

Dilwe Dilweikf3vu1toz861

Dilwe Bluetooth 5.0 Amplifier Board (Model ZK-HT21) User Manual

Model: ZK-HT21 (Product ID: Dilweikf3vu1toz861)

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your Dilwe Bluetooth 5.0 Amplifier Board (Model ZK-HT21). This 2.1 channel stereo power amplifier board is designed for DIY sound systems, offering 160W+160W+220W output with Bluetooth 5.0, AUX, and USB input options. Please read this manual thoroughly before use to ensure proper functionality and safety.

2. SAFETY INFORMATION

- **Power Supply:** Use a DC 15-36V power supply. Ensure the voltage is within the specified range to prevent damage.
- **Polarity:** Observe correct polarity when connecting the power supply. The board includes anti-reverse protection, but incorrect connection can still cause issues.
- **Ventilation:** Ensure adequate ventilation around the amplifier board, especially around the built-in cooling fan, to prevent overheating.
- **Speaker Impedance:** Connect speakers with an impedance of 4-8Ω. Using speakers outside this range may affect performance or damage the board.
- **Short Circuits:** Avoid short circuits on output terminals. The board has short circuit protection, but caution is advised during installation.
- **Environment:** Keep the board away from moisture, dust, and extreme temperatures.

- **Professional Installation:** If you are unfamiliar with electronic components, seek professional assistance for installation.

3. KEY FEATURES

- **Advanced Protection:** Features anti-reverse, under-voltage, over-temperature, over-current, and short-circuit protection mechanisms for enhanced safety and durability.
- **Integrated Cooling Fan:** Equipped with an ultra-quiet cooling fan to prevent overheating, ensure stable operation, and prolong the lifespan of the device.
- **Adjustable Audio Controls:** Allows precise adjustment of frequency level, treble, and bass for customized sound output.
- **High Output Power:** Delivers 160W for left channel, 160W for right channel, and 220W for the subwoofer, providing robust audio performance.
- **Versatile Connectivity:** Supports AUX, Bluetooth 5.0, and USB input methods for wide compatibility with various audio sources.

