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› ZK-502MT Bluetooth 5.0 Subwoofer Amplifier Board User Manual

## NEISEMOVI ZK-502MT

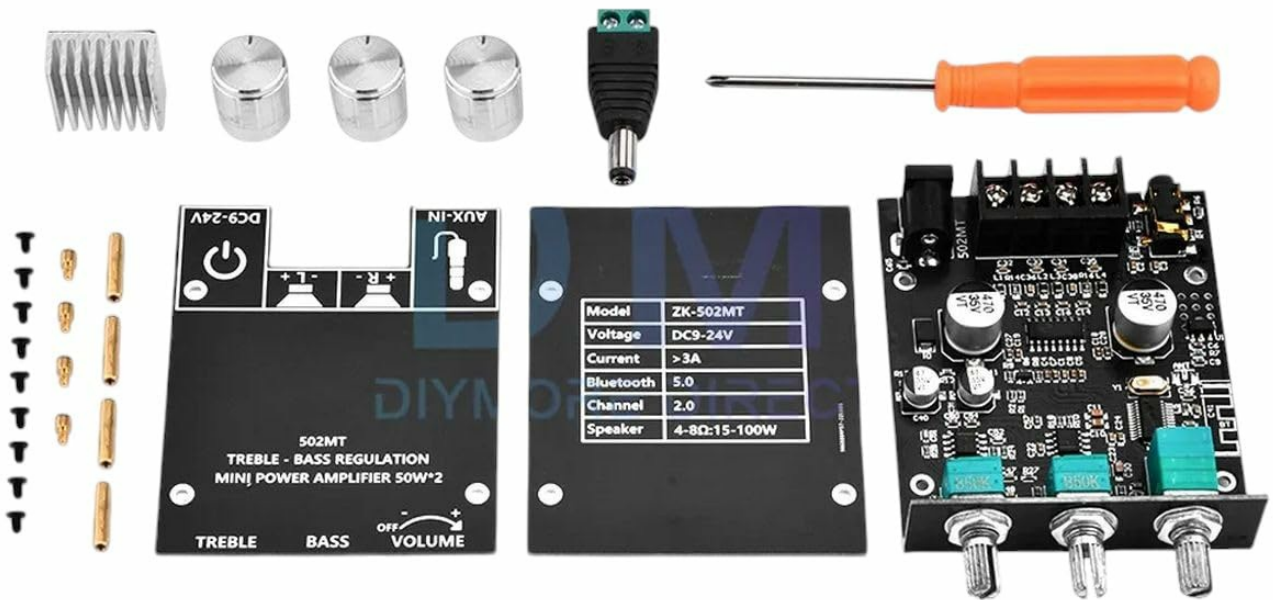
# ZK-502MT Bluetooth 5.0 Subwoofer Amplifier Board User Manual

Model: ZK-502MT | Brand: NEISEMOVI

## 1. INTRODUCTION

This user manual provides detailed instructions for the installation, operation, and maintenance of the NEISEMOVI ZK-502MT Bluetooth 5.0 Subwoofer Amplifier Board. Please read this manual thoroughly before using the product to ensure proper functionality and safety.

## 2. PRODUCT OVERVIEW



**Figure 1: ZK-502MT Amplifier Board Components**

This image displays the complete set of components included with the ZK-502MT amplifier board. Visible items include the main amplifier circuit board, three rotary control knobs (for Treble, Bass, and Volume), a heat sink for thermal management, a DC power jack adapter, and a small screwdriver for connections. Also shown are standoffs and screws for mounting.

The ZK-502MT is a compact and versatile Bluetooth 5.0 audio amplifier board designed for DIY audio projects. It features independent Treble, Bass, and Volume controls, providing flexibility for sound customization. With its 2.0 channel output, it is suitable for driving passive speakers and can be integrated into various home audio setups.

