hear TECHNOLOGIES®

switch back™ M8RX™

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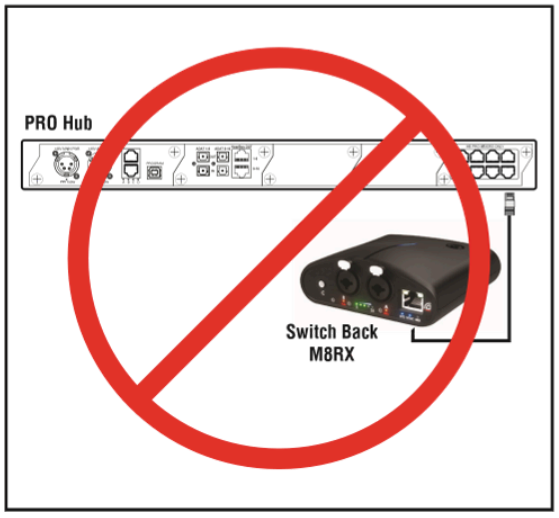
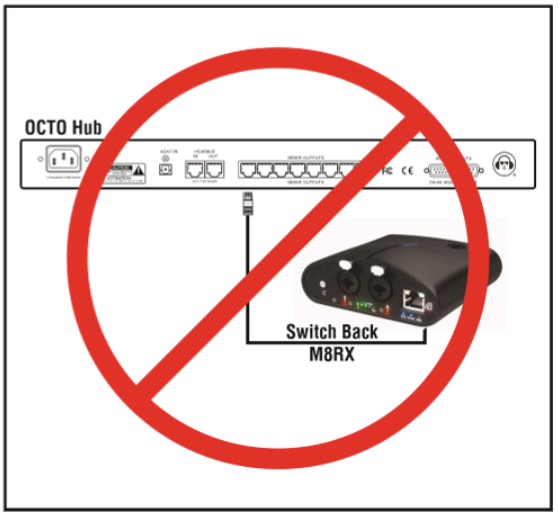
Safety Information

Connection Warning

WARNING

DO NOT CONNECT M8RX TO A PRO HUB OR OCTO HUB. Damage to either system can occur!





English

DANGER

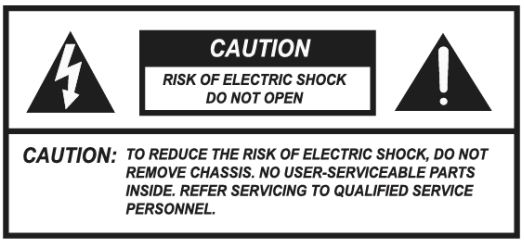
Exposure to extremely high noise levels may cause a permanent hearing loss. Individuals vary considerably to noise induced hearing loss but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a sufficient time.

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



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. Protect the ethernet cable being walked on or pinched, particularly at the connector from the apparatus.
10. Only use attachments specified by the manufacturer.
11. 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.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. 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.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way; such as, 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.
15.

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

16. 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 audio cables.
- never use shielded CAT6 network cables as this could cause ground-loops or the M8RX to reboot.

> **⚠ WARNING**
>
> **Care should be taken so that the M8RX'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:
Switch Back M8RX
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 Switch Back M8RX System

The **Switch Back M8RX™** is a personal interface to be used for live sound or recording, and also a multi-channel headphone monitoring system. While compact in size, the M8RX gives individuals options to use it in multiple ways, such as a mini recording studio setup or a simple communication system.

The M8RX features a total of eight channels of audio mixing – two channels with studio-quality microphone preamps, two channels of line-level inputs, and four Dante network audio inputs/outputs. The M8RX's two mic preamps have a distortion spec below 0.001% along with zero-latency analog mixing and

monitoring of the four analog inputs. With Ethernet capability becoming standard in most pro audio gear today, the M8RX includes a total of four channels of Dante network audio inputs/outputs. The sleek look and feel makes it perfect for mounting on a mic stand or sitting on a table.

Along with the same high quality headphone amplifier as in the Hear Back PRO and OCTO systems, the M8RX has 5 watts of headphone power and can be connected to a computer via the Ethernet port using an external power injector. The M8RX utilizes PoE+ (Power-over-Ethernet+), which allows the unit to be powered over the same unshielded Cat6 cable used to transmit data.

