



# O Audio 300W BASH<sup>®</sup> Subwoofer Amplifier

## User's Manual



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## INTRODUCTION:

Thanks for purchasing the O Audio 300W BASH<sup>®</sup> Subwoofer Amplifier. This amplifier features BASH<sup>®</sup> technology which enables a high output power amplifier in a small package.

Traditional Class AB amplifiers use a fixed voltage power supply. This approach is wasteful and necessitates extensive heatsinking, particularly for high power amplifiers such as this one. Additionally, primitive unregulated power supplies are typically used that require a substantial, and expensive, transformer to assure stable supply voltages over a range of load conditions. Inexpensive subwoofer plate amplifiers typically skimp on the transformer size in the interest of low cost.

BASH<sup>®</sup> amplifier technology marries a robust Class AB amplifier with a smart power supply that adaptively provides the necessary output voltage required to produce low-distortion output power. The O Audio 300W BASH<sup>®</sup> Subwoofer Amplifier will produce up to 300W RMS into a 4 $\Omega$  load at a Total Harmonic Distortion (THD) of less than 0.09% and less than 0.04% between 0W – 275W. With an 8 $\Omega$  load, the amplifier will produce up to 150W RMS at a THD less than 0.05%. Soft limiting circuitry is active above 150W (into an 8 $\Omega$  load).

In addition to BASH<sup>®</sup> amplifier technology, the O Audio 300W BASH<sup>®</sup> Subwoofer Amplifier includes the essential continuously variable controls (output level, phase, and crossover frequency) necessary to integrate a subwoofer into your listening environment.



## WARNINGS AND CAUTIONS:

WARNING – THIS AMPLIFIER MODULE IS DESIGNED FOR INSTALLATION INTO A SUBWOOFER ENCLOSURE, OR INTO ITS OWN ENCLOSURE. WHEN PROPERLY INSTALLED, ONLY THE EXTERIOR FACEPLATE SHOULD BE ACCESSIBLE TO THE USER – ANY OTHER CONFIGURATION IS NOT SAFE FOR THE CASUAL USER. IT IS IMPORTANT THAT THIS MODULE BE PROPERLY HOUSED TO PREVENT ACCIDENTAL CONTACT WITH DANGEROUS VOLTAGES – BOTH MAINS AC (115VAC OR 230VAC) AS WELL AS HIGH VOLTAGE DC (>42VDC). THESE VOLTAGES CAN INJURE AND KILL AND SHOULD BE TREATED WITH RESPECT.

WARNING – AS WITH ANY PIECE OF ENTERTAINMENT ELECTRONICS, THIS MODULE IS INTENDED FOR INDOOR USE. IT SHOULD NOT BE EXPOSED TO WATER (INCLUDING CONDENSATION).

CAUTION – *Damage not covered by the warranty can occur if the AC SELECT switch setting does not match the actual AC input voltage.*

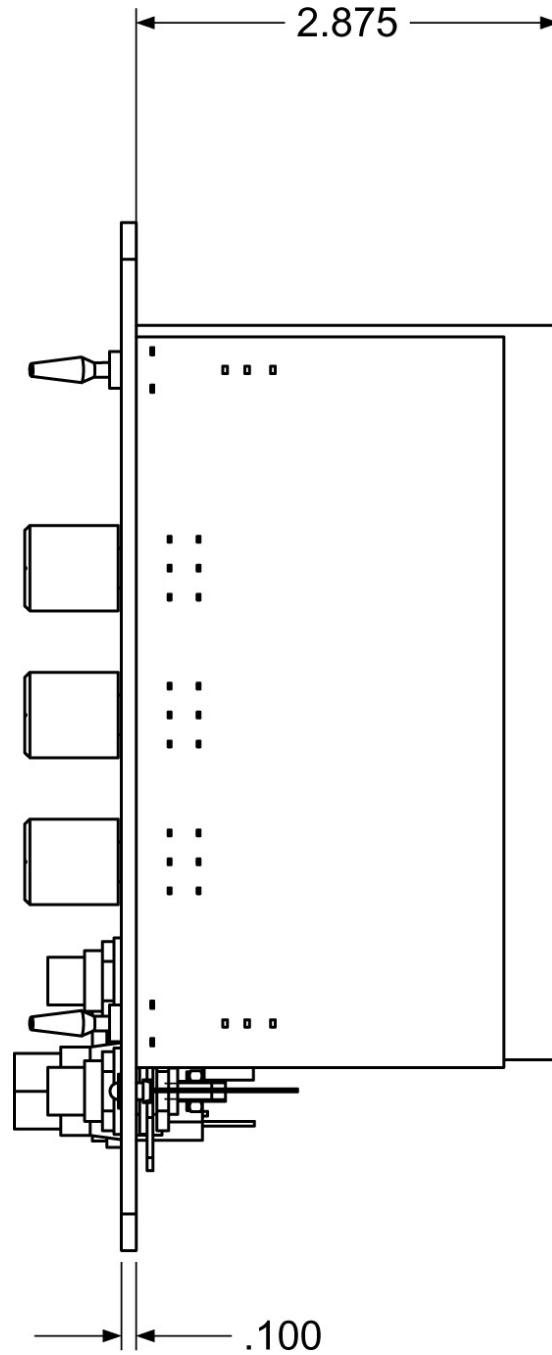
CAUTION – The amplifier relies on convection cooling, so air must pass freely over the faceplate. Do not mount the amplifier in a location where faceplate airflow is blocked. The amplifier does include overtemperature protection and will shut down if overheated. This thermal protection will automatically reset once the amplifier is cool.