### 3. SPECIFICATIONS

Parameter	Value
Model	ZK-502MT
Input Voltage	DC 9-24V

Input Current	>3A
Bluetooth Version	5.0
Audio Channels	2.0 (Stereo)
Speaker Impedance	4-8Ω
Output Power	15-100W per channel (depending on input voltage and speaker impedance)

## 4. SAFETY INSTRUCTIONS

- Ensure the power supply voltage is within the specified DC 9-24V range. Using an incorrect voltage can damage the device.
- Do not exceed the recommended input current of 3A.
- Avoid short-circuiting the speaker outputs or power input terminals.
- Keep the amplifier board away from water, moisture, and high temperatures.
- Do not disassemble or modify the board unless you are a qualified technician.
- Ensure proper ventilation around the heat sink during operation to prevent overheating.
- Always disconnect power before making any connections or disconnections.

## 5. SETUP AND INSTALLATION

1. **Mounting the Board:** Use the provided standoffs and screws to securely mount the amplifier board in a suitable enclosure or surface, ensuring adequate space for ventilation.
2. **Connecting Speakers:**
  - Identify the "Speaker" terminals on the board (typically labeled L+ L- and R+ R-).
  - Connect your passive speakers (4-8Ω impedance) to the corresponding terminals. Ensure correct polarity (+ to + and - to -) for optimal sound.
  - Use appropriate gauge speaker wire for your setup.
3. **Connecting Audio Input:**
  - **Bluetooth Mode:** The board will automatically enter Bluetooth pairing mode upon power-on.
  - **AUX Input Mode:** Connect an audio source (e.g., smartphone, MP3 player) to the "AUX IN" 3.5mm jack. The board will automatically switch to AUX input when a cable is detected.
4. **Connecting Power:**
  - Connect a DC 9-24V power supply (with a current rating of at least 3A) to the "DC IN" terminal or the provided DC jack adapter.
  - Ensure the power supply is stable and provides clean power.
5. **Attaching Knobs:** Place the provided control knobs onto the shafts of the Treble, Bass, and Volume potentiometers.

## 6. OPERATING INSTRUCTIONS

1. **Power On:** Once all connections are secure, connect the power supply. The board will power on automatically.

2. **Volume Control:** Rotate the "VOLUME" knob clockwise to increase volume and counter-clockwise to decrease it.
3. **Tone Control:**
  - **Treble:** Rotate the "TREBLE" knob to adjust high-frequency response.
  - **Bass:** Rotate the "BASS" knob to adjust low-frequency response.
4. **Bluetooth Pairing:**
  - When powered on, the amplifier board will enter Bluetooth pairing mode.
  - On your Bluetooth device (e.g., smartphone), search for available Bluetooth devices.
  - Select "ZK-502MT" from the list to pair. A confirmation tone may sound upon successful connection.
5. **AUX Input:** If an audio cable is plugged into the "AUX IN" jack, the board will prioritize the AUX input. To switch back to Bluetooth, unplug the AUX cable.

## 7. MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the amplifier board. Do not use liquid cleaners or solvents.
- **Ventilation:** Ensure the heat sink remains free of dust and debris to maintain optimal cooling. Periodically check for obstructions.
- **Storage:** When not in use for extended periods, store the board in a cool, dry place, away from direct sunlight and extreme temperatures.

## 8. TROUBLESHOOTING

Problem	Possible Cause	Solution
No power/No sound	Incorrect power supply voltage or current; loose power connection; short circuit.	Verify power supply (DC 9-24V, >3A). Check all power connections. Inspect for any short circuits on the board or speaker wires.
No Bluetooth connection	Device not in pairing mode; AUX cable connected; Bluetooth interference.	Ensure no AUX cable is plugged in. Restart the amplifier board. Ensure your device's Bluetooth is on and searching. Move closer to the amplifier.
Distorted sound	Volume too high; incorrect speaker impedance; poor audio source quality.	Reduce volume. Ensure speakers are 4-8Ω. Test with a different audio source. Check speaker wire connections.
One channel not working	Loose speaker connection; faulty speaker; issue with audio source.	Check speaker wire connections for the affected channel. Test with a different speaker. Verify audio source output.

## 9. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the product packaging or contact NEISEMOVI customer service through the retailer where the product was purchased. Please have your model number (ZK-502MT) and purchase details ready when contacting support.

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