AMP-A460H
OPERATION MANUAL

April 2019

BIAMP SYSTEMS 9300 SW GEMINI DRIVE, BEAVERTON, OREGON 97008 U.S.A. 503.641.7287 BIAMP.COM

Setup and Use

CAUTION
All speaker wiring connections should be made by qualified personnel and with the amplifier power removed. The 100V output requires Class 3 wiring. Please refer to a qualified electrician or other qualified person according to local codes.

Installation

Each unit requires a space of 1.75 inch (44mm) high, 8.7 inch (221mm) wide with 10.47 inch (266mm) depth and may be mounted on a flat surface or in a rack enclosure.

Install the unit away from heat sources, such as vents and radiators, and in rooms with adequate ventilation. Ensure that air can circulate freely behind, beside, and above the unit where possible. Do not exceed the ambient operating temperature of 104° F (42°C). Be aware of conditions in an enclosed rack that may cause the temperature to exceed ambient room conditions.

Rack Mounting

The unit ships with one 1.75 inch (44mm) high and 19 inch (483mm) wide rack mount panel. This is designed to connect up to two A460H amplifiers. The rack mount kit includes eight screws, four nuts and a faceplate.

Rack mounting the amplifiers is achieved by aligning the supplied rack panel faceplate holes with the corresponding holes in the front of the amplifier and screwing them together.

If only one amplifier is used, then the additional four supplied screws and nuts may be used to 'blank off' the four remaining open holes in the rack panel.

Mounting the faceplate using screws with washers (not supplied) will prevent marring of the front panel.

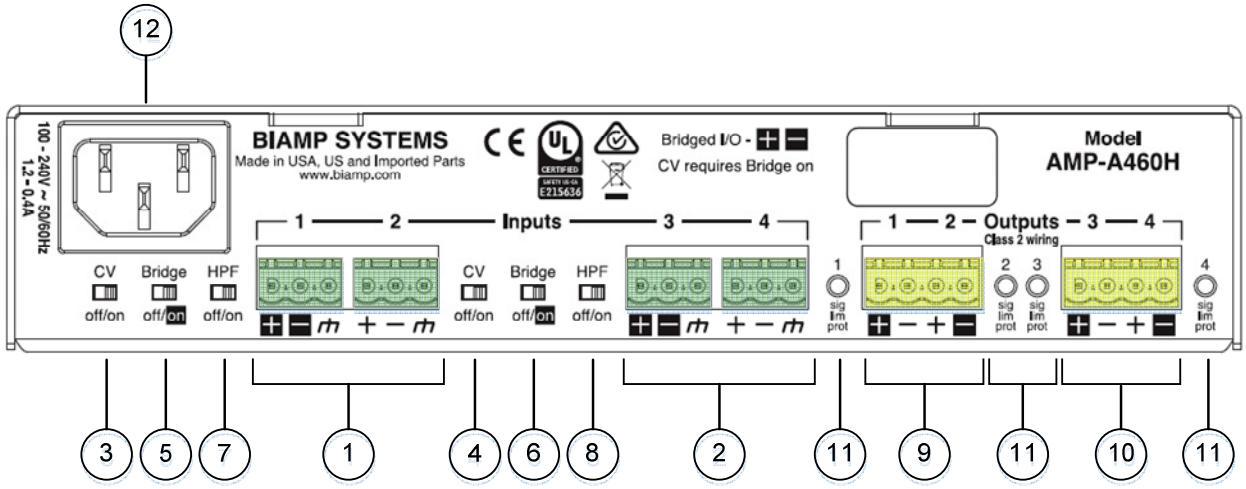
Custom mounting

Mounting holes that fit four #4 sheet metal screws (not supplied) are available on the top cover of the amplifier.

NOTE
Any screws used must not exceed ¼ inch (6mm) depth into the top of the A460H enclosure

Operational guidelines

CAUTION
Attention should be paid to the Connections and Setup sections to configure the signal path correctly from the input device.



