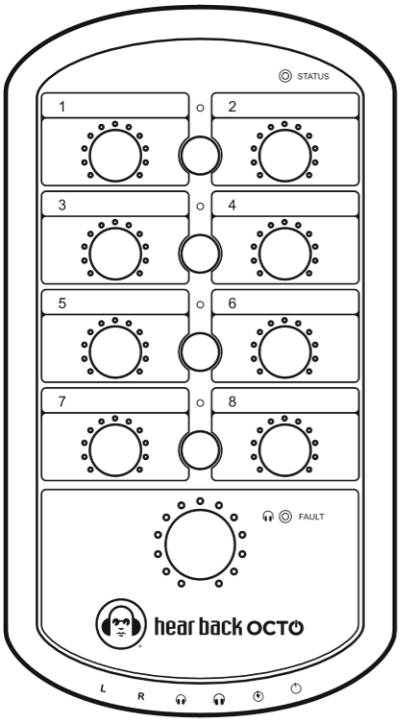

hear TECHNOLOGIES®

hear back® OCTO™

8-CHANNEL MONITOR MIXER SYSTEM

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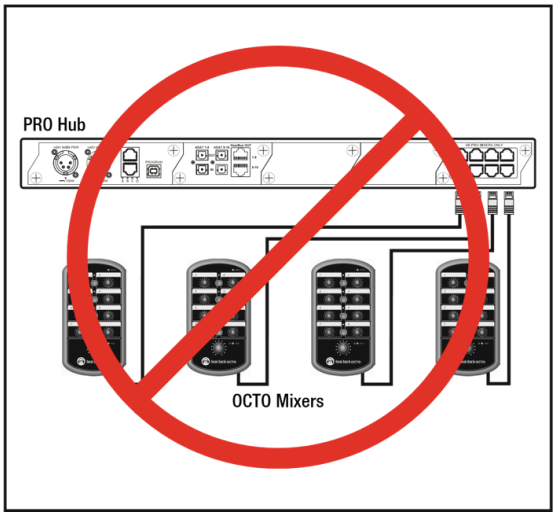
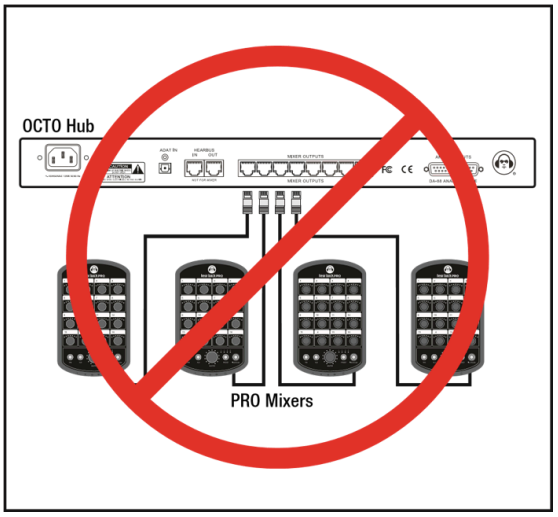
Safety Information

Connection Warning

WARNING

DO NOT CONNECT OCTO MIXERS TO A PRO HUB, OR PRO MIXERS TO AN OCTO HUB. Damage to either system can occur!





English

DANGER

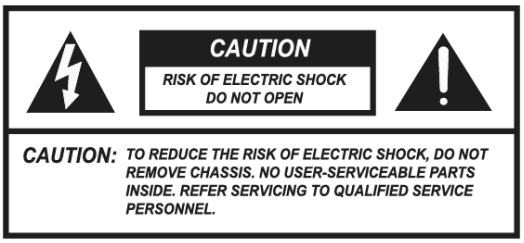
Exposure to extremely high noise levels may cause a permanent hearing loss. Individuals vary considerably to noise induced hearing loss but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a sufficient time.

The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the following permissible noise level exposures:

DURATION PER DAY (HOURS)	8	6	4	3	2	1
SOUND LEVEL (dB)	90	93	95	97	100	103

According to OSHA, any exposure in the above permissible limits could result in some hearing loss. Ear plugs or protectors in the ear canal or over the ears must be worn when operating this amplification system in order to prevent a permanent hearing loss. If exposure in excess of the limits as put forth above, to insure against potentially harmful exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of producing high sound pressure levels, such as this amplification system, be protected by hearing protectors while this unit is in operation.

Applicable to Power Supply



AVIS: RISQUE DE CHOC ELECTRIQUE-NE PAS OUVRIR.

THIS SYMBOL IS INTENDED TO ALERT THE USER TO THE PRESENCE OF NON-INSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.

THIS SYMBOL IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE UNIT.

Important Safety Instructions

1. Read all safety and operating instructions before using this product.
2. All safety and operating instructions should be kept for future reference.
3. Read and understand all warnings listed on the operating instructions.
4. Follow all operating instructions to operate this product.
5. This product should not be used near water, i.e. bathtub, sink, swimming pool, wet basement, etc.
6. Only use dry cloth to clean this product.
7. Do not block any ventilation openings. It should not be placed flat against a wall or placed in a built-in enclosure that will impeded the flow of cooling air.
8. Do not install this product near any heat sources; such as, radiators, heat registers, stove or other apparatus (including heat producing 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 being walked on or pinched, particularly at plugs, convenience receptacles and the point where they exit from the apparatus. Do not break the ground pin of the power supply cord.
11. Only use attachments specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving 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. Care should be taken so that objects do not fall and liquids are not spilled into the unit through the ventilation ports or any other openings.

15. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way; such as, 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.
16.

> **⚠ WARNING**
>
> To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

17. The apparatus shall be connected to a mains socket outlet with a protective earthing connection.
18. Mains plug is used as the disconnect device. It shall remain readily operable and should not be obstructed during intended use.
19.

> **⚠ WARNING**
>
> To prevent injury, this apparatus must be securely attached to a rack in accordance with the installation instructions.

20. Detailed installation instruction in user manual.

Electromagnetic Compatibility

This device complies with part 15 of the FCC Rules and the Product Specifications noted on the Declaration of Conformity. Operation is subject to the following two conditions:

- this device may not cause harmful interference, and

- this device must accept any interference received, including interference that may cause undesired operation.

Operation of this unit within significant electromagnetic fields should be avoided.

- use only shielded interconnecting cables.

> **⚠ WARNING**
>
> The Hub unit produces heat while powered, and therefore requires adequate ventilation to ensure the internal temperature stays within maximum operating temperatures (0° C to 54.5° C, or 32° F to 130° F).

