

SX408A

AUDAC

PROFESSIONAL AUDIO EQUIPMENT

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SX408A Active Subwoofer System



# User Manual & Installation Guide

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## Introduction

*This section briefly describes the possibilities of the SX408A active subwoofer system.*

**T**he SX408A is an active powerful tandem ported 150W subwoofer with a special constructed 8" driver that is capable of producing an incredibly powerful and clear bass sound. It's frequency response is as low as 37 Hz at -10 dB, and the frequency characteristic is very flat from 37 Hz to 120 Hz. This way, the sound coming from this piece of equipment is absolutely magnificent.

It contains an integrated class H amplifier, which ensures a high efficiency level with very low distortion. This amplifier delivers an output power of 100 Watt to the subwoofer. Besides this, it also contains an active crossover network with a frequency of 120 Hz, and two output channels for powering satellite loudspeakers.

The two amplified satellite outputs deliver a maximum power of 2 x 100 Watt at 8 Ohm or 2 x 160 Watt at 4 Ohm. The minimum load is 4 Ohm.

For protection reasons, a built-in limiter is provided to limit the input signal when necessary. This limiter consists of three separate stages, one for every channel. This ensures the best sound quality with the least distortion for optimal performance. Power, Signal and Clip LED's monitor the proper working of the integrated amplifier.

Besides the high efficiency of the class H amplifier, the SX408A also contains an automatic power on/off circuit to ensure the highest energy-efficiency. The volume of the Sub and satellite channels is individually controllable at the back of the subwoofer with two potentiometers, and the general volume can be controlled by an external volume control or wall panel, by connecting it to the built-in RJ45 connector.

This all makes the SX408A a simple but complete solution for a wide variation of fixed audio installations. The balanced input connections are just as the satellite speaker output connections made with euro block terminal connectors. There is the possibility to connect two satellite speakers with an impedance of 8 Ohm on each channel.

## Environment

**Do not place this unit in an enclosed environment such as a bookshelf or closet. Ensure that there is adequate ventilation to cool the unit.**

**Do not place the unit in environments which contain high levels of dust, heat, moisture or vibration.**

**Do not use the unit near water or other liquids. Make sure no water or other liquids can be spilled, dripped or splashed on the unit.**

