

Manuals+

[Q & A](#) | [Deep Search](#) | [Upload](#)

manuals.plus /

› [Rakstore](#) /

› [Rakstore XH-M562 TPA3116D2 Mini Digital Audio Amplifier Board Module User Manual](#)

Rakstore XH-M562 TPA3116D2

Rakstore XH-M562 TPA3116D2 Mini Digital Audio Amplifier Board Module User Manual

1. INTRODUCTION

This manual provides essential instructions for the safe and efficient use of your Rakstore XH-M562 TPA3116D2 Mini Digital Audio Amplifier Board Module. This compact, dual-channel Class D amplifier is designed for various audio projects, delivering 50W + 50W output. Please read this manual thoroughly before installation and operation.

2. SAFETY INSTRUCTIONS

- **Power Supply:** Use only a DC 12-24V power supply. Exceeding this voltage range can damage the module. Ensure correct polarity when connecting power.
- **Environment:** Operate the module in a dry, well-ventilated area. Avoid exposure to moisture, dust, and extreme temperatures.
- **Handling:** Handle the circuit board with care to prevent damage to components. Avoid touching exposed circuitry while powered.
- **Installation:** Ensure all connections are secure and correctly wired before applying power. Incorrect wiring can lead to short circuits or damage.
- **Ventilation:** Although a mini amplifier, ensure adequate airflow around the module, especially during prolonged operation at high power, to prevent overheating.

3. PRODUCT OVERVIEW

The XH-M562 TPA3116D2 is a high-efficiency Class D digital audio amplifier board. It features the TPA3116D2 chip, providing stable and powerful stereo audio output. Below are images illustrating the module's layout and connections.