Please ensure that these clearances are met:

- 0.85 inches of clearance on either side of Hub
- 1 inch of clearance in front of Hub
- 11 inches of clearance in back of Hub

Care should be taken so that the Mixer's ventilation holes remain unblocked, allowing adequate airflow through both sides of the unit.

If you want to dispose this product, do not mix it with general household waste. There is a separate collection system for used electronic products in accordance with legislation that requires proper treatment, recovery and recycling.

Private household in the 25 member states of the EU, in Switzerland and Norway may return their used electronic products free of charge to designated collection facilities or to a retailer (if you purchase a similar new one).

For countries not mentioned above, please contact your local authorities for a correct method of disposal.

By doing so, you will ensure that your disposed product under goes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health.

Declaration of Conformity

Manufacturer's Name:
Hear Technologies
Manufacturer's Address:
991 Discovery Dr.
Huntsville, AL 35806, USA

Declares that the product:
Product Name:
Hear Back OCTO
Product Option:
All (requires Class II power adapter that conforms to the requirements of EN60065, EN60742, or equivalent.)

Conforms to the following Product Specifications:
Safety:
IEC 60065 -01+Amd 1
EMC:
EN 55022:2010
55024:2010
FCC Part 15

Supplementary Information:
The product herewith complies with the requirements of the:

> Low Voltage Directive 2006/95/EC
> EMC Directive 2004/108/EC

> RoHS Directive 2002/95/EC
> WEEE Directive 2002/96/EC
> EC Regulation 278/2009

With regard to Directive 2005/32/EC and EC Regulation 1275/2008 of 17 December 2008, this product is designed, produced, and classified as Professional Audio Equipment and thus is exempt from this Directive.

> Nason Tackett
> Senior Design Engineer
> Hear Technologies
> 991 Discovery Drive
> Huntsville, AL 35806, USA
> Date: March 1, 2018

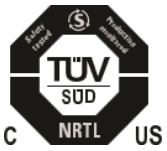
FCC Statement

> **NOTE**
>
> This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a commercial 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.



Overview

The Hear Back OCTO System

The Hear Back OCTO is the next evolution of the Hear Back system. The Hear Back OCTO consists of a Hub and personal Mixers. The Hub receives any of three input signal sources and converts them to HearBus digital audio plus power. The Mixers are connected to the Hub using CAT5e or CAT6 cable.

A single Hub will supply digital audio and power to a maximum of eight Mixers. That's one for you and everybody in the band! If that's not enough, the Hubs can be daisy chained using the HearBus In and HearBus Out for virtually unlimited system size.

The Hub may be connected to recording equipment, digital audio workstations, and analog or digital consoles.

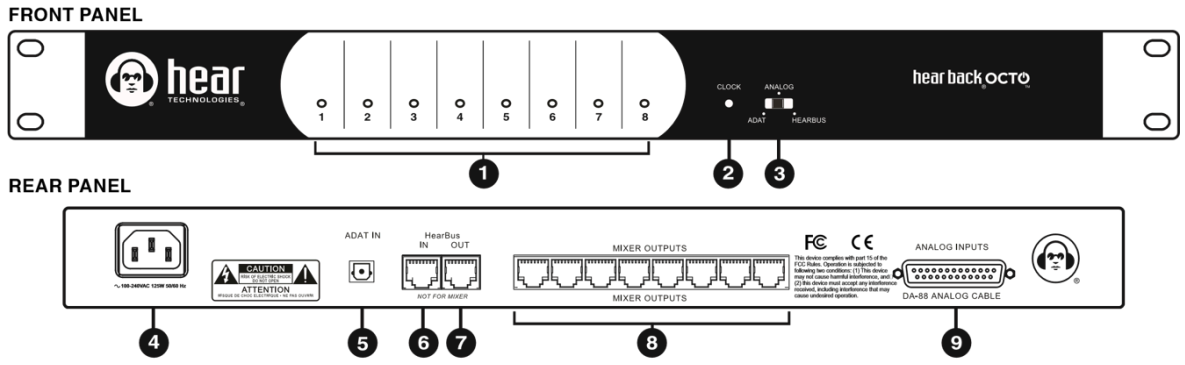
The Mixer is placed near the talent and gives them control over the audio inputs. The user-friendly system saves valuable setup time.

Advantages / Features

- Virtually unlimited system size
- Excellent quality and audio fidelity
- High power, low distortion headphone amplifiers
- Very long interconnect without loss of audio quality
- Three audio inputs: ADAT® optical, analog, and HearBus are switch selectable from the front panel
- Local control of up to ten channels of audio (eight inputs plus a stereo AUX input)
- Headphone amplifier fault LED
- Bus status indicator
- Link indicators/capacitive touch buttons to link mono pairs for stereo operation
- Standard CAT5e/6 cable for power and signal connection to Mixers
- Built-in cable strain relief
- Balanced line outputs (mono/stereo)
- Stereo AUX in
- Built-in mic stand mount as well as desktop mount capability
- Easy labeling with flat-top surface
- 100% compatible with the original Hear Back system
- Compatible with the Hear Back PRO system via optional PRO Hub ADAT Card
- All connectors conveniently located on one end for easy access
- Includes 1/8" and 1/4" headphone jacks

OCTO Hub

Detail Diagram



1	Audio Input Channels 1-8 Level LED Metering	6	HearBus Input
2	HearBus Clock Status Indicator	7	HearBus Output
3	Input Selector Switch	8	Hear Back OCTO Mixer Outputs
4	AC Power Input	9	Analog Inputs
5	ADAT Optical Input		

Features

- Three switch selectable 8-channel input sources:
  - ADAT Optical

    - Analog
    - HearBus
- 24-bit A/D converters
- Digital input sample rates: 44.1 KHz or 48 KHz
- Less than 1.5 milliseconds total system delay (latency)
- Multi-color, four-level metering
- Standard CAT5e/6 delivers power and signals to Mixers
- Daisy-chain for very large systems
- Internal universal power supply
- 1 RU chassis

Hub Inputs

1. ADAT®

The ADAT input can be connected to digital audio workstations, digital recorders, or digital mixers using a standard TOS-Link optical cable. The Hear Technologies Extreme Extender ADAT OUT (XOUT) is a convenient way to convert the OCTO Hear Bus output to ADAT at a distance of up to 500 feet.

> **NOTE**
>
> The OCTO Hub ADAT input and XOUT ADAT outputs may use Optical cables up to 25 feet in length.

