

Stetsom STX2448FLT

Stetsom STX2448 FLOATING PRO Digital Signal Processor User Manual

Model: STX2448FLT

1. INTRODUCTION

The Stetsom STX2448 FLOATING PRO is an advanced digital signal processor (DSP) designed for professional audio applications, particularly in car audio systems. This device offers comprehensive control over audio signals, including crossover functions, graphic equalization, remote sequencing, subharmonic bass enhancement, and peak/RMS limiting. Its unique "Floating Mode" expands configuration possibilities, providing both Standard and PRO operational modes to suit diverse system requirements. This manual provides detailed instructions for the proper installation, operation, and maintenance of your STX2448 FLOATING PRO to ensure optimal performance and longevity.



Figure 1.1: Front view of the Stetsom STX2448 FLOATING PRO Digital Signal Processor. This image shows the main display, control knob, input level adjustment, and output hotkeys.

2. KEY FEATURES

The STX2448 FLOATING PRO incorporates several advanced features to enhance your audio experience:

- **Updated Version:** An enhanced version of the standard STX2448, offering additional features for superior audio

quality.

- **Float Mode:** Provides distinct operational flows and features compared to standard DSPs, allowing for diverse audio stream and resource loading. Available in Standard and PRO modes.
- **Dual Input Types:** Supports both RCA and High Signal inputs (for factory car stereos) on shared channels A & B.
- **Input Level Adjustment:** Allows precise control over input audio signals, with CLIP LEDs to indicate signal saturation on channels A & B.
- **Improved Encoder Button:** Features rotation and click actions for intuitive navigation through device configurations.
- **15-Band Graphic Equalizer:** For precise audio tuning.
- **Remote Sequencer:** Manages power-on sequencing for connected components.
- **Subharmonic Bass:** Enhances low-frequency response.
- **Limiter Peak & RMS:** Protects speakers and amplifiers from signal clipping.

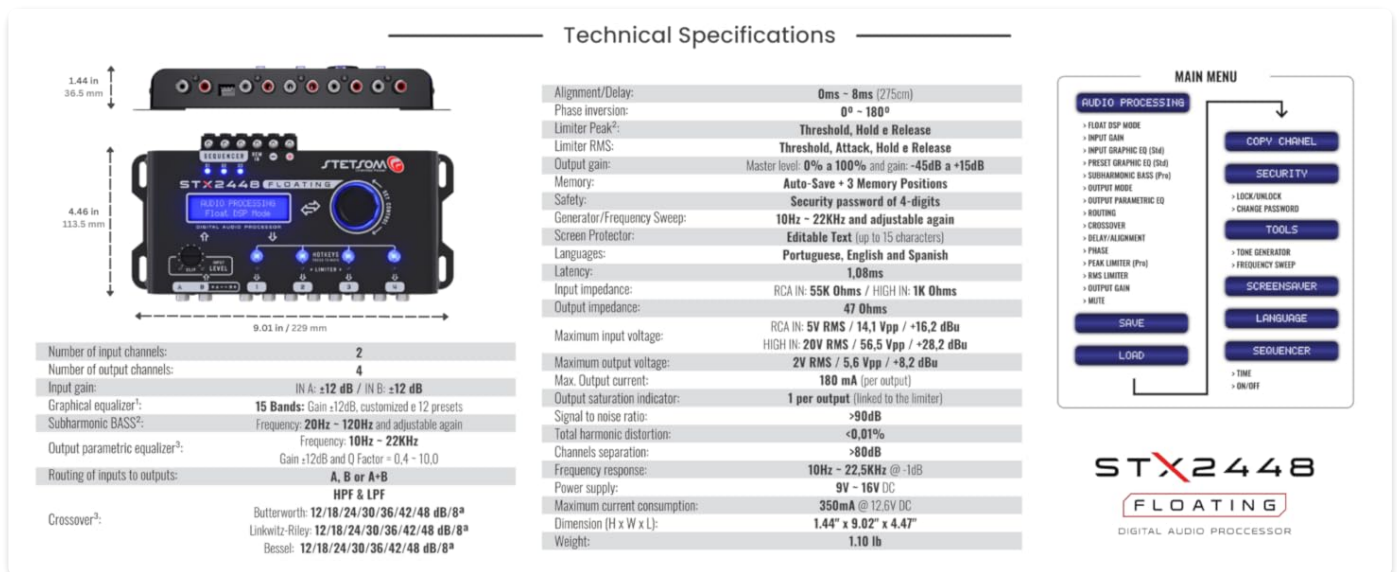


Figure 2.1: Visual representation of the STX2448 FLOATING PRO's main features, including robust connectors, RCA & High Input, Input Level Adjustment, Encoder Button, and Floating Mode.

