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DONGKER ZK-3002B

DONGKER ZK-3002B Bluetooth Amplifier Module User Manual

Model: ZK-3002B

1. Introduction

This manual provides detailed instructions for the DONGKER ZK-3002B Bluetooth Amplifier Module. This 2.0 dual-channel stereo audio amplifier module offers 300W+300W output, supporting Bluetooth, AUX, and USB audio inputs. It is designed for various audio applications, including DIY speaker projects, home theater systems, and portable audio setups.

Please read this manual thoroughly before operating the device to ensure proper use and optimal performance.



Image 1.1: DONGKER ZK-3002B Bluetooth Amplifier Module, top-down view, showcasing the fan, capacitors, and control knob.

2. Product Features

- APP Control via WuZhi Audio APP
- Multiple Audio Inputs: Bluetooth (BLE), AUX, USB
- High Power Output: 300W + 300W Dual Channel Stereo
- Customizable Settings: Modify Device Name, ON/OFF Device Password, Modify Device Password
- Prompt Voice Control: ON/OFF Prompt Voice, Adjust Volume for Prompt Voice
- Adjustable Master Volume Control
- Supports MP3/WMA/WAV/FLAC/APE music file formats

3. Package Contents

Upon opening the package, please verify that all items are present and in good condition:

- 1 x DONGKER ZK-3002B 300W+300W 2.0 Bluetooth Amplifier Module
- Necessary connecting cables (as shown in packing list)

4. Safety Information

To prevent electric shock, fire, or damage to the device, please observe the following safety precautions:

- Ensure the power supply voltage is within the specified range (DC 18V-50V).
- Do not exceed the recommended current of 10A.
- Avoid short-circuiting the output terminals.
- Do not expose the module to moisture or extreme temperatures.
- Keep the device away from children.
- Do not attempt to disassemble or modify the module beyond the instructions provided.

5. Setup and Installation

5.1 Component Identification and Wiring

Refer to the diagram below for component identification and proper wiring connections.