2. HearBus®

The HearBus permits daisy-chaining of multiple Hubs up to 500 feet apart using the HearBus input and HearBus output. This HearBus is great for inter-studio or

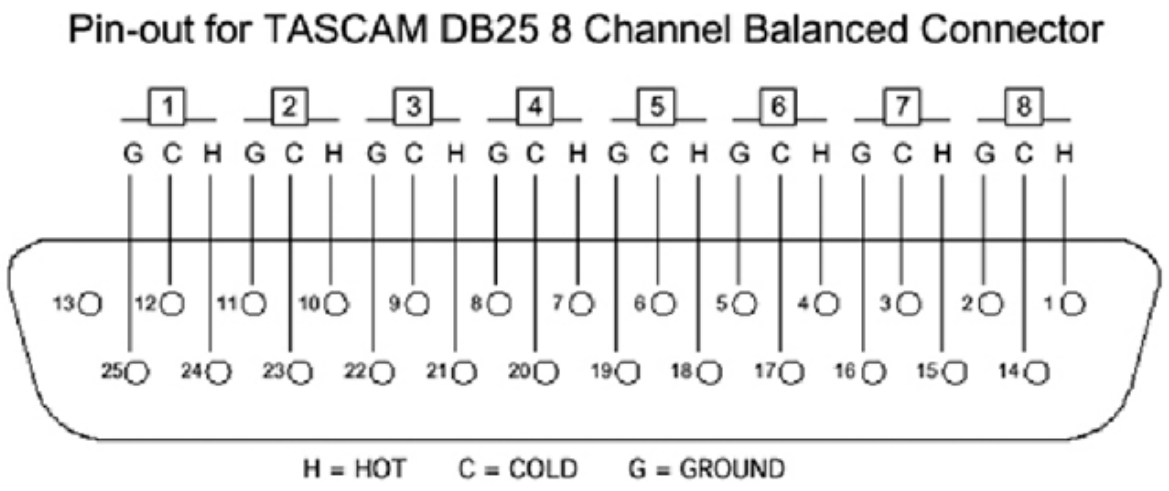
stage-to stage connections, as well as daisy chaining for very large systems. Use Hear Technologies CAT6 cables, available in 50 foot lengths.

3. Analog

Analog inputs are fully balanced and are connected using a standard Tascam DA-88 style Analog cable, such as the Hear Back Analog cable.

DB25 cable pin-outs are wired as shown below:

> **WARNING**
>
> **Use only DA-88 Analog. Do not use TDIF.**



Input Selector Switch

The input selector switch gives the user a simple way to select any one of the three input sources without a patch bay, router or rewiring.

Hub Outputs

The Hub has Mixer outputs which each deliver digital audio, ground and +/- 17.5VDC. Each of the eight Hub outputs must make a "home run" to a Mixer, with a maximum distance of 200 feet. Outputs not in use should be disconnected at the Hub. Use CAT5e or CAT6 cable cable using the standard T568B punchdown with no crossover.

Mixer RJ45 Pinouts

Pin	Function	Pin	Function
1	Digital Audio +	5	+17.5VDC
2	Digital Audio -	6	Ground
3	Ground	7	+17.5VDC
4	+17.5VDC	8	+17.5VDC

Each of the eight Hub Mixer outputs has a solid-state automatically resettable fuse in-line with the power supply outputs to prevent power supply damage. In the event of a shorted cable or broken Mixer, the PTC fuses go to high impedance permitting other Mixers to function while protecting the power supply from the faulty output.

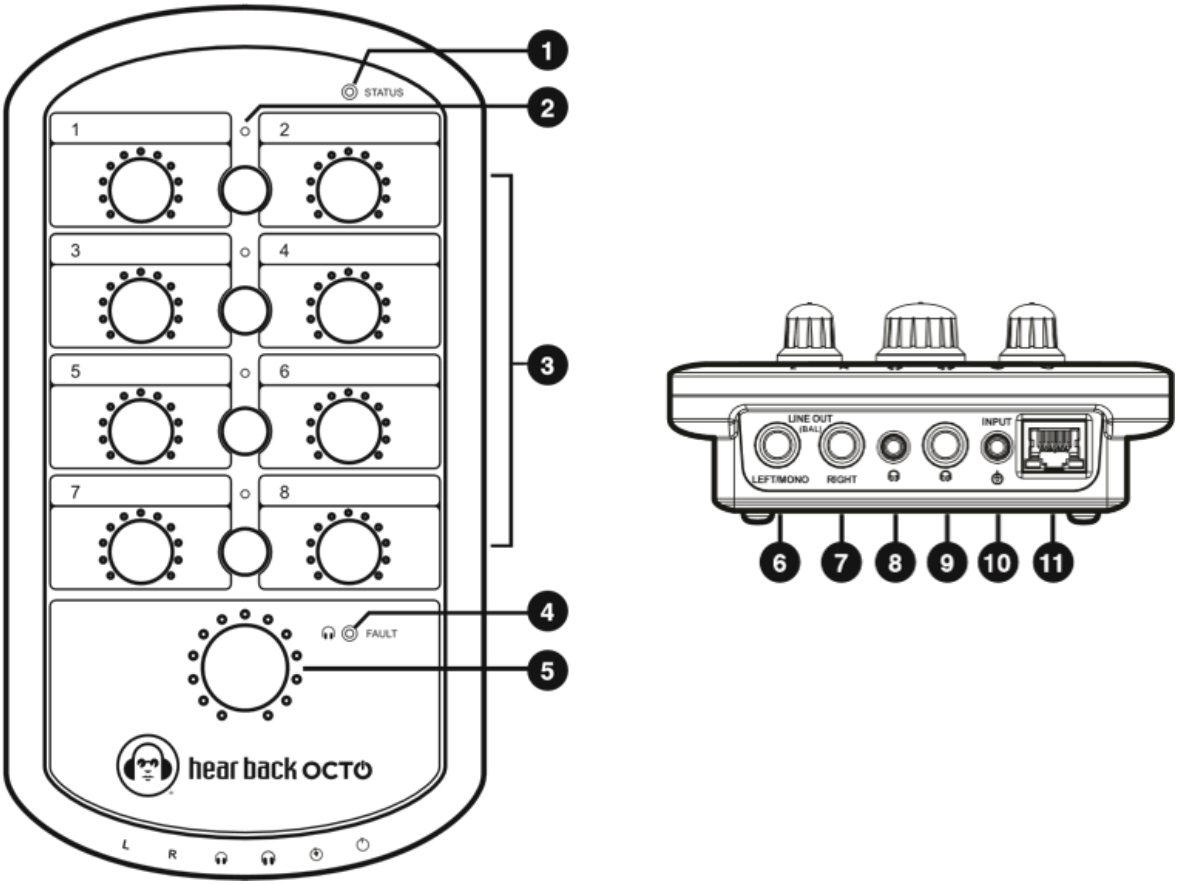
The main AC input is connected using a standard IEC320 cable.
The universal power supply is designed to operate from 90 to 264VAC at 50 to 60Hz. The AC input circuit is internally fused.

