LEIGESAUDIO TG-500.1D

LEIGESAUDIO TG-500.1D 500 Watts Class D MonoBlock Amplifier User Manual

Model: TG-500.1D

1. Introduction

Thank you for choosing the LEIGESAUDIO TG-500.1D Class D MonoBlock Amplifier. This amplifier is engineered to deliver powerful and clear audio performance for your car's subwoofer system. Designed for efficiency and reliability, it features a Class D topology, 1 Ohm stability, and a range of adjustable controls to optimize your sound experience. This manual provides essential information for proper installation, operation, and maintenance of your amplifier.

Image 1.1: Front view of the LEIGESAUDIO TG-500.1D amplifier.

2. Safety Guidelines

To ensure safe operation and prevent damage to the amplifier or your vehicle, please observe the following safety precautions:

- **Professional Installation Recommended:** Due to the complexity of car audio systems and electrical connections, professional installation is strongly recommended.
- **Disconnect Battery:** Always disconnect the vehicle's negative battery terminal before starting any installation or wiring procedures to prevent electrical shorts.
- **Proper Wiring:** Use appropriate gauge wiring for power, ground, and speaker connections as specified in this manual. Incorrect wiring can lead to overheating, fire, or component failure.
- **Secure Mounting:** Mount the amplifier securely to prevent it from becoming a projectile in the event of a sudden stop or collision.
- **Ventilation:** Ensure adequate ventilation around the amplifier. Do not mount it in enclosed spaces that restrict airflow, as this can lead to overheating.
- **Avoid Moisture:** Keep the amplifier away from moisture, water, and excessive humidity.

- **Fuse Protection:** Always use the correct fuse rating as specified. Never replace a fuse with one of a higher rating.

3. Product Features

The LEIGESAUDIO TG-500.1D amplifier incorporates several features designed for optimal performance and user convenience:

- **High Power Output:** Delivers MAX Power 1Ω: 1x2200W @ 1ohm, MAX Power 2Ω: 1x1400W @ 2ohm; RMS Power: 1x900W @ 1ohm, RMS Power: 1x600W @ 2ohm. Designed to power subwoofers effectively.
- **Class D Topology:** Highly efficient design significantly reduces power loss and heat generation, allowing for a compact size and reduced power waste.
- **1 Ohm Stable:** Capable of continuously powering loads down to 1 Ohm without overheating, ideal for demanding subwoofer configurations.
- **Variable Subsonic Filter with Low-Pass Crossover:** Prevents subwoofer bottoming out by filtering frequencies below the specified low-frequency limits. Allows precise control over bass reproduction.
- **MOSFET Power Supply:** Utilizes MOSFET technology for stable and efficient power delivery.
- **High and Low Level Inputs:** Provides flexibility for connecting to various head units.
- **Bass Boost Control:** Adjustable bass boost for enhanced low-frequency response.
- **Aluminum Chassis:** Durable aluminum construction for effective heat dissipation.

1 Ohm Stable

Bass Boost

MOSFET Technology

Variable LP Filter

4. Package Contents

Upon opening the package, please verify that all items are present and in good condition:

- LEIGESAUDIO TG-500.1D MonoBlock Amplifier
- Remote Bass Level Control
- High-Level Input Harness
- Mounting Hardware
- User Manual

Image 4.1: The amplifier, remote bass control, wiring, and manual included in the box.

5. Installation

5.1 General Considerations

Proper installation is crucial for the performance and longevity of your amplifier. If you are unsure about any step, consult a professional car audio installer.

- Choose a mounting location that is dry, well-ventilated, and protected from direct sunlight or excessive heat.
- Ensure the mounting surface is sturdy enough to support the amplifier's weight.
- Allow sufficient space around the amplifier for airflow and access to controls and wiring.

5.2 Mounting the Amplifier

The amplifier can be mounted horizontally or vertically. Use the provided mounting hardware to secure the amplifier to a flat surface in your vehicle.

