

OSD Audio SMP500DSP

OSD Audio SMP500DSP Subwoofer Amplifier User Manual

Model: SMP500DSP

1. INTRODUCTION

Thank you for purchasing the OSD Audio SMP500DSP Subwoofer Amplifier. This manual provides detailed instructions for the proper installation, operation, and maintenance of your amplifier. Please read this manual thoroughly before using the product to ensure optimal performance and safety.

The OSD Audio SMP500DSP is a high-performance mono-channel Class D subwoofer amplifier designed to deliver powerful and clear low-frequency sound. It is ideal for enhancing the bass response in dedicated home theater systems and media rooms.

2. KEY FEATURES

- **Power Output:** Up to 800 watts peak / 400 watts RMS at 4 ohms, utilizing highly efficient Class D technology for cool operation.
- **DSP (Digital Signal Processing):** Onboard DSP for precise audio control and optimization.
- **Variable High-Cut Filter:** Adjustable filter to route higher frequencies to main speakers, improving low-frequency effects.
- **Control Features:** Front-mounted power, back panel adjustable gain, and a volume control limiter to protect woofers.
- **Input/Output Flexibility:** Low and high-level pass-through inputs/outputs for versatile connectivity.
- **Auto Sensing:** Automatic power on/off when an audio signal is detected.
- **Design:** Rack-mountable chassis for easy integration into existing setups.
- **Voltage:** Dual 100/220 voltage compatibility.
- **Certifications:** CE & ETL rated.
- **Included Accessories:** Remote control for convenient operation.

3. PRODUCT OVERVIEW

Familiarize yourself with the front and rear panels of the SMP500DSP amplifier.



Figure 3.1: Front and Rear Panel Overview of the SMP500DSP Amplifier. This image displays both the front panel with its display and control knob, and the rear panel showing all input/output connections and power switch.



Figure 3.2: Front Panel of the SMP500DSP Amplifier. This view highlights the power button, service port, digital display, and main volume/control knob.



Figure 3.3: Rear Panel of the SMP500DSP Amplifier. This image shows the various input and output terminals, including RCA line inputs/outputs, speaker level inputs/outputs, 12V trigger, and the AC voltage selector.

Front Panel Controls:

- **Power Button:** Turns the amplifier on or off.
- **Service Port:** Used for firmware updates and diagnostics.
- **Digital Display:** Shows current settings such as volume level and DSP parameters.
- **Control Knob:** Adjusts volume and navigates DSP menu options.



Figure 3.4: Detail of the Front Panel Display and Control Knob. This close-up shows the digital readout indicating volume and the tactile control knob for adjustments.

Rear Panel Connections:

- **Line In (RCA):** Stereo RCA inputs for connecting to a pre-amplifier or receiver.
- **Line Out (RCA):** Stereo RCA outputs for daisy-chaining to another amplifier or audio device.
- **Speaker Level In/Out:** High-level inputs and outputs for connecting directly to speaker outputs from a receiver or amplifier.
- **12V Trigger In/Out:** For integration with home automation systems, allowing the amplifier to turn on/off with other equipment.
- **Music On 12V Switch:** Selects between music sensing or 12V trigger for auto-on functionality.
- **Subwoofer Speaker Output:** Binding posts for connecting your passive subwoofer. Supports Class 2 wiring, 4Ω.



Figure 3.5: Detail of Subwoofer Speaker Output Terminals. This image focuses on the binding posts used for connecting the subwoofer speaker cables.



Figure 3.6: Detail of RCA and Speaker Level Inputs/Outputs. This close-up shows the various audio input and output options available on the rear panel.

- **AC Voltage Selector:** Switch to select between 110V and 220V operation. Ensure this is set correctly for your region before connecting power.
- **AC Power Inlet:** For connecting the included power cord.

