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## DAJUNGUO ZK-1001UM

# DAJUNGUO ZK-1001UM Mono Amplifier Board User Manual

Model: ZK-1001UM | Brand: DAJUNGUO

## 1. INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, and maintenance of your DAJUNGUO ZK-1001UM Mono Amplifier Board. This 100W amplifier features a TPA3116D2 chip, supports multiple audio input methods including Bluetooth, AUX, USB, and microphone input, and includes a True Wireless Stereo (TWS) function for enhanced audio experiences. Please read this manual carefully before use to ensure proper functionality and safety.

## 2. SAFETY INFORMATION

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

- **Power Supply:** Ensure the power input is within the specified DC 9-24V range. Using an incorrect voltage can damage the amplifier.
- **Polarity:** Always connect the power supply with correct polarity. Reverse polarity protection is built-in, but incorrect connection should be avoided.
- **Ventilation:** Do not obstruct ventilation openings. Ensure adequate airflow around the amplifier board to prevent overheating.
- **Environment:** Avoid exposing the device to moisture, water, dust, or extreme temperatures.
- **Short Circuits:** Prevent short circuits between terminals. The device includes short-circuit protection, but caution is advised during installation.
- **Speaker Compatibility:** Connect speakers within the specified impedance (3-8Ω) and power (20-100W) range.

## 3. PRODUCT OVERVIEW

The ZK-1001UM is a versatile mono amplifier board designed for various audio applications. It integrates a TPA3116D2 chip for high-quality audio output and offers multiple connectivity options.

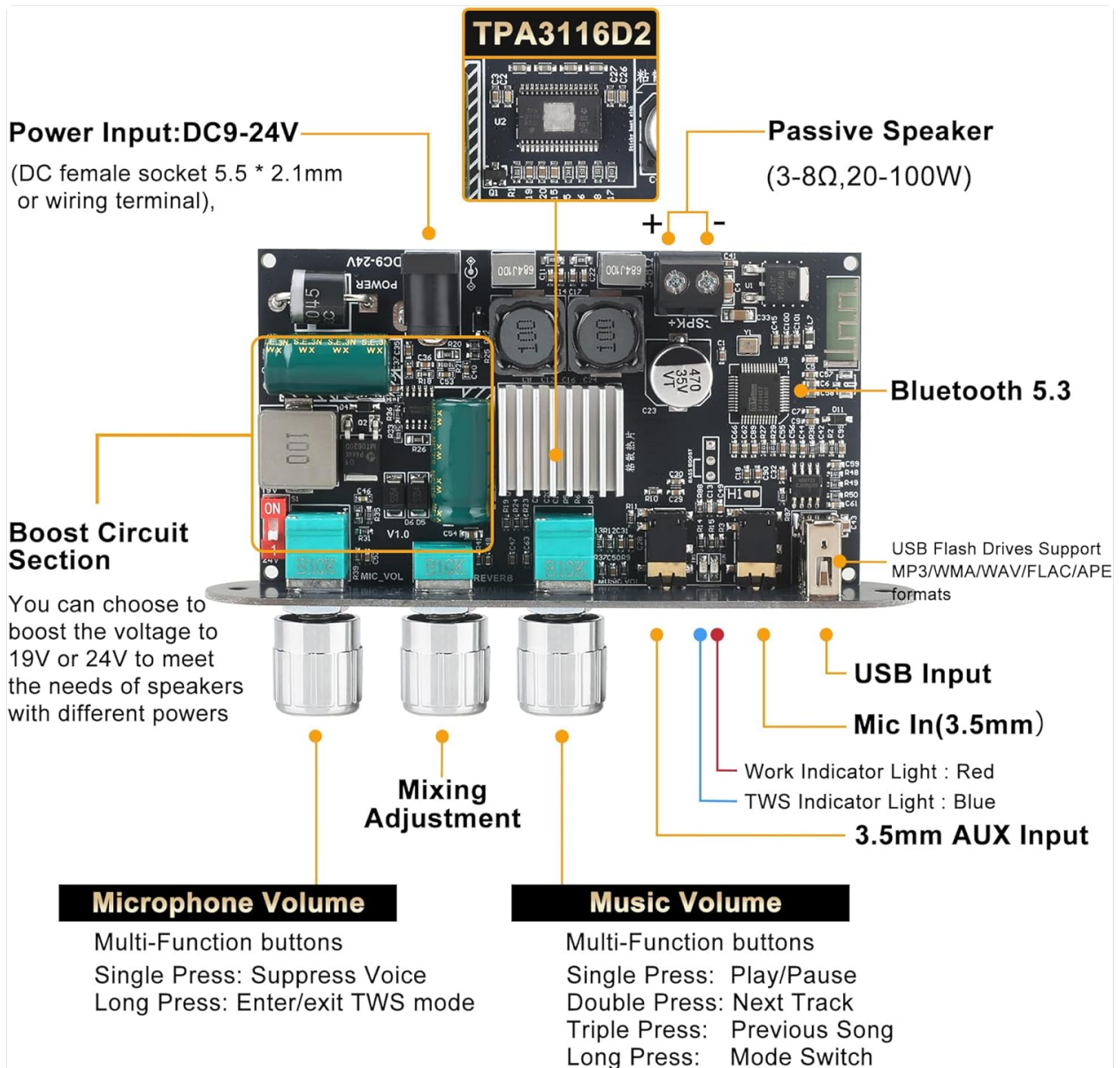
### Key Features:

