

Daakro ZK-302T

Daakro ZK-302T Bluetooth 5.3 Amplifier Board User Manual

Model: ZK-302T

1. INTRODUCTION

Thank you for choosing the Daakro ZK-302T Bluetooth 5.3 Amplifier Board. This compact 2.0 channel audio amplifier is designed for DIY wireless speaker projects, offering 30W+30W output, precise treble and bass control, and versatile input options including Bluetooth 5.3, USB, and AUX. This manual will guide you through the installation, operation, and maintenance of your amplifier board to ensure optimal performance and longevity.

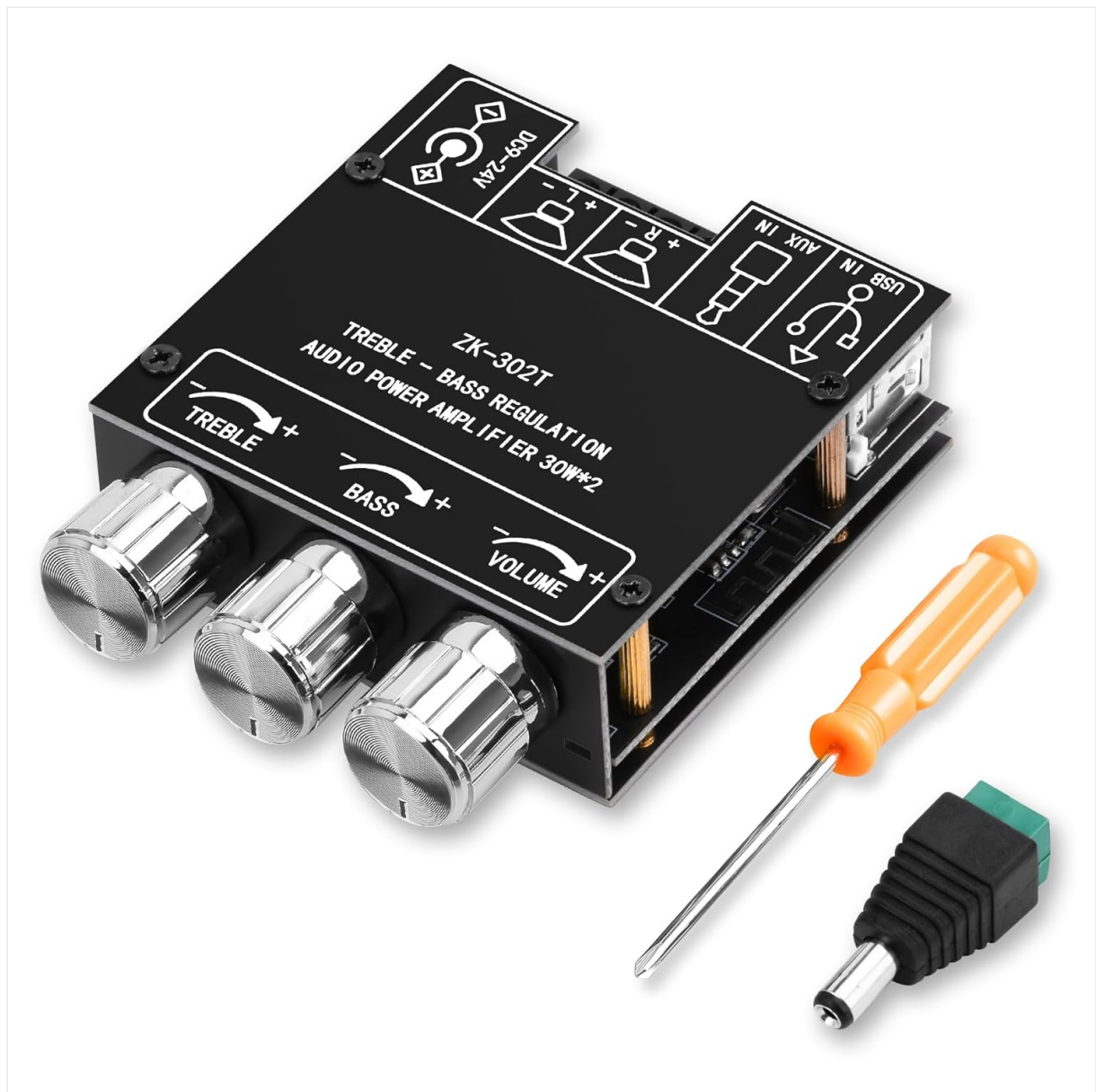


Figure 1: Daakro ZK-302T Bluetooth 5.3 Amplifier Board. This image shows the compact amplifier board with its three control knobs for treble, bass, and volume, along with the various input and output terminals.