CAUTION – This amplifier is designed for use with drivers that are rated at  $4\Omega$  or greater. Drivers whose nominal impedance rating is less than  $4\Omega$  can damage the amplifier. Driver combinations (this includes any configuration where there are multiple voice coils) that result in a load of less than  $4\Omega$  (when calculated using the driver's nominal impedance) can damage the amplifier. *Damage caused by low impedance loads are not covered by the warranty.*



## INSTALLATION (continued):

Side view:





## INSTALLATION (continued):

Cutout dimensions are 6.0”H x 9.875”W. We recommend allowing a minimum mounting depth of 3.5”.

Electrical connections to the subwoofer amplifier consist of the AC mains input, audio input (either low or high level), and speaker output.

*CAUTION – Damage not covered by the warranty can occur if the AC SELECT switch setting does not match the actual AC input voltage. Also, the AC input fuse must be sized per the fuse recommendations printed on the faceplate.*

The amplifier is designed to operate on either 115VAC/60Hz or 230VAC/50-60Hz AC input. The amplifier is shipped in the North American configuration (AC input switch setting and AC fuse selection are set for 120VAC/60Hz).

To change the AC input range, start by disconnecting AC power from the amplifier. **DO NOT CHANGE AC INPUT RANGE WITH THE AC POWER CONNECTED TO THE AMPLIFIER!** Set the AC Select switch to the desired range (115VAC or 230VAC). **ALSO, THE AC INPUT FUSE MUST BE PROPERLY SELECTED TO MATCH THE AC INPUT RANGE!** Please refer to the faceplate silkscreen for the correct fuse size and rating. The fuseholder is integrated into the AC inlet connector housing and is located just below the AC inlet connector.

AC mains connections are simply made with the provided AC cable. One end of the provided cable (IEC320 style receptacle) plugs into the connector located on the amplifier faceplate – the other end, into a 15A or 20A three-pronged North American AC receptacle. Due to the wide variety of plugs outside of North America, we are unable to stock and offer power cables suitable for other regions.

Should the AC inlet fuse blow, **REMOVE AC POWER FROM THE UNIT;** then, determine and clear the source of the problem (such as shorted speaker output). With AC power removed, replace the blown fuse. **THE AC INPUT FUSE MUST BE PROPERLY SELECTED TO MATCH THE AC INPUT RANGE!** Please refer to the faceplate silkscreen for the correct fuse size and rating. Replacing the fuse with a value other than that shown on the faceplate silkscreen will void the warranty.



Use only one set of audio inputs – either the low level audio inputs (RCA receptacles) or the high level audio inputs (binding posts).

Low level audio inputs are made via RCA receptacles. The amplifier can accept left and right channel signals. Single channel connection (such as an LFE output from a home theater receiver or pre-pro) may be made to either input.

High level audio inputs are made via binding posts. The amplifier can accept speaker level right and left channel signals.

In the final installation location, please assure that air can flow freely over the faceplate.

Speaker connections are made using the pre-attached cable. Connect the red wire to the + terminal on the driver; the black wire to the – terminal on the driver.

**DO NOT CONNECT THE AMPLIFIER TO DRIVERS OR DRIVER COMBINATIONS THAT ARE LESS THAN  $4\Omega$  (BASED ON THE DRIVER NOMINAL RATING).** Refer to the last Caution on page 3 for more information.



## CONTROL DESCRIPTION:

Here is a list of controls with a brief description of function. Controls are listed in order of appearance on the amplifier starting with the upper left:

**VOLUME** – This control is used to set the gain of the amplifier to match the subwoofer’s output with the rest of your system.

**PHASE** – This control is used as necessary so the subwoofer does not sound “out of step” with the rest of your system.

**AUTO/ON** – When set to the AUTO mode, the unit senses the input signal and automatically turns on. This action is indicated by the LED (located to the left of the GAIN knob) turning green. Once the unit does not sense any input signal, then the unit enters standby mode after 10-20 minutes. This mode is indicated by LED turning red.

**CROSSOVER FREQUENCY** – The built-in crossover is a 4<sup>th</sup> order (24dB/octave) lowpass crossover which may be adjusted from 40Hz to 110Hz. Refer to Chart 2 in the Specification section for more information.

**CROSSOVER BYPASS SWITCH** – The built-in crossover can be bypassed by setting this switch to DISABLED. Refer to Chart 1 in the Specification section for amplifier frequency response when the crossover is bypassed.