- **TPA3116D2 Chip:** Delivers 100W mono audio output.

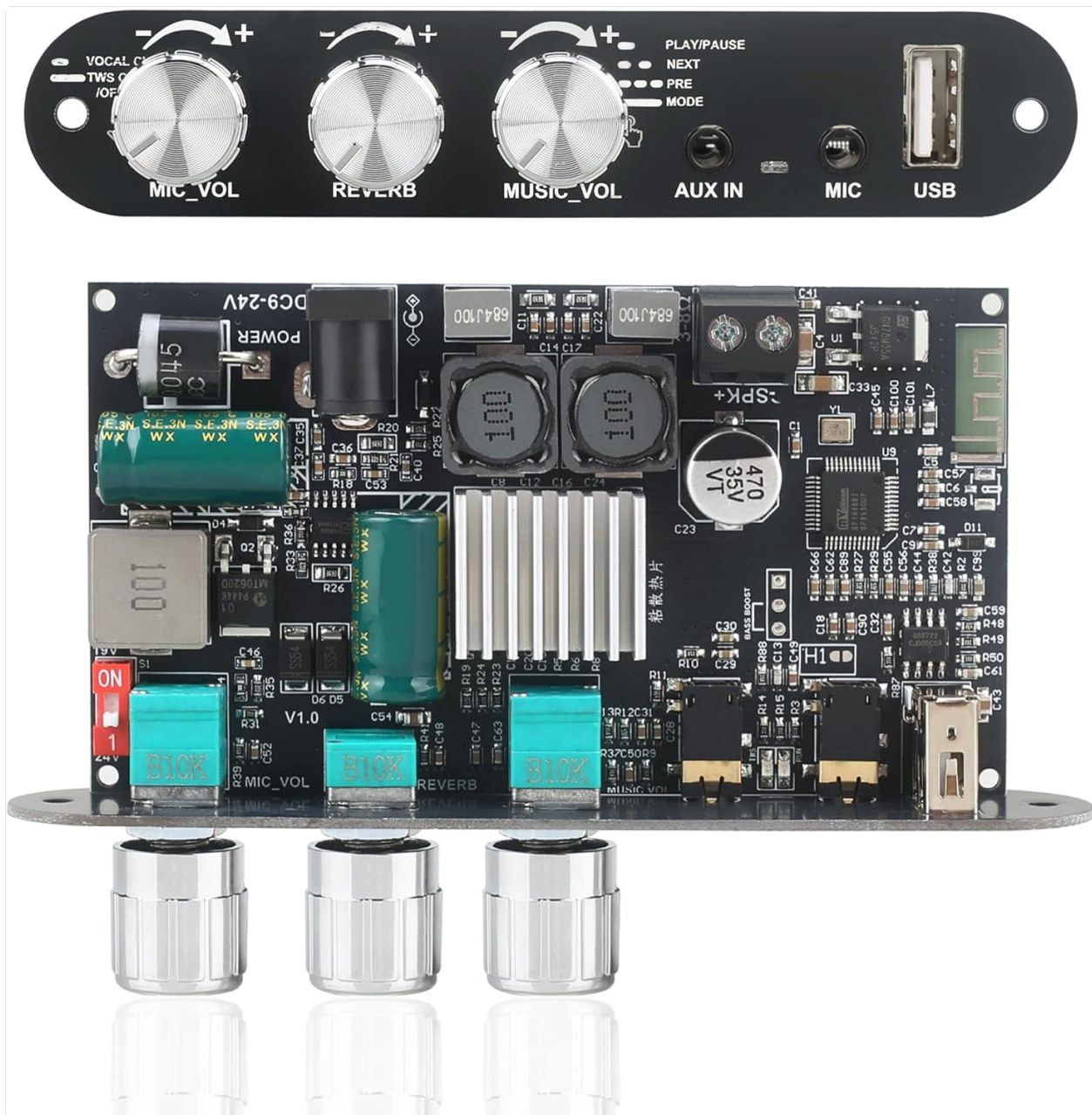
- **Multiple Audio Inputs:** Supports Bluetooth 5.3, 3.5mm AUX, USB flash drive, and USB sound card input.
- **Microphone Input:** Dedicated MIC IN interface for wired or wireless microphones.
- **TWS Function:** Allows two amplifier boards to pair for True Wireless Stereo sound.
- **Protection Features:** Includes over-voltage, under-voltage, over-heat, short-circuit, and anti-static protection.
- **Wide Voltage Input:** Operates on DC 9-24V.