2. SAFETY INFORMATION

Please read and understand all safety instructions before using this product. Failure to follow these instructions may result in electric shock, fire, or other hazards.

- Ensure the power supply voltage is within the specified range of DC 9-24V.
- Do not expose the amplifier board to moisture, water, or extreme temperatures.
- Avoid short-circuiting the output terminals.
- Disconnect power before making any connections or disconnections.
- Keep out of reach of children.
- Do not attempt to disassemble or modify the board. Refer all servicing to qualified personnel.
- Ensure proper ventilation to prevent overheating.
- This product is designed for indoor use only.

3. SETUP AND CONNECTIONS

Follow these steps to correctly set up your Daakro ZK-302T amplifier board.

3.1 Package Contents

Verify that all items are present in your package:

- Daakro ZK-302T Bluetooth Amplifier Board
- Power adapter cable (if included)
- Screwdriver
- Mounting hardware (standoffs, screws)
- Heat sink (if not pre-installed)

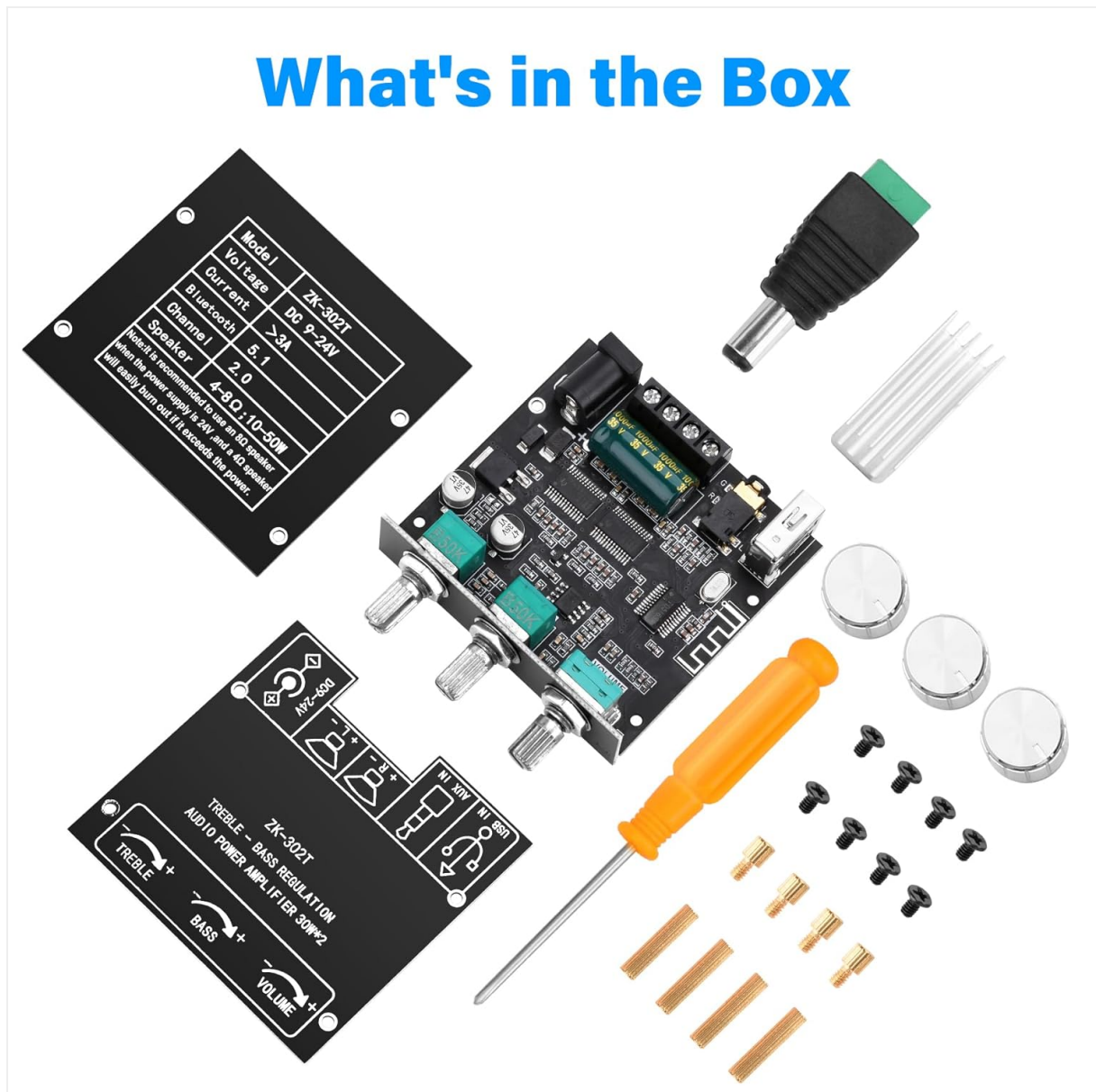


Figure 2: What's in the Box. This image displays the amplifier board along with included accessories such as a screwdriver, power adapter cable, and mounting hardware.

