

DollaTek TDA7498

DollaTek TDA7498 2x100W Digital Stereo Audio Amplifier Module User Manual

Model: TDA7498

INTRODUCTION

This manual provides detailed instructions for the proper installation, operation, and maintenance of your DollaTek TDA7498 2x100W Digital Stereo Audio Amplifier Module. Please read this manual thoroughly before using the product to ensure optimal performance and safety.

SAFETY INFORMATION

- Ensure the power supply voltage is within the specified range of 15-34V DC (24V DC recommended). Incorrect voltage can damage the module.
- Always disconnect power before making any connections or adjustments to prevent electric shock or damage.
- This module operates at high power. Ensure proper ventilation and consider mounting a separate heatsink for prolonged high-power operation.
- Avoid short-circuiting the output terminals. The module includes short-circuit protection, but continuous short circuits can lead to damage.
- Keep the module away from moisture, dust, and extreme temperatures.
- Do not attempt to modify or disassemble the module beyond what is described in this manual. This may void the warranty and pose safety risks.

PRODUCT OVERVIEW

The DollaTek TDA7498 is a high-power, dual-channel Class D digital audio amplifier module designed for various audio applications. It features a TDA7498 amplifier chip, offering 100W + 100W output power with high efficiency.

Key Features:

- Dual-BTL Class D audio amplifier.
- Single power supply operation: 15-34V DC.

- Output Power: 100W + 100W ($V_{cc} = 36V$, $R_L = 6\Omega$, THD: 10%) or 80W + 80W ($V_{cc} = 34V$, $R_L = 8\Omega$, THD: 10%).
- Speaker Impedance: 4-8 ohm (8 ohms recommended for best performance; 4 or 6 ohms also work).
- Four fixed gain settings: 25.6 dB, 31.6 dB, 35.1 dB, and 37.6 dB.
- Differential input to minimize common-mode noise.
- Built-in protection: Short-circuit protection, over-temperature protection.
- Standby and Mute functions.
- High efficiency: 90%.

Component Identification:

Refer to the diagram below for identification of the various components and connection points on the amplifier module.

