

Sundown Audio SALT-3

Sundown Audio SALT-3 Monoblock Digital Class-D Amplifier User Manual

1. INTRODUCTION

Thank you for choosing the Sundown Audio SALT-3 Monoblock Digital Class-D Amplifier. This amplifier is engineered to deliver high-performance audio for your vehicle's sound system. This manual provides essential information for proper installation, operation, and maintenance to ensure optimal performance and longevity of your amplifier. Please read this manual thoroughly before attempting installation or operation.

2. SAFETY INFORMATION

- **Professional Installation Recommended:** Due to the complexity of car audio systems and high power output, professional installation is highly recommended.
- **Power Connections:** Always disconnect the vehicle's battery negative terminal before making any power connections. Ensure all power and ground wires are of appropriate gauge and securely connected to prevent overheating and potential fire hazards.
- **Fusing:** Install an external fuse (300 Amps recommended) on the main power wire within 18 inches (45 cm) of the battery.
- **Ventilation:** Mount the amplifier in a location that allows for adequate air circulation to prevent overheating. Avoid mounting in enclosed spaces without ventilation.
- **Moisture and Heat:** Keep the amplifier away from moisture, water, and excessive heat.
- **Speaker Impedance:** Ensure your speakers' impedance matches the amplifier's stable operating impedance (1 Ohm stable). Operating below the minimum impedance can damage the amplifier.
- **Volume Levels:** Prolonged exposure to high volume levels can cause hearing damage. Adjust volume responsibly.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- Sundown Audio SALT-3 Monoblock Digital Class-D Amplifier
- Wired Remote Control with Voltage & Temperature Display and Clipping Indicator
- Remote Control Cable
- Mounting Hardware (screws)
- Owner's Manual
- Wiring Harness (for remote control or specific functions)



Image: Contents of the Sundown Audio SALT-3 package, including the owner's manual, remote wiring, and mounting hardware.

4. PRODUCT FEATURES

The Sundown Audio SALT-3 amplifier incorporates advanced features for superior audio performance and reliability:

- Digital Class-D Monoblock Amplifier design
- High Power Handling: 3000W x 1 @ 1 ohm RMS, 1500W x 1 @ 2 ohm RMS, 750W x 1 @ 4 ohm RMS
- Dual MOS-FET PWM Power Supply for stable power delivery
- 1 Ohm Stable Load capability
- Variable Low Pass Filter: 35Hz - 250Hz (24 dB/Octave)
- Variable Subsonic Filter: 10Hz - 50Hz (24 dB/Octave)
- Variable Bass Boost: 0-9dB at 45Hz (9 dB/Octave)
- 180° Variable Phase Shift control
- 4-Way Protection Circuitry: Thermal, Voltage, Speaker Short, DC Offset
- Wired Remote Control with Voltage & Temperature Display and Clipping Indicator
- Titanium Finish for durability and aesthetics

- High Efficiency: >90%
- Signal to Noise Ratio: >90dB
- Damping Factor: >400
- Frequency Response: 10 Hz - 250 Hz
- Operating Voltage: DC 9V - 15.5V Power Input



Image: Key features of the SALT-3 amplifier, highlighting its power output and physical dimensions.



Image: Detailed view of the amplifier's control panel, showing various adjustment knobs and input/output terminals.

5. SETUP AND INSTALLATION

Proper installation is crucial for the performance and safety of your amplifier. If you are unsure about any steps, consult a professional installer.

5.1 Mounting Location

- Choose a dry, well-ventilated area away from direct sunlight and heat sources.
- Ensure the mounting surface is sturdy enough to support the amplifier's weight.
- Allow at least 2 inches (5 cm) of clearance around the amplifier for proper heat dissipation.

5.2 Wiring Connections

All wiring should be routed carefully to avoid pinching, chafing, or interference with vehicle components.

- **Power (B+):** Connect a heavy-gauge power cable (minimum 0 AWG recommended) directly from the positive terminal of the vehicle's battery to the amplifier's B+ terminal. Install an inline fuse holder with a 300 Amp fuse within 18 inches of the battery.
- **Ground (GND):** Connect a heavy-gauge ground cable (minimum 0 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 and free of rust or paint.
- **Remote (REM):** Connect a remote turn-on wire (typically 18 AWG) from your head unit's remote output to the amplifier's REM terminal. This wire turns the amplifier on and off with your head unit.
- **RCA Input:** Connect RCA cables from your head unit's pre-amp output to the amplifier's RCA input terminals.
- **Speaker Output:** Connect your subwoofer speaker wires to the amplifier's speaker output terminals. Ensure correct polarity (+ to + and - to -) and that the total impedance of your speakers is 1 Ohm or higher.



Image: Front and rear views of the SALT-3 amplifier, detailing the input (RCA, remote) and output (power, ground, speaker) terminals.