Input Metering

The Hub features a unique input metering circuit consisting of a single RGB LED for each of the eight inputs. BLUE indicates -32 dBu signal presence, GREEN -10 dBu, YELLOW +4 dBu and RED indicates clip at +16 dBu.

OCTO Mixer

Mixer Detail Diagram



1	Bi-Color Bus Status Indicator	7	Right Line Output
2	Link Indicators (Channels 1/2, 3/4, 5/6, 7/8)	8	1/8" TRS Headphone Output
3	Mono Channels 1-8 / Stereo Link Master Level (1, 3, 5, 7)	9	1/4" TRS Headphone Output

4	Headphone Amplifier Fault Indicator	10	Stereo Auxiliary Input
5	Master Volume	11	RJ45 Connection
6	Left/Mono Line Output		

Mixer Features

- Local control of up to ten channels of audio
- Master volume
- 24-bit D/A converters
- Less than 1.5 millisecond total system delay
- Bus status indicator
- Headphone amplifier fault indicator
- Link indicators/capacitive touch buttons
- Standard CAT5e/6 power and signal connection
- Balanced, mono/stereo, line outputs
- +4 dBu level TRS unbalanced stereo AUX in:
  - Expand numbers of mixes
  - Drum module/metronome or local mix input mono

Mixer Construction

The Hear Back OCTO Mixer is constructed of UV-stabilized ABS and has a built-in mic stand mount. Cable strain relief greatly reduce stress on the CAT6 cable connectors and the Mixer RJ45 connector.

Status Indicators

The Mixer has three types of status indicators:

1. Bus

The bus indicator is a bi-color LED that is BLUE under normal operating conditions, indicating the HearBus clock is present. In the absence of the clock, the indicator turns RED alerting the user a problem exists at the Hub or connection to the Hub. The indicator will alternate RED and BLUE during a headphone fault.

2. Link

The link indicators illuminate BLUE whenever the associated link capacitive button(s) are pressed for one second, verifying the link. Button settings are stored in non volatile flash memory whenever power is removed.

3. Headphone Amplifier Fault

The fault indicator is normally off and only illuminates red if an over-current or short circuit condition occurs. The circuit shuts down the headphone amplifier and upon cooling returns to normal operation. Continued cycling of the fault circuit is not recommended as excessive cycling can degrade the amplifier's performance and life.

Link Operation

Inputs are typically mono and are controlled using the mono control knobs 1-8. The mono signals are center-panned in the stereo field when the link indicator is off.

When a pair of mono inputs are linked, three things occur:

1. The left channel becomes the link master volume control for the stereo pair.
2. The two inputs are hard panned left and right. Stereo signals are realized by using a pair of the mono inputs: 1/2, 3/4, 5/6 and/or 7/8, by pressing the capacitive link button between the pair of mono inputs for one second.
3. The right mono volume now becomes inactive.

Line Outputs

Left/Mono and Right/Stereo 1/4 inch Tip, Ring, and Sleeve line outputs are provided. When the Left/Mono jack only is used, left and right are summed as a mono output. The line outputs may be used simultaneously with the headphone outputs and are both controlled with the master volume knob.
In the event of ground loops when connecting the Mixer line outputs to other devices that have an earth ground, it may become necessary to lift the shield at the Mixer outputs.

> ⚠ **WARNING**
>
> **NEVER lift or disconnect the AC safety ground of any device.**

Aux In

The auxiliary input is a 1/8 inch Tip, Ring, and Sleeve input optimized for +4 dBu input levels. These signals are summed into the analog section of the Mixer just upstream of the master volume. The input permits another stereo mix to be inserted into the audio stream. Examples of use would be a drum machine click track into the drummer's Mixer. Another application would be a stereo mix from a guitar or keyboard local mix, another Hear Back OCTO Mixer, creating a total of ten channels controlled from your Mixer.

Master Volume

The master volume is used to set the volume of the headphones and the line outputs. When using the line outputs in conjunction with the headphones, optimize the mix for the headphones and then adjust the device connected to the line outputs to balance the gain. Follow the same procedure if using the AUX input; once the desired mix is obtained, adjust the source to get the desired level at the AUX input.

Headphone Amplifier

The headphone amplifier outputs are paralleled outputs. When using multiple headsets, the total impedance should not go below 16 ohms. Optimum headphone amplifier performance is achieved with a load of 32 to 50 ohms. At 50 ohms, the amplifier is capable of sustaining 2 watts of power! The headphone amplifiers are very powerful and can easily damage in-ear transducers, headphones, and your hearing; exercise great care in adjusting the master volume. The amplifiers are short circuit protected and have a fault indicator.

Quick Start

> ⚠ **WARNING**
>
> - The Hear Back OCTO Mixer is capable of driving most headphones to extreme levels that can damage your HEARING!
> - ALWAYS turn down the Mixer "Master Volume" down before putting on in-ear headsets or headphones.
> - It is the user's responsibility to prevent hearing damage by virtue of excessive headphone "Master Volume" settings.

Connecting the System

1. **Connect the appropriate input(s)** as shown in the hook-up diagram.
2. **Select the desired input** using the front panel switch.
3. **Connect Hear Back OCTO Mixers to the Hear Back OCTO Hub Mixer Outputs** using CAT6 or CAT5e cables.
4. **Set all Mixer Channels and Master Volume levels to "Off"** (full counter-clock-wise position).
5. **Connect the headphones, in-ear monitors, and/or line outputs** for connecting to wireless in-ear systems, powered monitors, or other devices requiring line-level inputs.
6. **Apply power to the Hub.**

Hub Adjustment

1. **Adjust the level at the input source** (DAW, Mixer, etc.) until the clip LED's on the Hub just come on and then reduce the input(s) until you have a bright

blue LED.

2. **Adjust the source for as much signal into the Hub as possible without clipping.** Higher input levels improve signal-to-noise and dynamic range.