1. Input Channels 1 & 2
2. Input Channels 3 & 4
3. Constant Voltage Switch - Channels 1 & 2
4. Constant Voltage Switch - Channels 3 & 4
5. Bridge Mode Switch - Channels 1 & 2
6. Bridge Mode Switch - Channels 3 & 4
7. High Pass Filter Switch - Channels 1 & 2
8. High Pass Filter Switch - Channels 3 & 4
9. Speaker Outputs 1 & 2
10. Speaker Outputs 3 & 4
11. Status LEDs for Channels 1, 2, 3 & 4
    - Green – Signal Present
    - Amber – Signal or Thermal Limit Mode
    - Red – Channel in Protect Mode
12. AC Power Connection

AC Power Socket

Provides for connection of the appropriate power cord. Each amplifier uses a switch mode power supply that has an operating voltage of 100-240V at 50/60 Hz.

CAUTION
Do not remove or defeat the ground prong on the power cord, as this will constitute a shock hazard. Equipment should be connected to a mains socket outlet with a protective earthing connection. This plug is the main disconnecting device and should remain readily operable. There are no user interchangeable parts. Please contact Biamp Technical Support or your local distributor for all service requirements.

Amplifier Output Connections

CAUTION
All speaker wiring connections should be made by qualified personnel and with the amplifier power removed. The 100V output requires Class 3 wiring. Please refer to a qualified electrician or other qualified person according to local codes.

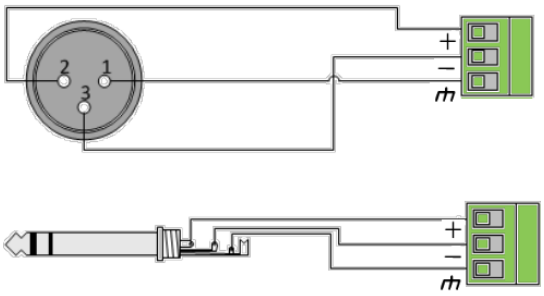
Speaker Connection

To minimize power loss, use a speaker cable of appropriate gauge for the load impedance. For long speaker cables, choose a low capacitance cable to minimize high frequency loss. Use the supplied plug-in barrier strip connectors to connect loudspeaker outputs. If stranded speaker wire is used, be sure to incorporate all strands into the connector, as stray strands can short to the adjacent terminal or chassis. Do not leave excessive bare wire outside the terminals, as this can lead to shorts. Use of the supplied cable restraints is required to secure the cable in the connector. To facilitate parallel wiring, each connector allows for the connection of two conductors to each amplifier channel.