3. SETUP AND INSTALLATION

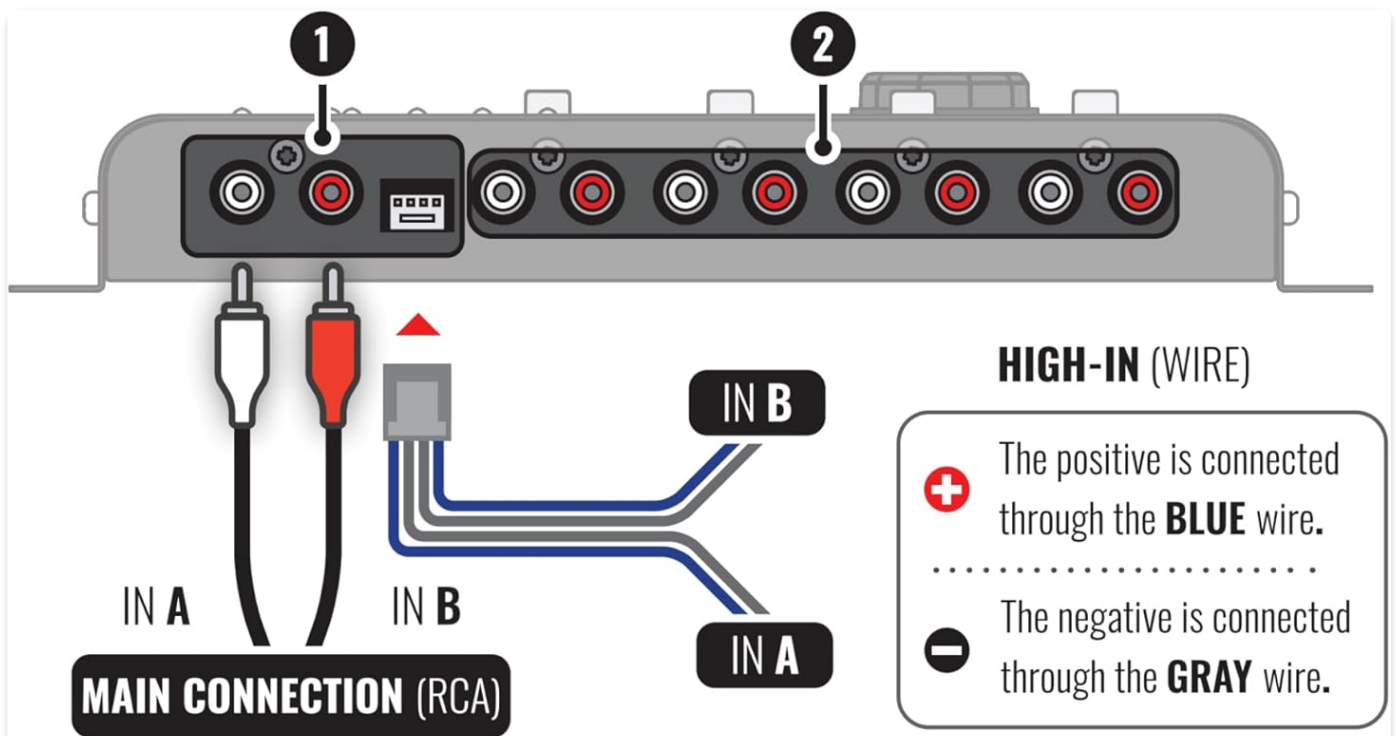
Proper installation is critical for the performance and safety of your STX2448 FLOATING PRO. Ensure all connections are secure and correctly polarized.

3.1. Input and Output Connections

The processor supports two types of audio inputs and provides four independent outputs.

- **Input (1):** The STX2448 FLOATING PRO features both RCA and HIGH (Wire Input) connections. Both input types share the same input channels (A and B). Select the appropriate input type based on your audio source.
- **Output (2):** It has 4 independent RCA outputs (L+R) designed for connecting to amplifiers and other audio devices. These outputs are processed according to the audio parameter changes configured by the user.