Mixer Adjustment

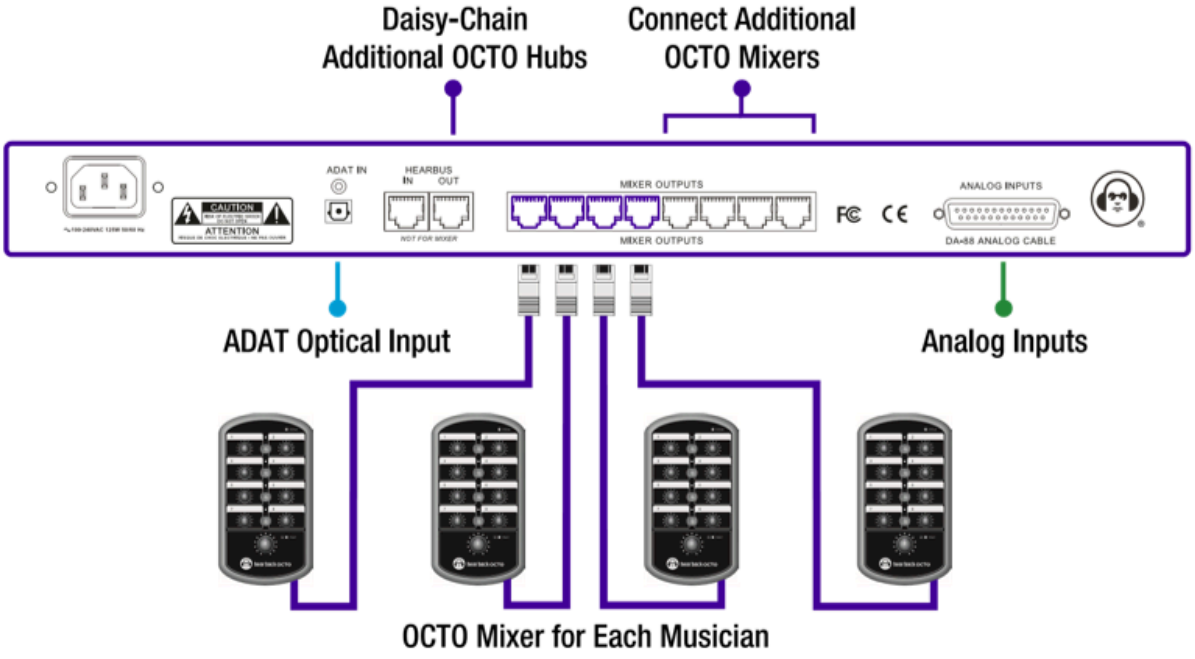
1. After you have the signals optimized on the Hub, **turn the "Master" Volume up to about 10 o'clock**.
2. **Raise each channel's volume to a comfortable level.**
3. **Avoid adjusting the master volume too high and running the inputs too low.**

> **NOTE**
>
> The HearBus and Mixer outputs contain high speed digital audio and should be treated as a transmission line. DO NOT "Y" these connections because the terminated controlled impedance will be comprised. The HearBus and Mixer outputs operate at 12.28 MHz.

Now enjoy personal monitoring at its best and have fun!

