MSB TECHNOLOGY

Electrostatic Headphone Amplifier
User Guide

Check our website for the most recent user guides, firmware, and drivers:
www.msbtechnology.com

Technical support email is:
techsupport@msbtechnology.com

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Technical specifications

AC Voltage	120/240V (Auto switching) Optional 100V fixed configuration
Dynamic Range	>140 dB
Frequency Response	5Hz-20Khz, ±0.8dB
XLR Input	75Ω Balanced 4Vrms Maximum
Common Mode Rejection Ratio	> 120dB CMRR @ 60Hz > 90dB CMRR @ 1kHz > 70dB CMRR @ 20kHz
Crosstalk	> 90dB Crosstalk @ 1kHz > 65dB Crosstalk @ 20kHz
XLR Output	Direct connection to input when enabled or unit powered off. When listening to headphones, output is muted with 75Ω output impedance
Headphone Output	1x Stax style output
Bias Voltage	580Vdc, 5 MΩ
Power Consumption	80W Less than 2W standby
Chassis Dimensions	Width: 17.5 in (444 mm) Depth: 17.5 in (444 mm) Height without feet: 2.75 in (70 mm) Weight: 38 lbs (17 kg) Product Feet: M6X1 Thread
Shipping Dimensions	Width: 23 in (584 mm) Depth: 23 in (584 mm) Height: 7 in (178 mm) Weight: 45 lbs (20 kg)
Included Accessories	Ground Cable IEC Power Cord

Getting Started

When plugging in power, the amplifier detects the input voltage and automatically switches between 120 or 240 volt operation. It is also available in a non-switching 100 volt permanent configuration.

Amplifier Interface

There are two control features just under the front of the powerbase.

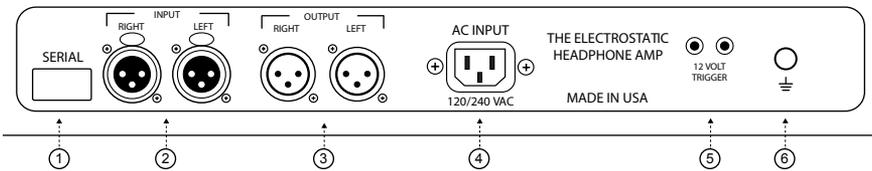|	
Front control	**White** - Power on. **Red** - Power off / bypass mode. **Amber** - Linked mode, 12 volt trigger controlled. **Flashing Amber** - Over-voltage protection.
'Display' wheel	This is a rolling wheel to control the brightness of the power indication light
Function switch	**Normal** - The front button on the unit switches between on and off (enables pass through). **No IR** - The front button on the unit switches between on and off (enables pass through). Remote commands disabled. **Linked** - The front button on the unit switches between on and pass through while keeping the unit on. Remote commands disabled.

Connecting to your Amplifier

Connect your electrostatic headphones to the front headphone jack. Connect your MSB DAC XLR Analog Outputs into the amplifier Inputs Connect pass through XLR outputs to your main system amplifiers if required.
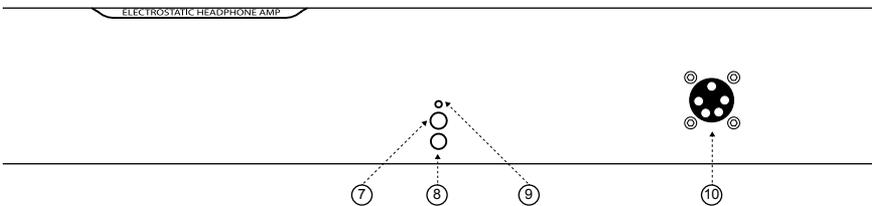
User Interface

1	Serial Number
2	Balanced Analog Inputs
3	Balanced Analog Outputs
4	Power Input 120-240 VAC
5	12 Volt Trigger
6	Grounding Lug
7	On/Off Button
8	IR Sensor
9	Indicator LED
10	Stax Headphone Output