Important: Using RCA and HIGH INPUT connections simultaneously may generate unwanted noises or audio issues.



1 INPUT: The processor has two types of input connections: **RCA** and **HIGH (Wire Input)**. Both share the same input channels (**A and B**), use them according to your needs.

Using RCA and HIGH INPUT connections simultaneously may generate unwanted noises or audio issues.

2 OUTPUT: It has **4 independent RCA outputs (L+R)** for connecting amplifiers and other devices. These outputs are processed with the audio parameter changes made by the user.

Figure 3.1: Detailed diagram of the main RCA and High-In (wire) input connections, along with the independent RCA outputs. Note the positive (blue wire) and negative (gray wire) for High-In.

3.2. Power and Remote Connections

Connect the power and remote wires as shown in the diagram below. Ensure proper gauge wiring and fuse protection.

- **Positive (+):** Use a 13 AWG cable. Connect to the positive terminal of the battery. Install a 1A fuse within 30cm (12 inches) of the battery.
- **Negative (-):** Use a 13 AWG cable. Connect to a good chassis ground point.
- **REM (Remote In):** Use an 18 AWG cable. Connect to the remote output of your head unit (radio/player) to turn the DSP on and off with your audio system.
- **Sequencer (S1, S2, S3):** These outputs are used to control the power-on sequence of connected amplifiers, ensuring a smooth system startup.