**This unit was developed for indoor use only. Do not use it outdoors.**

**Do not place objects on top of the unit.**

## Safety Requirements

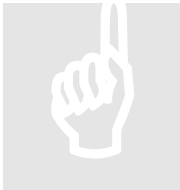
**Always handle the unit with care.**

**Only use a grounded socket outlet and a power cord with grounding plug to plug in the unit.**

**This unit is not a toy. It should not be operated by children.**

**Do not stick objects through the openings.**

**Do not open the unit (risk for electrical shock).**



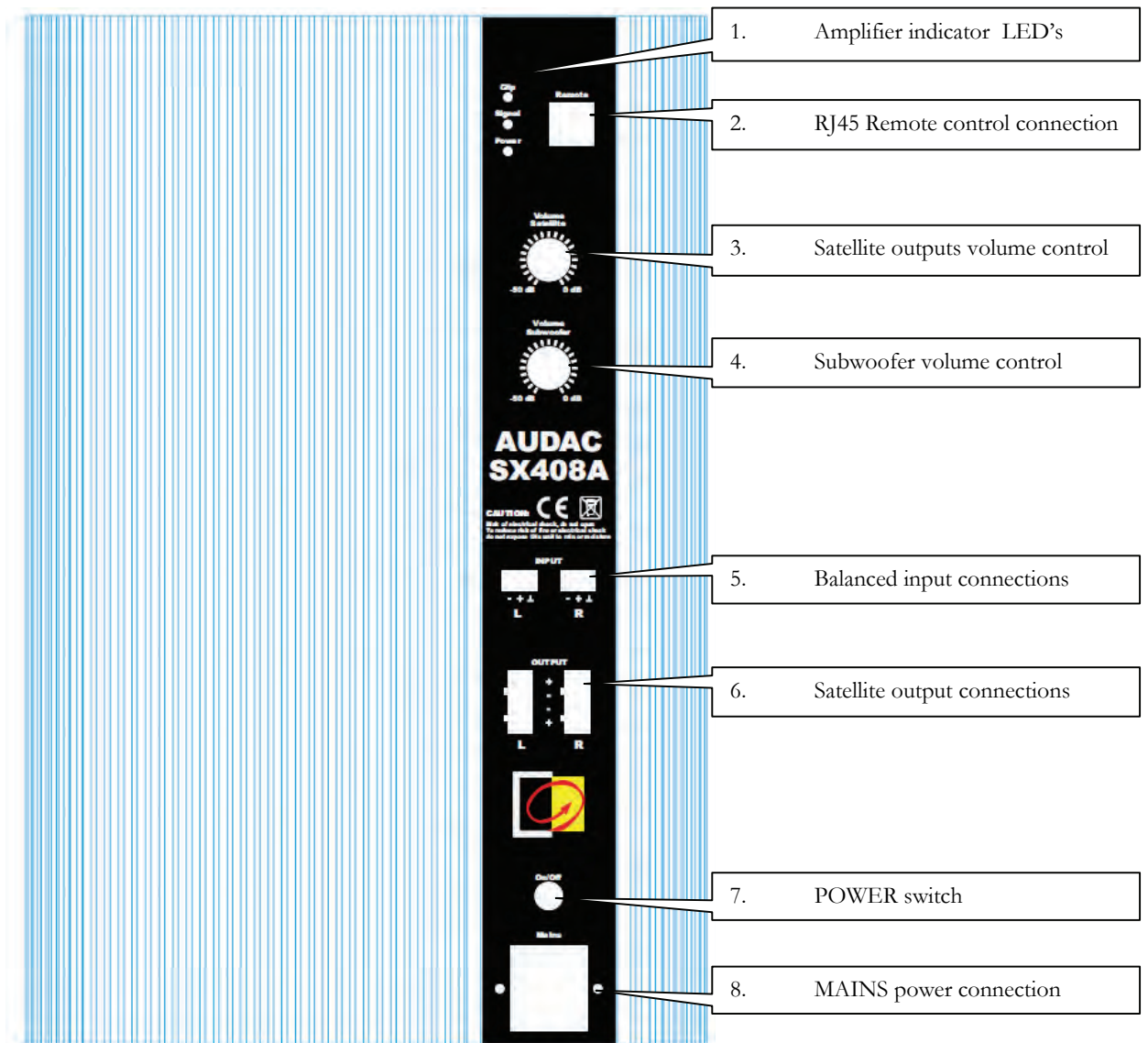
### CAUTION – SERVICING

This unit contains no user serviceable parts. Refer all servicing to qualified service personnel. Do not perform any servicing unless you are qualified to do so.

### Note

This product conforms to the following European Standards: EN 50081-1: 1992, EN 50082-1: 1992, EN 60065: 19

Overview rear panel



## Rear panel description

### 1) Amplifier indicator LED's

There three LED's monitor the proper working if the integrated amplifier.

- **Power LED:**

When the power switch is turned on, and the amplifiers mains power connection is connected to an AC power supply, this indicator will light up to let you know that the system is ready for operation.

When the LED lights up **green**, the amplifier is switched on, and ready to rock and roll.

When the LED lights up **orange**, the amplifier is in stand-by mode. This means that there is no input signal present. The amplifier will switch automatically ON when an input signal is applied.

- **Signal LED:**

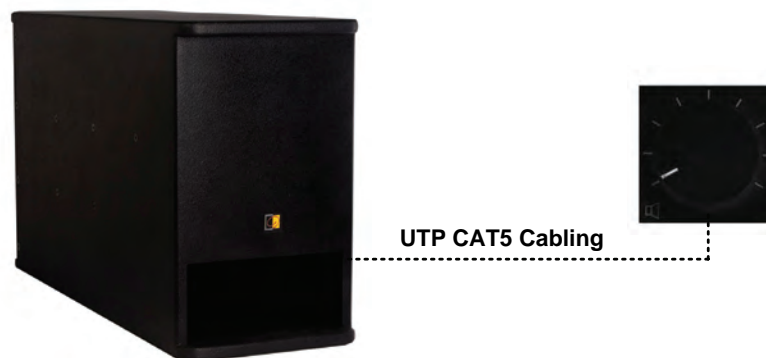
This LED illuminates whenever there is a signal present at the input connectors.

- **Clip LED:**

The SX408A has a built-in limiter that prevents the outputs from overdriving. When the Clip LED lights up frequently, the level must be reduced, because the maximum power is reached.

### 2) RJ45 remote control connection

On this RJ45 connection, an optional VC4008 volume controller can be connected through UTP cabling. With this volume controller, the general volume of the integrated amplifier can be set, of both the satellite and subwoofer channels.