3.2 Component Identification

Familiarize yourself with the various ports and controls on the amplifier board.

TPA3110D2 HiFi Amplifier Board

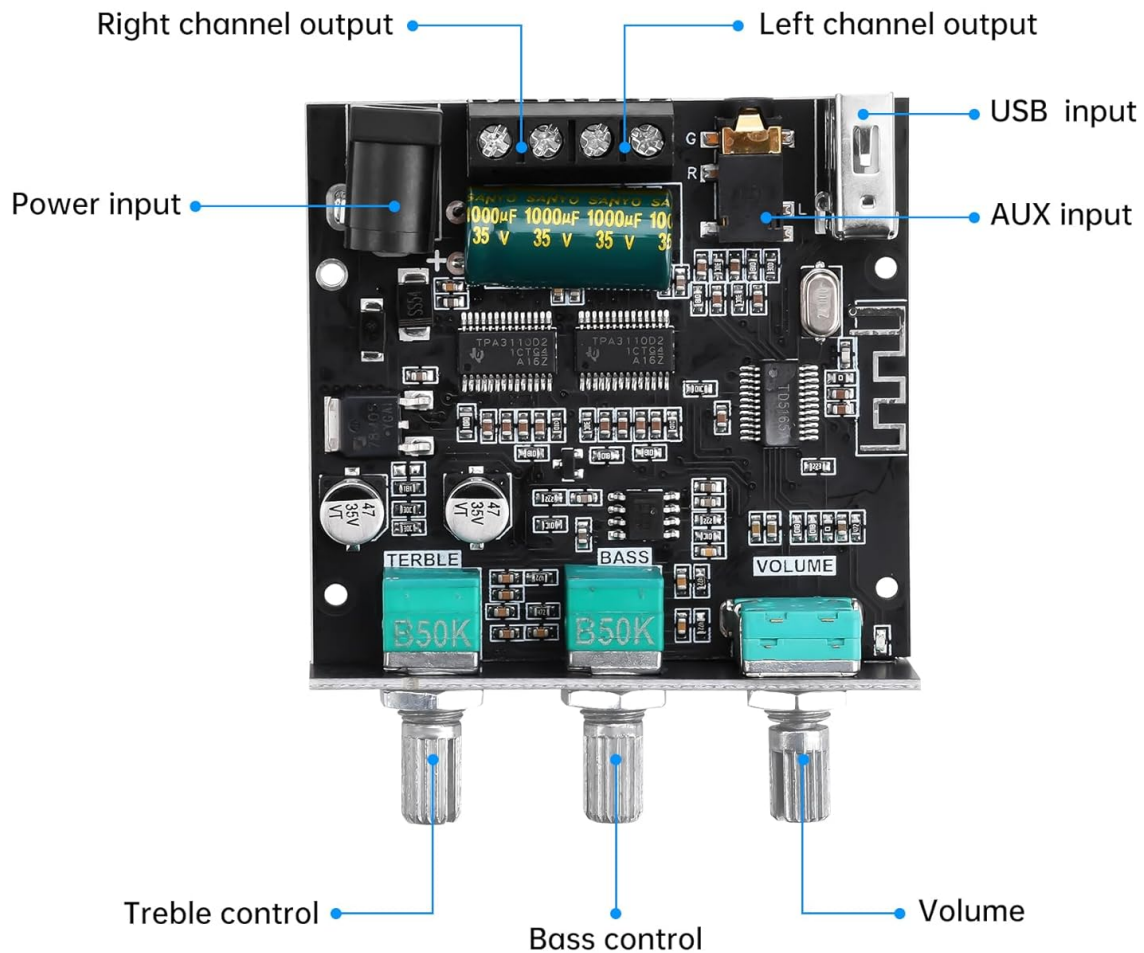


Figure 3: Component Identification. This diagram highlights key components including the power input, USB input, AUX input, left and right channel outputs, and the treble, bass, and volume control knobs.