1. Place the amplifier in the desired mounting location and mark the positions for the mounting screws.
2. Drill pilot holes if necessary, ensuring no existing wiring or fuel lines are damaged.
3. Secure the amplifier using the supplied screws.

Image 5.1: Amplifier dimensions (8.2" x 7" x 1.96") for mounting reference.

6. Wiring Connections

Careful attention to wiring is essential for optimal performance and safety. Refer to the diagrams below for connection points.

6.1 Input Connections

The amplifier supports both RCA (low-level) and High-Level inputs.

- **RCA Inputs (LINE IN):** Connect RCA cables from your head unit's subwoofer output to the amplifier's RCA inputs (L and R).
- **High-Level Inputs (HI INPUT):** If your head unit does not have RCA outputs, use the supplied high-level input harness. Connect the speaker wires from your head unit to the corresponding terminals on the harness, then plug the harness into the amplifier's HI INPUT port.

6.2 Power Connections

Ensure all power connections are secure and use appropriate gauge wiring.

- **+12V (Power):** Connect a fused power cable (minimum 8 AWG recommended) directly from the vehicle's positive battery terminal to the +12V terminal on the amplifier. Install a fuse holder within 18 inches of the battery.
- **REM (Remote Turn-On):** Connect a remote turn-on wire from your head unit's remote output to the REM terminal on the amplifier. This wire turns the amplifier on and off with your head unit.
- **GND (Ground):** Connect a ground cable (minimum 8 AWG recommended) from the amplifier's GND terminal to a clean, unpainted metal surface on the vehicle's chassis. The ground point should be as short as possible.

6.3 Speaker Connections

Connect your subwoofer(s) to the SPEAKER output terminals.

- Ensure correct polarity (+ to + and - to -) for all speaker connections.
- The TG-500.1D is 1 Ohm stable. Verify your subwoofer's impedance and wiring configuration to match the amplifier's capabilities.

