

PUZU PZ X4800S

PUZU PZ-X4800S Digital Signal Processor Amplifier User Manual

Model: PZ-X4800S

1. INTRODUCTION

Thank you for choosing the PUZU PZ-X4800S Digital Signal Processor (DSP) with Built-in Amplifier. This advanced car audio device is designed to significantly enhance your vehicle's sound system, offering precise audio control and powerful amplification. Featuring a 6-core 32-bit DSP processor and 8 channels of high-level output, the PZ-X4800S provides exceptional sound quality and customization options. This manual will guide you through the installation, operation, and maintenance of your new DSP amplifier.



Figure 1.1: Top view of the PUZU PZ-X4800S DSP Amplifier, showcasing its compact design and input/output layout.

2. SAFETY INFORMATION

Please read all safety instructions carefully before installing and operating the device. Failure to follow these instructions may result in injury or damage to the device or vehicle.

- **Professional Installation Recommended:** Due to the complexity of car audio wiring, professional installation is highly recommended to ensure proper function and safety.
- **Power Disconnection:** Always disconnect the vehicle's battery negative terminal before beginning any installation work to prevent electrical shorts.
- **Proper Wiring:** Ensure all wiring is correctly connected according to the wiring diagrams. Incorrect wiring can cause damage to the unit or the vehicle's electrical system.
- **Ventilation:** Install the unit in a location with adequate ventilation to prevent overheating. Do not block ventilation openings.

- **Avoid Moisture:** Do not expose the unit to water or excessive moisture.
- **Secure Mounting:** Mount the unit securely to prevent it from moving during vehicle operation, which could cause injury or damage.

3. PACKAGE CONTENTS

Verify that all items are present in the package before proceeding with installation:

- PUZU PZ-X4800S DSP Amplifier Unit
- User Manual (this document)
- Power Harness
- Speaker Output Harness
- USB Cable (for PC connection)
- Mounting Screws and Brackets
- Optional Plug & Play Solution Cables (may vary by vehicle model, contact seller for specific vehicle harness)



Figure 3.1: The PZ-X4800S unit as it appears within its protective packaging.

4. PRODUCT OVERVIEW AND CONNECTIONS

The PZ-X4800S features a comprehensive set of inputs and outputs designed for versatile integration into various car audio systems.



Figure 4.1: Rear view of the PZ-X4800S, detailing the various input and output ports for audio and control.

4.1 Input/Output Ports:

- **High-Level Input:** 4-channel input for direct connection to factory head unit speaker outputs.
- **AUX-R/L Input:** Low-level RCA inputs for external audio sources.
- **Optical Input:** Digital audio input for high-fidelity sound.
- **USB Input:** For connecting to a PC for software tuning and firmware updates.
- **BT Input:** Bluetooth 5.0 for wireless audio streaming.
- **Speaker Outputs:** 8 channels of amplified output (8x150W MAX / 8x50W RMS) for connecting to speakers.
- **Power/Ground/Remote:** Connections for vehicle power, ground, and remote turn-on.

5. SETUP AND INSTALLATION

Proper installation is crucial for optimal performance. Follow these steps carefully.

5.1 Mounting the Unit:

- Choose a dry, well-ventilated location away from direct sunlight, heat sources, and moisture.
- Ensure sufficient space around the unit for air circulation.
- Secure the unit using the provided mounting screws and brackets to a stable surface in the vehicle.