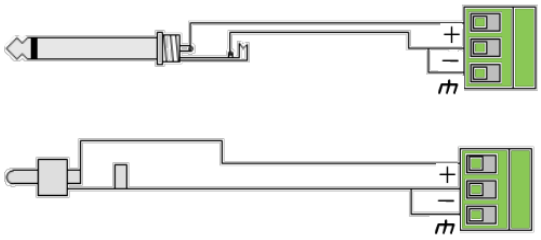
Input Wiring

All wiring examples are Single Channel Connections

Balanced Input Connections



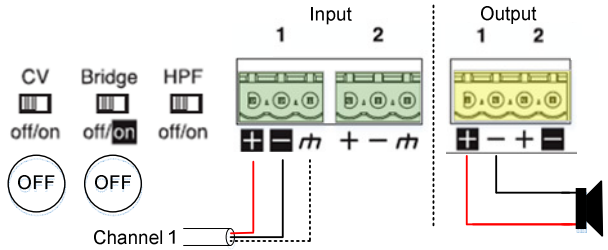
Unbalanced Input Connections



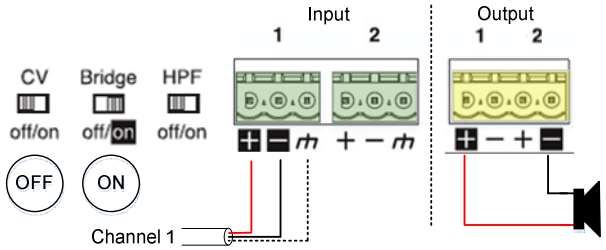
Speaker Wiring

All wiring examples are Single Channel Connections

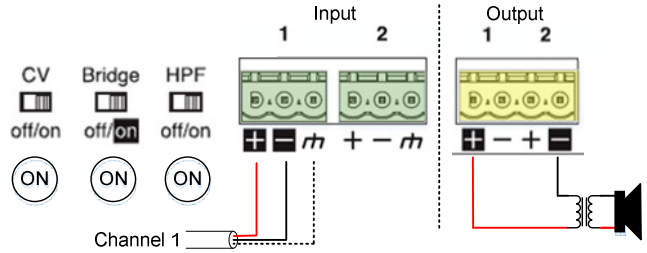
Single Channel 4 or 8 ohm



Bridged mode 4 or 8 ohm



Bridged mode 70/100V



Gain staging

The amplifier channels are intended to be used with the default output blocks available in Tesira Software.

Care should be taken to match the speaker load to the output capabilities (wattage) of the amplifier. For example, if a low-impedance single channel speaker load is 60 watts you are perfectly matched at the nominal input level.

Speaker loads less than the rated output of the amplifier will require adjustment to the analog output of the output device.

Note
To keep correct input level and noise floor ratio the use of the 'Full Scale' analog output attenuation on the output device should be used to adjust the input gain being sent to the amplifier.

Low impedance considerations

Single Channel Mode

In Single Channel mode - up to four 60 watt channels can be driven at 4 or 8 Ohms at the same time.

Bridge and 70/100V Mode

In Bridged or CV mode (Constant Voltage mode, or 70/100V mode), channel 1 and 2 as well as 3 and 4 can be independently bridged together. Inputs 1 and 3 should be used.

Constant Voltage considerations

There is no wiring or switch setup difference between 70V and 100V operation. When using the amplifier in Constant Voltage mode, the CV, Bridge, and HPF switches **must** be enabled. The amplifier only supports Constant Voltage mode when the amplifier channels are bridged.

For 70V operation the nominal signal being sent from the output device to the amplifier input should be 0dbu.

For 100V operation increasing the nominal signal being sent from the output device to the amplifier input should be +1.6dbu.

Note
The HPF (High Pass Filter) switch should be enabled as part of the 70V or 100V configuration.
The Bridge switch must be enabled when using the amplifier in 70V or 100V mode.

A460H - Amplifier Current Draw

AMP-A460H

	1/8 Power					
			Bridged		Constant Voltage	
	4 ohm	8 ohm	4 ohm	8 ohm	70V	100V
Current Draw	**Amps**	**Amps**	**Amps**	**Amps**	**Amps**	**Amps**
100VAC 50Hz	1.1	0.7	0.9	0.8	0.8	0.8
100VAC 60Hz	1.1	0.7	0.9	0.8	0.8	0.8
120VAC 60Hz	1.0	0.6	0.8	0.7	0.7	0.7
230VAC 50Hz	0.6	0.4	0.5	0.5	0.4	0.4
240VAC 50Hz	0.6	0.4	0.5	0.4	0.4	0.4

	1/3 Power					
			Bridged		Constant Voltage	
	4 ohm	8 ohm	4 ohm	8 ohm	70V	100V
Current Draw	**Amps**	**Amps**	**Amps**	**Amps**	**Amps**	**Amps**
100VAC 50Hz	1.5	1.3	1.7	1.5	1.6	1.7
100VAC 60Hz	1.5	1.3	1.7	1.5	1.6	1.7
120VAC 60Hz	1.5	1.1	1.4	1.2	1.3	1.4
230VAC 50Hz	0.7	0.7	0.8	0.7	0.8	0.8
240VAC 50Hz	0.7	0.7	0.7	0.7	0.7	0.8

	Rated Power					
			Bridged		Constant Voltage	
	4 ohm	8 ohm	4 ohm	8 ohm	70V	100V
Current Draw	**Amps**	**Amps**	**Amps**	**Amps**	**Amps**	**Amps**
100VAC 50Hz	3.9	3.6	4.4	3.9	4.4	3.3
100VAC 60Hz	3.8	3.6	4.4	3.9	4.4	3.3
120VAC 60Hz	3.1	2.9	3.6	3.2	3.6	3.0
230VAC 50Hz	1.6	1.5	1.8	1.6	1.8	1.5
240VAC 50Hz	1.5	1.4	1.7	1.6	1.7	1.5