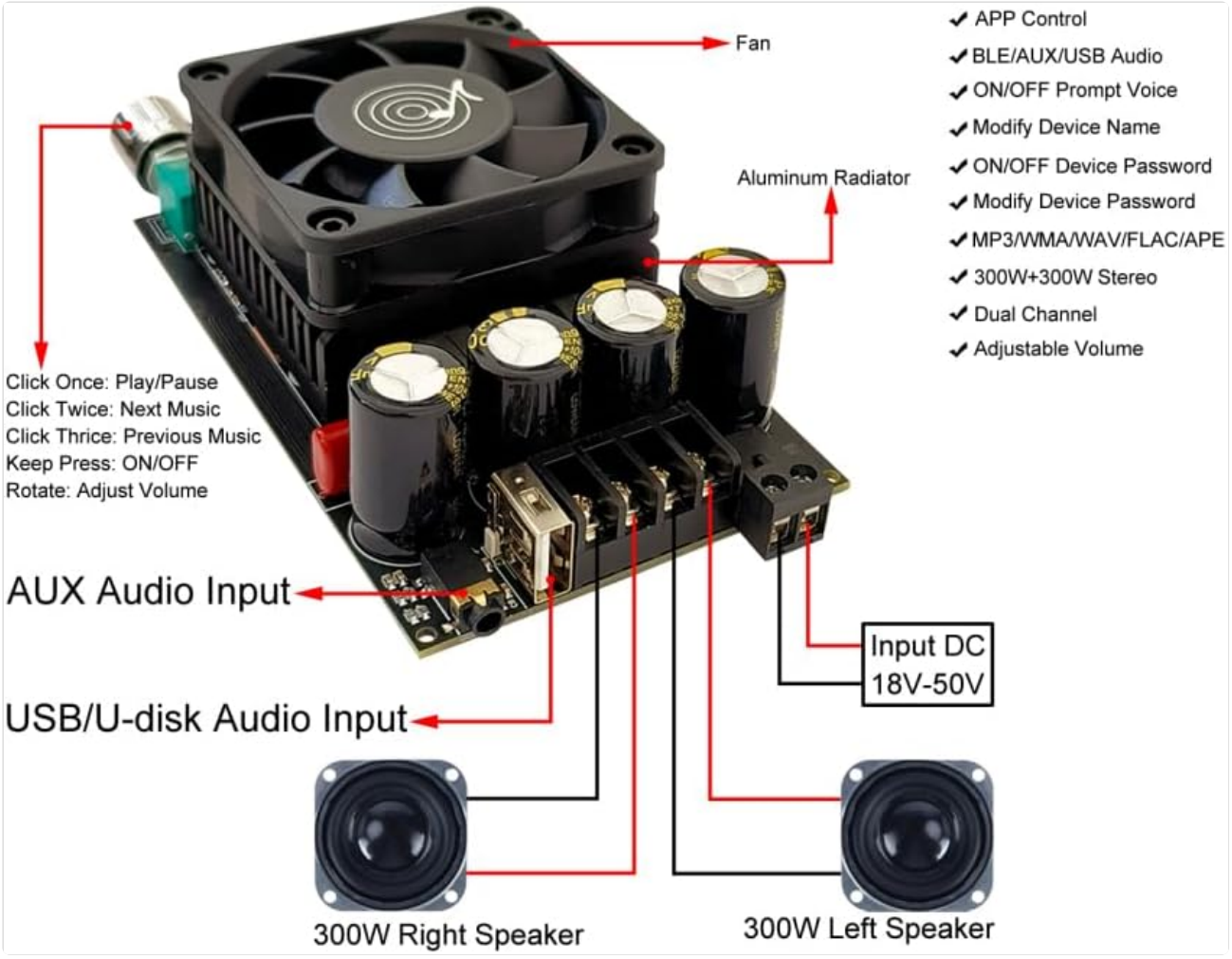


Image 5.1: Wiring diagram for the DONGKER ZK-3002B amplifier module, illustrating connections for power input,

speakers, AUX, and USB audio, along with feature callouts.

