

FISHMAN[®]

**USER GUIDE
SA SUB**

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Whenever this symbol appears, it alerts you to the presence of important operating and maintenance (servicing) instructions in the user's manual for this amplifier.






Whenever this symbol appears, it alerts you to the presence of uninsulated dangerous voltage inside the enclosure that may be sufficient to constitute a risk of shock.

	CAUTION Risk of electric shock. Do not open.	
No user serviceable parts inside. Refer servicing to qualified personnel. Do not expose to rain or moisture.		

Important Safety Instructions

To ensure your personal safety and the safety of others, operate this apparatus only after reading these instructions and heeding the warnings listed below.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block the ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at the plugs, convenience receptacles and the point where they exit from the apparatus.
11. Use only attachments/accessories specified by the manufacturer.
12.  Use only with a cart, stand, tripod, bracket or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as a power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Do not expose the apparatus to dripping or splashing liquids and do not place objects filled with liquids (such as a beverage container or a vase) on the apparatus.
16. Warning" To reduce the risk of fire or electric shock, do not expose this apparatus to moisture.
17.  The device is designed and evaluated under the condition of non-tropical climate; and, it can be only used in locations in non-tropical climate areas. Using the device in tropical climate areas would result in high safety risk.
18. Normal operating environmental temperature range: 0 °C [32 °F] to 40 °C [104 °F].
19.  The apparatus should be connected to mains outlet with a protective earthing connection.
20. No naked flame sources, such as lighted candles, should be placed on the apparatus.
21. Do not install this equipment in a confined or building-in space such as a book case or similar unit, and remain a well ventilation conditions at open site. The ventilation should not be impeded by covering the ventilation openings with items such as newspaper, table-cloths, curtains etc.



The mains plug/appliance coupler is used as disconnect device, the disconnect device shall remain readily operable.

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Hear This!

The SA Sub amplifier is capable of cleanly reproducing the sound of your instrument at very high volume levels. Prolonged repeated exposure to high sound pressure levels (SPLs) without protection can cause permanent hearing loss. OSHA has set guidelines and specified permissible sound-exposure limits for those who work in high SPL environments.

Permissible Noise Exposures

Duration per day, hours Sound level dBA slow response

8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 or less	115

To ensure against permanent hearing loss, wear hearing protection when you perform with amplification.



This symbol means the product must not be discarded as household waste, and should be delivered to an appropriate collection facility for recycling. For more information on disposal and recycling of this product, Contact your local municipality, disposal service, or the shop where you bought this product.

FCC Compliance Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTE: Fishman Transducers, Inc. is not responsible for unauthorized equipment modifications that could violate FCC rules, and/ or void product safety certifications.

EU Declaration of Conformity CE: Hereby, Fishman declares that this SA Sub is in compliance with the essential requirements and other relevant provisions of Directive 2014/30/EU, 2014/35/EU. The Declaration of Conformity can be found at www.fishman.com/support.

Welcome

Thank you for choosing Fishman. We are proud to offer you professional-grade amplification products and accessories that will empower you to sound your very best.

Please read through this User Guide to familiarize yourself with the operation of your SA Sub. Additional information and support can be found at www.fishman.com.