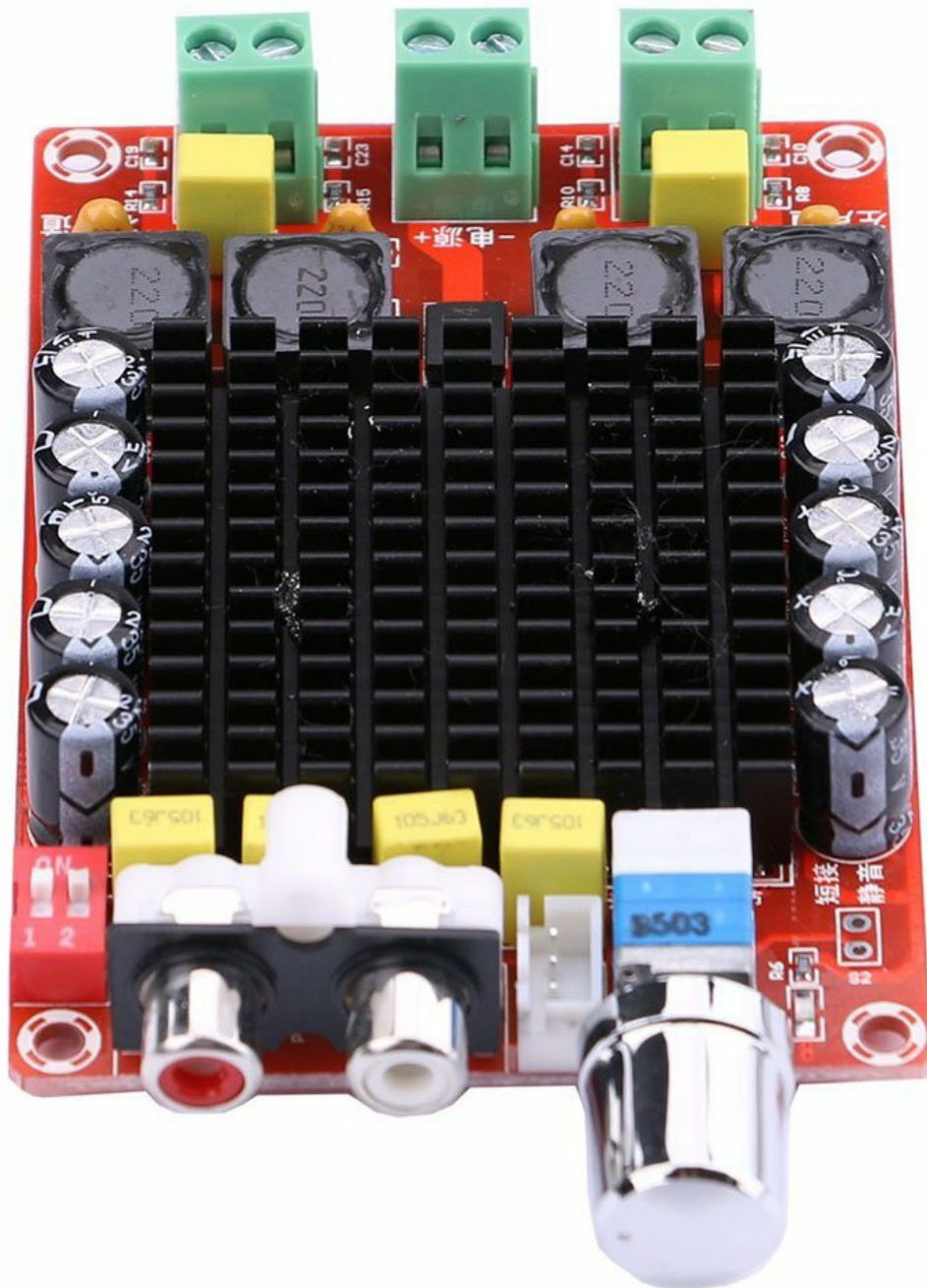


Figure 1: Component layout and connection points for the TDA7498 amplifier module. This diagram shows the audio input (RCA and 3-pin), volume adjustment, gain switches, power supply input, and speaker outputs.

- **Audio Input (R/L):** RCA jacks for stereo audio input.
- **3-pin Audio Input:** Alternative input for stereo audio.
- **Volume Adjustment:** Rotary potentiometer to control output volume. Includes cut-off/standby function.
- **Gain Switch:** DIP switches to select one of four fixed gain settings (25.6 dB, 31.6 dB, 35.1 dB, 37.6 dB).
- **Power Supply Input:** Terminal block for DC 15-34V power connection.
- **Speaker Output (OUT/R+, OUT/R-, OUT/L+, OUT/L-):** Terminal blocks for connecting stereo speakers.
- **Short Mute:** Jumper for mute function (can be ignored if not needed).
- **Power Supply Indicator:** LED to indicate power status.

SETUP

1. Power Supply Connection:

Connect a DC power supply (15-34V, 24V recommended) to the "Power Supply" terminal block. Ensure correct polarity (+ and -). The power supply should be capable of providing sufficient current for your desired output power (e.g., for 2x100W, a 24V supply would need to provide at least 8-10A).

2. Speaker Connection:

Connect your speakers to the "Speaker Output" terminal blocks. Ensure correct polarity for each channel (OUT/R+ to speaker positive, OUT/R- to speaker negative for the right channel; similarly for the left channel). The recommended speaker impedance is 8 ohms, but 4 or 6 ohms can also be used.

3. Audio Input Connection:

Connect your audio source (e.g., smartphone, MP3 player, preamplifier) to either the RCA audio input jacks or the 3-pin audio input. Use appropriate cables for a secure connection.

4. Gain Setting:

Adjust the gain switches (DIP switches) to select the desired amplification level. Four settings are available: 25.6 dB, 31.6 dB, 35.1 dB, and 37.6 dB. Refer to the diagram (Figure 1) for switch positions corresponding to each gain setting. Higher gain settings will result in louder output for the same input signal, but may also increase noise if the input signal is weak.