### Component Identification:

Refer to the diagram below for a visual guide to the amplifier board's components and controls.



**Image Description:** This diagram illustrates the ZK-1001UM amplifier board, highlighting key components such as the TPA3116D2 chip, power input (DC9-24V), passive speaker output (3-8Ω, 20-100W), Bluetooth 5.3 module, USB input, 3.5mm AUX input, Mic In (3.5mm), and the three mixing adjustment knobs for Microphone Volume, Reverb, and Music Volume. It also shows the boost circuit section and work indicator lights.



**Image Description:** A top-down view of the ZK-1001UM amplifier board, showing the control panel with three rotary knobs (Mic Vol, Reverb, Music Vol), AUX IN port, MIC port, and USB port. The main circuit board is visible below the control panel.

## 4. SETUP

Follow these steps to set up your ZK-1001UM amplifier board:

1. **Power Connection:** Connect a DC 9-24V power supply (minimum 4A recommended) to the DC female socket (5.5 \* 2.1mm) or the wiring terminal labeled 'POWER'. Ensure correct polarity.
2. **Speaker Connection:** Connect your passive speaker(s) to the 'SPK+' and 'SPK-' terminals. Ensure the speaker impedance is between 3-8Ω and power handling is 20-100W.
3. **Audio Input (Optional):**
  - **AUX Input:** Connect an audio source (e.g., smartphone, MP3 player) to the 3.5mm AUX IN port using an audio cable.
  - **USB Input:** Insert a USB flash drive containing audio files into the USB port.
  - **Microphone Input:** Connect a wired microphone to the 3.5mm MIC IN port.

## 5. OPERATING INSTRUCTIONS



(triple press), and Mode Switch (long press). The MIC VOL knob controls Suppress Voice (single press) and Enter/exit TWS mode (long press).

- **Long Press MUSIC VOL Knob:** Press and hold the MUSIC VOL knob to cycle through the available input modes (Bluetooth, AUX, USB).

## 5.4 Bluetooth Pairing

1. Ensure the amplifier is powered on and in Bluetooth mode (indicated by a blue light).
2. On your audio device (e.g., smartphone), enable Bluetooth and search for available devices.
3. Select "ZK-1001UM" from the list to pair. A successful connection will be indicated by a steady blue light.

## 5.5 USB/AUX Input

- **USB Flash Drive:** Insert a USB flash drive into the USB port. The amplifier will automatically switch to USB mode and begin playing supported audio formats (MP3/WMA/WAV/FLAC/APE).
- **AUX Input:** Connect your audio source to the 3.5mm AUX IN port. Switch to AUX mode using the MUSIC VOL knob if not automatically detected.

