



**hear**  
TECHNOLOGIES®



Hear Back Mixer

Hear Back Hub

Tired of someone else controlling your mix? What if you could control it yourself? Hear Technologies has designed a new personal monitoring system called the **Hear Back**. It changes the way monitor mixing is accomplished on stage or auditorium; as well as, in the studio. Imagine getting your mix exactly the way you want it. With the Hear Back, you save time and get the sound just right, the first time. This affordable system is perfect for headphones, wired and wireless in-ear monitors, and/or conventional floor monitors.

### The Hear Back System: Hub & Mixers

A basic **Hear Back** system consists of a Hub and personal Mixers connected using standard CAT5e cables. A single Hub supplies signal and power to a maximum of eight Mixers. If that's not enough, the Hubs can be daisy-chained using the **HearBus In/Out** for virtually unlimited system size. The Hub can accept analog input signals from audio mixers, auxiliary, matrix, monitor, and/or direct outputs. The ADAT input can come from digital audio workstations, digital recorders, or digital mixers.

For front of house or remotely located digital mixers, we also have the **Extreme Extender ADAT In/Out** that converts ADAT optical, which has very limited distance, to the HearBus for transmission of up to 500 feet.

Our solution, **Hear Back**, has several key advantages:

- Virtually unlimited system size
- Very attractive pricing
- Excellent audio fidelity
- Built-in DSP Limiter
- Very long digital lines possible without loss of audio quality
- Audio inputs ADAT, analog, and the HearBus are switch selectable from the front panel
- Local control of up to ten channels of audio (8 inputs plus a stereo Aux input). Master Volume controls the level to the headphones, line outs and the Aux input to the line outputs
- Built-in DSP limiter - designed as a "brick wall" limiter for hearing protection and to protect monitor wedges from overload
- Headphone amplifier fault indicator - in case of over temperature, or a short, the red LED comes on to alert the user of a problem
- Bus Status Indicator - confirms proper connection to the Hub
- Link Indicators - whenever two pairs of mono inputs are linked for stereo operation, the link LED is illuminated
- Standard CAT5e power and signal connection - a cost effective, simple, non-obtrusive way to connect eight channels of audio. The cable is held in place with a built-in cable strain relief.
- Balanced Line-Outs, Mono/Stereo
- Stereo AUX In
- Mixer has a built-in mic stand mount and may be mounted to a standard mic stand or clipped onto a stand extension bar or clip
- High Power - Low Distortion headphone amplifiers

### Hub Features:

- Three switch selectable 8-channel input sources:
  - ADAT® Optical
  - Analog
  - HearBus
- 24-bit A/D converters
- Digital inputs: 44.1KHz and 48KHz sample rates
- 3-LED, four-level metering
- Daisy-chain for very large systems
- Internal universal input power supply
- 1 RU chassis

### Mixer Features:

- Local control up to ten channels of audio
- Master volume
- Built-in DSP limiter
- Built-in standard mic stand mount
- 24-bit D/A converters
- Bus status indicator
- Headphone amplifier fault indicator
- Mono/stereo link indicators
- Balanced line outs, mono/stereo
- Stereo AUX in:
  - Expand numbers of mixers
  - Drum module/metronome input

