

ASHATA ASHATAnu8hz34s17

ASHATA TPA3255 Digital Stereo Power Amplifier Board User Manual

Model: ASHATAnu8hz34s17

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of your ASHATA TPA3255 Digital Stereo Power Amplifier Board. The TPA3255 is a high-performance Class D power amplifier designed for DIY audio projects and home theater systems, offering high efficiency and sound quality. It features a dual-core TPA3255 chip configuration, capable of delivering 600W + 600W of power.

2. SAFETY INSTRUCTIONS

- Always disconnect power before making any connections or adjustments to the amplifier board.
- Ensure the power supply voltage and current meet the specified requirements (DC24V-48V, recommended DC36V or DC48V 10A or more). Incorrect power supply can damage the device.
- Avoid exposing the board to moisture, water, or extreme temperatures.
- Do not touch the components on the board when it is powered on, as some parts may become hot.
- Proper ventilation is crucial to prevent overheating. Ensure adequate airflow around the amplifier board.
- This product is intended for users with experience in electronics and DIY audio. If you are unsure about any installation steps, seek professional assistance.

3. PACKAGE CONTENTS

Please verify that all items are present in your package:

- 1 x TPA3255 Power Amplifier Board
- 1 x Connection Cable

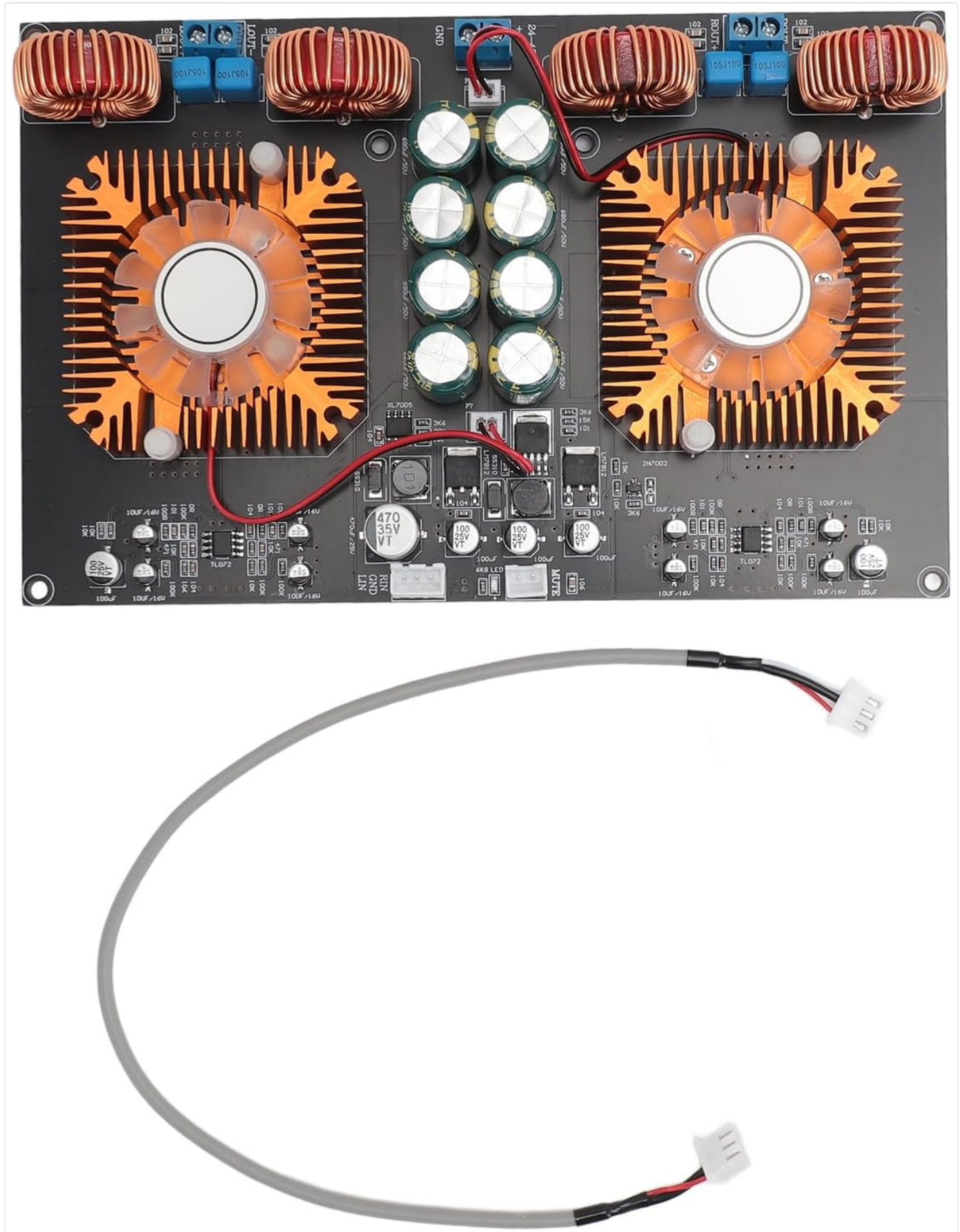


Image: The TPA3255 Power Amplifier Board shown with its included connection cable.

4. SPECIFICATIONS

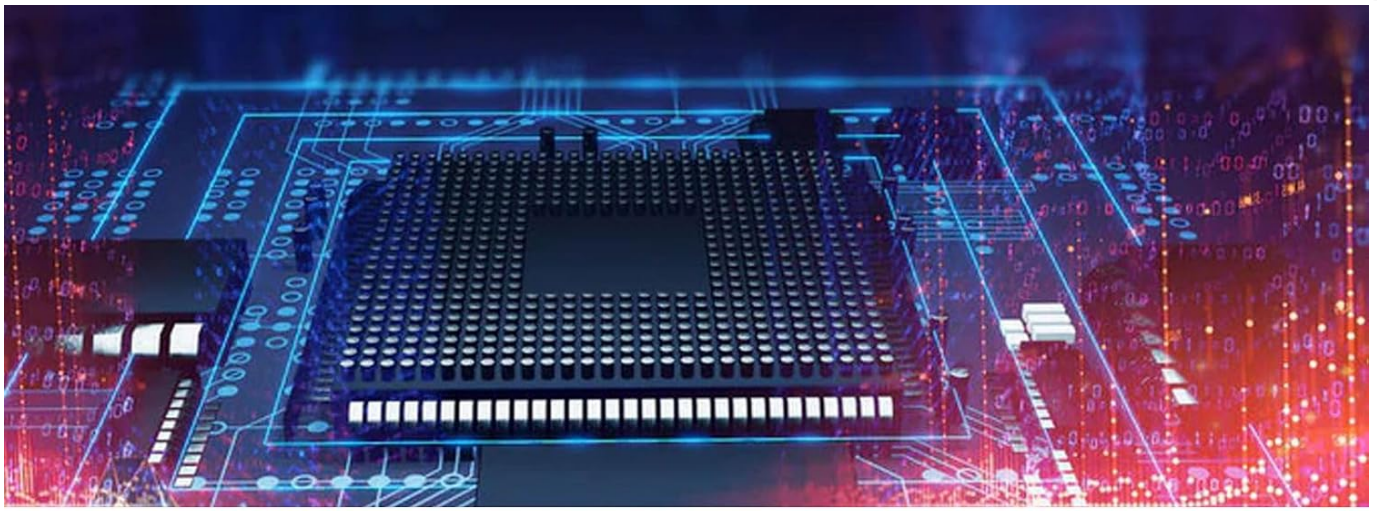
Feature	Specification
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Chip	TPA3255x2
Working Mode	Class D
Static Current	65mA
Working Efficiency	90% of Rated
Rated Power Output	600W + 600W (into 4Ω load, PBTL bridge)
Frequency Response	20Hz-20KHz
Operating Voltage	DC24V-48V
Recommended Supply Voltage	DC36V or DC48V 10A or more
Analog Input	2VRMS (supports seamless connectivity with high performance DACs)
PCB Construction	1.6mm thick double-sided board, 2.0 OZ copper, full spray tin process
Dimensions	8.66 x 5.51 x 1.97 inches
Item Weight	11 ounces