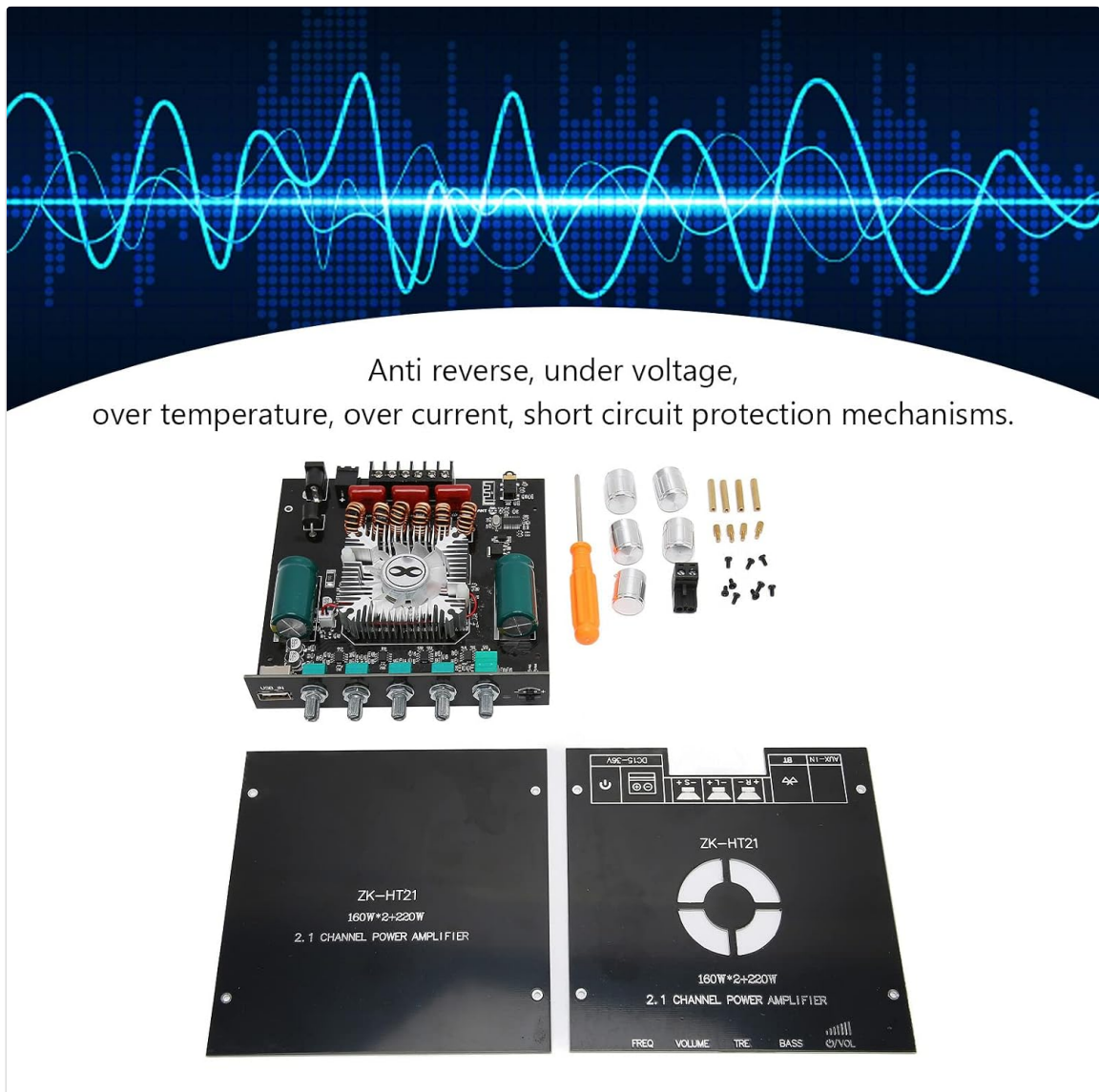


Figure 3.1: Overview of the Dilwe Bluetooth 5.0 Amplifier Board and included accessories.

Built in Cooling Fan

Prevent the rotor from burning, no noise, and prolong the life of the device



Figure 3.2: The integrated cooling fan ensures optimal temperature regulation.

4. PACKAGE CONTENTS

Verify that all items are present in the package:

- 1 x Amplifier Board
- 1 x Adapter
- 1 x Cover
- 1 x Bottom Plate
- 5 x Knob Cover
- 1 x Screwdriver
- 9 x Screw
- 4 x Short Screw Column
- 4 x Long Screw Column

5. SETUP INSTRUCTIONS

Follow these steps to set up your amplifier board:

1. **Assemble the Casing:** Attach the cover and bottom plate to the amplifier board using the provided screws and screw columns. This protects the internal components.
2. **Identify Connections:** Refer to the diagram below to locate the power input, audio inputs (AUX, BT, USB), and speaker outputs (Left Channel, Right Channel, Subwoofer).
3. **Connect Speakers:** Connect your 4-8 Ω speakers to the corresponding output terminals. Ensure correct polarity (+/-) for each speaker.
4. **Connect Audio Source:**
 - **Bluetooth:** Power on the board, then search for "BT" on your device's Bluetooth settings and pair.
 - **AUX:** Connect your audio source (e.g., smartphone, MP3 player) to the AUX input using a 3.5mm audio cable.
 - **USB:** Connect a USB device for audio input.
5. **Connect Power:** Connect a DC 15-36V power supply to the Power Input (5.5x2.1DC plug or 2P terminal). Ensure the power supply is off before connecting.
6. **Power On:** Once all connections are secure, turn on the power supply. The board is now ready for operation.