## 5.6 Microphone Usage

- Connect a microphone to the 3.5mm MIC IN port.
- Adjust the MIC VOL knob to control the microphone's volume.
- Adjust the REVERB knob to add an echo effect to the microphone audio.
- **Single Press MIC VOL Knob:** Suppress vocal sounds from the music input when using the microphone.

## 6. TWS (TRUE WIRELESS STEREO) FUNCTION

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The TWS function allows you to pair two ZK-1001UM amplifier boards to create a stereo sound system, with one board acting as the left channel (host) and the other as the right channel (slave).

# TWS FUNCTION



## TWS CONNECTION METHOD

1. Power on both devices without connecting Bluetooth (BT) and without inserting a USB drive or AUX cable.

2. On one of the devices, long-press the microphone volume adjustment knob for more than 1 second. The red TWS indicator light will begin flashing, indicating that it is searching for a paired device.

3. After successful pairing:

The TWS indicator light on this device will remain solid, indicating it is the left channel (host).

The TWS indicator light on the other device will flash slowly, indicating it is the right channel (slave).

4. Once paired, the TWS function will work normally in BT, USB, and AUX modes.

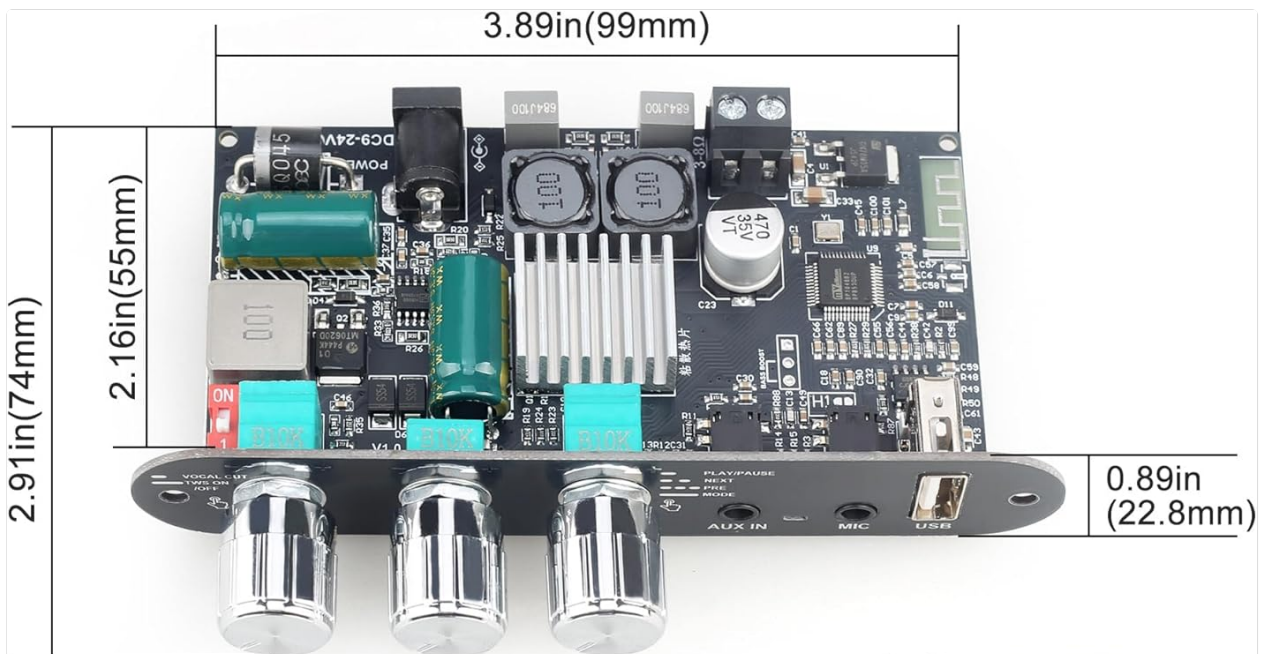
**Image Description:** This diagram visually explains the TWS connection method, showing two amplifier boards wirelessly connected to form a stereo pair, with speakers connected to each. It outlines the steps for pairing.