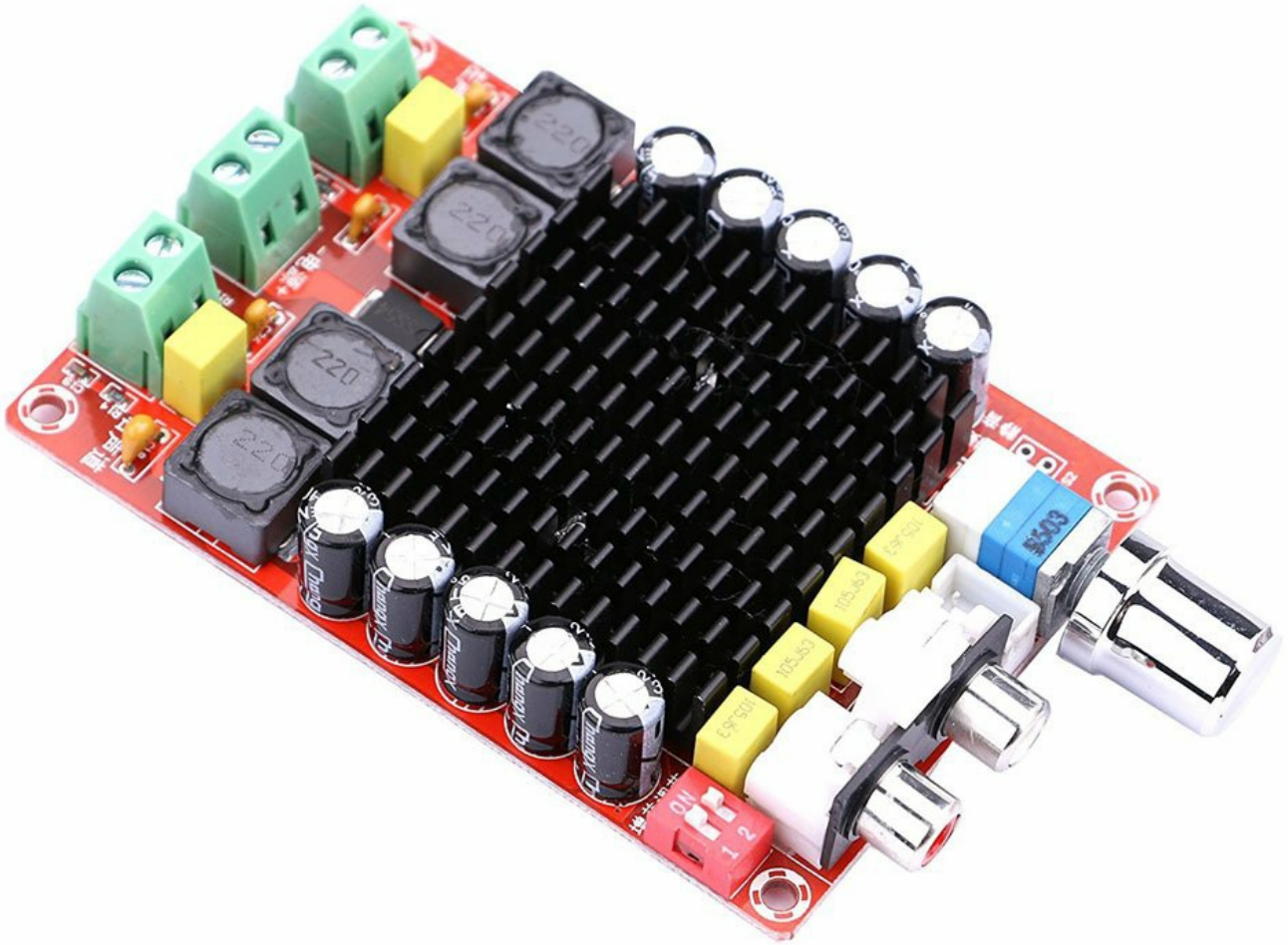


Figure 2: Top view of the amplifier module, showing the layout of input and output terminals.