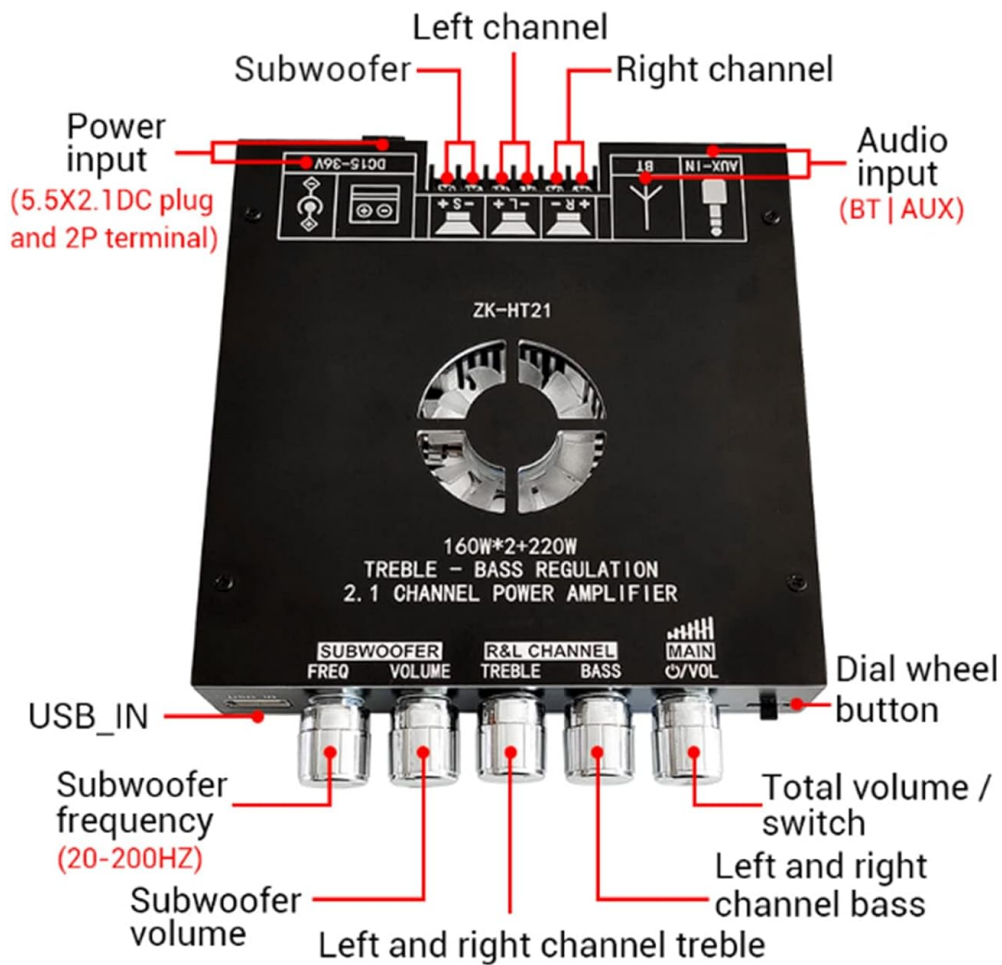


Figure 5.1: Connection Diagram and Control Layout. This diagram illustrates the various input/output ports and control knobs on the amplifier board.

