NVX XAD12

NVX XAD12 Monoblock Car Audio Amplifier Instruction Manual

Model: XAD12

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your NVX XAD12 Monoblock Car Audio Amplifier. The XAD12 is a 1500W RMS, 1-Ohm stable, full bridge Class D amplifier designed for high-power car audio applications. Please read this manual thoroughly before attempting installation or operation to ensure proper use and to prevent damage.

2. Safety Information

- Always disconnect the vehicle's battery negative terminal before starting any electrical work.
- Ensure all wiring is properly routed and secured to prevent damage from sharp edges or moving parts.
- Use appropriate gauge wiring for power and ground connections as specified in the installation section.
- Install fuses as close to the battery as possible to protect against short circuits.
- Avoid mounting the amplifier in locations exposed to direct sunlight, excessive heat, moisture, or dust.
- Consult a professional installer if you are unsure about any part of the installation process.
- Operating the amplifier at extreme volumes for extended periods can cause hearing damage.

3. Setup and Installation

Proper installation is crucial for optimal performance and safety. The NVX XAD12 features a Pulse Width Modulated (PWM) MOSFET power supply and soft start turn-on circuitry.

3.1 Mounting the Amplifier

The XAD12 is designed for surface mount installation. Choose a location that provides adequate ventilation and is protected from moisture and direct heat. Ensure there is sufficient space around the amplifier for air circulation.

Figure 3.1: The NVX XAD12 amplifier, showcasing its compact chassis design. This image highlights the overall physical dimensions of the unit.

3.2 Power Connections

Connect the power, ground, and remote turn-on wires to the amplifier's power input terminal block.

- **+12V (Power):** Connect a heavy-gauge power cable (e.g., 4 AWG or larger for 1500W RMS) directly from the positive terminal of the vehicle's battery. Install an appropriate fuse (not included) within 18 inches of the battery.
- **REM IN (Remote Turn-On):** Connect a 18-gauge wire from the remote turn-on output of your head unit or other switched 12V source.
- **GND (Ground):** Connect a heavy-gauge ground cable (same gauge as power) to a clean, unpainted metal surface of the vehicle's chassis. Ensure a solid electrical connection.

Figure 3.2: Rear view of the NVX XAD12 amplifier, detailing the power input section with +12V, REM IN, and GND terminals clearly labeled.

3.3 Speaker Output Connection

Connect your subwoofer(s) to the speaker output terminals. The XAD12 is 1-Ohm stable, allowing for flexible wiring configurations. Ensure the total impedance of your connected speakers does not fall below 1 Ohm.

Figure 3.3: The NVX XAD12 amplifier, highlighting its 1-Ohm stable capability. This view shows the input and output connections on the side panel.

3.4 RCA Input/Output Connections

Connect the RCA input cables from your head unit's subwoofer output to the amplifier's INPUT RCA jacks. If daisy-chaining multiple amplifiers, use the OUTPUT RCA jacks to send the signal to the next amplifier.

Figure 3.4: Top view of the NVX XAD12 amplifier, illustrating the RCA input and output connections, along with various control knobs for audio adjustment.

3.5 Remote Level Control Connection

Connect the included remote bass level control to the "REMOTE" port on the amplifier. This allows for convenient adjustment of the subwoofer output level from the driver's seat.

Figure 3.5: The included remote bass level control for the NVX XAD12 amplifier, featuring a power indicator and a rotary knob for level adjustment.

Figure 3.6: A detailed view of the NVX XAD12 remote bass level control, showing the 'PWR' indicator and the 'MIN' to 'MAX' adjustment dial.

4. Operating the Amplifier

Once all connections are made and verified, you can power on your system and adjust the amplifier settings.

4.1 Initial Power-Up and Gain Adjustment

- Turn on your head unit. The amplifier should power on (indicated by the power LED).
- Set the amplifier's GAIN control to its minimum position.
- Play a familiar music track with a strong bass presence at about 75% of your head unit's maximum volume.
- Slowly increase the GAIN control on the amplifier until you hear distortion, then back it off slightly. The POWER/CLIP/PROTECT indicator can assist in setting the gain without clipping.

Figure 4.1: Angled view of the NVX XAD12 amplifier, displaying the various control knobs including Subsonic, LPF, Gain, and Bass Boost, along with the input/output terminals.

4.2 Crossover and Bass Boost Adjustments

- **LPF (Low Pass Filter):** Adjust this control to filter out high frequencies from your subwoofer. A common starting point is 80-100 Hz.
- **SUBSONIC Filter:** This filter removes extremely low frequencies that are below the audible range and can cause damage to your subwoofer. Set it slightly below your subwoofer's port tuning frequency or around 20-30 Hz.
- **BASS BOOST:** Use this control sparingly to enhance bass output. Excessive bass boost can lead to distortion and potential speaker damage. Start at 0dB and increase gradually if desired.

Figure 4.2: Top view of the NVX XAD12 amplifier, providing a clear look at the Subsonic, LPF, Gain, and Bass Boost controls, along with the POWER/CLIP/PROTECT indicators.

5. Maintenance

- **Cleaning:** Use a soft, dry cloth to clean the amplifier's exterior. Do not use harsh chemicals or abrasive cleaners.
- **Ventilation:** Ensure the amplifier's cooling fins are free from obstructions to maintain proper airflow. Periodically check for dust buildup.
- **Connections:** Periodically inspect all power, ground, speaker, and RCA connections to ensure they are secure and free from corrosion.

6. Troubleshooting

If you experience problems with your amplifier, refer to the following troubleshooting guide:

Problem	Possible Cause	Solution
No Power / No Sound	Blown fuse; Loose power/ground/remote wire; Faulty head unit remote output.	Check and replace fuse; Verify all power, ground, and remote connections; Test head unit remote output.
Distorted Sound	Gain set too high; Improper crossover settings; Speaker impedance too low.	Reduce gain; Adjust LPF/Subsonic filters; Verify speaker impedance is 1 Ohm or higher.
Amplifier Goes into Protection Mode (Protect LED on)	Overheating; Speaker short circuit; Speaker impedance too low; DC offset.	Ensure proper ventilation; Check speaker wiring for shorts; Verify speaker impedance; Consult a professional.
No Bass from Subwoofer	RCA cables disconnected; LPF set too low; Subwoofer wired out of phase.	Check RCA connections; Adjust LPF to appropriate frequency; Verify subwoofer wiring phase.

7. Specifications

Feature	Specification
Model	NVX XAD12
Output Power (RMS)	1500 Watts

Feature	Specification
Channels	1 (Monoblock)
Minimum Stable Impedance	1 Ohm
Amplifier Class	Class D (Full Bridge)
Power Supply	Pulse Width Modulated MOSFET
Frequency Response	10 - 300 Hz
Maximum Supply Voltage	14 Volts
Dimensions (W x L x H)	6"W x 8.75"L x 2.5"H
Mounting Type	Surface Mount
Specification Met	CEA-2006 Compliant

8. Warranty Information

NVX products are designed and manufactured to the highest quality standards. For specific warranty terms and conditions, please refer to the official NVX website or the warranty card included with your product. Keep your purchase receipt as proof of purchase for warranty claims.

9. Customer Support

If you have any questions or require assistance with your NVX XAD12 amplifier, please contact NVX customer support through their official website or authorized dealer. Provide your product model number (XAD12) and purchase details when seeking support.