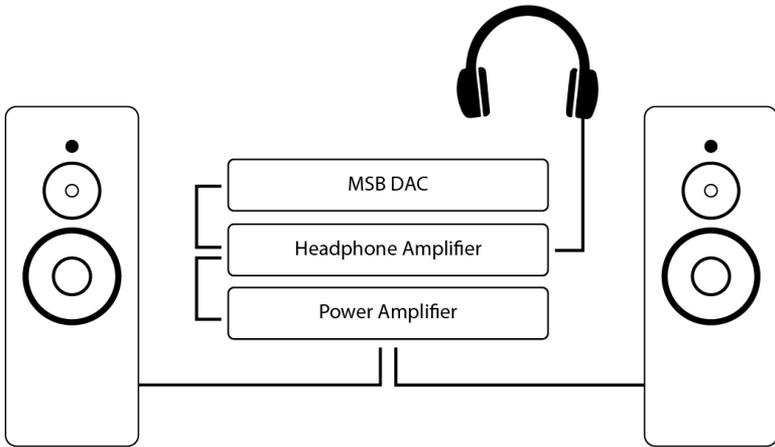(Electrostatic Headphone Amplifier Jack Panel)

(Electrostatic Headphone Amplifier Face Plate)

2-Channel System Pass Through Setup

This is the setup that you will follow when implementing your headphone amplifier to be used as a part of a 2-channel system with power amplifiers and loudspeakers.

Connect the "Analog Outputs" located on the back of your MSB DAC to the "Analog Inputs" located on the back of your headphone amplifier.

Connect the "Analog Outputs" located on the back of your headphone amplifier to the analog inputs to your power amplifier(s).

Connect your loudspeakers to your power amplifier(s) and connect your headphones to one of the Staxx connections on your headphone amplifier.

When setup in this configuration the "Analog Outputs" act as a direct connection pass through to the "Analog Inputs" whenever the headphone amplifier is switched off or into standby.

When the headphone amplifier is on the "Analog Outputs" that connect to your power amplifer(s) are muted.

When using your headphone in a system configuration like this refer to "For use with 2-channel system" portion of the grounding configuration paper for proper grounding line setup.

Standalone Headphone System Setup

This is the setup that you will follow when implementing your headphone amplifier to be used as the only amplifier in your system.

Connect the "Analog Outputs" located on the back of your MSB DAC to the "Analog Inputs" located on the back of your headphone amplifier.

Connect your headphones to one of the Staxx connections on your headphone amplifier.

When using the headphone amplifier in this configuration like this refer to the "For use as headphone system only" portion of the grounding configuration page for proper grounding line setup.

Ground Wire Connections

The Enhanced Operation provides isolation for both the DAC and the Headphone Amplifier.
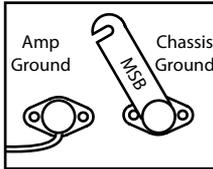
For use with 2-channel system:
This setup is for a system that includes headphone and loudspeaker playback.
-Disconnect the DAC powerbase bridge.
-Attach a ground wire between the 'Amp Ground' lug on the DAC powerbase and only one loudspeaker amplifier chassis ground. This connection is dependent on the amplifier so you will have to look for the best place to attach the wire to chassis ground.
-Do not connect any ground wire to the headphone amplifier chassis.
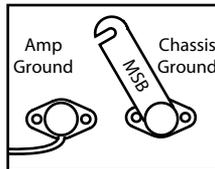
(Powerbase Connections)

Amp Ground   MSB   Chassis Ground

For use as headphone system ONLY:
This setup is for a system that is for headphone playback only.
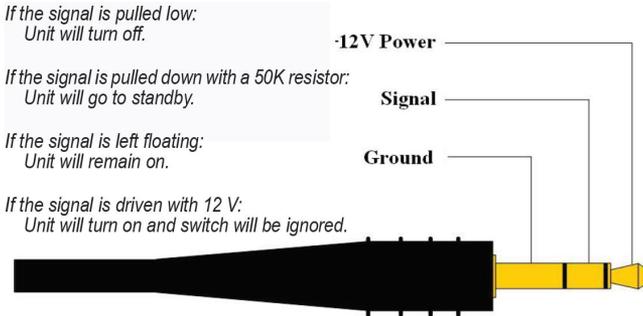-Disconnect the DAC powerbase grounding bridge.
-Attach a ground wire from the 'Amp Ground' lug on the powerbase to the grounding lug located on the back of the headphone amplifier.