### 3) Satellite volume control

With this dial, the output level of the satellite channels can be set. The attenuation of the signal can be set between 0dB and -50dB by rotating the dial.

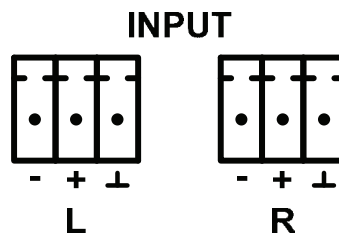
### 4) Subwoofer volume control

With this dial, the output level of the subwoofer channel can be set. The attenuation of the signal can be set between 0dB and -50dB by rotating the dial.

**It is important to find a good balance between the high and low tones by using the Satellite and Subwoofer volume controls. The perfect balance will depend on the application and on the location. For vocal applications there will be a different ideal balance than for music applications.**

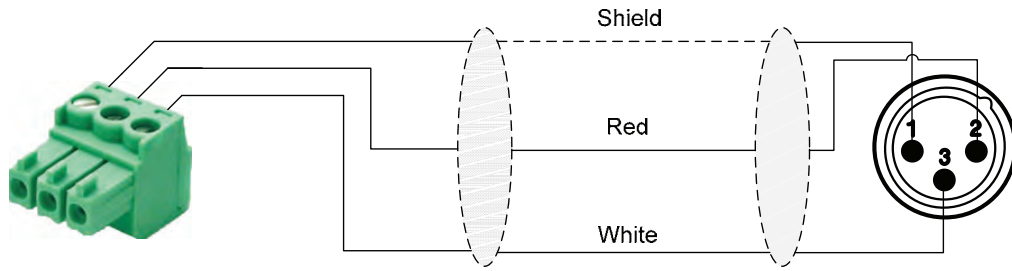
### 5) Balanced input connections

These euro terminal input connections accept a balanced line level input signal. An input signal can be fed from a mixing console or other signal source.

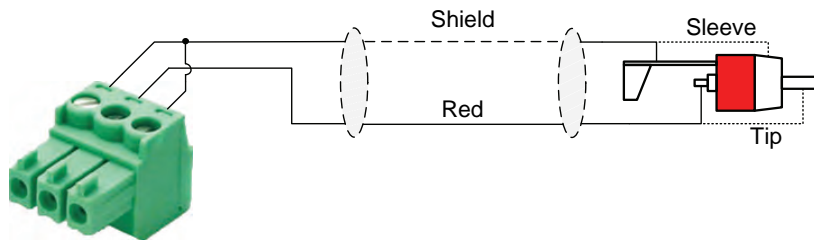


To connect the system to a music source with balanced XLR output connectors, or with unbalanced RCA/Cinch output connectors, the connection cables should be connected according to the following schematics:

**Balanced:**



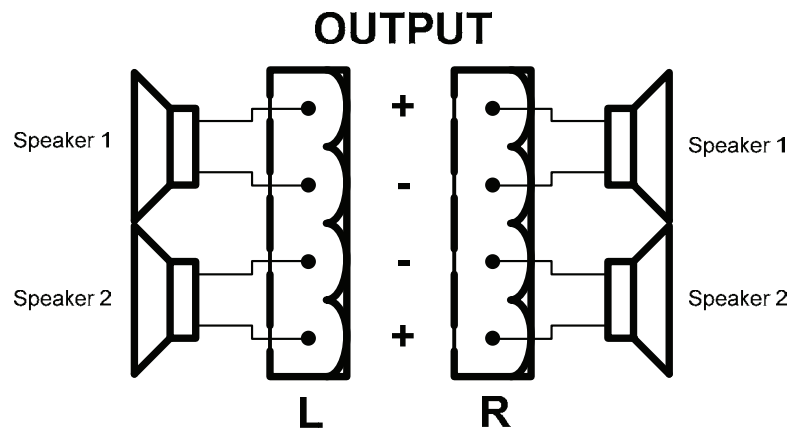
**Unbalanced:**



**6) Satellite output connections**

On these euro terminal output connections is the amplified output signal present with a frequency above 120Hz. Connect these to the satellite speakers.

A total of 4 speakers with an impedance of 8 Ohm can be connected to these output connections. The total impedance load should not be lower than 4 Ohms.



## 7) POWER switch

Use this switch to turn the SX408A on and off. The signal LED lights up green to indicate when the SX408A is powered up.

