

Power Acoustik MSA4-1300D

Power Acoustik MSA4-1300D Razor Series Marine-Grade 4-Channel Class D Amplifier User Manual

INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, and maintenance of your Power Acoustik MSA4-1300D Razor Series Marine-Grade 4-Channel Class D Amplifier. This amplifier is designed to deliver high-quality audio performance in various environments, including marine and off-road applications, thanks to its compact design and splash-resistant features. Please read this manual thoroughly before attempting installation or operation to ensure proper use and to prevent damage.

PACKAGE CONTENTS

Upon unpacking, please verify that all items listed below are present and in good condition:

- Power Acoustik MSA4-1300D Amplifier
- User Manual



Figure 1: Power Acoustik MSA4-1300D Amplifier in its retail packaging. The packaging indicates key features such as marine-grade protection, 4-channel output, and Class D digital technology.

SAFETY INFORMATION

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

To prevent injury or damage to the amplifier, always observe the following safety precautions:

- Disconnect the vehicle's battery negative terminal before starting any installation.
- Ensure proper grounding to avoid electrical hazards.
- Use appropriate wire gauges for power, ground, and speaker connections as specified in the installation section.
- Avoid mounting the amplifier in locations exposed to extreme heat, direct sunlight, or excessive vibration. While marine-grade, avoid direct submersion.
- Do not open the amplifier casing. There are no user-serviceable parts inside. Refer all servicing to qualified personnel.

FEATURES

The Power Acoustik MSA4-1300D amplifier incorporates advanced technology for reliable and powerful audio delivery:

- **Compact Chassis Design:** Measuring 4.75 inches, the amplifier's small footprint allows for versatile installation options in various vehicles.

- **High Power Output:** Delivers up to 1,300 watts max power, with 75 watts x 4 channels at 4 ohms, 125 watts x 4 channels at 2 ohms, and 250 watts x 2 channels bridged at 4 ohms.
- **Marine-Grade Construction:** Features splash-resistant conformal coated circuit boards and a robust design suitable for wet environments.
- **Class D Technology:** Utilizes efficient Class D circuitry for stable performance, high power capability, and minimal power requirements.
- **MOSFET Power Supply:** Equipped with audiophile-grade IR transistors for enhanced sound quality.
- **Protection Circuits:** Integrated direct short, thermal, and overload protection circuits safeguard the amplifier.

INSTALLATION

Mounting the Amplifier

Choose a mounting location that is dry, well-ventilated, and protected from direct heat or excessive vibration. The compact size of the MSA4-1300D allows for flexible placement. Ensure there is sufficient space around the amplifier for proper air circulation and access to wiring connections and controls.

Wiring Connections

All wiring should be performed with the vehicle's battery disconnected. Use high-quality wiring to ensure optimal performance and safety.



Figure 2: Close-up view of the power input, remote turn-on, and speaker output terminals on the Power Acoustik MSA4-1300D amplifier. Note the fuse slot for protection.

1. **Power Connection (+12V):** Connect a heavy-gauge power cable (minimum 8 AWG recommended) from the vehicle's positive battery terminal to the +12V terminal on the amplifier. Install an in-line fuse holder (not supplied) within 18 inches of the battery.
2. **Ground Connection (GND):** Connect a heavy-gauge ground cable (minimum 8 AWG recommended) from the GND terminal on the amplifier to a clean, unpainted metal surface on the vehicle chassis. The ground point should be as short as possible.
3. **Remote Turn-On (REM IN):** Connect a remote turn-on wire (typically 18 AWG) from your head unit's remote output to the REM IN terminal on the amplifier. This wire signals the amplifier to turn on and off with your audio system.
4. **Speaker Connections:** Connect your speakers to the appropriate speaker output terminals (CH1, CH2, CH3, CH4). Observe correct polarity (+ to + and – to –). For bridged mode operation, refer to the diagram on the amplifier or consult a professional installer.



Figure 3: Rear panel of the Power Acoustik MSA4-1300D amplifier, showing RCA inputs, High-Input terminals, Gain controls, and X-OVER (crossover) switches for both front and rear channels.