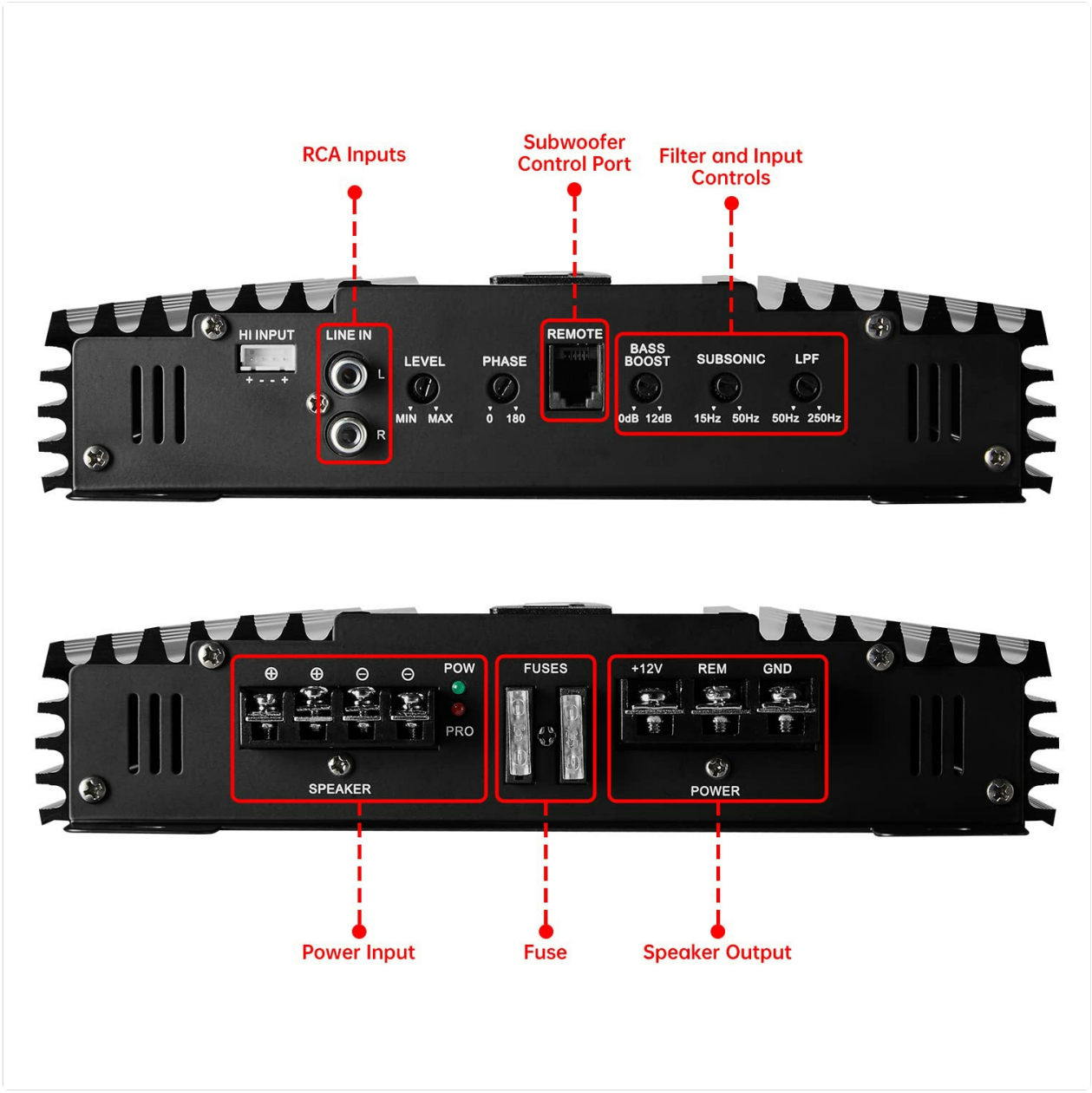

Image 6.1: Input and control panel showing RCA inputs, high-level input, and various adjustment knobs.

Image 6.2: Power input (+12V, REM, GND), fuse, and speaker output terminals.

7. Controls and Adjustments

The LEIGESAUDIO TG-500.1D amplifier features several controls to fine-tune your audio output:

- **LEVEL (Gain Control):** Adjusts the input sensitivity of the amplifier to match the output voltage of your head unit. Start with the gain at minimum and slowly increase until desired volume is achieved without distortion.
- **PHASE (0/180):** Selects the phase of the subwoofer output. Experiment with both settings to find the one that provides the best bass response and blends seamlessly with your front speakers.
- **BASS BOOST (0dB-12dB):** Increases the bass output at a specific frequency. Use sparingly to avoid distortion and potential speaker damage.
- **SUBSONIC (15Hz-50Hz):** A high-pass filter for the subwoofer, removing extremely low frequencies that are inaudible and can cause damage to the subwoofer. Set it slightly below the subwoofer's resonant frequency or port tuning frequency.
- **LPF (Low-Pass Filter) (50Hz-250Hz):** A low-pass filter that allows only frequencies below the set point to pass through to the subwoofer. Adjust this to blend the subwoofer's output with your main speakers.

- **REMOTE (Remote Bass Control Port):** Connect the included remote bass level control here for convenient adjustment of subwoofer output from the driver's seat.