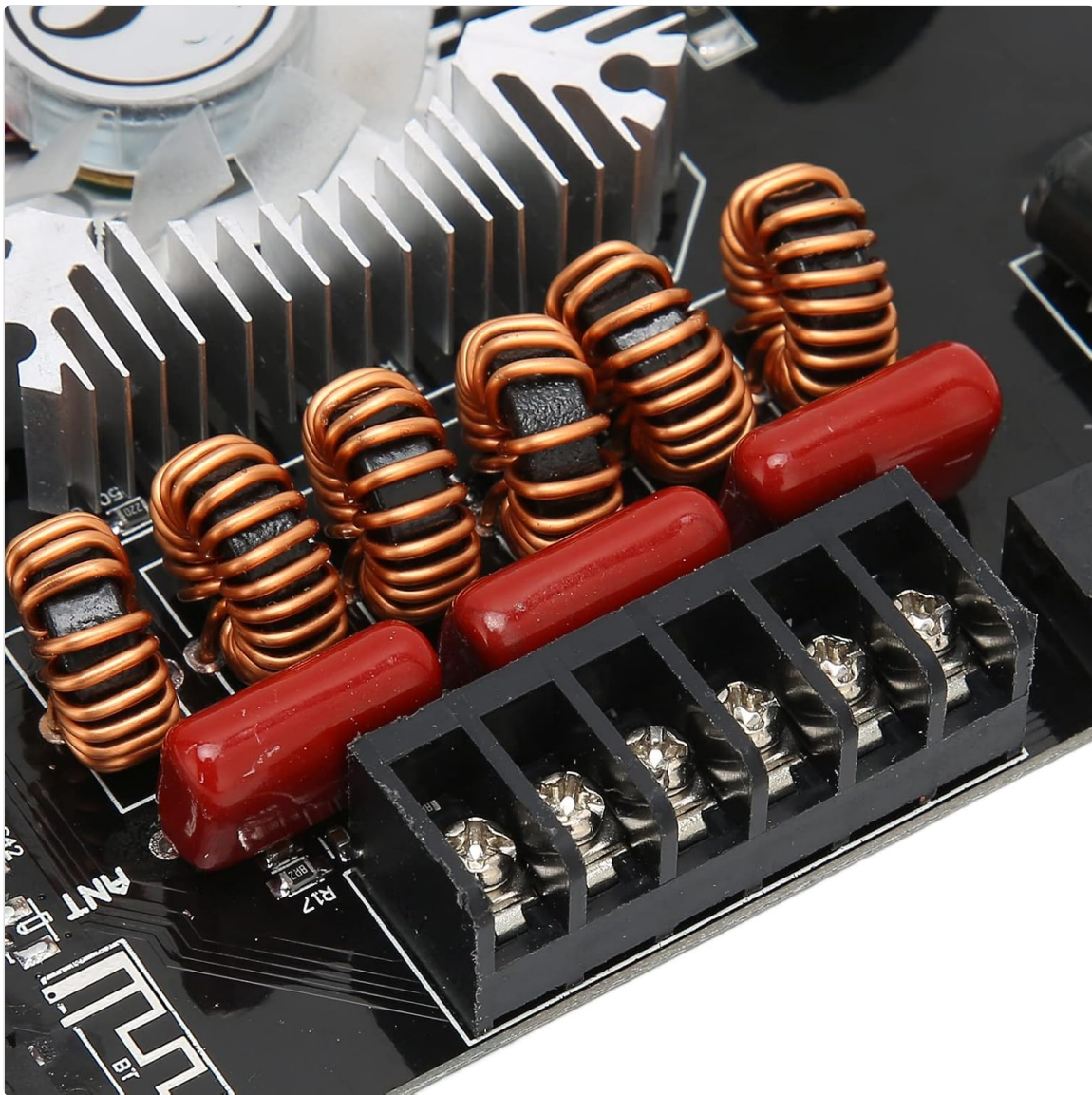


Figure 5.2: Detailed view of the power input and speaker output terminals.

6. OPERATING INSTRUCTIONS

After successful setup, operate the amplifier board using the following controls:



Adjust the frequency level, treble, bass

The higher the power supply voltage, the greater the output power, the smaller the speaker impedance, the greater the output power.