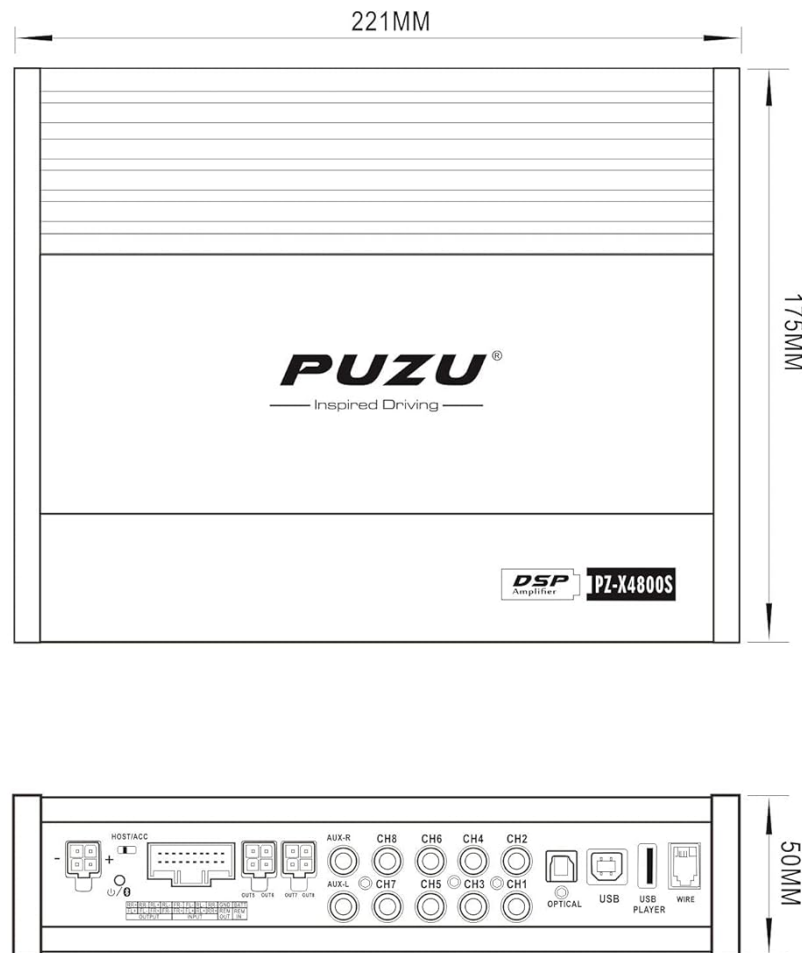


Figure 5.1: Dimensional diagram of the PZ-X4800S, indicating its length (221mm), width (175mm), and height (50mm) for installation planning.

5.2 Wiring Connections:

Before making any connections, ensure the vehicle's battery negative terminal is disconnected.

1. **Power Connection:** Connect the power harness to the unit. Connect the yellow wire (B+) to the vehicle's positive battery terminal (with an appropriate fuse, not supplied). Connect the black wire (GND) to a clean, unpainted metal surface on the vehicle chassis. Connect the blue wire (REM) to the head unit's remote turn-on output.
2. **Input Connections:**
 - For factory head units without RCA outputs, use the 4-channel high-level input harness.

- For aftermarket head units or external sources, use the AUX-R/L RCA inputs.
 - For digital audio, connect an optical cable to the Optical Input.
3. **Speaker Output Connections:** Connect your vehicle's speakers to the corresponding speaker output channels on the unit. Ensure correct polarity (+/-).
 4. **USB Connection:** Connect the provided USB cable from the unit to your laptop for software tuning.
 5. **Reconnect Battery:** Once all connections are secure, reconnect the vehicle's battery negative terminal.

5.3 Software Installation:

The PZ-X4800S can be configured using dedicated software for Windows PCs or an Android application.

- **Windows Software:** Download the latest software from the official PUZU website or the provided QR code/link. Install it on your PC.
- **Android App:** Search for the PUZU DSP app on the Google Play Store or scan the QR code provided in the quick start guide (if applicable).



8CH Multi-frequency mixing/time delay/sound tuning etc by windows software
you can switch the play mode USB/high level/Bluetooth/OPT etc.

Figure 5.2: The user interface of the PUZU DSP software, available for both Windows and Android devices, enabling comprehensive audio tuning.

6. OPERATING THE DSP AMPLIFIER

The PZ-X4800S offers extensive control over your audio system through its dedicated software.

6.1 Initial Power-On and Connection:

- Turn on your vehicle's ignition. The DSP amplifier should power on automatically via the remote turn-on wire.
- Launch the DSP software on your PC or Android device.
- Connect to the DSP unit via USB (for PC) or Bluetooth (for Android).