4. SETUP AND INSTALLATION

4.1 Safety Precautions

- Always ensure the amplifier is disconnected from the power outlet before making any connections.
- Verify the AC Voltage Selector switch on the rear panel is set to the correct voltage for your region (110V or 220V) before plugging in the amplifier. Incorrect voltage selection can cause severe damage to the unit.
- Do not expose the amplifier to moisture or extreme temperatures.
- Ensure adequate ventilation around the amplifier to prevent overheating.

4.2 Placement

The SMP500DSP amplifier can be placed on a flat surface or rack-mounted. Choose a location that is dry, well-ventilated, and away from direct sunlight or heat sources. Allow sufficient space around the unit for airflow.

4.3 Connecting Your Subwoofer

1. Ensure the amplifier is powered off and unplugged.
2. Connect your passive subwoofer to the "Subwoofer Speaker Output" binding posts on the rear panel. Ensure correct polarity (+ to + and – to –).
3. The SMP500DSP supports a single 4-8 ohm subwoofer or two 8-ohm subwoofers.

4.4 Connecting to Your Audio System

There are two primary methods for connecting the SMP500DSP to your audio system:

Method A: Using RCA Line Level Inputs (Recommended)

1. If your receiver or pre-amplifier has a dedicated subwoofer or LFE (Low-Frequency Effects) output, connect an RCA cable from that output to the "Line In" (L or R, or both for stereo) on the SMP500DSP.
2. If your source has stereo RCA outputs, connect both L and R outputs to the "Line In" L and R on the amplifier.

Method B: Using Speaker Level Inputs

1. If your receiver does not have a dedicated subwoofer output, you can connect the speaker outputs of your receiver to the "Speaker Level In" terminals on the SMP500DSP.
2. Connect the main left and right speaker outputs from your receiver to the corresponding "Speaker Level In" terminals on the amplifier. Ensure correct polarity.
3. You can then use the "Speaker Level Out" terminals to connect to your main left and right speakers, allowing the amplifier to pass through the full range signal.

4.5 Power Connection

1. Double-check the AC Voltage Selector switch on the rear panel is set correctly (110V or 220V).
2. Connect the included power cord to the AC Power Inlet on the rear panel of the amplifier.
3. Plug the other end of the power cord into a suitable wall outlet.

5. OPERATION

5.1 Powering On/Off

- Press the Power button on the front panel to turn the amplifier on or off. The power indicator LED will illuminate when the unit is on.
- **Auto Sensing:** The amplifier features an auto-sensing function. When the "Music On 12V" switch is set to "Music On", the amplifier will automatically turn on when an audio signal is detected and enter standby mode after approximately 20 minutes of no signal.
- **12V Trigger:** If using the 12V trigger, set the "Music On 12V" switch to "12V". The amplifier will power on/off in sync with your connected equipment.

5.2 Adjusting Volume

Rotate the large control knob on the front panel to adjust the subwoofer's volume level. The digital display will show the current volume setting.

5.3 DSP Control and Settings

The SMP500DSP features onboard DSP for advanced audio customization. Use the control knob to navigate the DSP menu on the digital display. Press the knob to select options and rotate to change values.

Key DSP settings include:

- **High-Cut Filter (Crossover):** Adjusts the upper frequency limit of the subwoofer. This allows you to blend the subwoofer's output seamlessly with your main speakers. Typical settings range from 30Hz to 150Hz.
- **Phase Control:** Adjusts the phase of the subwoofer output (0° or 180°). This helps to ensure that the subwoofer's sound waves align correctly with your main speakers, preventing cancellation or reinforcement issues.
- **Gain/Level:** Fine-tunes the input sensitivity to match the output level of your source device.
- **Volume Control Limiter:** Sets a maximum volume level to prevent accidental overdriving of the subwoofer.

Refer to the on-screen DSP menu for specific navigation and adjustment instructions.

6. MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the amplifier. Do not use liquid cleaners or aerosols.
- **Ventilation:** Ensure that the ventilation openings on the amplifier are not blocked. Dust accumulation can be removed with a soft brush or vacuum cleaner.
- **Connections:** Periodically check all cable connections to ensure they are secure and free from corrosion.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
No power	Power cord not connected; AC Voltage Selector incorrect; Power outlet faulty.	Ensure power cord is securely plugged in. Verify AC Voltage Selector is set correctly (110V/220V). Try a different power outlet.
No sound from subwoofer	Incorrect input connection; Subwoofer cable loose/incorrect polarity; Volume too low; DSP settings incorrect.	Check all audio connections (RCA/speaker level). Ensure subwoofer cables are connected with correct polarity. Increase amplifier volume. Check DSP settings (e.g., gain, crossover).
Distorted sound	Volume too high; Input signal too strong; Subwoofer impedance mismatch.	Reduce amplifier volume. Adjust gain settings. Ensure subwoofer impedance matches amplifier specifications (4-8 ohms).
Amplifier turns off unexpectedly	Overheating; Auto-sensing timeout; Faulty power supply.	Ensure adequate ventilation. Check "Music On 12V" switch setting. If problem persists, contact customer support.

8. SPECIFICATIONS

Feature	Detail
Model Number	SMP500DSP
Output Power	800W Peak / 400W RMS @ 4 Ohms
Amplifier Type	Mono-Channel Class D

Feature	Detail
Number of Channels	1
DSP	Onboard Digital Signal Processing
Voltage	100V/220V Switchable
Item Dimensions (L x W x H)	15 x 5 x 6 inches
Item Weight	8 pounds
Mounting Type	Surface Mount / Rack Mountable
High-Cut Filter	Variable (30Hz - 150Hz)
Auto-On Sensitivity	5 mV
Auto-Off Time	20 minutes (no signal)
Total Harmonic Distortion (THD)	<1%
Certifications	CE, ETL Rated
UPC	819603013177

9. WARRANTY AND SUPPORT

9.1 Warranty Information

OSD Audio products are designed and manufactured to the highest quality standards. For specific warranty details regarding your SMP500DSP amplifier, please refer to the warranty card included with your product or visit the official OSD Audio website.

Generally, OSD Audio provides a limited warranty against defects in materials and workmanship under normal use. This warranty typically covers parts and labor for a specified period from the original date of purchase.

9.2 Customer Support


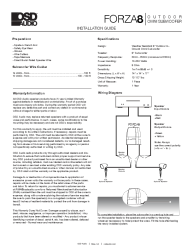




If you encounter any issues or have questions regarding your OSD Audio SMP500DSP amplifier that are not covered in this manual, please contact OSD Audio customer support:

- **Website:** www.osdaudio.com
- **Contact Information:** Refer to the "Contact Us" section on the official website for phone numbers and email support.

When contacting support, please have your product model number (SMP500DSP) and purchase information ready.



Related Documents - SMP500DSP

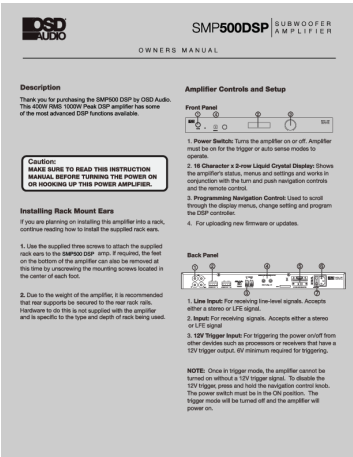
	<p>OSD Audio XSP2.1 Class D Digital 2.1 Power Amplifier User Guide</p> <p>Comprehensive user guide for the OSD Audio XSP2.1 2.1-channel Class D digital power amplifier, detailing safety instructions, features, setup, rear and front panel controls, technical specifications, and warranty information.</p>
	<p>OSD Forza 8 Outdoor Omni Subwoofer: Installation Guide & Specifications</p> <p>Learn how to install and get the most out of your OSD Forza 8 Outdoor Omni Subwoofer. This guide covers preparation, specifications, wiring, warranty, and installation tips for this weather-resistant 8-inch in-ground subwoofer.</p>
	<p>AVCOM AC-ASW-10 Home Cinema and Hi-Fi Subwoofer User Manual</p> <p>Comprehensive user manual for the AVCOM ACW-10 Active Subwoofer, detailing its features, functions, installation, optimal sound placement, and technical specifications for home cinema and hi-fi audio systems.</p>
	<p>Fosi Audio M01-BT Mono Subwoofer Amplifier User Guide & Specifications</p> <p>The Fosi Audio M01-BT is a versatile mono subwoofer amplifier and full-frequency amplifier. This guide details its product specifications, front and rear panel features, quick setup instructions, and troubleshooting tips for optimal audio performance.</p>
	<p>OSD Audio PAX50 Compact 70V/100V Commercial Amplifier User Guide</p> <p>User guide for the OSD Audio PAX50, a compact 70V/100V commercial amplifier. Details features, setup, connections, and specifications for this 50-watt Class D amplifier.</p>
	<p>OSD Audio XMP300BT Gen2 / XMP100BT Gen2 Stereo Power Amplifiers - Owner's Manual</p> <p>Detailed owner's manual for OSD Audio XMP300BT Gen2 and XMP100BT Gen2 stereo power amplifiers, covering features, setup, specifications, applications, safety instructions, warranty, and FCC compliance.</p>