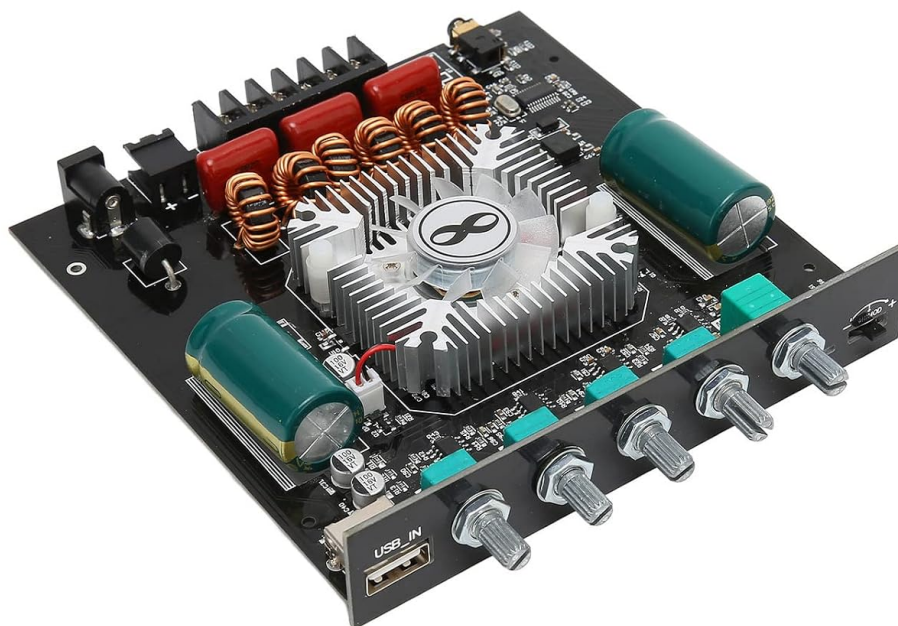


Figure 6.1: Detailed view of the control knobs.

- **Total Volume / Switch (MAIN C/VOL):** This knob controls the overall volume of the system and also acts as the power switch. Turn clockwise to increase volume, counter-clockwise to decrease. Press to toggle power.
- **Left and Right Channel Treble (TRE):** Adjust this knob to control the high-frequency response of the left and right stereo channels.
- **Left and Right Channel Bass (BASS):** Adjust this knob to control the low-frequency response of the left and right stereo channels.
- **Subwoofer Volume (VOLUME):** Controls the output volume specifically for the subwoofer channel.
- **Subwoofer Frequency (FREQ):** Adjusts the crossover frequency for the subwoofer, typically ranging from 20-200Hz, allowing you to fine-tune the bass response.
- **Input Selection:** The board automatically detects the active input (AUX, BT, USB). Ensure your desired audio source is playing. For Bluetooth, ensure your device is paired.

Proper maintenance ensures the longevity and optimal performance of your amplifier board:

- **Cleaning:** Gently wipe the board and casing with a dry, soft cloth. Do not use liquid cleaners or solvents. Ensure the device is powered off and disconnected from the power supply before cleaning.
- **Ventilation:** Regularly check that the cooling fan and heatsink are free from dust and obstructions. A clogged fan can lead to overheating.
- **Storage:** When not in use for extended periods, store the amplifier board in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Connections:** Periodically check all connections (power, speakers, audio inputs) to ensure they are secure and free from corrosion.