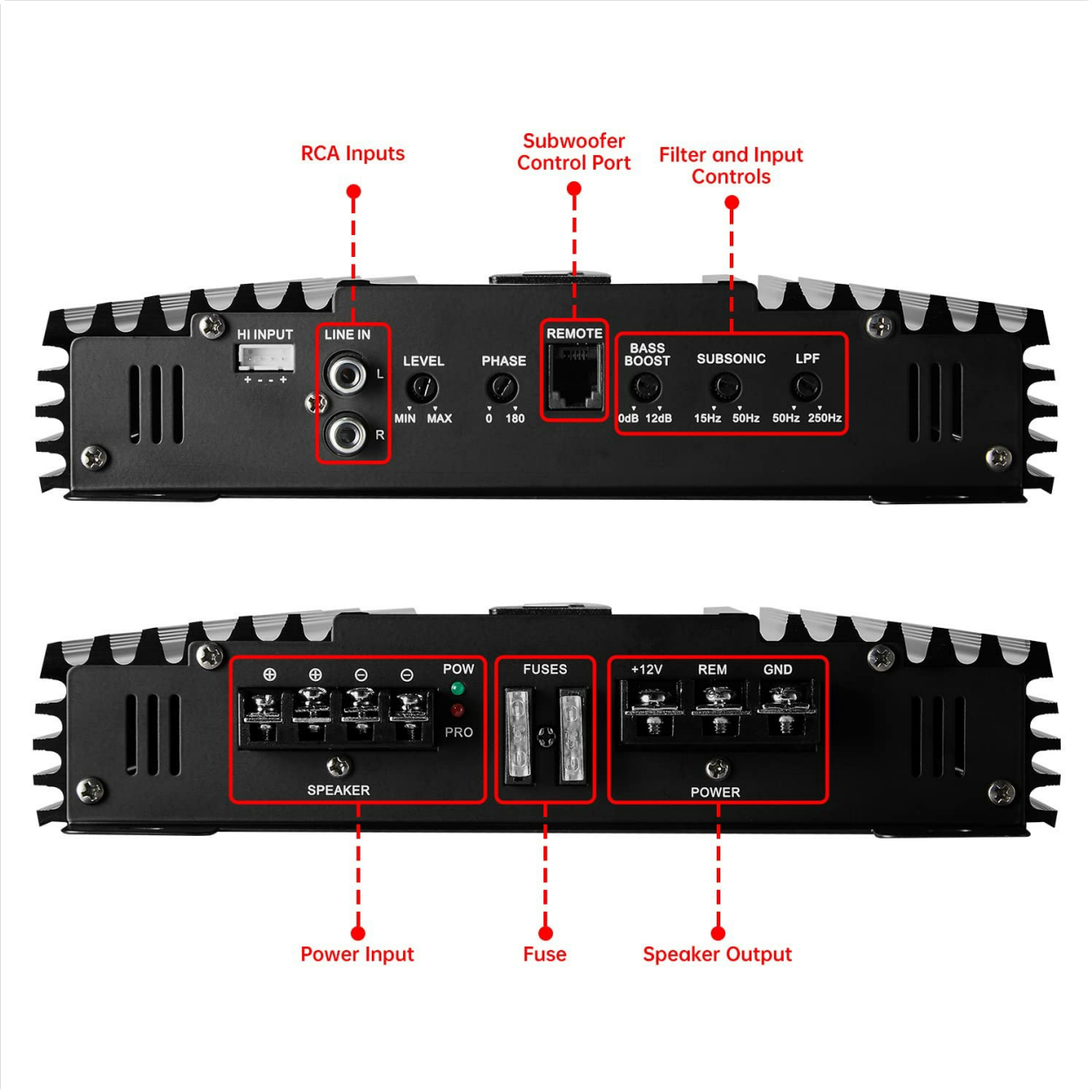

Image 7.1: Detailed view of the amplifier's control panel for adjustments.

8. Operating Instructions

Once the amplifier is correctly installed and all connections are verified, follow these steps for initial power-up and operation:

1. **Initial Power-Up:** Reconnect the vehicle's negative battery terminal. Turn on your head unit. The amplifier's power indicator should illuminate.
2. **Volume Adjustment:** Start with the head unit volume low and the amplifier's gain (LEVEL) control at its minimum setting.
3. **Gain Setting:** Play a familiar piece of music. Slowly increase the head unit volume until it reaches about 75% of its maximum. Then, slowly increase the amplifier's gain control until you hear slight distortion, then back it off slightly. This sets the maximum clean output.
4. **Crossover and Bass Boost:** Adjust the LPF and SUBSONIC filters to achieve the desired blend between your subwoofer and main speakers. Use the BASS BOOST sparingly to enhance low

frequencies if needed.