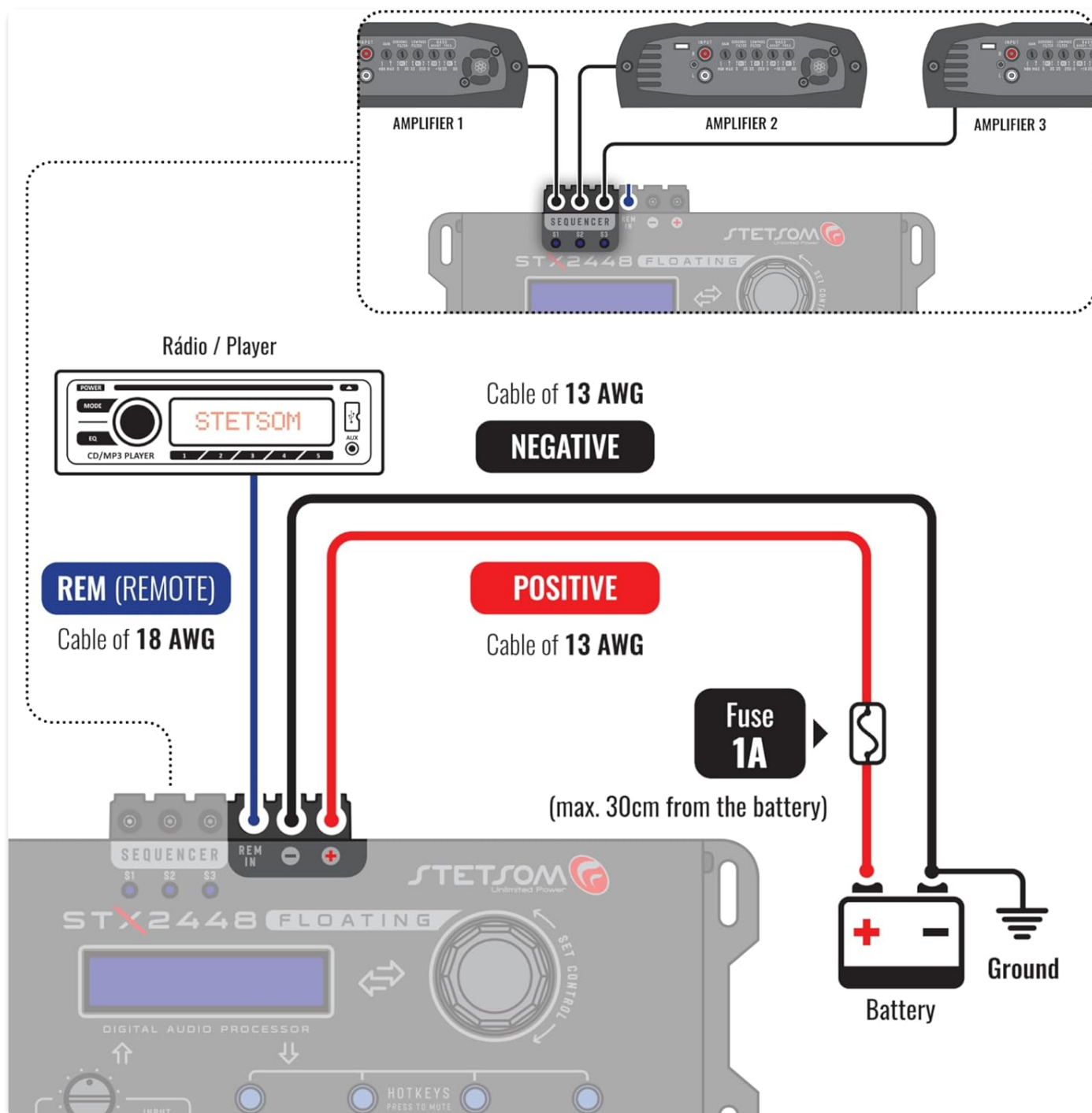


Figure 3.2: Comprehensive wiring diagram illustrating the power, ground, remote, and sequencer connections from the STX2448 FLOATING PRO to the car battery, radio, and amplifiers.

4. OPERATING INSTRUCTIONS

The STX2448 FLOATING PRO is controlled via its front panel display and encoder button, offering intuitive navigation through its various settings.

4.1. Display and Navigation

The blue LCD screen displays menu options and current settings. The encoder button, located on the right side of the unit, allows you to scroll through menus by rotating and select options by pressing.



Figure 4.1: Angled view highlighting the digital display and the multi-function encoder button for menu navigation and setting adjustments.

4.2. Floating DSP Mode

The unique Floating DSP mode offers two primary configurations:

- **Standard STD Mode:** Includes Input Gain, Graphic EQ 15-Band, Graphic EQ Presets, Output Parametric Equalizers, Routing, Crossover, Delay/Alignment, Phase Inversion, RMS Limiter, Output Gain, and Mute.
- **PRO Mode:** Expands on the Standard mode by adding Sub Harmonic Bass, Output Parametric Equalizers, Routing, Crossover, Delay/Alignment, Phase Inversion, Peak Limiter, RMS Limiter, Output Gain, and Mute.

Refer to the on-screen menu for specific adjustments within each mode.

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Figure 4.2: Block diagrams showing the signal flow and available features in both Standard and PRO Floating DSP modes.

4.3. Input Level Adjustment

Adjust the input level using the dedicated knob. The two LEDs (CLIP) next to the input level knob indicate if the input

signal is saturated. Adjust the level until the CLIP LEDs do not illuminate, ensuring a clean signal.

4.4. Hotkeys

The four hotkeys (1, 2, 3, 4) provide quick access to specific functions, often related to output muting or limiter control. Refer to the on-screen prompts for their current assignments.

5. MAINTENANCE

To ensure the longevity and optimal performance of your STX2448 FLOATING PRO, follow these simple maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the unit. Avoid using abrasive cleaners, solvents, or harsh chemicals, as they can damage the finish or internal components.
- **Ventilation:** Ensure the unit has adequate ventilation. Do not block any vents or install the unit in an enclosed space without proper airflow.
- **Environmental Conditions:** Avoid exposing the unit to extreme temperatures, direct sunlight, high humidity, or excessive dust.
- **Connections:** Periodically check all wiring connections to ensure they are secure and free from corrosion. Loose connections can lead to signal loss or intermittent issues.

6. TROUBLESHOOTING

If you encounter issues with your STX2448 FLOATING PRO, refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
No Power	<ul style="list-style-type: none">• Blown fuse• Loose power/ground connection• Remote wire not connected or no signal	<ul style="list-style-type: none">• Check and replace 1A fuse near battery.• Verify all power and ground connections are secure.• Ensure remote wire is connected to a switched 12V source from the head unit.
No Audio Output	<ul style="list-style-type: none">• Incorrect input selection• Loose RCA cables• Output muted in DSP settings• Amplifier not powered on	<ul style="list-style-type: none">• Verify correct input (RCA/High) is selected in DSP.• Check all RCA connections at both the DSP and amplifiers.• Ensure outputs are not muted in the DSP menu.• Check amplifier power and remote connections.
Distorted Sound / Clipping	<ul style="list-style-type: none">• Input signal too high• Output level too high• Limiter settings incorrect	<ul style="list-style-type: none">• Adjust input level using the knob until CLIP LEDs no longer illuminate.• Reduce output gain settings in the DSP.• Review and adjust limiter threshold settings.
Unwanted Noise (Hiss, Whine)	<ul style="list-style-type: none">• Ground loop issue• Poor cable shielding• Simultaneous RCA and High-In use	<ul style="list-style-type: none">• Ensure proper grounding for all components.• Use high-quality shielded RCA cables.• Do not use RCA and High-In simultaneously.

