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AudioBahn A6601X

Audiobahn A6601X 6-Channel Class A/B Amplifier User Manual

Model: A6601X

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of your Audiobahn A6601X 6-Channel Class A/B Amplifier. Please read this manual thoroughly before attempting to install or operate the amplifier to ensure optimal performance and safety. Keep this manual for future reference.

2. SAFETY INFORMATION

- **Professional Installation Recommended:** For optimal performance and safety, it is highly recommended to have this amplifier installed by a qualified professional car audio technician.
- **Power Connections:** Ensure all power connections are secure and properly fused. Incorrect wiring can cause damage to the amplifier, vehicle, or lead to fire.
- **Ventilation:** Mount the amplifier in a location that allows for adequate air circulation to prevent overheating. Do not block ventilation openings.
- **Moisture and Heat:** Avoid exposing the amplifier to moisture, water, or extreme heat.
- **Volume Levels:** Prolonged exposure to high volume levels can cause hearing damage. Adjust volume responsibly.
- **Grounding:** Ensure the amplifier is properly grounded to the vehicle chassis.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- Audiobahn A6601X 6-Channel Class A/B Amplifier
- Mounting Hardware (screws, washers)
- User Manual (this document)

- Warranty Card (if applicable)

4. PRODUCT FEATURES

The Audiobahn A6601X is a high-performance 6-channel Class A/B amplifier designed to enhance your car audio experience. Key features include:

- 6-Channel Class A/B Amplifier design
- Power Output:
 - 6 x 75 Watts RMS @ 4 Ohms Stereo
 - 6 x 105 Watts RMS @ 2 Ohms Stereo
 - 3 x 210 Watts RMS @ 4 Ohms Mono (bridged)
- 2 Ohm Stable operation
- Frequency Response: 10 Hz - 40 kHz
- Signal-to-Noise Ratio (S/N R): 100dB
- Total Harmonic Distortion (THD): 0.02%
- Variable 18dB High-Pass Filter (HPF): 30Hz - 500Hz
- Variable 18dB Low-Pass Filter (LPF): 30Hz - 120Hz
- Bass Boost: 0 - 18dB at 45Hz
- Subsonic Filter: 20Hz - 50Hz
- Digital LED Volt Display
- Line Output for additional amplifiers
- 3-Way Protection Circuitry (thermal, overload, short circuit)
- Compact Dimensions: 435 x 324 x 60 mm (L x W x H)



An image showing the Audiobahn A6601X 6-channel Class A/B amplifier, typically featuring its casing, input/output terminals, and control panel.

5. SETUP AND INSTALLATION

Proper installation is crucial for the performance and longevity of your amplifier. Consult a professional if you are unsure about any steps.

5.1 Mounting Location

- Choose a dry, well-ventilated area, away from direct sunlight or heat sources.
- Ensure sufficient space around the amplifier for air circulation.
- Mount the amplifier securely to a solid surface using the provided hardware. The A6601X is designed for surface mounting.

5.2 Wiring Connections

All wiring should be done with the vehicle's battery disconnected to prevent short circuits.

1. **Power (B+):** Connect a heavy-gauge power cable (e.g., 4 AWG or larger, depending on total system power) directly from the positive terminal of the vehicle's battery to the amplifier's B+ terminal. Install an appropriate fuse holder (not included) within 18 inches (45 cm) of the battery.
2. **Ground (GND):** Connect a heavy-gauge ground cable of the same size as the power cable from the amplifier's GND terminal to a clean, unpainted metal surface on the vehicle chassis. Ensure a solid, low-resistance connection.
3. **Remote Turn-On (REM):** Connect a smaller gauge wire (e.g., 18 AWG) from the amplifier's REM terminal to the remote turn-on output of your head unit. This wire turns the amplifier on and off with your stereo.
4. **RCA Input:** Connect RCA cables from your head unit's pre-amp outputs to the amplifier's RCA input jacks. Ensure correct channel matching (Front Left, Front Right, Rear Left, Rear Right, Subwoofer Left, Subwoofer Right).
5. **Speaker Output:** Connect your speakers to the amplifier's speaker output terminals. Pay close attention to polarity (+ and -) for each speaker and channel. For bridged operation, refer to the specific bridging instructions on the amplifier or in the full manual.

6. OPERATING INSTRUCTIONS

Once the amplifier is installed and wired correctly, you can proceed with initial setup and adjustments.