OPERATING INSTRUCTIONS

1. Power On:

After all connections are made, turn on the DC power supply. The power indicator LED on the module should illuminate.

2. Volume Control:

Rotate the volume adjustment potentiometer clockwise to increase the volume and counter-clockwise to decrease it. Start with the volume at a low level before playing audio.

3. Standby/Mute Functions:

The module supports three operating modes: normal operation, standby, and mute.

- **Normal Operation:** The amplifier functions as described, producing audio output.
- **Standby Mode:** All circuits are shut down, resulting in low power consumption. This mode is typically activated by a control signal (not directly accessible via a simple switch on this board, often controlled by the volume potentiometer's cut-off or external logic).
- **Mute Mode:** All input signals are connected to ground, and the PWM output signal duty cycle is 50%. This effectively silences the output without fully powering down the chip. The "Short Mute" jumper can be used to activate this mode if needed.

4. Audio Playback:

Begin playing audio from your connected source. Adjust the volume to a comfortable listening level.

MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the module. Do not use liquid cleaners or solvents.
- **Ventilation:** Ensure the heatsink remains free of dust and debris to maintain optimal cooling. Periodically check for any obstructions to airflow.
- **Connections:** Periodically check all connections (power, audio, speakers) to ensure they are secure and free from corrosion.
- **Storage:** If storing the module for an extended period, keep it in a dry, cool environment, away from direct sunlight and extreme temperatures.

TROUBLESHOOTING

Problem	Possible Cause	Solution
No sound output.	◦ No power to the module. ◦ Incorrect speaker connections. ◦ Audio source not playing or connected incorrectly. ◦ Volume too low or in mute/standby mode.	◦ Check power supply and connections. Ensure power indicator LED is on. ◦ Verify speaker polarity and secure connections. ◦ Ensure audio source is active and connected to the correct input. ◦ Increase volume. Check mute/standby settings.
Distorted sound.	◦ Input signal too strong (clipping). ◦ Speaker impedance mismatch. ◦ Power supply insufficient. ◦ Gain setting too high.	◦ Reduce volume from the audio source. ◦ Ensure speakers are 4-8 ohms. ◦ Use a power supply with adequate current capacity. ◦ Lower the gain setting using the DIP switches.
Module gets excessively hot.	◦ Insufficient ventilation. ◦ Operating at high power for extended periods without additional cooling. ◦ Short circuit in speaker wiring.	◦ Ensure adequate airflow around the module. ◦ Consider mounting a larger heatsink or adding active cooling (fan). ◦ Check speaker wiring for any shorts.

SPECIFICATIONS

Model Number	TDA7498
Amplifier Chip	TDA7498
Channels	2 (Stereo)
Output Power	100W + 100W (Vcc=36V, RL=6Ω, THD: 10%) 80W + 80W (Vcc=34V, RL=8Ω, THD: 10%)
Power Supply	DC 15V - 34V (24V recommended)
Speaker Impedance	4-8 ohms

Gain Settings	25.6 dB, 31.6 dB, 35.1 dB, 37.6 dB
Efficiency	90%
Protection Features	Short-circuit, Over-temperature
Dimensions (approx.)	15 x 10.5 x 2.5 cm (Package dimensions, actual module size will be slightly smaller)
Weight (approx.)	110 grams (Package weight, actual module weight will be slightly less)

WARRANTY INFORMATION

Specific warranty details for this product are not provided in the available information. Please refer to the retailer or manufacturer's official website for current warranty terms and conditions. Typically, electronic components carry a limited warranty against manufacturing defects. Damage resulting from improper installation, misuse, or exceeding specified operating parameters is generally not covered.

SUPPORT

For technical assistance, troubleshooting beyond this manual, or inquiries regarding spare parts, please contact DollaTek customer support or the retailer from whom you purchased the product.

Manufacturer: DollaTek
UPC/GTIN: 742548980603

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

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After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question