5. **Audio Input (RCA or High-Input):**
 - **RCA Input:** Connect RCA cables from your head unit's pre-amp outputs to the FRONT and REAR RCA input jacks on the amplifier.
 - **High-Input:** If your head unit does not have RCA outputs, use the High-Input terminals. Connect the speaker-level outputs from your head unit to the HI-INPUT terminals using the provided harness. Ensure correct polarity.

OPERATION

Gain Adjustment

The GAIN controls (MIN/MAX) on the amplifier adjust the input sensitivity to match the output level of your head unit. To set the gain:

1. Turn the amplifier gain controls to the minimum (MIN) position.
2. Turn your head unit volume to about 75% of its maximum level.
3. Slowly increase the amplifier gain control until you hear slight distortion, then back it off slightly until the sound is clear.

Note: The gain control is not a volume control. Setting it too high can lead to distorted sound and potential damage to speakers.

Crossover Adjustment (X-OVER)

The X-OVER switches allow you to filter frequencies sent to your speakers:

- **LP 80Hz (Low Pass):** When selected, the amplifier will only send frequencies below 80Hz to the speakers. This is typically used for subwoofers.
- **F (Full Range):** When selected, the amplifier will send all frequencies to the speakers. This is suitable for full-range speakers.
- **HP 80Hz (High Pass):** When selected, the amplifier will only send frequencies above 80Hz to the speakers. This is typically used for component or coaxial speakers to prevent them from playing low bass frequencies.

Adjust the X-OVER switches for both FRONT and REAR channels according to your speaker setup and desired sound.

MAINTENANCE

The Power Acoustik MSA4-1300D amplifier requires minimal maintenance. Follow these guidelines to ensure longevity:

- **Cleaning:** Periodically wipe the amplifier's exterior with a soft, dry cloth. Avoid using harsh chemicals or abrasive cleaners.
- **Connections:** Regularly check all power, ground, and speaker connections to ensure they are secure and free from corrosion.
- **Fuse Replacement:** If the amplifier's fuse blows, replace it only with a fuse of the same type and rating (refer to specifications for fuse rating). Using an incorrect fuse can cause damage or fire.

TROUBLESHOOTING

If you experience problems with your amplifier, consult the following troubleshooting guide before contacting support:

Problem	Possible Cause	Solution
No Power / Amplifier does not turn on	Blown fuse Poor power/ground connection No remote turn-on signal	Check and replace fuse Verify all power and ground connections are secure Check remote wire connection and head unit output
No Sound Output	RCA/High-Input cables disconnected Speaker wires disconnected or shorted Gain set too low	Check RCA/High-Input connections Inspect speaker wiring for shorts or disconnections Adjust gain control (see Operation section)
Distorted Sound	Gain set too high Speaker impedance mismatch Damaged speakers	Reduce gain setting Verify speaker impedance matches amplifier specifications Test speakers with another amplifier if possible

Problem	Possible Cause	Solution
Amplifier goes into Protection Mode (Protection LED on)	Overheating Speaker short circuit Low voltage	Ensure adequate ventilation; allow amplifier to cool Check speaker wiring for shorts Verify vehicle's electrical system and battery voltage

SPECIFICATIONS

Feature	Specification
Model Number	MSA4-1300D (Internal Model: PDN-623B)
Brand	Power Acoustik
Number of Channels	4
Output Power (Max)	1300 Watts
RMS Power (4 Ohm)	75 Watts x 4
RMS Power (2 Ohm)	125 Watts x 4
RMS Power (4 Ohm Bridged)	250 Watts x 2
Amplifier Class	Class D
Voltage	14.4 Volts (Nominal)
Crossover	LP 80Hz / Full / HP 80Hz
Dimensions (L x W x H)	13.5 x 8.4 x 3.7 inches
Item Weight	3.99 pounds
Material	Plastic
Mounting Type	Freestanding
Fuse Rating	<i>(Not specified in provided data, typically located near power input)</i>

WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the official Power Acoustik website or contact their customer service department. Keep your purchase receipt as proof of purchase for any warranty claims.