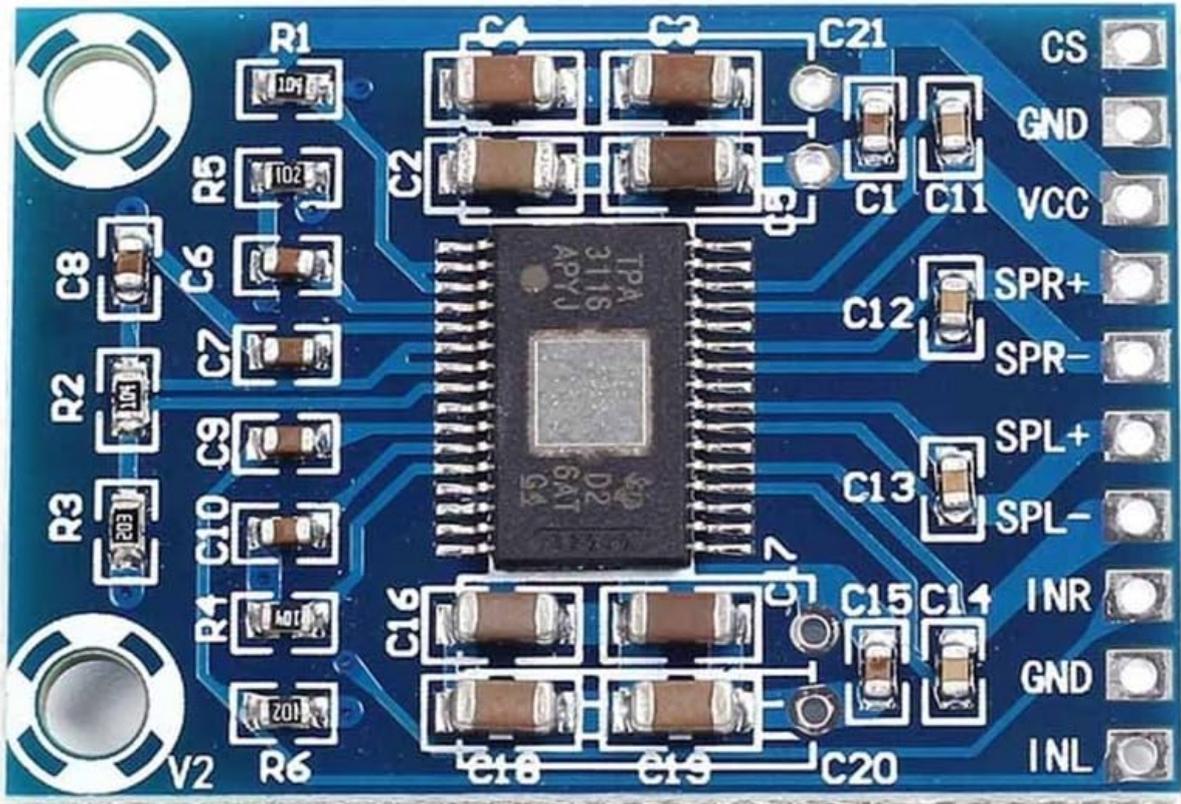


Figure 3.1: Front view of the XH-M562 TPA3116D2 amplifier board. This image displays the main TPA3116D2 chip, various surface-mount components like capacitors and resistors, and clearly labeled terminal blocks for power input (VCC, GND), audio input (INR, INL, GND), and speaker outputs (SPR+, SPR-, SPL+, SPL-).

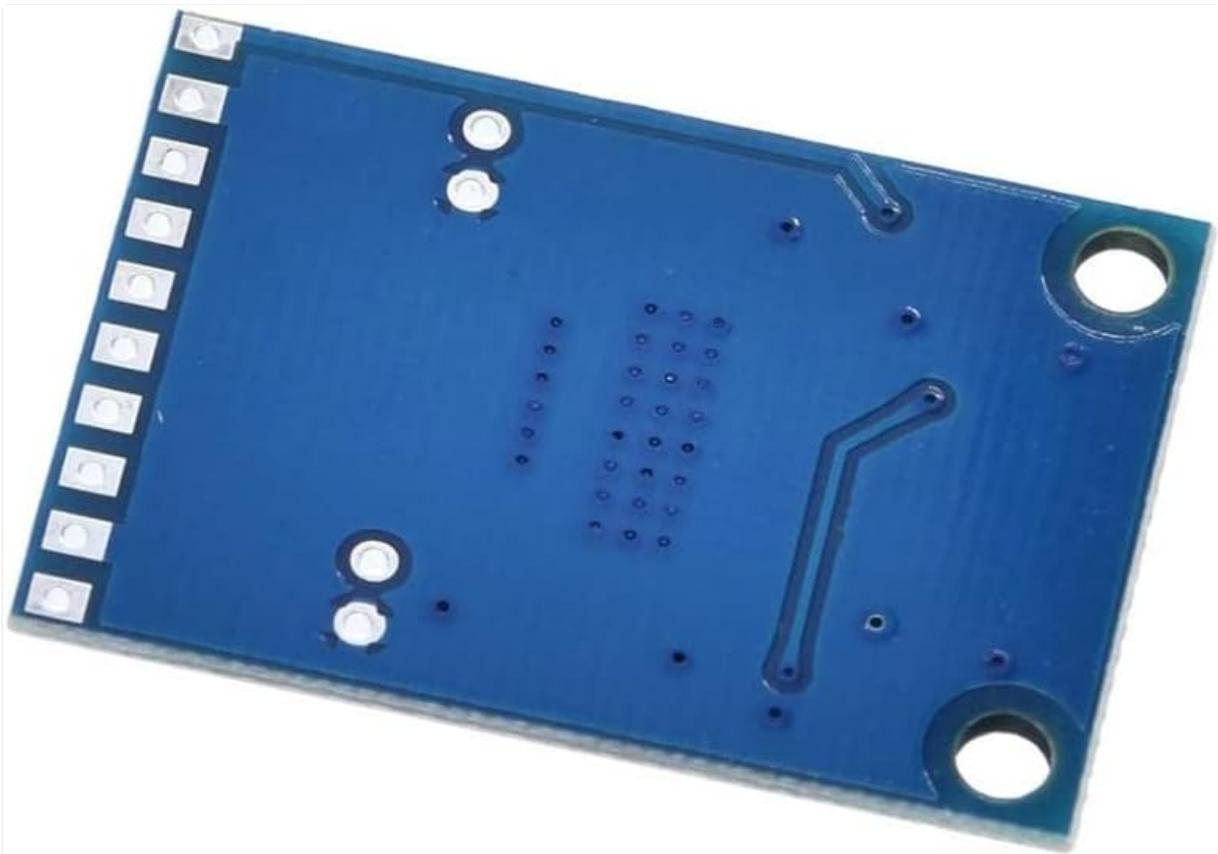


Figure 3.2: Rear view of the XH-M562 TPA3116D2 amplifier board. This image shows the solder points and copper traces on the underside of the printed circuit board, indicating the compact design and component density.