**Note:** The cabinet will automatically turn off when there is no signal present on the input (after about 30 seconds).

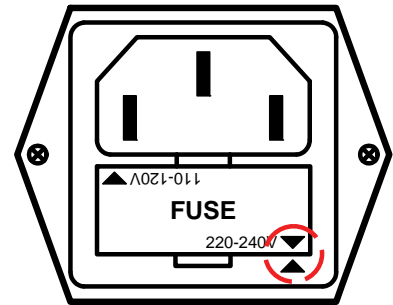
## 8) MAINS power connection

This is where you connect the AC line cord to provide AC power to the SX408A's integrated amplifier. The input connection is performed using IEC power connectors.

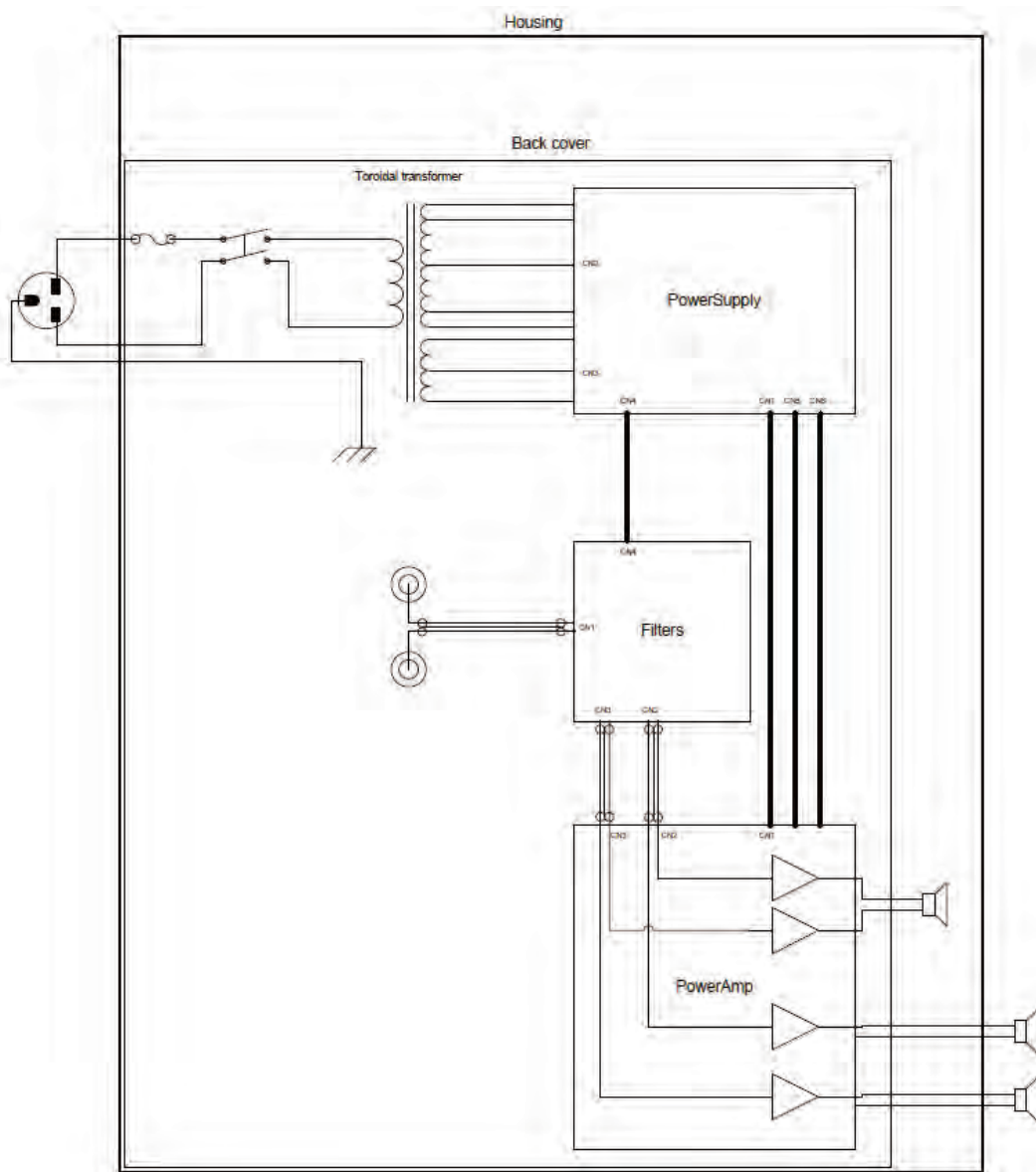
The SX408A is factory default set to be used on 220 – 240 Volt AC mains networks. But it can be switched to be used on 110 – 120 Volt AC mains networks.