hear back system

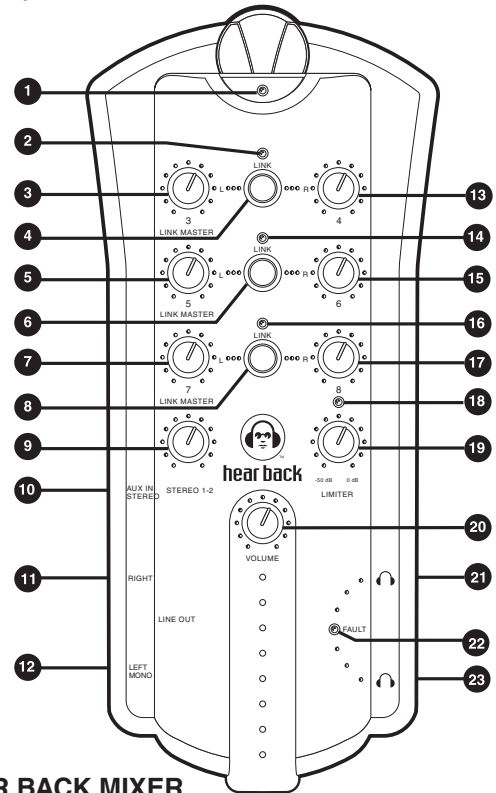
## SYSTEM SPECIFICATIONS

<b>Aux Input</b>		
Input Configuration/Impedance:	Stereo, unbalanced, 10 Kohms typical	
Input Level:	+4 dBu optimal, +22 dBu max	
<b>Head Phone Power</b>		
Load Impedance:	<b>THD less than 0.01%*</b>	<b>THD less than 0.1%</b>
8 Ohms:	150 mW* <i>*THD AT 8 Ohms = 0.015% typical</i>	230 mW
16 Ohms:	235 mW	500 mW
25 Ohms:	675 mW	775 mW
32 Ohms:	950 mW	1.1 W
50 Ohms:	1.6 W	1.8 W
100 Ohms:	1.14 W	1.25 W
200 Ohms:	500 mW	650 mW
600 Ohms:	215 mW	220 mW
IMD:	Typically less than 0.03%	
<b>Line Out</b>		
Freq Response:	20 Hz to 20 KHz, +0.04 dB, -0.55 dB	
THD+N:	0.008% typical at 1 KHz, +15 dBu, 0.02% typical, 20 Hz- 20 KHz, +4 dBu	
IMD:	.02% typical at +4 dBu, 60 Hz/7 KHz	
Crosstalk:	Better than -85 dB @ 1 KHz	
Propagation Delay:	Less than 1.5 mSec	
<b>Noise Performance</b>		
Noise, A-Weighted:	-91 dBu analog, -97 dBu optical	
Dynamic Range:	112 dB typical	
<b>System I/O</b>		
Hub Line In, Analog:	8 Balanced inputs on DB-25 female (Tascam DA-88 pinout)	
Maximum Input Level, Analog:	+15 dBu	
Hub Light Pipe In:	Industry standard fiber optic connector, shuttered	
Hub HearBus In, Out:	8-pin RJ45 jack (2 each)	
Mixer Headphone Out:	TRS 1/4" unbalanced stereo (2 each)	
Mixer Line Out:	TRS 1/4" balanced (2 each)	
Maximum Output Level, Analog:	+24 dBu (mixed output)	
Aux Input:	TRS 1/8" unbalanced stereo	
<b>Physical, Mixer</b>		
Size:	11.5" (29.2 cm) H x 5.2" (13.2 cm) W x 3.6" (9.15 cm) D	
Unit Weight:	1.2 lb. (0.54 kg)	
Mounting:	Standard mic stand or desk mounted	
<b>Physical, Hub</b>		
Size:	1.75" H x 19" W x 7.125" D	
Unit Weight:	5.0 lb.	
Mounting:	Standard rack mount, 1 RU	

Note: 0 dBu = 0.775 V rms

Specifications and features subject to change without notice.

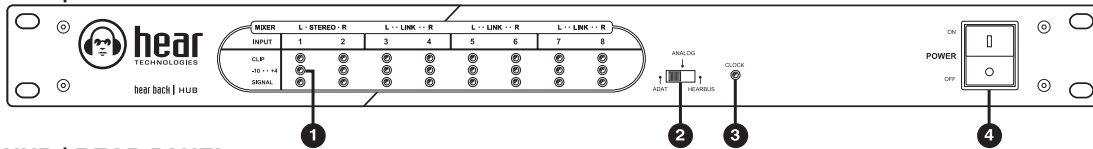
## MIXER | FRONT PANEL



### HEAR BACK MIXER

- 1 - Bi-Color Bus Status Indicator
- 2 - Link Indicator - Channels 3/4
- 3 - Mono Channel 3/Stereo Link Master Level
- 4 - Link Switch - Links Channels 3/4
- 5 - Mono Channel 5/Stereo Link Master
- 6 - Link Switch - Links Channels 5/6
- 7 - Mono Channel 7/Stereo Link Master
- 8 - Link Switch - Links Channels 7/8
- 9 - Stereo Mix Level Control, Channels 1/2
- 10 - Stereo Auxiliary Input
- 11 - Right Line Output
- 12 - Left/Mono Line Output
- 13 - Mono Channel 4
- 14 - Link Indicator - Channels 5/6
- 15 - Mono Channel 6
- 16 - Link Indicator - Channels 7/8
- 17 - Mono Channel 8
- 18 - Limiter Indicator
- 19 - Limiter Threshold Control
- 20 - Master Volume
- 21 - Headphone Output
- 22 - Headphone Amplifier Fault Indicator
- 23 - Headphone Output

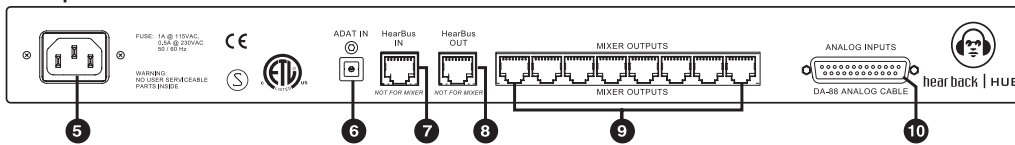
## HUB | FRONT PANEL



### HEAR BACK HUB

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

## HUB | REAR PANEL



## HOOK-UP DIAGRAM