### TWS Pairing Steps:

1. Power on both ZK-1001UM devices. Ensure neither device is currently connected via Bluetooth, USB drive, or AUX cable.
2. On one of the devices, **long-press the Microphone Volume adjustment knob** for more than 1 second. The red TWS indicator light will begin flashing, indicating that it is searching for a paired device.
3. After successful pairing, the TWS indicator light on this device will remain solid, indicating it is the left channel (host). The TWS indicator light on the other device will flash slowly, indicating it is the right channel (slave).
4. Once paired, the TWS function will work normally in Bluetooth, USB, and AUX modes.

## 7. SPECIFICATIONS

Detailed technical specifications for the ZK-1001UM Mono Amplifier Board:



## ZK-1001UM

Bluetooth Chip: TPA3116D2

Input Modes: Bluetooth + 3.5mm AUX + USB

Audio Output: Mono 100W

Input Voltage: DC 9–24V,  $\geq 4A$

Compatible Speakers: 20–100W, 3–8 $\Omega$

Protection Features: Reverse polarity protection, over-temperature protection, over-current protection, short circuit protection, anti-static protection

Special Feature: True Wireless Stereo (TWS)

Product Dimensions: 99 × 74 × 22.8 mm

Product Weight: Net weight 86.5g

**Image Description:** This image provides a detailed view of the ZK-1001UM amplifier board, including its physical dimensions in both inches and millimeters. It also lists key specifications such as Bluetooth Chip (TPA3116D2), Input Modes (Bluetooth + 3.5mm AUX + USB), Audio Output (Mono 100W), Input Voltage (DC 9-24V,  $\geq 4A$ ), Compatible Speakers (20-100W, 3-8 $\Omega$ ), Protection Features, Special Feature (True Wireless Stereo), Product Dimensions, and Product Weight.

Feature	Specification
Model Number	ZK-1001UM
Amplifier Chip	TPA3116D2
Audio Output	Mono 100W
Input Voltage	DC 9-24V ( $\geq 4A$ recommended)
Compatible Speakers	3-8 $\Omega$ , 20-100W
Input Modes	Bluetooth 5.3, 3.5mm AUX, USB Flash Drive, USB Sound Card
Special Features	Microphone Input, TWS Function

Protection Features	Over-voltage, Under-voltage, Over-heat, Short-circuit, Anti-static
Product Dimensions	3.9 x 2.17 x 0.9 inches (99 x 55 x 22.8 mm)
Item Weight	3.52 ounces (86.5g)

## 8. TROUBLESHOOTING

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If you encounter issues with your ZK-1001UM amplifier board, refer to the following common problems and solutions:

- **No Sound Output:**
  - Check power supply connection and ensure it's within 9-24V.
  - Verify speaker connections are secure and correct polarity.
  - Ensure the correct input mode (Bluetooth, AUX, USB) is selected.
  - Increase the MUSIC VOL knob.
  - Check if the audio source device is playing and its volume is up.
- **Bluetooth Pairing Issues:**
  - Ensure the amplifier is in Bluetooth mode (blue light flashing).
  - Make sure no other device is currently connected to the amplifier via Bluetooth.
  - Disable and re-enable Bluetooth on your audio device, then search again.
  - Move your audio device closer to the amplifier.
- **Distorted Sound:**
  - Reduce the volume on both the amplifier and the audio source.
  - Ensure speakers are compatible with the amplifier's power output and impedance.
  - Check for loose connections.
- **TWS Pairing Failure:**
  - Ensure both amplifier boards are powered on and not connected to any other audio source (Bluetooth, USB, AUX).
  - Repeat the long-press procedure on the MIC VOL knob for one of the devices.
  - Ensure the devices are within close proximity during pairing.
- **Microphone Not Working:**
  - Check microphone connection to the MIC IN port.
  - Adjust the MIC VOL knob.
  - Ensure the microphone itself is functional.

## 9. MAINTENANCE

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To ensure the longevity and optimal performance of your amplifier board:

- Keep the device clean and free from dust. Use a soft, dry cloth for cleaning.
- Avoid placing heavy objects on the board.
- Store in a cool, dry place when not in use for extended periods.
- Do not attempt to disassemble or modify the amplifier board, as this will void any potential warranty and

may cause damage.

## **10. WARRANTY AND SUPPORT**

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For warranty information or technical support, please contact the seller or manufacturer directly through your purchase platform. Please have your order number and product model (ZK-1001UM) ready when contacting support.