4. SPECIFICATIONS

Feature	Detail
Model	XH-M562 TPA3116D2
Chipset	TPA3116D2
Power Supply Voltage	DC 12V - 24V
Output Power	2 x 50W (50W + 50W)
Output Channels	Dual Channel (Stereo)
Product Size	37.2mm x 25.6mm

5. SETUP AND WIRING

Follow these steps to correctly connect your amplifier module. Ensure the power supply is disconnected before making any connections.

1. Power Supply Connection:

- Connect your DC 12-24V power supply to the **VCC** (positive) and **GND** (negative) terminals on the board.
- Observe correct polarity to prevent damage. A common mistake is reversing positive and negative.

2. Audio Input Connection:

- Connect your audio source (e.g., smartphone, MP3 player, preamplifier) to the audio input terminals.
- Use **INL** for the left channel audio input, **INR** for the right channel audio input, and **GND** for the common audio ground.

3. Speaker Output Connection:

- Connect your speakers to the output terminals.
- For the left speaker, connect to **SPL+** (positive) and **SPL-** (negative).
- For the right speaker, connect to **SPR+** (positive) and **SPR-** (negative).
- Ensure speaker impedance is compatible with the amplifier (typically 4-8 ohms).

After all connections are made, double-check them for correctness before applying power.

6. OPERATING INSTRUCTIONS

- Power On:** Once all connections are secure, connect the DC 12-24V power supply to an electrical outlet. The module will power on.
- Audio Playback:** Start playing audio from your connected source device.
- Volume Control:** Adjust the volume level directly from your audio source device. This amplifier module does not include onboard volume control.
- Power Off:** Disconnect the power supply from the electrical outlet to turn off the module.

7. MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to gently clean the module. Do not use liquid cleaners or solvents.
- **Storage:** Store the module in a cool, dry place away from direct sunlight and extreme temperatures when

not in use.

- **No User Serviceable Parts:** The module contains no user-serviceable parts. Do not attempt to disassemble or repair it yourself, as this will void any potential warranty and may cause further damage.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
No Sound Output	<ul style="list-style-type: none">◦ Incorrect power connection.◦ Audio input not connected or source not playing.◦ Speaker wires disconnected or incorrectly wired.◦ Faulty audio source or speakers.	<ul style="list-style-type: none">◦ Verify DC 12-24V power supply and correct polarity.◦ Ensure audio source is connected to INL/INR/GND and is playing.◦ Check speaker connections to SPL+/SPL- and SPR+/SPR-.◦ Test with a different audio source or speakers.
Distorted Sound	<ul style="list-style-type: none">◦ Power supply voltage too low or unstable.◦ Audio input level too high (clipping).◦ Speaker impedance mismatch.◦ Loose connections.	<ul style="list-style-type: none">◦ Use a stable power supply within the 12-24V range.◦ Reduce the volume from the audio source.◦ Ensure speakers are 4-8 ohms.◦ Check all wiring for secure connections.
Module Overheating	<ul style="list-style-type: none">◦ Insufficient ventilation.◦ Operating at maximum power for extended periods.◦ Speaker impedance too low.	<ul style="list-style-type: none">◦ Ensure the module is in a well-ventilated area.◦ Consider adding a small heatsink if operating continuously at high power.◦ Verify speaker impedance is not below 4 ohms.

9. WARRANTY AND SUPPORT

Specific warranty details for the Rakstore XH-M562 TPA3116D2 Mini Digital Audio Amplifier Board Module are not provided in this document. For warranty information, technical support, or assistance with product issues, please contact the retailer or manufacturer directly through your purchase platform.

Please retain your proof of purchase for any warranty claims.