

Quantum Audio QPX40001D

Quantum Audio QPX40001D Monoblock Class D Amplifier User Manual

Model: QPX40001D

1. INTRODUCTION

Thank you for choosing the Quantum Audio QPX40001D Monoblock Class D Amplifier. This amplifier is designed to deliver powerful and clear bass performance for your car audio system, specifically optimized for subwoofers. Featuring a Class D design, 1-ohm stability, and a built-in crossover network, the QPX40001D offers robust power and precise control over your audio output. This manual provides essential information for proper installation, operation, and maintenance of your amplifier.

2. SAFETY INFORMATION

- Always disconnect the vehicle's battery negative terminal before starting any installation.
- Ensure all wiring is properly routed and secured to prevent damage or short circuits.
- Use appropriate gauge power and ground wires as specified in the installation section to prevent overheating and ensure optimal performance.
- Install the amplifier in a location that allows for adequate ventilation to prevent overheating.
- Avoid mounting the amplifier in direct sunlight or areas exposed to moisture.
- If you are unsure about any part of the installation process, seek assistance from a professional car audio installer.
- Do not attempt to repair the amplifier yourself. Refer all servicing to qualified personnel.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- Quantum Audio QPX40001D Monoblock Class D Amplifier
- Remote Bass Control
- Mounting Hardware
- User Manual (this document)

4. PRODUCT OVERVIEW

Familiarize yourself with the various components and connections of your QPX40001D amplifier.



Figure 4.1: Top View of Amplifier. This image displays the top surface of the Quantum Audio QPX40001D amplifier, featuring the Quantum Audio logo with an amber glow. The amplifier has a brushed metal finish with cooling fins.



Figure 4.2: Control Panel Side. This image shows the control panel of the amplifier, which includes the PROTECT and POWER indicator LEDs, REMOTE input, PHASE switch, and various crossover controls such as LOW PASS, SUB SONIC, BASS BOOST, and LEVEL. It also features INPUT RCA jacks and a MASTER OUT RCA jack.



Figure 4.3: Power and Speaker Terminal Side. This image illustrates the power input terminals (+12V, REM, GND) and the SPEAKER OUTPUT terminals (positive and negative) for connecting to your subwoofer.

4.1 Control Panel Features

- **PROTECT LED:** Illuminates when the amplifier is in protection mode due to overheating, short circuit, or low voltage.
- **POWER LED:** Illuminates when the amplifier is powered on and operating normally.
- **REMOTE:** Input for the optional remote bass control knob.
- **PHASE (0°/180°):** Switch to adjust the phase of the subwoofer output relative to the main speakers.
- **LOW PASS (25Hz-250Hz):** Variable control for the low-pass filter, allowing only frequencies below the set point to pass to the subwoofer.
- **SUB SONIC (15Hz-55Hz):** Variable control for the subsonic filter, which removes extremely low frequencies that are inaudible and can damage subwoofers.
- **BASS BOOST (0dB-12dB):** Variable control to boost bass frequencies at a specific point (e.g., 45Hz).
- **LEVEL (Min/Max):** Gain control to match the output of your head unit to the amplifier's input sensitivity.

- **INPUT (RCA):** RCA inputs for connecting the audio signal from your head unit.
- **MASTER OUT (RCA):** RCA output for daisy-chaining multiple amplifiers.

4.2 Power and Speaker Terminals

- **+12V:** Main power input from the vehicle's battery.
- **REM:** Remote turn-on input from the head unit.
- **GND:** Ground connection to the vehicle's chassis.
- **SPEAKER OUTPUT:** Terminals for connecting your subwoofer(s).

5. SETUP AND INSTALLATION

Proper installation is crucial for optimal performance and safety.

5.1 Mounting the Amplifier

- Choose a mounting location that is dry, well-ventilated, and protected from direct sunlight or excessive heat.
- Ensure there is sufficient space around the amplifier for air circulation.
- Use the provided mounting hardware to securely fasten the amplifier to a solid surface.

5.2 Wiring Connections

WARNING: Disconnect the vehicle's battery negative terminal before making any power connections.

1. **Ground Connection (GND):** Connect a heavy-gauge wire (e.g., 4 AWG or larger for 4000W max) from the amplifier's GND terminal directly to a clean, unpainted metal surface on the vehicle's chassis. Ensure a solid, low-resistance connection.
2. **Power Connection (+12V):** Connect a heavy-gauge wire (e.g., 4 AWG or larger) from the amplifier's +12V terminal directly to the positive terminal of the vehicle's battery. Install an appropriate fuse holder (e.g., 150A-200A ANL fuse) within 18 inches (45 cm) of the battery.
3. **Remote Turn-On Connection (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 signals the amplifier to turn on and off with your stereo.
4. **RCA Input Connection:** Connect RCA cables from the subwoofer output (or full-range output if using the amplifier's crossover) of your head unit to the INPUT RCA jacks on the amplifier.
5. **Speaker Output Connection:** Connect your subwoofer(s) to the SPEAKER OUTPUT terminals. This amplifier is 1-ohm stable, allowing for flexible wiring configurations for single or multiple subwoofers. Ensure the total impedance of your subwoofer(s) is 1 ohm or higher. Refer to your subwoofer's manual for impedance information.

After all connections are made, reconnect the vehicle's battery negative terminal.

6. OPERATING THE AMPLIFIER

6.1 Initial Power-Up and Gain Setting

1. Turn the amplifier's LEVEL control to its minimum (Min) setting.
2. Turn on your head unit and set its volume to about 75% of maximum.
3. Slowly increase the amplifier's LEVEL control until you hear distortion, then back it off slightly until the sound is clear. This sets the gain correctly, matching the amplifier's input sensitivity to your head unit's output.