- **Power Input (DC 9-24V):** Connect your DC power supply here.
- **USB Input:** For audio input from a USB source.
- **AUX Input (3.5mm Jack):** For wired audio input from devices like phones or PCs.
- **Left Channel Output (L+ L-):** Connect to your left speaker.
- **Right Channel Output (R+ R-):** Connect to your right speaker.
- **Treble Control:** Rotate to adjust high-frequency audio.
- **Bass Control:** Rotate to adjust low-frequency audio.
- **Volume Control:** Rotate to adjust overall audio output level.

3.3 Connecting Speakers

1. Ensure the amplifier board is powered off.
2. Connect your speakers (4-8Ω, 20-200W) to the corresponding Left (L+ L-) and Right (R+ R-) channel output terminals. Ensure correct polarity (+ to + and - to -).
3. Tighten the terminal screws to secure the speaker wires.

3.4 Power Connection

1. Connect a DC power supply (9-24V) to the power input terminal.
2. Ensure the power supply provides sufficient current for your speakers. Refer to the "Power Output Comparison Table" in Section 4.3 for optimal power matching.

4. OPERATING INSTRUCTIONS

4.1 Powering On and Input Selection

1. Once speakers and power are connected, turn on the power supply. The amplifier board will automatically enter Bluetooth pairing mode.
2. The board supports three audio input modes: Bluetooth, USB, and AUX. The board will automatically switch to the last active input or prioritize a newly connected input.



Figure 4: Multiple Audio Input Modes. This image illustrates the three input options: Bluetooth, 3.5mm AUX, and USB, and shows compatible devices like mobile phones, tablets, and computers.

4.2 Bluetooth Pairing

1. Ensure the amplifier board is powered on and in Bluetooth mode.
2. On your mobile device (phone, tablet, etc.), enable Bluetooth and search for available devices.
3. Select "ZK-302T" from the list of devices to pair. No password is required.

4. Once paired, you will hear a confirmation tone, and the Bluetooth indicator light (if present) will stabilize.
5. The Bluetooth connection range is approximately 16.4 feet (5 meters).



Figure 5: Bluetooth Connection. This image shows a smartphone connected via Bluetooth to the ZK-302T amplifier board, indicating a wireless range of up to 16.4 feet (5 meters).

4.3 Adjusting Audio

- **Volume Control:** Rotate the VOLUME knob to increase or decrease the overall sound level.
- **Treble Control:** Rotate the TREBLE knob to adjust the high-frequency response. Turn clockwise for more treble, counter-clockwise for less.
- **Bass Control:** Rotate the BASS knob to adjust the low-frequency response. Turn clockwise for more bass, counter-clockwise for less.

4.4 Power Output Considerations

Optimal audio output requires a suitable power supply and speaker impedance. The table below illustrates the approximate output power based on input voltage and speaker impedance.

Power Output Comparison Table

Input Voltage	R&L Channel Output(@1KHZ)	
	Speaker Impedance	Output Power
12V	4Ω	15W+15W
	8Ω	10W+10W
15V	4Ω	20W+20W
	8Ω	15W+15W
19V	4Ω	25W+25W
	8Ω	20W+20W
24V	4Ω	30W+30W
	8Ω	25W+25W

Figure 6: Power Output Comparison Table. This table details the R&L channel output power at 1KHz for various input voltages (12V, 15V, 19V, 24V) and speaker impedances (4Ω, 8Ω).

Important Note: There must be enough voltage and current input to achieve the rated power output. Higher voltage and current generally result in higher power. For the same conditions, a smaller speaker impedance will yield greater power.

5. MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the amplifier board. Do not use liquid cleaners or solvents.
- **Storage:** Store the device in a cool, dry place away from direct sunlight and extreme temperatures.
- **Ventilation:** Ensure the board has adequate airflow to prevent overheating, especially during prolonged use at high volumes.
- **Connections:** Periodically check all connections for tightness and ensure no wires are frayed or exposed.

6. TROUBLESHOOTING

If you encounter issues with your Daakro ZK-302T amplifier board, refer to the following common problems and solutions.

Problem	Possible Cause	Solution
No sound output	No power or incorrect power supply. Incorrect speaker connections. Volume knob turned down. Incorrect audio input selected or source issue.	Check power supply (9-24V DC) and connections. Verify speaker wire polarity and secure connections. Increase volume. Ensure audio source is playing and correctly connected (Bluetooth paired, AUX/USB cable inserted).
Distorted sound	Volume too high. Insufficient power supply current. Speaker impedance mismatch. Poor audio source quality.	Reduce volume. Use a power supply with adequate current (e.g., 2A or higher for 30W+30W). Ensure speakers are 4-8Ω. Test with a different audio source.
Bluetooth connection issues	Device too far from amplifier. Interference. Bluetooth not enabled on source device.	Move source device closer (within 16.4 feet/5 meters). Avoid obstacles or other wireless devices. Ensure Bluetooth is active and "ZK-302T" is selected.
Overheating	Lack of ventilation. Excessive load or prolonged high volume use.	Ensure adequate airflow around the board. Reduce volume or allow the unit to cool down.