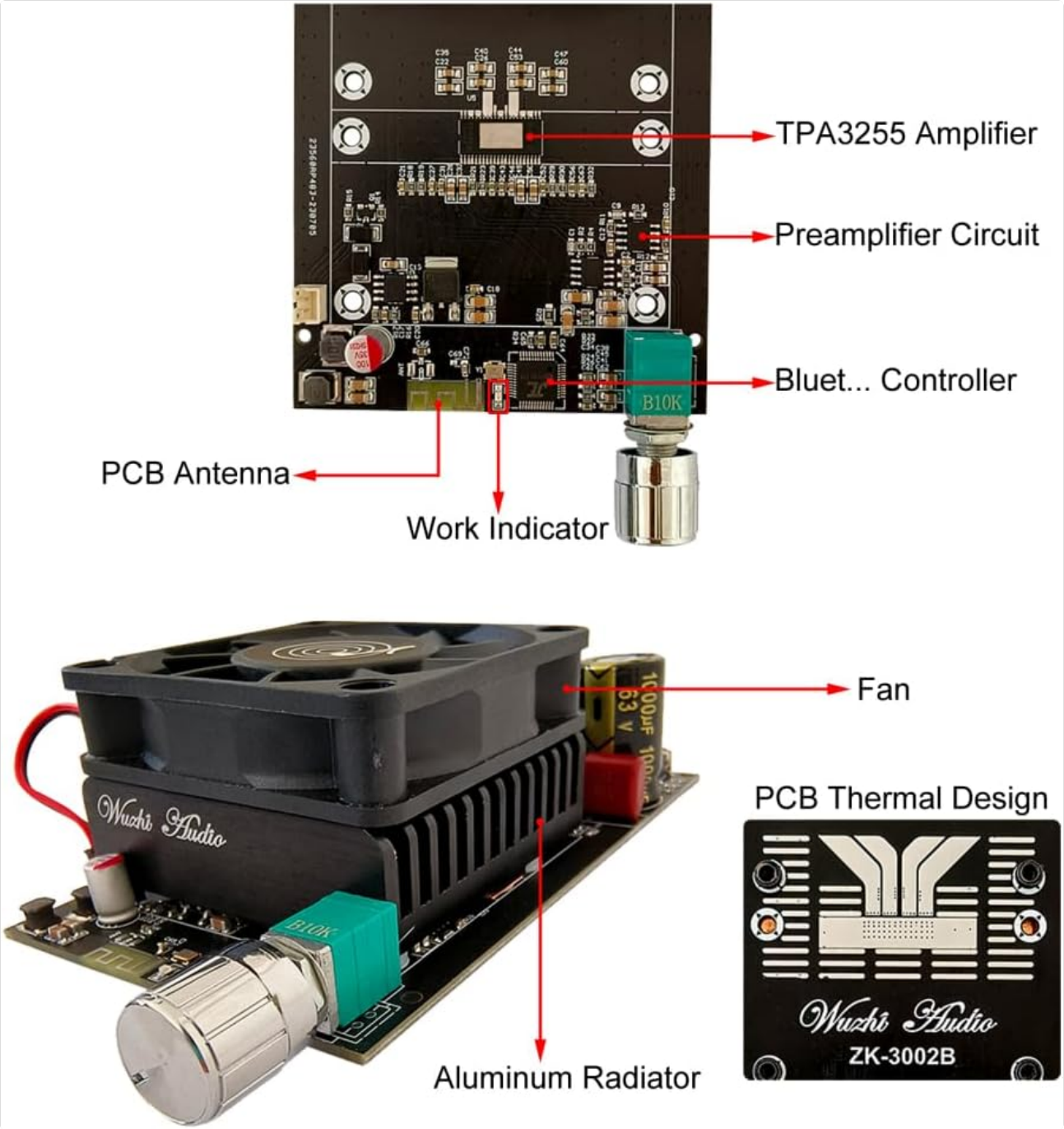


Image 5.2: Detailed view of the DONGKER ZK-3002B amplifier module's internal components, highlighting the TPA3255 amplifier chip, preamplifier circuit, Bluetooth controller, and PCB antenna.

5.2 Power Supply Connection

1. Connect a DC power supply (18V-50V) to the 'Input DC' terminals on the module.
2. Ensure correct polarity: positive to '+' and negative to '-'.
3. A power supply capable of delivering more than 10A is recommended for optimal performance, especially at higher volumes.

5.3 Speaker Connection

1. Connect your passive speakers to the 'Left Speaker' and 'Right Speaker' output terminals.
2. Ensure proper polarity for each speaker.
3. The module supports 2.0 channel stereo output.

5.4 Audio Input Connection

The module supports three audio input methods:

- **Bluetooth (BLE):** For wireless audio streaming from a Bluetooth-enabled device.
- **AUX Audio Input:** Connect an external audio source (e.g., smartphone, MP3 player) using a 3.5mm audio cable.
- **USB/U-disk Audio Input:** Insert a USB flash drive containing supported music files (MP3/WMA/WAV/FLAC/APE).

5.5 External Antenna Installation (Optional)

The module has a built-in PCB antenna by default. If the ZK-3002B is installed in a metal enclosure, an external antenna may be necessary to improve Bluetooth signal reception.