Hook-Up Diagrams

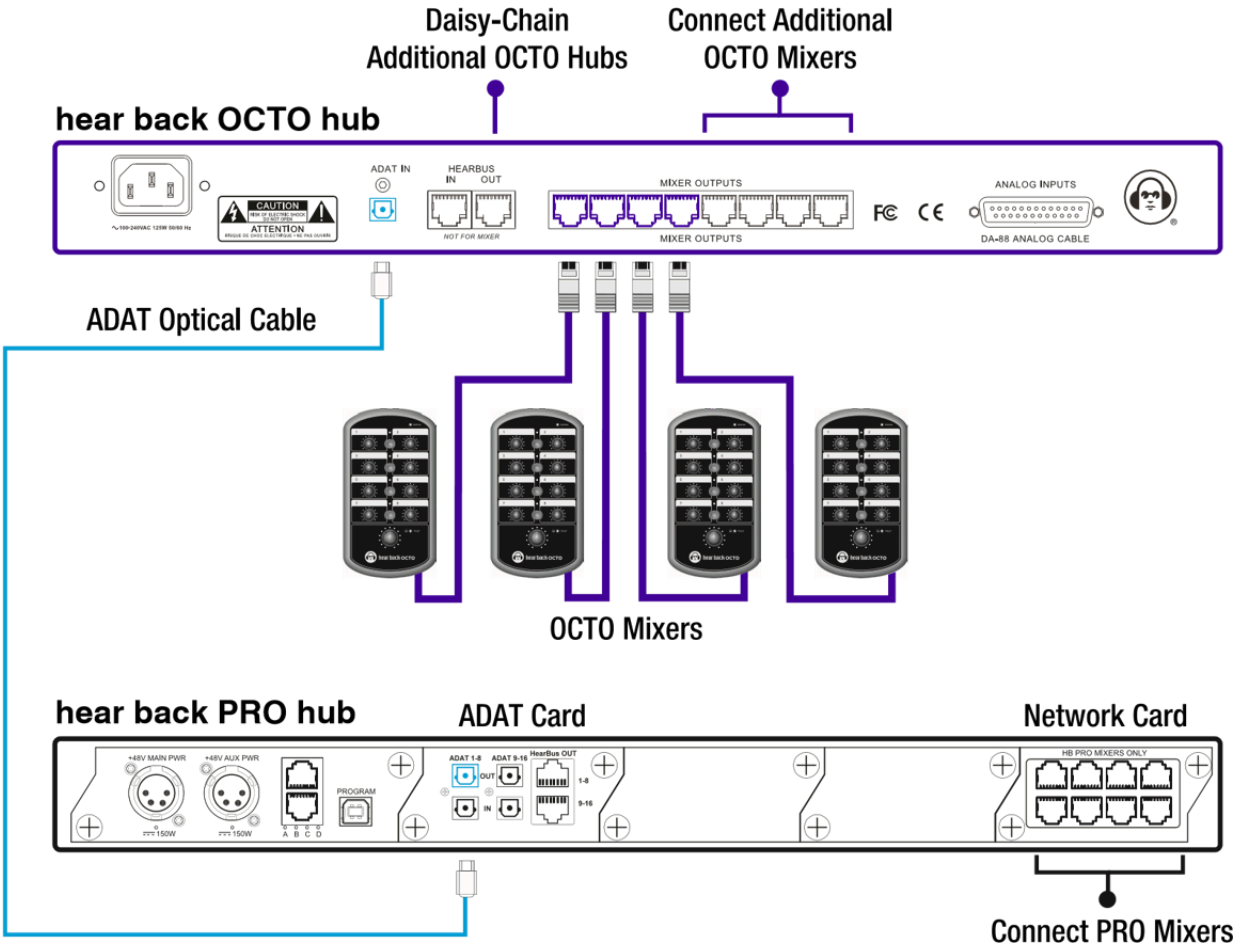
Stand Alone

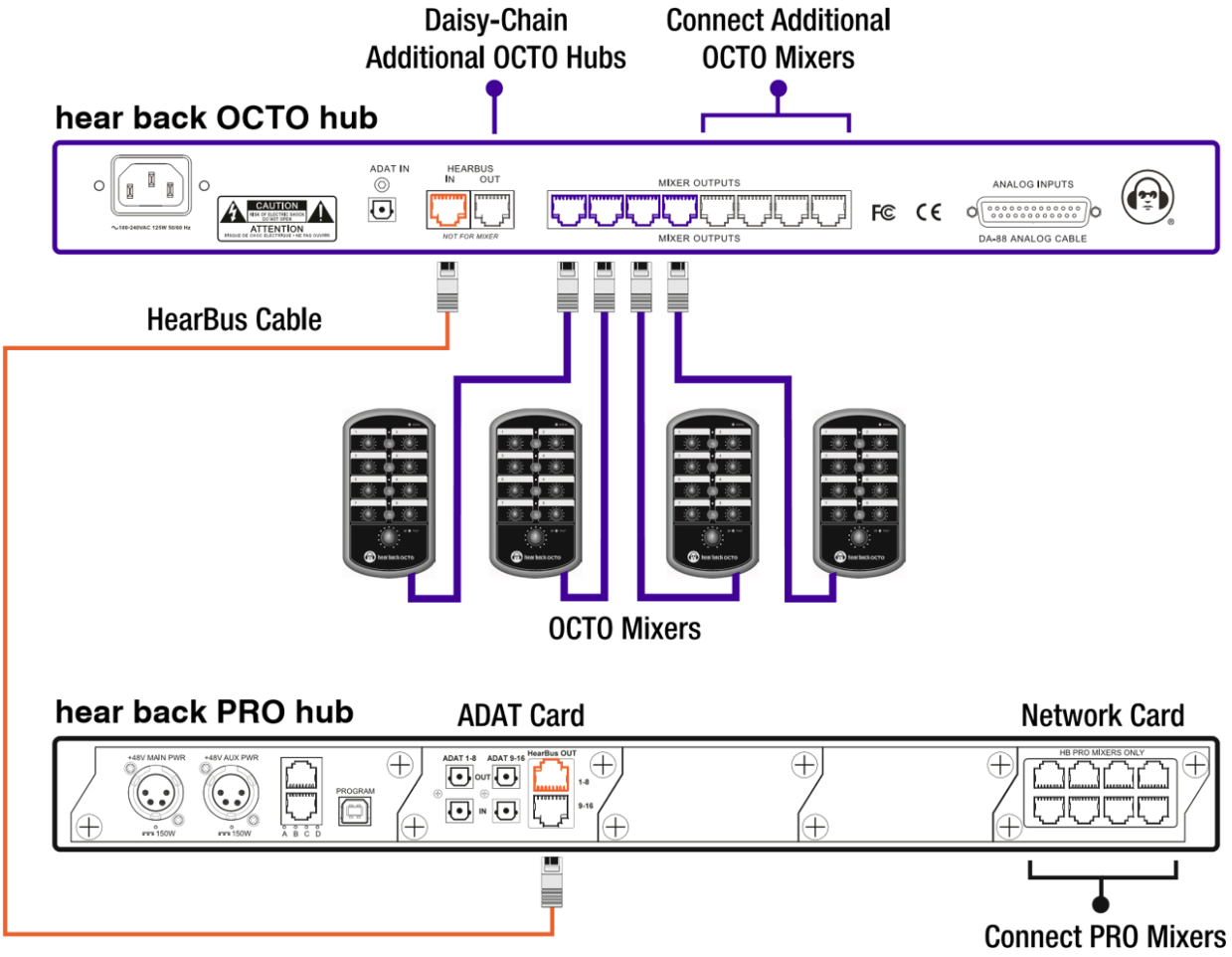


To Hear Back PRO System

The Hear Back OCTO system can be connected to an ADAT Card installed in a Hear Back PRO Hub. To do this, connect either the ADAT or HearBus OUT on the PRO ADAT Card to the ADAT or HearBus IN of the OCTO Hub. See examples below.

> **⚠ WARNING**
>
> **DO NOT CONNECT OCTO MIXERS TO A PRO HUB, OR PRO MIXERS TO AN OCTO HUB. Damage to either system can occur!**


Daisy-Chain
Additional OCTO Hubs
Connect Additional
OCTO Mixers
hear back OCTO hub
ADAT IN
HEARBUS
IN OUT
NOT FOR MIXER
MIXER OUTPUTS
MIXER OUTPUTS
ANALOG INPUTS
DA-88 ANALOG CABLE
ADAT Optical Cable
OCTO Mixers
hear back PRO hub
ADAT Card
Network Card
+48V MAIN PWR
+48V AUX PWR
150W
150W
PROGRAM
ADAT 1-8
ADAT 9-16
HearBus OUT
OUT
IN
1-8
9-16
HB PRO MIXERS ONLY
Connect PRO Mixers


Daisy-Chain
Additional OCTO Hubs
Connect Additional
OCTO Mixers
hear back OCTO hub
ADAT IN
HEARBUS
IN OUT
NOT FOR MIXER
MIXER OUTPUTS
MIXER OUTPUTS
ANALOG INPUTS
DA-88 ANALOG CABLE
HearBus Cable
OCTO Mixers
hear back PRO hub
ADAT Card
Network Card
+48V MAIN PWR
+48V AUX PWR
PROGRAM
ADAT 1-8
ADAT 9-16
HearBus OUT
HB PRO MIXERS ONLY
Connect PRO Mixers