7. SPECIFICATIONS

Feature	Detail
Model Number	ZK-302T
Output Power	30W + 30W (2.0 Channel)
Amplifier Chip	Dual TPA3110D2 HiFi Chip
Bluetooth Version	5.3
Input Voltage	DC 9-24V
Audio Inputs	Bluetooth, USB, AUX (3.5mm)
Speaker Impedance	4-8Ω
Recommended Speaker Power	20-200W
Product Dimensions (L x W x H)	4.33 x 2.76 x 1.97 inches

Feature	Detail
Weight	3.53 ounces
Protection Mechanisms	Over-voltage, Under-voltage, Over-temperature, Short-circuit, Reverse connection

8. WARRANTY AND SUPPORT

The Daakro ZK-302T Bluetooth 5.3 Amplifier Board comes with a**30-day return/replacement policy** from the date of purchase. This warranty covers manufacturing defects and issues arising from normal use. It does not cover damage caused by misuse, accidents, unauthorized modifications, or improper installation. For technical support, warranty claims, or any questions regarding your product, please contact Daakro customer service through the platform where you purchased the product. Please have your purchase details and model number (ZK-302T) ready.

© 2025 Daakro. All rights reserved.

Related Documents - ZK-302T

Fosi Audio Bluetooth Power Amplifier Board User Guide

This comprehensive user guide provides detailed introductions, product parameters, and installation instructions for Fosi Audio's range of Bluetooth power amplifier boards, including models ZK-1002, ZK-1002L, ZK-502C, ZK-502L, ZK-502T, ZK-1002T, and ZK-TB21. Learn how to connect your devices via Bluetooth or AUX, understand product specifications, and troubleshoot common issues.

ZK-HT21 Bluetooth Power Amplifier Board Manual - 2.1 Channel HIFI Audio Module

Comprehensive manual for the ZK-HT21 2.1 Channel Bluetooth 5.0 Power Amplifier Board. Learn about specifications, connections, power supply, speaker selection, and troubleshooting for this HIFI audio module.

Wuzhi Audio ZK-AS21 2.1 TPA3255 -

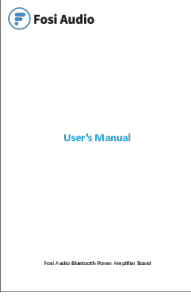
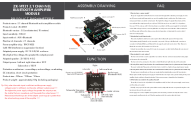

Wuzhi Audio ZK-AS21 2.1

TPA3255

220W*2+350W

AUX USB

APP

 The image shows the cover of the 'Fosi Audio Bluetooth Power Amplifier Board User Manual'. It features the Fosi Audio logo at the top left, the title 'User's Manual' in the center, and a small image of the amplifier board at the bottom.	<p>Fosi Audio Bluetooth Power Amplifier Board User Manual</p> <p>User manual for Fosi Audio Bluetooth Power Amplifier Boards including models ZK-1002, ZK-1002L, ZK-502C, ZK-502L, ZK-502T, ZK-1002T, and ZK-TB21. Provides product overviews, specifications, package contents, installation instructions, and troubleshooting tips.</p>
 The image shows a page from the 'ZK-MT21 2.1 Channel Bluetooth Amplifier Module: Specifications, Assembly, and FAQ' document. It includes a photograph of the amplifier module and a table of specifications.	<p>ZK-MT21 2.1 Channel Bluetooth Amplifier Module: Specifications, Assembly, and FAQ</p> <p>Detailed information on the ZK-MT21 2.1 channel Bluetooth amplifier module, including product parameters, assembly guidance, functional descriptions, and frequently asked questions. Learn about its specifications, input modes, and sound quality factors.</p>
 The image shows a page from the 'ZK-MT21 2.1 Channel Bluetooth Amplifier Module User Manual'. It includes a photograph of the amplifier module and a table of specifications.	<p>ZK-MT21 2.1 Channel Bluetooth Amplifier Module User Manual</p> <p>This document provides product parameters, specifications, and FCC compliance information for the ZK-MT21 2.1 Channel Bluetooth Amplifier Module.</p>