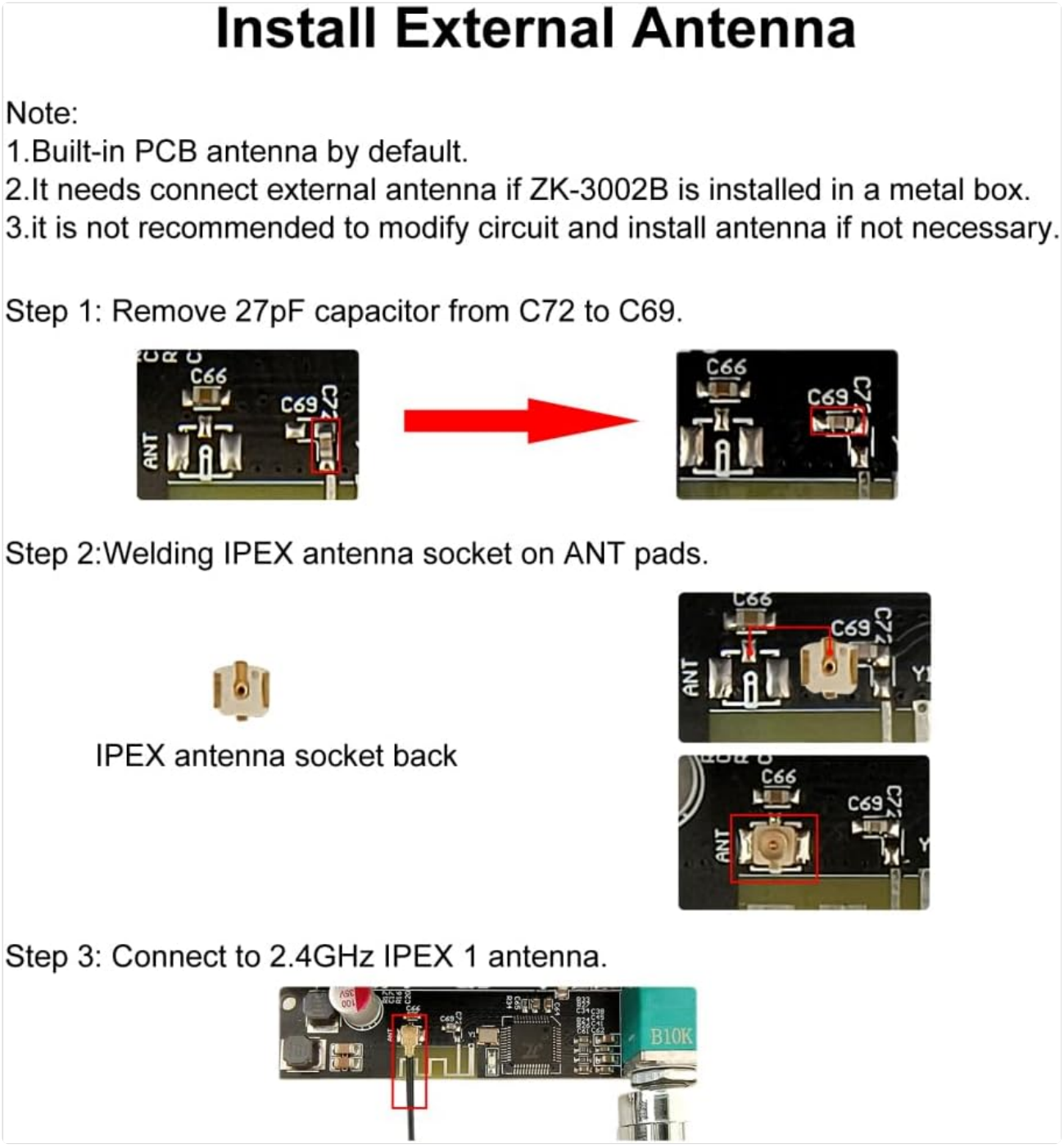


Image 5.3: Instructions for installing an external antenna on the DONGKER ZK-3002B module.

Note: It is not recommended to modify the circuit and install an antenna if not necessary.

1. **Step 1:** Remove the 27pF capacitor from C72 to C69.
2. **Step 2:** Weld an IPEX antenna socket onto the ANT pads.
3. **Step 3:** Connect a 2.4GHz IPEX 1 antenna to the newly installed socket.

6. Operating Instructions

6.1 Power On/Off

The module powers on automatically when connected to a suitable power supply. To turn off, disconnect the power supply. The control knob can also be used for power control:

- **Keep Press:** ON/OFF

6.2 Bluetooth Pairing

1. Ensure the module is powered on.
2. On your Bluetooth-enabled device, search for available Bluetooth devices.
3. Select the ZK-3002B from the list to pair. A prompt voice will confirm successful connection.

6.3 APP Control (WuZhi Audio APP)

The module supports control via the WuZhi Audio APP. Download the app from your device's app store. The app allows for advanced settings such as:

- Modifying Device Name
- Setting/Disabling Device Password
- Controlling Prompt Voice (ON/OFF, Volume)

6.4 Volume Adjustment

Rotate the control knob to adjust the master volume level.

- **Rotate:** Adjust Volume

6.5 Music Playback Control (via Control Knob)

- **Click Once:** Play/Pause
- **Click Twice:** Next Music
- **Click Thrice:** Previous Music

7. Maintenance

- Keep the module clean and free from dust. Use a soft, dry cloth for cleaning.
- Ensure adequate ventilation around the module, especially the fan and heatsink, to prevent overheating.
- Avoid placing heavy objects on the module.
- Store the module in a cool, dry place when not in use.

8. Troubleshooting

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
No power/No indicator light	Incorrect power supply voltage or current; Loose power connection	Verify power supply (DC 18V-50V, >10A); Check power cable connections.
No sound output	Incorrect speaker wiring; Volume too low; Incorrect audio input selected; Faulty audio source	Check speaker connections and polarity; Increase volume; Ensure correct input mode (Bluetooth, AUX, USB); Test with a different audio source.
Bluetooth connection issues	Module too far from device; Interference; Module not in pairing mode; External antenna needed	Move device closer to module; Reduce interference sources; Re-initiate pairing; Consider installing an external antenna if in a metal enclosure.
Distorted sound	Volume too high; Low quality audio source; Speaker impedance mismatch	Reduce volume; Use a high-quality audio source; Ensure speakers are compatible with amplifier output.