(Powerbase Connections)

Amp Ground   MSB   Chassis Ground

12 Volt Remote Trigger

This powerbase is equipped with a remote trigger for use with other MSB products. The trigger uses a 3 pin mini jack. When any MSB product is turned off, the other products connected will also turn off and vice-versa. This trigger can also be used with other products. Products may use this trigger differently, so you may need to rewire a cable or use an interface relay. The connector is wired as shown. If you connect "signal" to "ground", all MSB products will turn off. If you connect "signal" to "12 V" or leave it open, all MSB products will turn on.

If the signal is pulled low:
Unit will turn off.

If the signal is pulled down with a 50K resistor:
Unit will go to standby.

If the signal is left floating:
Unit will remain on.

If the signal is driven with 12 V:
Unit will turn on and switch will be ignored.

·12V Power

Signal

Ground

12 Volt Remote Trigger wiring.

Technical Support

If you are experiencing any issues with your MSB product, please contact your nearest dealer or try our support page at www.msbtechnology.com/support. Please be sure you have the most current edition of your products firmware installed. If your issue persists please feel free to contact MSB directly. Emails are usually responded to in 24 - 48 hours.

Email: techsupport@msbtechnology.com

MSB Return Procedure (RMA)

If a customer, dealer, or distributor has a problem with an MSB product, they should email tech support before sending anything back to the factory. MSB will do their best to respond within 24 hours. Should it be clear that a product must be returned, tech support should be informed and all the following relevant information should be provided:

1	Product in question
2	Serial number
3	Exact configuration when symptom is observed along with a list with the input used, source material, system connections, and amplifier
4	Customer name
5	Customer shipping address
6	Customer phone number and email
7	Special return shipping instructions

MSB will issue an RMA number and create an invoice with all details outlined except the final price as the product has not yet been seen. This invoice will be emailed so all the above information can be checked and verified by the customer.

The product should be returned with the RMA number present on the box. Work can then begin immediately and the product can be sent back quickly.

Any repair that is difficult and cannot be completed in two weeks will be identified and the customer will be informed when it is to be expected. Otherwise the majority of repairs should be shipped back within two weeks if all the required information is present on the invoice.

Link to page:
https://www.msbtechnology.com/support/repairs/

The Electrostatic Headphone Amplifier Limited Warranty

Warranty includes:

• MSB warrantys the unit against defects in materials and workmanship for a period of **_5 years_** from the date the unit was originally shipped from MSB.

• This warranty covers parts and labor only, it does not cover shipping charges or tax/duty. During the Warranty period, there will normally be no charge for parts or labor.

• During the warranty period, MSB will repair or, at our discretion, replace a faulty product.

• Warranty repairs must be carried out by MSB or our authorized dealer. Please contact your dealer if your unit requires service.

Warranty excludes:

• The Warranty does not cover standard wear and tear.

• The product is misused in any way.

• Any unauthorized modifications or repairs were performed.

• The product is not used in accordance with the Operating Conditions stated below.

• The product is serviced or repaired by someone other than MSB or a authorized dealers.

• The product is operated without a mains earth (or ground) connection.

• The unit is returned inadequately packed.

• MSB reserves the right to apply a service charge if the product returned for warranty repair is found to be operating correctly, or if the product is returned without a returns number (RMA) being issued.

 Operating Conditions:

• Ambient temperature range: 32F to 90F, non-condensing.

• The supply voltage must remain within the AC voltage specified on the power base.

• Do not install the unit near heat sources such as radiators, air ducts, power amplifiers or in direct strong sunlight.