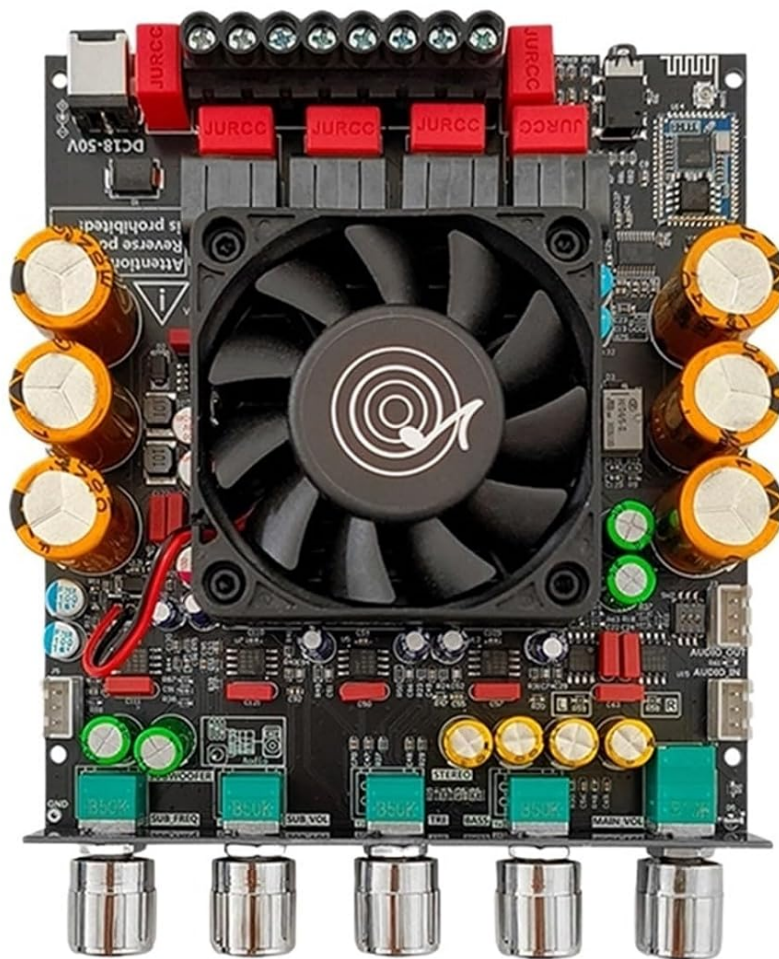


Figure 1: ZK-APTX3 Amplifier Board Components. This image illustrates the internal components of the ZK-APTX3 amplifier board. It highlights the two TI original TPA3255 power amplifier chips, the 18-50VDC power supply input, and the robust cooling system featuring an increased and thickened heat sink with copper strips and a silent fan for efficient heat dissipation.

4.2 Power Supply Connection

1. Ensure the amplifier board is powered off before making any connections.
2. Connect a DC power supply (18-50VDC) to the designated power input terminals on the board. Observe correct polarity: positive to '+' and negative to '-'. **Reverse polarity is strictly prohibited.**

4.3 Speaker Connections

1. Connect your left and right channel speakers to the corresponding output terminals.
2. Connect your passive subwoofer to the dedicated subwoofer output terminals.
3. Ensure all speaker wires are securely connected and that there are no short circuits.

4.4 Audio Input Connection

1. Connect your audio source (e.g., smartphone, PC, media player) to the audio input jack on the amplifier board using an appropriate audio cable.

5. OPERATING INSTRUCTIONS

1. After all connections are made, turn on the power supply to the amplifier board.
2. Start playing audio from your connected source.
3. Adjust the volume using the control knobs on the amplifier board or your audio source.
4. The board may include separate controls for bass, treble, and subwoofer volume. Adjust these to achieve your desired sound profile.
5. Observe the cooling fan. It should operate silently to dissipate heat.

6. MAINTENANCE

- **Cleaning:** Keep the amplifier board clean and free from dust. Use a soft, dry cloth to wipe surfaces. For hard-to-reach areas, use compressed air.
- **Ventilation:** Regularly check that the heat sink and cooling fan are free from obstructions to ensure proper airflow.
- **Connections:** Periodically inspect all cable connections to ensure they are secure and free from corrosion.
- **Storage:** When not in use for extended periods, store the amplifier board in a cool, dry place away from direct sunlight and extreme temperatures.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
No sound output	• No power to the board • Incorrect audio input connection • Speaker wires disconnected or shorted • Audio source volume too low	• Check power supply connection and ensure it's within 18-50VDC. • Verify audio input cable is securely connected. • Inspect speaker wiring for proper connection and shorts. • Increase volume on audio source and amplifier.

Problem	Possible Cause	Solution
Distorted sound	• Input signal too high (clipping) • Speaker impedance mismatch • Faulty audio cable	• Reduce input volume from the audio source. • Ensure speakers are compatible with amplifier output. • Try a different audio input cable.
Overheating	• Insufficient ventilation • Cooling fan obstructed • Excessive load	• Ensure adequate space around the board for airflow. • Clean any dust or debris from the heat sink and fan. • Reduce output volume or check speaker impedance.
Power LED not on	• No power supply • Incorrect power polarity • Faulty power supply	• Check power adapter and wall outlet. • Verify positive and negative connections. • Test with a known good power supply.

8. SPECIFICATIONS

- **Model:** ZK-APTX3
- **Channels:** 2.1 (Left, Right, Subwoofer)
- **Amplifier Chip:** 2 x TI TPA3255
- **Output Power:** 300W (Left) + 300W (Right) + 600W (Subwoofer)
- **Power Supply:** DC 18-50V
- **Cooling:** Integrated heat sink with copper strips and silent fan
- **Manufacturer:** BTZGNDMIO
- **Included Components:** Quick Start Guide

9. WARRANTY & SUPPORT

This product comes with a standard manufacturer's warranty. Please refer to the included Quick Start Guide or contact your retailer for specific warranty terms and conditions. For technical support or inquiries, please reach out to the BTZGNDMIO customer service team through your purchase platform or the contact information provided with your product.