System Notes

General

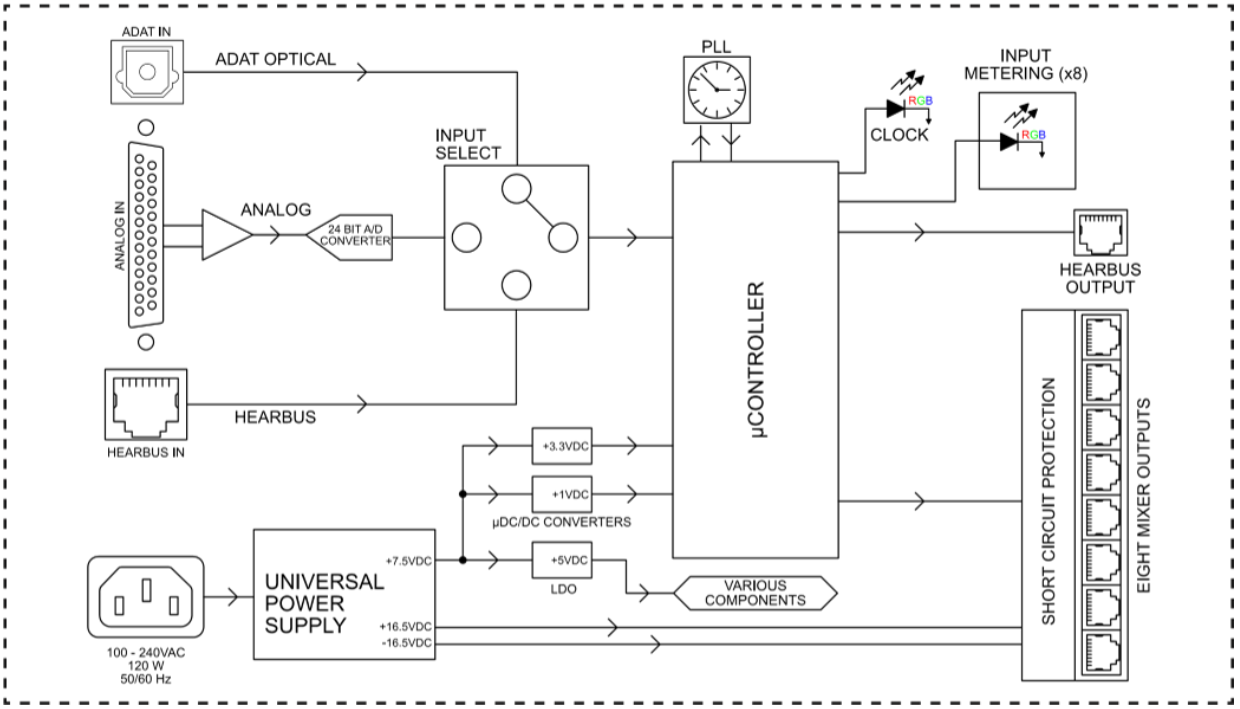
- If the Mixer detects a headphone short, it will automatically mute the output in attempt to keep from damaging the headphones.
- Upon boot-up, or when the Input Select Switch is toggled, the Hub will flash all LEDs BLUE, then GREEN, then RED. This can be used as an indicator that all LEDs are functional.
- Mixer faceplate can be labeled by using a Dry Erase marker, or label maker. Please note that using permanent markers results in permanent labels!
- The Hear Back OCTO system, as well as the original Hear Back system, is not cross-compatible with the Hear Back PRO system. See "Hook-up Diagram to Hear Back PRO System" for details.

CAT6 Cables

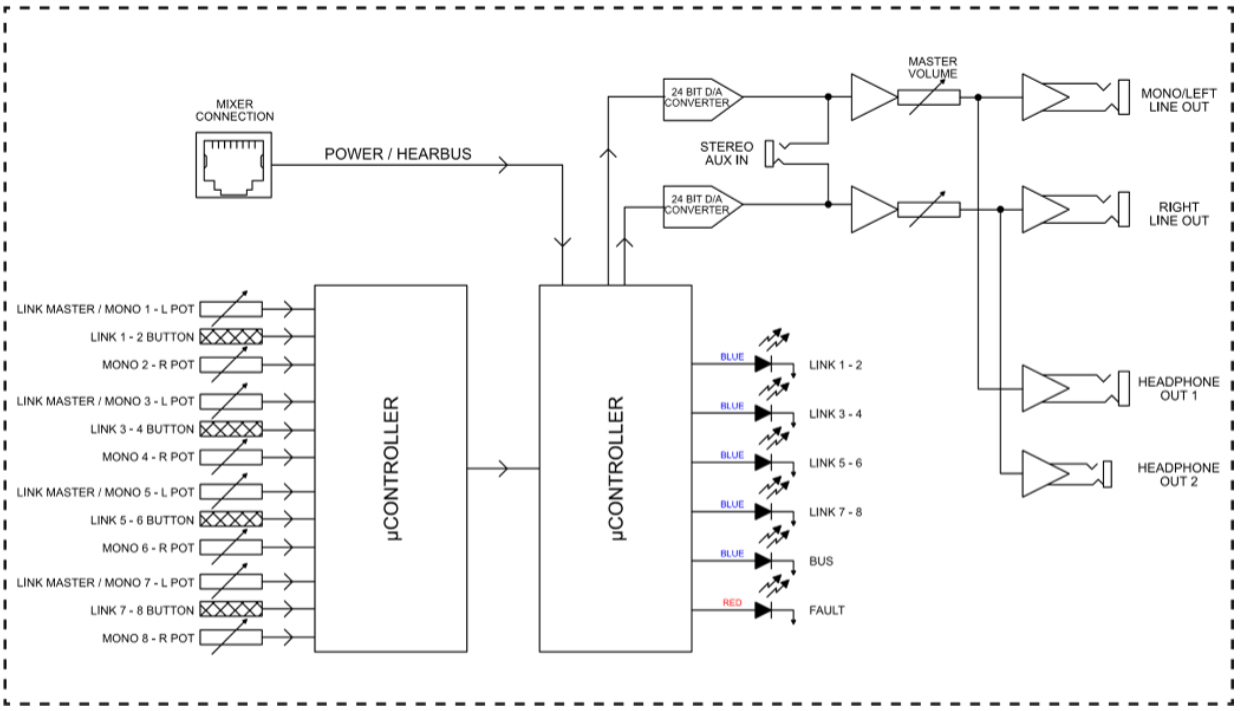
Cable complying with the National authorities (cable with an outer jacket or sleeving rated VW-1 or better).

Block Diagrams

Hear Back OCTO Hub



Hear Back OCTO Mixer


MIXER CONNECTION
POWER / HEARBUS
24 BIT D/A CONVERTER
STEREO AUX IN
24 BIT D/A CONVERTER
MASTER VOLUME
MONO/LEFT LINE OUT
RIGHT LINE OUT
HEADPHONE OUT 1
HEADPHONE OUT 2
LINK MASTER / MONO 1 - L POT
LINK 1 - 2 BUTTON
MONO 2 - R POT
LINK MASTER / MONO 3 - L POT
LINK 3 - 4 BUTTON
MONO 4 - R POT
LINK MASTER / MONO 5 - L POT
LINK 5 - 6 BUTTON
MONO 6 - R POT
LINK MASTER / MONO 7 - L POT
LINK 7 - 8 BUTTON
MONO 8 - R POT
µCONTROLLER
µCONTROLLER
BLUE
LINK 1 - 2
BLUE
LINK 3 - 4
BLUE
LINK 5 - 6
BLUE
LINK 7 - 8
BLUE
BUS
RED
FAULT