**POWER** – Primary AC power control. Works in conjunction with the AUTO/ON switch (see AUTO/ON switch description earlier in this section).

**AC SELECT** – Selects the AC input mode – either 115VAC/60Hz or 230VAC/50-60Hz. The AC input fuse (see faceplate silkscreen for values) must match the selected range. **WARNING – DAMAGE NOT COVERED BY THE WARRANTY CAN OCCUR IF THE AC SELECT SWITCH SETTING DOES NOT MATCH THE ACTUAL AC INPUT VOLTAGE.**



## SERVICE AND WARRANTY:

O Audio warrants the O Audio 300W BASH® Subwoofer Amplifier from material or workmanship defects for a period of one year after purchase. We will provide a replacement (either new or refurbished, at our discretion) with a full one-year warranty. Please retain proof of purchase date. This warranty does not cover damage that results from misuse of this product.

O Audio provides attentive customer service. We want you to be happy with this product. Please e-mail us at [oaudioinfo@oaudio.com](mailto:oaudioinfo@oaudio.com) should you have any questions or comments regarding this product.

## SPECIFICATIONS (subject to change/correction without notification):

### Audio

#### Output Power

300W RMS (into 4Ω load @ 0.09% THD)  
0W-275W RMS (into 4Ω load @ <0.04% THD)  
150W RMS (into 8Ω load @ <0.05% THD)

#### Frequency Response

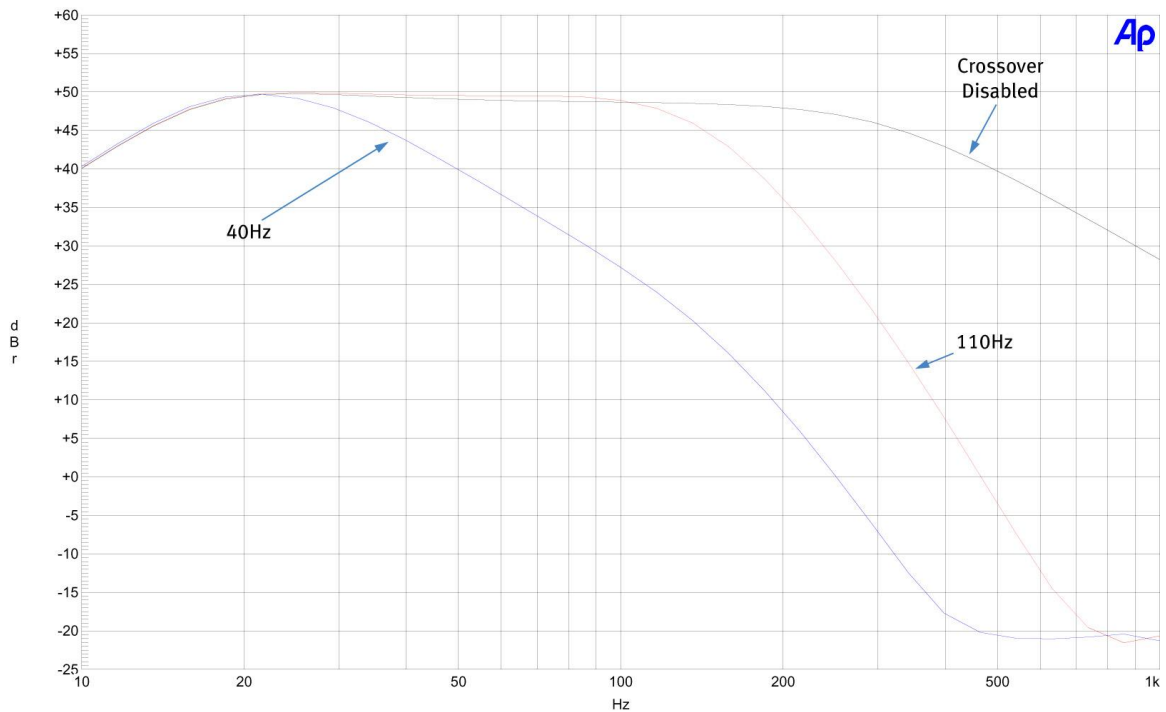


Chart 1 – Frequency Response Showing Range of Crossover Settings



## SPECIFICATIONS (subject to change/correction without notification):

### Audio (continued)

Minimum Load Impedance	4Ω (based on nominal driver rating)
Signal to Noise Ratio	105dB
Phase Control	0° to 180°
Crossover Range	40Hz to 110Hz
Crossover Topology	4 <sup>th</sup> order (24dB/octave)

### AC Power

AC Input Voltage and Frequency	115VAC/60Hz or 230VAC/50-60Hz (switch selectable)
Max Input Power	400W

### Environmental

Ambient Temperature (Operating)	10°C to 40°C
Humidity	up to 90% non-condensing
Operating Temp Altitude Derating	2°C per 1,000ft