6.2 DSP Software Features:

The software provides a graphical interface to adjust various audio parameters:

- **Input Selection:** Switch between High-Level, AUX, Optical, USB, or Bluetooth inputs.
- **8 Built-in Modes:** Quickly switch between pre-configured sound profiles.
- **Equalizer (EQ):** 31-band graphic equalizer with adjustable Q-factor and gain (-20.0dB to +20dB) for precise frequency tuning.
- **Crossover Filters:** Set high-pass and low-pass filters for each channel with adjustable crossover points (20Hz-20KHz) and slopes (6dB to 48dB/octave). Supports Butterworth, Linkwitz-Riley, and Bessel filter types.
- **Time Delay/Alignment:** Adjust time delay for each channel (up to 20ms) to achieve optimal sound staging and imaging. Delay units can be set in milliseconds (ms), centimeters (cm), or inches.
- **Phase Control:** Invert the phase of individual channels to correct acoustic issues.
- **Gain Control:** Independently adjust the output gain for each channel.



Figure 6.1: Infographic highlighting key features of the PZ-X4800S, including its 6-core processor, app compatibility, 31-band EQ, and Plug & Play wiring.

6.3 Bluetooth Operation:

- Select "BT Input" in the DSP software or on the device (if applicable).
- On your mobile device, search for Bluetooth devices and select "PUZU PZ-X4800S" (or similar).
- Pair the devices. Once paired, you can stream audio wirelessly to the DSP amplifier.

7. MAINTENANCE

To ensure the longevity and optimal performance of your PZ-X4800S, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to wipe the unit. Do not use harsh chemicals, solvents, or abrasive cleaners.
- **Ventilation:** Periodically check that the ventilation fins are clear of dust and debris to prevent overheating.
- **Connections:** Ensure all wiring connections remain secure. Loose connections can lead to poor performance or damage.
- **Environment:** Avoid exposing the unit to extreme temperatures, direct sunlight for prolonged periods, or high humidity.

8. TROUBLESHOOTING

If you encounter issues with your PZ-X4800S, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No Power	Loose power/ground/remote wire; Blown fuse; Vehicle battery low.	Check all power connections. Verify fuse. Check vehicle battery voltage.
No Sound Output	Incorrect input selection; Muted channels in software; Loose speaker wires; Incorrect gain settings.	Verify input source. Check DSP software for muted channels or zero gain. Inspect speaker connections.
Distorted Sound	Input signal too high (clipping); Gain set too high; Incorrect EQ settings; Speaker impedance mismatch.	Reduce input level. Lower channel gain. Adjust EQ settings. Ensure speakers are compatible with amplifier output.
Software Connection Issues	Incorrect USB driver; Bluetooth not paired; Software version mismatch.	Reinstall USB drivers. Re-pair Bluetooth. Update DSP software to the latest version.
Unit Overheating	Insufficient ventilation; Prolonged high-volume operation.	Ensure unit has adequate airflow. Reduce volume or allow unit to cool down.

If the problem persists after trying these solutions, please contact PUZU customer support.

9. SPECIFICATIONS

Feature	Detail
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Feature	Detail
Model Number	PZ X4800S
Brand	PUZU
Number of Channels	8
Output Power (MAX)	8 x 150W
Output Power (RMS)	8 x 50W
DSP Processor	6-core 32-bit, 300MHz floating point
Inputs	4CH High-Level, AUX-R/L Low-Level, Optical, USB, Bluetooth 5.0
Frequency Range	20Hz ~ 20KHz (1Hz steps)
Equalizer	31-band, Q: 0.40~128 (0.01 steps), Gain: -20.0dB~+20dB (0.1dB steps)
Crossover Filters	High-pass, Low-pass; Types: Butterworth, Linkwitz-Riley, Bessel
Crossover Points	20Hz-20KHz (1Hz steps)
Slopes	6dB, 12dB, 18dB, 24dB, 30dB, 36dB, 42dB, 48dB/octave
Time Delay	Up to 20ms per channel (ms, cm, inch units)
Mounting Type	Freestanding
Dimensions (L x W x H)	221mm x 175mm x 50mm
Country of Origin	China

10. WARRANTY AND SUPPORT

The PUZU PZ-X4800S DSP Amplifier is manufactured by PUZU AUDIO. For warranty information, technical support, or service inquiries, please contact your original point of purchase or visit the official PUZU AUDIO website. Please have your product model number (PZ-X4800S) and purchase details ready when contacting support. For additional resources and updates, you may visit the [PUZU Store on Amazon](#).