7. SPECIFICATIONS

Detailed technical specifications for the Stetsom STX2448 FLOATING PRO Digital Signal Processor:

Feature	Specification
Number of Input Channels	2
Number of Output Channels	4
Input Gain	-12 dB / +12 dB
Graphical Equalizer	15 Bands, Gain ± 12 dB, customizable 12 presets
Subharmonic Bass	Frequency 20Hz - 120Hz and adjustable gain
Output Parametric Equalizer	Frequency 10Hz - 22kHz, Gain ± 12 dB, Q Factor 0.4 - 10.0
Routing of Inputs to Outputs	A, B or A+B
Crossover	HPF & LPF, Butterworth, Linkwitz-Riley, Bessel (6/12/18/24/36/48 dB/8 ^a)
Alignment/Delay	0ms - 8ms (275cm)
Phase Inversion	0° - 180°
Limiter Peak	Threshold, Hold & Release
Limiter RMS	Threshold, Attack, Hold & Release
Output Gain	Master level 0% to 100% and gain ± 15 dB
Memory	Auto-Save, 3 Memory Positions
Security	Security password of 4-digits
Generator Frequency Sweep	10Hz - 22kHz and adjustable gain
Editable Text	Up to 15 characters
Languages	Portuguese, English and Spanish
Latency	1.08ms
Input Impedance	RCA In: 55K Ohms / HIGH In: 1K Ohms
Output Impedance	47 Ohms
Maximum Input Voltage	RCA In: 5V RMS / 14.1 Vpp / 10.2 dBu; HIGH In: 20V RMS / 56.6 Vpp / 26.2 dBu
Maximum Output Voltage	2V RMS / 5.6 Vpp / 8.2 dBu
Output Max Current	100 mA (per output)
Output Saturation Indicator	1 per output (linked to the limiter)
Signal to Noise Ratio	>90dB
Total Harmonic Distortion	<0.01%
Channels Separation	>80dB

Feature	Specification
Frequency Response	10Hz - 22,500Hz @ -1dB
Power Supply	9V - 16V DC
Maximum Current Consumption	350mA @ 12.6V DC
Dimensions (H x W x L)	1.44" x 9.02" x 4.47" (36.5mm x 229mm x 113.5mm)
Weight	1.10 lbs (0.50 kg)



Figure 7.1: Physical dimensions (length, width, height) and weight of the STX2448 FLOATING PRO unit.



Figure 7.2: Comprehensive table of technical specifications, including audio parameters, power requirements, and physical characteristics.

8. WARRANTY AND SUPPORT

For warranty information, please refer to the documentation included with your product packaging or visit the official Stetsom website. Stetsom products are designed for reliability and performance, backed by a commitment to quality. For technical support, frequently asked questions, or to download the latest software/firmware updates, please visit the official Stetsom website: [Stetsom Official Store on Amazon](#).

Related Documents

	<p>STETSOM STX2848 Processador de Áudio Digital: Manual do Usuário</p> <p>Guia completo para o STETSOM STX2848, um processador de áudio digital com DSP que oferece equalização, crossover, alinhamento e controle avançado para sistemas de som. Inclui recursos como sequenciador e gerenciamento de fase.</p>
	<p>Manual do Usuário STETSOM STX2448 Processador de Áudio Digital</p> <p>Guia completo para o processador de áudio digital STETSOM STX2448, cobrindo instalação, recursos, configurações e especificações técnicas para otimizar seu sistema de som automotivo.</p>



[Stetsom STX2436BT Digital Audio Processor User Manual](#)

User manual for the Stetsom STX2436BT Digital Audio Processor, detailing its features, installation, app usage, troubleshooting, and technical specifications.



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