Technical Specifications

Mixer Aux Input

Line Input Config/Impedance:
Stereo, unbalanced, 10 kOhms typical
Line Input Level:
+4 dBu optimal, +22 dBu max

Mixer Headphone Power (per channel)

Load Impedance	THD less than 0.01%	THD less than 0.1%
8 Ω	342 mW	412 mW
16 Ω	731 mW	783 mW
25 Ω	1.07 W	1.25 W
32 Ω	1.37 W	1.6 W
50 Ω	1.26 W	1.88 W
100 Ω	971 mW	1.03 W
200 Ω	512 mW	537 mW
600 Ω	185 mW	190 mW

Inter Modulation Distortion:
Typically less than 0.02%

Mixer Line Output

Frequency Response:
20 Hz to 20 KHz, +/-0.16 dB
THD+N:
0.004% typical at 1 kHz, +18 dBu
0.008% typical, 20 Hz - 20 kHz, +4 dBu
Inter Modulation Distortion:
0.02% typical at +4 dBu, 60 Hz / 7 kHz
Crosstalk:
Less than -85 dB @ 1 kHz
Latency:
Less than 1.5 mSec

System Noise Performance

Noise, A-Weighted:
-94 dBu @ analog, -97 dBu optical
Dynamic Range:
122 dB typical

System I/O

Hub Line In, Analog:
8 Balanced inputs on DB-25 female (DA-88 pinout)
Hub Max Input Level, Analog:
+18 dBu

Hub Light Pipe In:
  Industry standard fiber optic connector, shuttered
Hub HearBus In, Out:
  2x 8-pin RJ45 jack
Mixer Headphone Out:
  1x TRS 1/8" and 1x 1/4" unbalanced stereo
Mixer Line Out:
  2x TRS 1/4" balanced (left/mono or stereo)
Mixer Max Output Level, Analog:
  +28 dBu (mixed output)
Mixer Aux Input:
  TRS 1/8" unbalanced stereo

Physical, Hub

Size:
  1.75" H x 19.0" W x 5.0" D (4.45 cm H x 48.26 cm W x 12.7 cm D)
Unit Weight:
  3.9375 lb. (1.79 kg)
Mounting:
  Standard rack mount, 1 RU

Physical, Mixer

Size:
  5.1" H x 9.3" W x 2.519" D (12.95 cm H x 23.62 cm W x 6.40 cm D)
Unit Weight:
  15.8 oz. (0.45 kg)
Mounting:
  Standard mic stand (5/8" 27 threads per inch) or desk mounted

Power

Hub Power Requirements:

~100-240VAC 125W 50/60Hz

> **NOTE**
>
> 0 dBu = 0.775 Vrms.
>
> Specifications and features subject to change without notice.

Troubleshooting

> **NOTE**
>
> The HearBus and Mixer outputs contain high speed digital audio and should be treated as a transmission line. **DO NOT "Y"** these connections because the terminated controlled impedance will be comprised. The HearBus and Mixer outputs operate at 12.28 MHz.
>
> **DO NOT PLUG HUB AC POWER into a GFI receptacle.**

No Signal

- Verify power is on.
- Check input connections and input selector switch.
- Verify the Hub and Mixers have green clock status indications.
- Check output devices, headphones, wireless transmitter/receiver, monitor amplifiers, etc.

When I connect a line level device to the Mixer line outputs, I hear a buzz.

- Wire TRS outputs using only black (ring -) and red (tip +) wires.
- Disconnect shield at the Mixer and terminate at receiving end only.
- For unbalanced outputs wire the Black (ring -) to the receiving end sleeve and tie the shield at the receiving end only. Connect the tip (+ red) to the tip at the receiving end.

I have a clock signal at the Hub, but nothing at the Mixer.

- Isolate the problem as follows:
  - Check CAT5e/6 cable or try another cable.
  - Try another Mixer output port on the Hub.
  - Try another Mixer.

When I link two mono channels, the stereo spread is incorrect.

- Verify the source (Mixer, DAW, etc.) has these outputs panned hard left and right. The pan control of the source determines the stereo spread.

The headphone amplifier fault indicator is on.

- The fault indicator indicates either a short circuit or excessive load.

I need more mixes.

- Connect the stereo mix (channels 1&2) with the FOH or control room mix across several Hubs (as many as desired) then provide the "more me" sectional mixes to channel 3-8 on each Hub until the desired number of mix's are met.

The fan does not operate.

- The fan only runs when power supply temperature reaches 60° C or 140° F.

Further Assistance

If you need further assistance, feel free to contact Hear Technologies technical support by phone at +1-256-922-1200 or visit our website at www.HearTechnologies.com.

System Accessories

Mixer Tilt Adapter

The Mixer Tilt Adapter is for all Hear Back Mixers adding a ball joint with 5/8" 27 male threading to any standard mic stand to get the perfect angle with 360° rotation and 180° tilt.

Microphone Stand Adapter

Mount the Hear Back Mixer to the side of any mic stand or standard music stand using the MSA Mic Stand Adapter.

This clamp-on adjustable width bracket attaches to the built-in 5/8" threaded socket located on the back of the Mixer.

Tote Back

This soft-side nylon carrying case is perfect for carrying (8) Hear Back Mixers or Switch Back M8RXes. It can also carry (4) Mixers and (1) Hub. Adjustable dividers allow you the freedom to customize the compartments.

Legal

Limited Warranty

Hear Technologies warrants the equipment against defects in materials and labor for a period of one year from the original date of purchase. The duration of this warranty is limited to claims made to Hear Technologies within the periods stated with respect to parts and labor from the date of purchase. During the warranty period, defective equipment will be replaced or repaired to the general condition as received, at the discretion of Hear Technologies.

All transportation is the responsibility of the purchaser or owner. Equipment should be shipped in the original shipping box.

This warranty applies only to defects in materials and workmanship and does not cover failure or damage due to shipping loss or damage, abuse, misuse, misapplication, incorrect or varying power line voltages, lack of proper maintenance, natural disasters, acts of God, or unauthorized modifications, repairs, or any alterations done without the expressed written consent by Hear Technologies. Hear Technologies shall not be liable for any loss of use of the equipment, or consequential damages, including damages to other parts of the installation in which the equipment is a part.

Hear Technologies does not make any warranty, express or implied, other than the warranty contained herein. No agent, representative, or employee has the authority to increase or alter the liability, obligations, and terms of this warranty or sale of the equipment.

> **NOTE**
>
> It is strongly recommended that any equipment returned to Hear Technologies be properly packaged and insured for its full value in case of loss, handling or shipping damage.

Hear Technologies shall not be responsible for damage or loss of equipment during shipment.

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