Controls

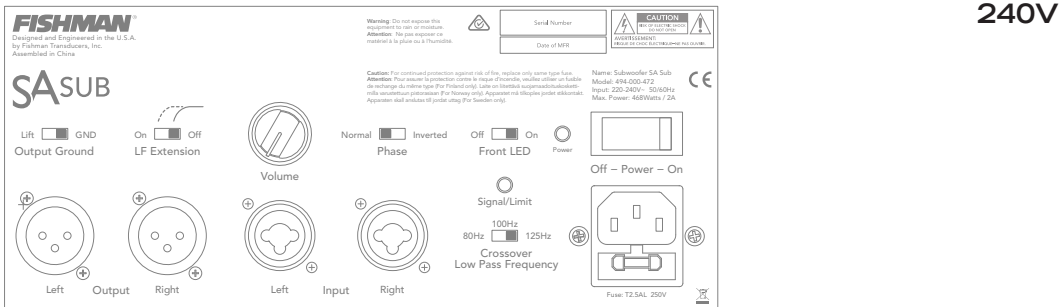
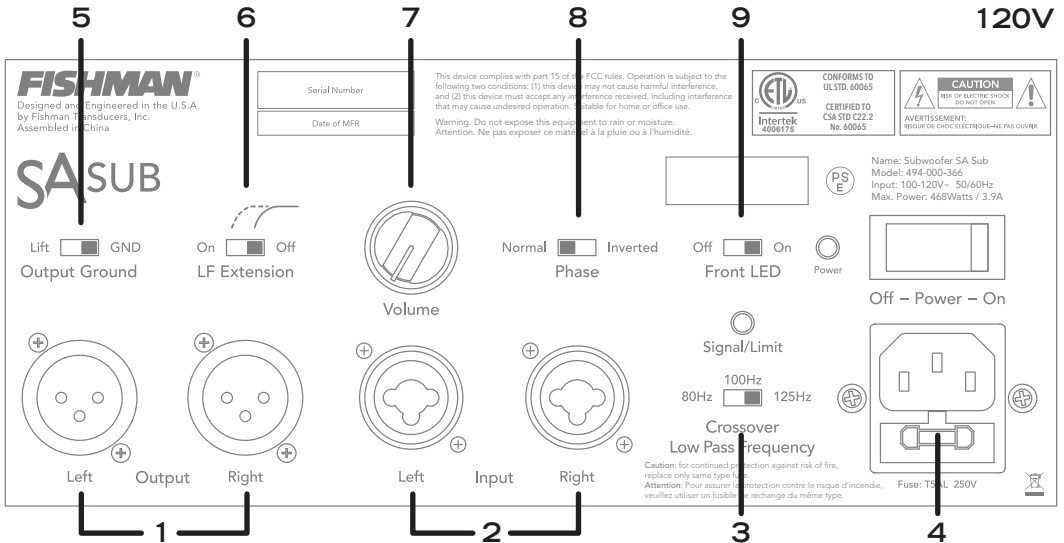
- 1. Outputs** – The Left and Right outputs are direct feed through connections from their corresponding inputs. They can be used to daisy chain the left and right full range signals to additional SA Sub units. There is no buffering, filtering, or mono-summing between Input and Output.
- 2. Inputs** – The Left and Right inputs are fully balanced and can accept both XLR and ¼" TRS audio signals. The Left and Right signals are summed to mono internally to drive the SA Sub.
- 3. Crossover Low Pass Frequency** – This switch selects the SA Sub Crossover Frequency, tailoring the frequency response to seamlessly blend with the overall speaker system. **When using an SA330x, start by setting this to 100Hz.**
- 4. AC Power Switch & AC Power Inlet** – Connect the supplied, detachable AC power cable here and the other end to an AC mains power outlet appropriate for your region.
- 5. Output Ground** – When connecting the outputs to additional devices, this switch can be used to alleviate ground loop induced hum and noise in some situations. Start with the switch in the **GND** position. If ground loop noise occurs, use the **Lift** position to interrupt the loop. If the noise does not change or gets worse, return the switch to GND, and troubleshoot for alternative causes.
- 6. LF Extension (Low Frequency)** – Setting this control to **On** provides the deepest bass extension when you need it. The **Off** setting can be useful to tighten up "boomy" sound from rooms or program material that over-emphasize the lowest octaves.
- 7. Volume** – This control sets the overall level of the SA Sub. It's a good practice to match the level of the SA Sub with SA330x (or other amplifier system), then use the master volume on the SA330x to adjust the overall system volume. **When using with SA330x, start with the SA Sub volume in the middle (12 o'clock) position, and then adjust to taste.**

Controls (cont'd)

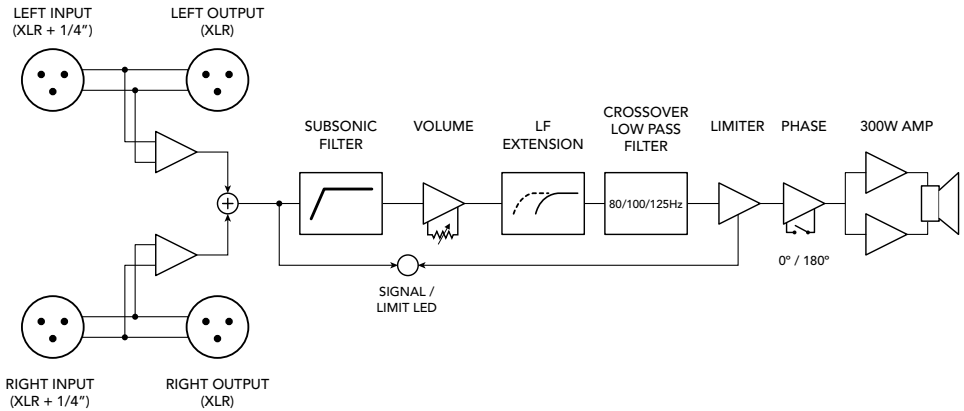
8. Phase – It is recommended to start with this switch set to **Normal**, and whenever in doubt, leave it in that position.

The **Inverted** setting can be used to phase align the crossover frequency between sub and main speakers to compensate for unusual placement and distance differences. This is only recommended for experienced professionals with access to acoustic test equipment. When using multiple SA Sub's, it is recommended that **Phase** be set the same on all units. For example, Two SA Sub's set to opposite Phase in the same room will tend to cancel each other in most locations, and should be avoided.

9. Front LED – SA Sub has a Power indicator on both the front and back for convenient viewing. In cases where the **Front LED** may be distracting, it can be turned **Off** by setting the switch to that position.



Block Diagram



Technical Specifications

Input Impedance:

1/4" Input	20k Ohm unbalanced 40k Ohm balanced
XLR Input	40k Ohm balanced

Full Range Output:

Direct Pass Through
Switchable ground lift

Speaker System:

Driver	8" custom-designed woofer, ferrite magnet
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Amplifier:

Woofers	300W rms; 600W peak
Frequency Response	30Hz – 125Hz

Crossover Low Pass Filters:

Frequencies	80Hz, 100Hz, 125Hz
Filter Slope	24dB / octave

Power Consumption: 300W max

Physical:

Dimensions	14.4" H x 10.3" W x 19.8" D 366mm H x 260mm W x 503mm D
Weight	30lbs (13.6 kg)

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