5. **Remote Bass Control:** Use the remote bass control to make convenient adjustments to the subwoofer level while listening.

9. Troubleshooting Guide

If you encounter issues with your amplifier, refer to the table below for common problems and their solutions:

Problem	Possible Cause	Solution
No Power / Amplifier does not turn on	Blown fuse; Loose power/ground/remote wire; No remote signal; Faulty wiring.	Check and replace fuse; Verify all power, ground, and remote connections are secure; Test remote wire for +12V when head unit is on; Inspect wiring for breaks or shorts.
No Sound Output	Input cables disconnected; Speaker wires disconnected/shorted; Gain set too low; Head unit output issue.	Check RCA or high-level input connections; Verify speaker wiring and check for shorts; Increase gain control; Test head unit output with another amplifier if possible.
Distorted Sound	Gain set too high; Improper crossover settings; Speaker impedance mismatch; Damaged speaker.	Reduce gain; Adjust LPF/SUBSONIC settings; Verify speaker impedance is within amplifier's stable range (1-4 Ohms); Inspect speaker for damage.
Amplifier Overheating	Insufficient ventilation; Speaker impedance too low; Prolonged high volume use.	Ensure adequate airflow around amplifier; Verify speaker impedance is not below 1 Ohm; Reduce volume or allow amplifier to cool.
Amplifier Stays On (Drains Battery)	Remote turn-on wire constantly receiving +12V; Faulty remote circuit in amplifier.	Check remote wire connection to head unit; Ensure head unit turns off remote output when off; If problem persists, professional inspection is required.

10. Technical Specifications

Detailed specifications for the LEIGESAUDIO TG-500.1D amplifier:

Specification	Value
Model Number	TG-500.1D
RMS Power @ 1 Ohm	1 x 900W
RMS Power @ 2 Ohm	1 x 600W
MAX Power @ 1 Ohm	1 x 2200W
MAX Power @ 2 Ohm	1 x 1400W
Amplifier Class	Class D

Specification	Value
Minimum Stable Impedance	1 Ohm
Voltage	12 Volts (DC)
Low-Pass Filter (LPF)	50Hz - 250Hz
Subsonic Filter	15Hz - 50Hz
Bass Boost	0dB - 12dB
Phase Control	0 / 180 degrees
Package Dimensions	9.96 x 9.25 x 2.6 inches
Item Weight	3.88 Pounds (1.76 kg)
Mounting Type	Surface Mount

11. Care and Maintenance

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

- **Cleaning:** Periodically wipe the amplifier's exterior with a soft, dry cloth. Avoid using harsh chemicals or abrasive cleaners.
- **Ventilation:** Ensure that the cooling fins are free from dust and debris to maintain proper heat dissipation.
- **Connections:** Occasionally check all wiring connections to ensure they remain tight and free from corrosion.
- **Environment:** Avoid exposing the amplifier to extreme temperatures, direct sunlight, or high humidity for extended periods.

12. Warranty and Customer Support

LEIGESAUDIO provides a comprehensive 1-year VIP online reseller warranty for products purchased through Amazon.com. This warranty covers manufacturing defects and ensures your product performs as expected.

For warranty claims, technical assistance, or any questions regarding your LEIGESAUDIO TG-500.1D amplifier, please contact LEIGESAUDIO customer support through the Amazon platform where the purchase was made. Please have your purchase details readily available to expedite the support process.

We strongly encourage professional installation methods to ensure excellent performance and safe functions of this product, which can also help in diagnosing potential issues.