6.2 Crossover and Phase Adjustments

- **LOW PASS Filter:** Adjust this control to set the upper frequency limit for your subwoofer. A common starting point is between 80Hz and 120Hz, depending on your main speakers and personal preference.
- **SUB SONIC Filter:** This filter removes frequencies below the audible range that can waste amplifier power and potentially damage subwoofers. Set it typically between 20Hz and 30Hz, or slightly below your subwoofer's resonant frequency.
- **BASS BOOST:** Use this control sparingly to enhance bass impact. Excessive bass boost can lead to distortion and potential damage. Start at 0dB and increase gradually if desired.
- **PHASE (0°/180°):** Experiment with this switch to find the setting that provides the most coherent and impactful bass response. Listen from your normal listening position and choose the setting where the bass sounds loudest and most integrated with your front speakers.

7. MAINTENANCE

- Keep the amplifier clean and free of dust. Use a soft, dry cloth for cleaning.
- Ensure that the amplifier's cooling fins are not obstructed to maintain proper ventilation.
- Periodically check all wiring connections for tightness and corrosion. Loose connections can cause performance issues or damage.
- Avoid spilling liquids on the amplifier.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
No Power / Power LED Off	Blown fuse (in-line or internal) Loose power or ground connection No remote turn-on signal	Check and replace fuse if necessary. Verify all power, ground, and remote connections are secure. Check remote wire connection at head unit and amplifier.
Amplifier in Protection Mode / PROTECT LED On	Overheating Speaker short circuit Low voltage	Allow amplifier to cool down. Ensure proper ventilation. Check speaker wiring for shorts. Verify speaker impedance. Check vehicle's battery and charging system.
No Sound Output	Loose RCA input cables Incorrect gain setting Head unit settings	Verify RCA cables are securely connected at both ends. Adjust amplifier's LEVEL control. Check head unit's volume, balance, fader, and subwoofer output settings.
Distorted Sound	Gain set too high Improper crossover settings Poor ground connection	Reduce amplifier's LEVEL control. Adjust LOW PASS and SUB SONIC filters. Ensure ground connection is clean and secure.

9. SPECIFICATIONS


Feature	Specification
Model Number	QPX40001D
Output Power (1 Ohm Mono)	4000 Watts Max
Output Power (2 Ohm Mono)	2000 Watts Peak
Amplifier Class	Class D
Number of Channels	1 (Monoblock)
Signal to Noise Ratio	< 90dB
Low Pass Crossover	Variable 25Hz - 250Hz
Sub Sonic Filter	Variable 15Hz - 55Hz
Bass Boost	Variable 0dB - 12dB
Phase Shift Control	0 - 180 degrees
Input Sensitivity	200mV - 6V
Operating Voltage	14.4 Volts (DC)
Maximum Supply Voltage	16 Volts (DC)
Dimensions (L x W x H)	12.1 x 10.4 x 3.9 inches
Item Weight	5.4 pounds
UPC	811536032027

10. WARRANTY AND SUPPORT

Quantum Audio products are designed and manufactured to the highest quality standards. For specific warranty information, please refer to the warranty card included with your product or visit the official Quantum Audio website.

If you encounter any issues or have questions regarding your QPX40001D amplifier, please contact Quantum Audio customer support for assistance.

Related Documents - QPX40001D

 <p>USER MANUAL</p> <p>QUANTUM</p> <p>QRX2501 / QRX4001 / QRX1504</p> <p>www.QuantumAudio.net</p>	<p>Quantum Audio QRX Series Amplifiers User Manual</p> <p>User manual for Quantum Audio QRX2501, QRX4001, and QRX1504 car audio amplifiers, detailing specifications, installation, controls, troubleshooting, and warranty information.</p>
 <p>OWNER'S MANUAL</p> <p>QUANTUM</p>	<p>Quantum Audio QPX Series Amplifiers Owner's Manual</p> <p>Comprehensive owner's manual for Quantum Audio QPX series car amplifiers, covering installation, features, specifications, and safety precautions for monoblock and multi-channel models.</p>
 <p>OWNER'S MANUAL</p> <p>QUANTUM</p>	<p>Quantum Audio QPX Series Amplifiers Owner's Manual</p> <p>Comprehensive owner's manual for Quantum Audio QPX series car amplifiers, detailing features, specifications, installation, safety precautions, and troubleshooting for monoblock, 4-channel, and 2-channel models. Includes warranty information and technical details.</p>
 <p>OWNER'S MANUAL</p> <p>QUANTUM</p>	<p>Quantum Audio QPX Series Amplifiers Owner's Manual</p> <p>Comprehensive owner's manual for Quantum Audio QPX series car amplifiers, detailing features, specifications, safety precautions, and installation guides for monoblock, 2-channel, and 4-channel models.</p>
 <p>QUANTUM AUDIO</p> <p>MONOBLOCK AMPLIFIERS</p> <p>OWNER'S MANUAL</p> <p>QP3100D - QP4100D - QP5100D - QP6100D</p>	<p>Quantum Audio Monoblock Amplifiers QP3100D, QP4100D, QP5100D, QP6100D Owner's Manual</p> <p>Comprehensive owner's manual for Quantum Audio Monoblock Amplifiers, including models QP3100D, QP4100D, QP5100D, and QP6100D. Covers features, specifications, safety precautions, and installation guides.</p>
 <p>QUANTUM AUDIO</p> <p>AMPLIFIERS</p> <p>INSTALLATION AND OWNER'S MANUAL</p>	<p>Quantum Audio Amplifiers Installation and Owner's Manual</p> <p>Comprehensive installation instructions, safety precautions, features, and troubleshooting guide for Quantum Audio QE series car amplifiers, including models QE1600.1M, QE2400.1D, QE2000.4, QE2400.4, and QE1200.2.</p>