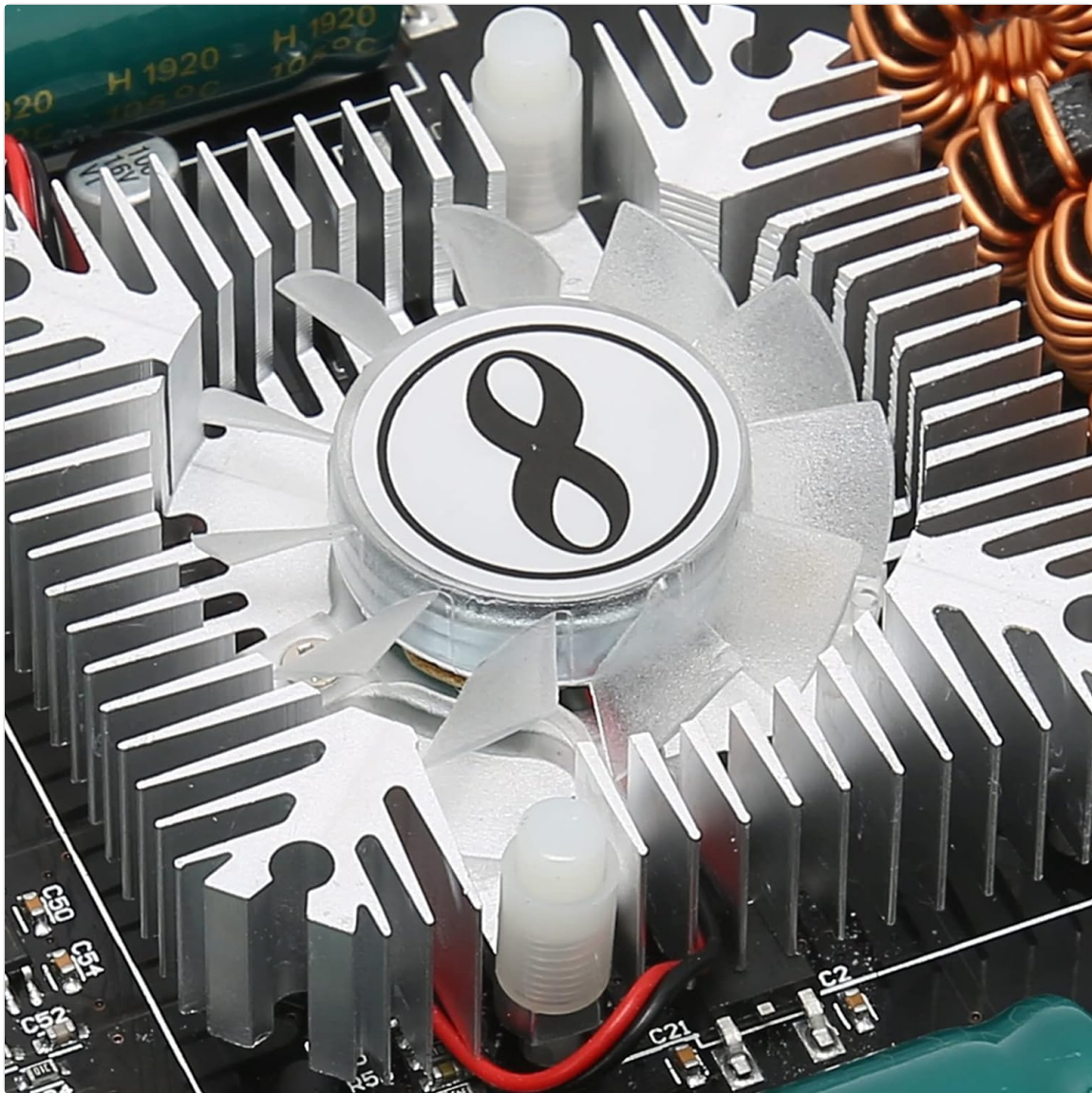


Figure 7.1: Ensure the heatsink and fan remain clear for effective cooling.

8. TROUBLESHOOTING

If you encounter issues, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No sound output	- Incorrect power connection - Volume too low - Incorrect audio input selected or connected - Speaker wires loose or incorrectly connected	- Verify DC 15-36V power supply is connected correctly and powered on. - Increase the MAIN C/VOL knob. - Ensure the audio source is playing and correctly connected to AUX, BT, or USB. - Check speaker wire connections for proper polarity and secure fit.
Distorted sound	- Input volume too high - Speaker impedance mismatch - Power supply voltage too low or unstable	- Reduce the volume from the audio source. - Ensure speakers are 4-8Ω. - Use a stable power supply within the 15-36V DC range.
Bluetooth connection issues	- Device not in pairing mode - Interference - Distance too far	- Ensure the amplifier board is powered on and your device's Bluetooth is enabled. - Move away from other wireless devices. - Keep the Bluetooth device within close range of the amplifier.
Overheating	- Insufficient ventilation - Excessive load	- Ensure the cooling fan is clear and the board has adequate airflow. - Reduce volume or check speaker impedance.

9. SPECIFICATIONS

Feature	Detail
Working Voltage	DC 15-36V
Bluetooth Version	5.0
Input Method	AUX, Bluetooth, USB
Number of Channels	2.1 Channel (Left + Right + Subwoofer)
Output Power	160W (Left) + 160W (Right) + 220W (Subwoofer)
Adapter Speakers	30-200W, 4-8Ω
Material	PCB
Item Weight	14.1 ounces
Package Dimensions	6.5 x 5.79 x 1.93 inches
Model Number	ZK-HT21 (Dilweikf3vu1toz861)

10. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the documentation provided with your purchase or contact the manufacturer directly. Keep your purchase receipt as proof of purchase.

Manufacturer: Dilwe