9. Specifications

Parameter	Value
Model	ZK-3002B
Work Voltage	DC 18V-50V
Work Current	>10A
Controller IC	TPA3225
Unique Function	WuZhi Audio APP control
Channel	2.0 channel stereo output
Audio Input Type	BLE/AUX/USB
Audio Output Type	Left/Right
Music File Format	MP3/WMA/WAV/FLAC/APE
Output Power (Max)	300W@50V/4ohm; 160W@50V/8ohm
Communication Distance	15 meters (Max)
Module Size (Installed)	147mm x 72mm x 37mm
Item Weight	3.52 ounces
Manufacturer	DONGKER

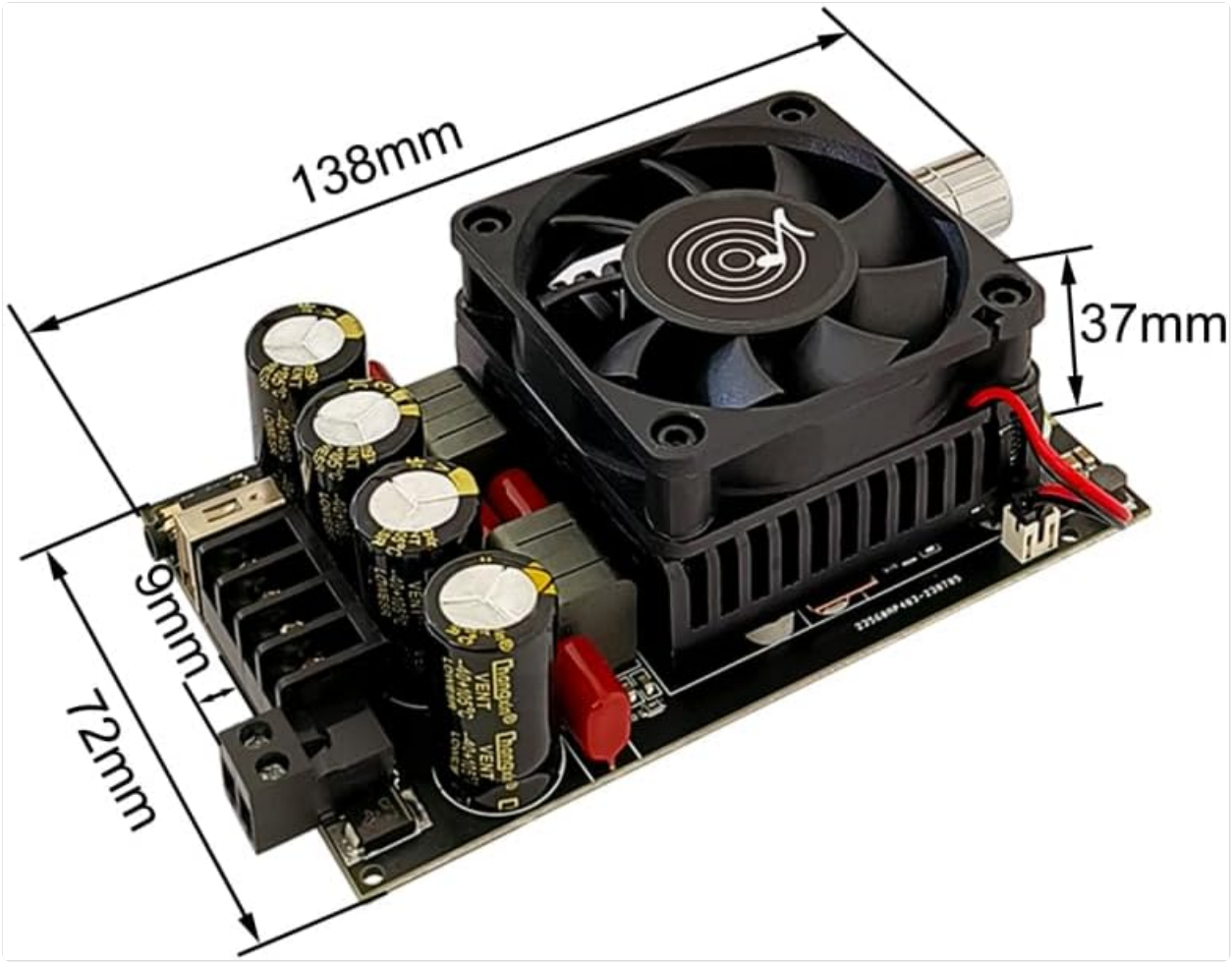


Image 9.1: Dimensional drawing of the DONGKER ZK-3002B amplifier module, indicating its length (138mm), width (72mm), and height (37mm).

10. Customer Support

DONGKER is committed to providing high-quality products and customer service. If you have any questions, concerns, or require assistance with your ZK-3002B Bluetooth Amplifier Module, please contact our customer support team. We are dedicated to providing prompt and effective after-sales service.

For support, please refer to the contact information provided with your purchase or visit the official DONGKER store on Amazon.

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