[\[pdf\]](#) User Manual Installation Guide Specifications Dimension Guide Guide Warranty Diagram

BLACK XSUB Series OSD Audio See Diagram 3 Remove 2 of the outer layer speaker wire Carefully strip 1/2 HxWxD 21 0 x 18 9 75 inch manual rev2 10 20 osdaudio mm5 graphics s SERIES INSTALL GUIDE Specifications XSUB8 XSUB12 Warranty Information Optimal Speaker Design Brea CA Manual Woofer 8 Polypropylene Cone With Rubber Surround Power 300 Watts Max Freq Response 45 200Hz Sensitivity80 dB Impedance8 Ohm Dimensions 12 |||

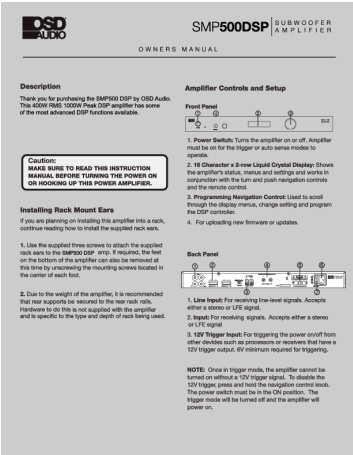
BLACK SERIES XSUB Series IN-GROUND SUBWOOFER INSTALL GUIDE BLACK SERIES XSUB INSTALL GUIDE Tools ... INSTALL GUIDE BLACK SERIES Step 3 Connect to a Mono Subwoofer Amplifier such as the OSD SMP300 or **SMP500DSP**. Please note, the yellow lead indicates positive signal and the black indicates negati... lang:en score:33 filesize: 985.6 K page_count: 3 document date: 2020-10-14



[\[pdf\]](#) User Manual Owner's Manual Installation Guide

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-UDIO **SMP500DSP** SUBWOOFER AMPLIFIER OWNERS MANUAL Description Thank you for purchasing the SMPS00 DSP by OSD Audio. This 400W RMS 1000W Peak DSP amplifier has some of the most advanced DSP functions available. Caution: MAKE SURE TO READ THIS INSTRUCTION MANUAL BEFORE TURNING THE POWER ON OR HOOKIN... lang:en score:32 filesize: 1.44 M page_count: 4 document date: 2023-01-26



[\[pdf\]](#) User Manual Owner's Manual

SMP500DSP manual Administrator Outdoor Speaker Depot OWNERS MANUAL Description Amplifier Controls and Setup Thank you for purchasing the SMP500 DSP by OSD Audio This 400W RMS 1000W Peak DSP amplifier has must be on trigger or auto sense modes to operate 2 16 Character x row Liquid Crystal Display Shows s status menus settings r1 t 1559145083 sep yimg ty cdn yhst 5323690727015 outdoorspeakerdepot mm5 graphics

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