5.3 Remote Control Installation

The wired remote control allows for convenient bass level adjustment and provides real-time voltage and temperature readings, along with a clipping indicator.

- Connect the remote control cable to the 'REMOTE' port on the amplifier and the corresponding port on the remote control unit.
- Mount the remote control in an easily accessible location within the vehicle's cabin.



Image: The wired remote control unit and its connecting cable.

6. OPERATING INSTRUCTIONS

After successful installation, follow these steps to configure and operate your amplifier:

6.1 Initial Power-Up

- Reconnect the vehicle's battery negative terminal.
- Turn on your head unit. The amplifier's power indicator should illuminate.

6.2 Gain Adjustment

The gain control matches the amplifier's input sensitivity to the output of your head unit. It is not a volume control.

- Set the amplifier's gain control to minimum (fully counter-clockwise).
- Set your head unit's volume to about 75-80% of its maximum.
- Play a dynamic piece of music.
- Slowly increase the amplifier's gain control until you hear distortion or the clipping indicator on the remote control illuminates. Then, back off slightly until the sound is clean and the clipping indicator is off.

6.3 Crossover Settings

- **Low Pass Filter (LPF):** Adjust the LPF to filter out frequencies above your desired subwoofer range. A common setting is between 60Hz and 100Hz, depending on your subwoofers and other speakers.
- **Subsonic Filter:** This filter removes extremely low frequencies that your subwoofer cannot reproduce efficiently, preventing damage and improving sound quality. Set it typically 5-10Hz below your subwoofer's port tuning frequency or lowest recommended frequency.

6.4 Bass Boost and Phase Shift

- **Bass Boost:** Use sparingly to enhance bass response. Excessive bass boost can cause distortion and damage.
- **Phase Shift:** Adjust the phase control (0-180 degrees) to ensure the subwoofer's output is in phase with the rest of your audio system, resulting in a more cohesive sound.

7. MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your amplifier.

- **Cleaning:** Periodically clean the amplifier's exterior with a soft, dry cloth. Do not use harsh chemicals or abrasive cleaners. Ensure ventilation fins are free of dust and debris.
- **Connection Checks:** Annually, inspect all power, ground, remote, RCA, and speaker connections. Ensure they are tight and free of corrosion. Loose connections can lead to power loss, overheating, and damage.
- **Environmental Check:** Ensure the amplifier's mounting location remains dry and well-ventilated.

8. TROUBLESHOOTING

If you experience issues with your amplifier, refer to the following troubleshooting guide before contacting support.

Problem	Possible Cause	Solution
No Power / Amplifier does not turn on	Blown fuse (inline or internal) Loose power or ground connection No remote turn-on signal	Check and replace fuse if necessary Verify all power and ground connections are secure Check remote wire connection and head unit's remote output
No Sound Output	RCA cables disconnected or faulty Speaker wires disconnected or shorted Gain set too low Head unit settings incorrect	Check RCA connections and test cables Verify speaker wire connections and check for shorts Adjust gain control (refer to section 6.2) Check head unit's audio output settings
Distorted Sound	Gain set too high (clipping) Speaker impedance too low Faulty speaker or wiring	Reduce gain until distortion disappears (use remote clipping indicator) Verify speaker impedance is 1 Ohm or higher Inspect speakers and wiring for damage
Amplifier Goes into Protection Mode (Protection LED on)	Overheating Speaker short circuit DC offset Voltage issues (too high/low)	Ensure adequate ventilation; allow to cool Check speaker wiring for shorts Consult professional for DC offset Verify vehicle's charging system and battery voltage

9. SPECIFICATIONS

Detailed technical specifications for the Sundown Audio SALT-3 Monoblock Digital Class-D Amplifier:

Specification	Value
Model Number	SALT-3
Type	Monoblock Digital Class-D Amplifier
RMS Power @ 1 Ohm	3000 Watts x 1
RMS Power @ 2 Ohms	1500 Watts x 1
RMS Power @ 4 Ohms	750 Watts x 1
Recommended Fuse	300 Amps
Minimum Supply Voltage	9 Volts (DC)
Maximum Supply Voltage	15.5 Volts (DC)

Specification	Value
Input Sensitivity	0.2V - 6V
Variable Low Pass Filter (LPF)	35Hz - 250Hz (24 dB/Octave)
Variable Subsonic Filter	10Hz - 50Hz (24 dB/Octave)
Bass Boost	0-9dB @ 45Hz (9 dB/Octave)
Phase Shift Control	0-180 Degrees
Frequency Response	10 Hz - 250 Hz
Signal to Noise Ratio	>90dB
Damping Factor	>400
Efficiency	>90%
Dimensions (L x W x H)	19.68" x 8.67" x 2.80"
Item Weight	26 pounds
Material	Metal

10. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation included with your product or visit the official Sundown Audio website. Keep your purchase receipt as proof of purchase for any warranty claims.