6.1 Initial Power-Up

- After all connections are made, reconnect the vehicle's battery.
- Turn on your head unit. The amplifier should power on, indicated by an illuminated power LED.

6.2 Gain Adjustment

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

1. Set the head unit volume to about 75% of its maximum.
2. Play a dynamic piece of music.
3. Slowly increase the amplifier's gain control until you hear slight distortion, then back it off slightly.

6.3 Crossover Settings

The A6601X features variable high-pass (HPF), low-pass (LPF), and subsonic filters to optimize sound output for your speakers.

- **HPF (High-Pass Filter):** Used for full-range or component speakers to block low frequencies that they cannot reproduce effectively. Adjust between 30Hz and 500Hz.
- **LPF (Low-Pass Filter):** Used for subwoofers to allow only low frequencies to pass through. Adjust between 30Hz and 120Hz.
- **Subsonic Filter:** Used with subwoofers to filter out extremely low frequencies below the audible range, which can waste amplifier power and damage subwoofers. Adjust between 20Hz and 50Hz.

6.4 Bass Boost

The bass boost control allows you to enhance low frequencies at 45Hz. Use sparingly to avoid distortion and potential speaker damage. Adjust from 0 to 18dB.

6.5 Digital LED Volt Display

Monitor the vehicle's voltage in real-time via the integrated digital LED display. This helps ensure stable power delivery to the amplifier.

7. MAINTENANCE

- **Cleaning:** Periodically wipe the amplifier's exterior with a soft, dry cloth. Do not use harsh chemicals or abrasive cleaners.
- **Connections:** Regularly check all power, ground, and speaker connections to ensure they are secure and free from corrosion. Loose connections can lead to poor performance or damage.
- **Ventilation:** Ensure that the amplifier's cooling fins and ventilation openings remain clear of dust and debris to prevent overheating.

8. TROUBLESHOOTING

If you experience issues with your amplifier, refer to the following common problems and solutions before contacting support.

- **No Power / Amplifier Not Turning On:**
 - Check the main fuse near the battery and the fuses on the amplifier.
 - Verify that the remote turn-on wire is connected and receiving 12V when the head unit is on.
 - Ensure power and ground connections are secure and free of corrosion.
- **No Sound Output:**
 - Check all RCA input cables for secure connection and damage.
 - Verify speaker wires are correctly connected to both the amplifier and speakers, with correct polarity.
 - Ensure head unit is powered on and outputting audio.
 - Check amplifier gain settings.
- **Distorted Sound:**
 - Reduce the amplifier's gain setting.
 - Check speaker impedance; ensure it matches the amplifier's capabilities.
 - Verify speaker wires are not shorted or touching the vehicle chassis.
 - Adjust crossover settings (HPF/LPF) to suit your speakers.

- **Amplifier Goes into Protection Mode (Protection LED On):**
 - **Overheating:** Ensure adequate ventilation. Allow the amplifier to cool down.
 - **Short Circuit:** Check speaker wiring for shorts to ground or between positive and negative terminals.
 - **Overload:** Ensure speaker impedance is within the amplifier's rated specifications.

9. SPECIFICATIONS

Feature	Specification
Brand	AudioBahn
Model	A6601X
Amplifier Class	A/B
Number of Channels	6
RMS Power @ 4 Ohms Stereo	6 x 75 Watts
RMS Power @ 2 Ohms Stereo	6 x 105 Watts
RMS Power @ 4 Ohms Mono (Bridged)	3 x 210 Watts
Impedance Stability	2 Ohms Stereo
Frequency Response	10 Hz - 40 kHz
Signal-to-Noise Ratio (S/N R)	100dB
Total Harmonic Distortion (THD)	0.02%
High-Pass Filter (HPF)	Variable 18dB, 30Hz - 500Hz
Low-Pass Filter (LPF)	Variable 18dB, 30Hz - 120Hz
Bass Boost	0 - 18dB at 45Hz
Subsonic Filter	20Hz - 50Hz
Voltage	12 Volts (nominal)
Protection Circuitry	3-Way (Thermal, Overload, Short Circuit)
Mounting Type	Surface Mount
Dimensions (L x W x H)	435 x 324 x 60 mm
UPC	651718004783

10. WARRANTY AND SUPPORT

Audiobahn products are designed for reliability and performance. For warranty information, please refer to the warranty card included with your product or visit the official Audiobahn website. For technical support or service inquiries, please contact your authorized Audiobahn dealer or the manufacturer's customer service department.