5. SETUP AND INSTALLATION

Follow these steps to properly set up your TPA3255 Power Amplifier Board:

- Power Supply Connection:** Connect a DC power supply (24V-48V, recommended 36V or 48V 10A or more) to the designated power input terminals on the board. Ensure correct polarity. *Incorrect voltage or polarity can cause irreversible damage.*
- Audio Input Connection:** Connect your audio source (e.g., DAC, preamplifier) to the analog input terminals. The board features a 2VRMS analog input.
- Speaker Output Connection:** Connect your speakers to the output terminals. This board operates in PBTL bridge mode, providing 600W per channel into a 4Ω load. Ensure your speakers are compatible with the amplifier's power output and impedance.
- Mounting and Ventilation:** Secure the amplifier board in a stable, well-ventilated enclosure. Adequate airflow is essential to dissipate heat generated during operation and maintain optimal performance.



The TPA3255 is a high performance Class D power amplifier.
Class D efficiency with high end sound quality
Advanced integrated feedback design and proprietary high speed gate driver error correction.

600W 600W Digital Audio Amplifier Board

Operates in AD mode

Drives up to two 315W/4R loads and two 150W (unclipped power)/8R loads at 10% THD

Features a 2VRMS analog input connector

Supports seamless connection to high performance DACs such as TI's PCM5242



Image: An overhead view of the TPA3255 amplifier board, showing the layout of components, heat sinks, and connection points.



Image: A detailed angled view of the amplifier board, highlighting the various input and output terminals for power, audio, and speakers.

6. OPERATION

Once the amplifier board is correctly installed and all connections are secure:

1. **Power On:** Connect the power supply to an electrical outlet. The amplifier board will power on.
2. **Audio Playback:** Start playing audio from your connected source.
3. **Volume Control:** Adjust the volume using your audio source or preamplifier. This amplifier board does not include onboard volume control.
4. **Power Off:** Disconnect the power supply from the electrical outlet when not in use.

The TPA3255 operates in Class D mode, providing high efficiency and minimizing heat generation while delivering powerful audio output.

7. MAINTENANCE

To ensure the longevity and optimal performance of your amplifier board, follow these maintenance guidelines:

- **Cleaning:** Keep the board clean and free from dust. Use a soft, dry brush or compressed air to gently remove dust from components and heat sinks. Do not use liquid cleaners.
- **Environment:** Operate the amplifier in a dry, well-ventilated environment. Avoid areas with high humidity or extreme temperature fluctuations.
- **Ventilation:** Regularly check that the ventilation openings of your enclosure are not obstructed to ensure proper heat dissipation.
- **Connections:** Periodically inspect all connections (power, audio, speakers) to ensure they are secure and free from

corrosion.

8. TROUBLESHOOTING

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

- **No Sound Output:**

- Check if the power supply is correctly connected and providing the specified voltage.
- Verify that the audio input source is active and properly connected to the board.
- Ensure speaker wires are correctly connected to the output terminals and that speakers are functional.

- **Distorted Sound:**

- Check the input audio signal level. An excessively high input signal can cause distortion.
- Ensure the power supply is stable and provides sufficient current.
- Verify that speaker impedance matches the amplifier's capabilities (4Ω load for 600W output).
- Inspect speaker wires for shorts or damage.

- **Overheating:**

- Ensure the amplifier board has adequate ventilation and is not enclosed in a confined space without airflow.
- Check if the speaker load impedance is too low, which can cause the amplifier to work harder and generate more heat.

- **Intermittent Sound:**

- Check all connections for looseness or poor contact.
- Ensure the power supply is stable and not fluctuating.

If the problem persists after checking these points, please contact customer support for further assistance.

9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided at the time of purchase or contact your retailer. Keep your purchase receipt as proof of purchase for any warranty claims.

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.

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you@example.com

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

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