To change the SX408A to be used on 110 – 120 Volt, you have take out the fuse compartment, and turn it over. To make sure it is set to the right mains voltage, check if the two arrows on the fuse department match with the right voltage.

Replace the fuse of the SX408A only with a fuse that matches the specifications of the original one. (T4A / 250V)



Block Diagram



## SX408A Set Solutions

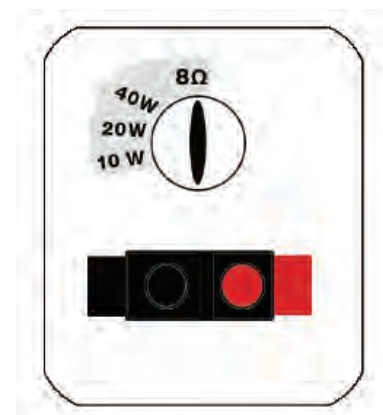
FESTA 400

4 x WX502 + SX408A



Make sure that the WX502 loudspeakers which will be used in combination with the SX408A are set to 8 Ohm impedance.

This can be done by turning the power tap adjustment screw on the rear of the speaker to 8 Ohm.



## CONGRESS 400

2 x AXIR + SX408A



Make sure that the AXIR design column speakers which will be used in combination with the SX408A are switched to Low Impedance (6 Ohm).

This can be done by removing the front cover plate with the AUDAC logo very carefully. This can be done by pressing on the upper or lower side of this plate, or by sticking carefully a flat object under the cover plate (e.g. a small screwdriver). The cover plate must be coming loose without performing large forces.

After the cover plate is removed, the two power tap selector switches are visible.

To switch the AXIR to Low impedance, the internal switches of the speaker must be turned over. To reach the internal switches, the plate with the two power tap selectors should be removed. This can be done by loosening the 6 Phillips screws whereby it is attached.

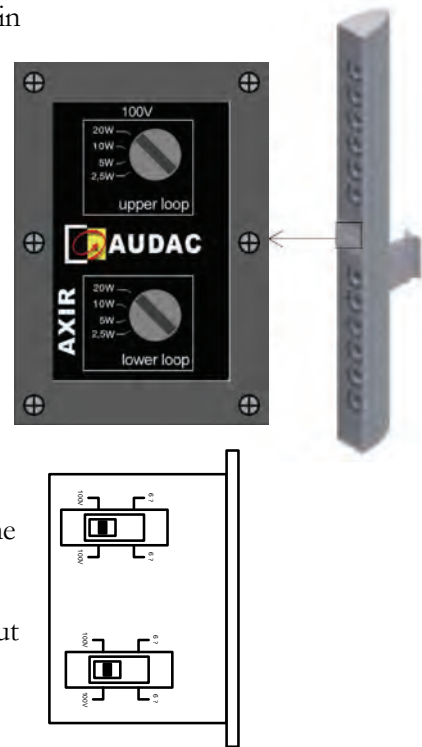
Once these screws are loose, the plate can be carefully removed out of the speaker. (Be careful with the wiring inside the speaker)

Then you will see that there are two switches provided at the side of this plate. These switches are meant to convert the speaker for use in 100V or low impedance applications.

Set these switches to Low Impedance to be used in combination to the SX408A.

After this is done, the speaker can be assembled again as it was originally.

**⚠ Warning:** Make sure that the two switches are always both in the same position. Make sure that it never occurs that one of them is on 100V and the other is in low impedance position.



## Additional Information

Crossover:           Lowpass: -3dB 120Hz           -6dB 146Hz           -24dB/Oct  
                          Highpass: -3dB 110Hz           -6dB 83Hz            12dB/Oct

Input impedance: 30k Ohm single ended  
                          30k Ohm balanced differential

Sensitivity:           400 mV clip led on  
                          570 mV max output signal

Max input level : 1V limited by limiter

Rated power:        Sub:   100W 8 Ohm           50Hz

                          THD: < 0.2 80W

                          Top:   160W 4 Ohm           1kHz  
                                  100W 8 Ohm           1kHz

                          THD: < 0.2 160W

Line power:         Standby:       8W   10VA  
                          No music:     18W  21VA  
                          Music:        400W 530VA

Full Power sine wave (load Top 4 Ohm / Sub 8 Ohm)  
                          60Hz: 240W 320VA  
                          1Khz: 600W 740VA

Signal Noise ratio: Sub: -100 dB  
                          Top: -100 dB

Personal notes