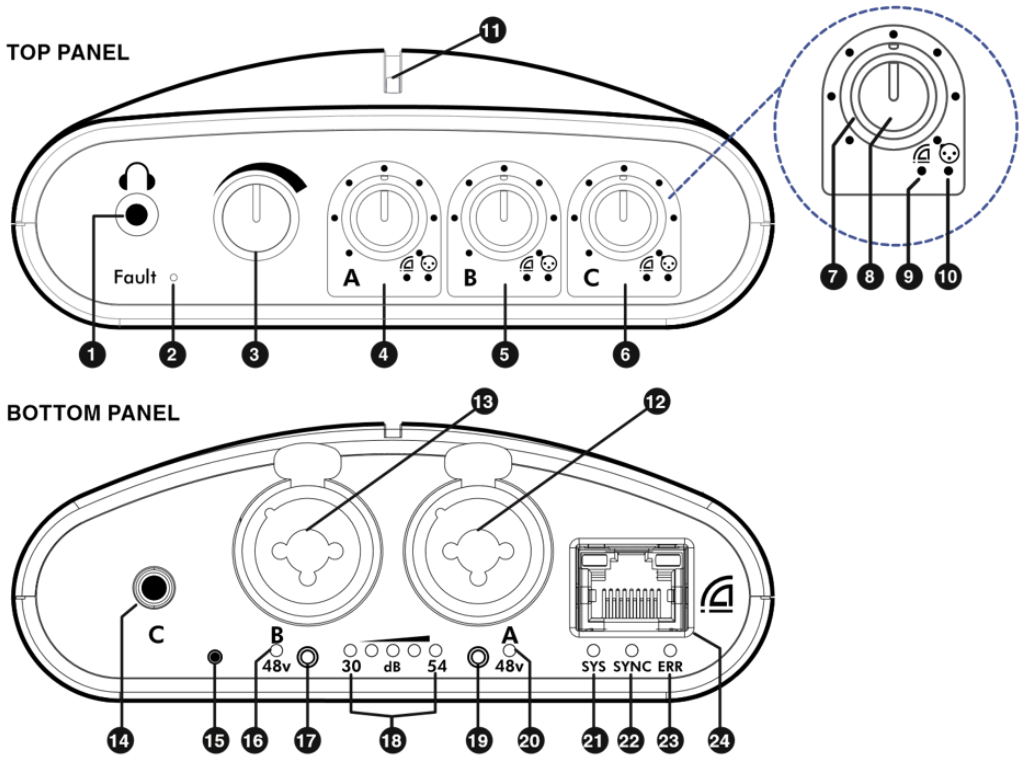
Advantages / Features

- 4x4 Dante I/O (4 Dante Inputs and 4 Dante Outputs)
- Easy access to all volume controls on face of unit
- Compact, concentric volume knobs allow volume control of local inputs using the tip, and Dante inputs using the rings
- Master volume control for headphones
- True 48-volt phantom power remotely/locally selectable on each microphone input
- Burr-Brown 24-bit Delta-Sigma (ΔΣ) A/D converters
- Burr-Brown 24-bit enhanced multilevel deltasigma (ΔΣ) D/A conversion
- Dual-color signal and peak indicators on each input channel
- Gain, phantom power, and Dante status indictors tucked away on rear of unit
- Streamlined cable connections on rear of unit
- Combo XLR & 1/4" TRS balanced inputs on channels 1 & 2 for connecting microphones or instruments
- Balanced 1/4" inputs automatically have 18dB of padding over XLR inputs
- 1/8" unbalanced stereo input for auxiliary sources such as metronome, iPod, external microphone preamp, etc.

- 100 BaseT Ethernet
- Powered by PoE+
- Locally selectable LED color on top for easy color-coding and identification

System

Detail Diagram



1	1/8" Stereo Headphone Output	13	Input "B" Balanced XLR or 1/4" Input
2	Headphone Fault LED	14	Input "C" Unbalanced 1/8" Stereo Line Input
3	Master Volume	15	Reset Switch
4	"A" Input	16	Input "B" Phantom Power Indicator

5	"B" Input	17	Input "B" Gain & Phantom Power Button
6	"C" Input	18	Gain Indicator LEDs for Input "A" or "B"
7	Dante Input Level (Knob Ring)	19	Input "A" Gain & Phantom Power Button
8	Analog Input Level (Knob Tip)	20	Input "A" Phantom Power Indicator
9	Dante Signal & Clip Status LED	21	"SYS" Dante Status Indicator
10	Analog Input Signal & Clip Status LED	22	"SYNC" Dante Communication Indicator
11	User-changeable Multi-color LED (for identifying multiple M8RXs)	23	"ERR" Error Indicator
12	Input "A" Balanced XLR or 1/4" Input	24	Dante & PoE+ Power RJ45 for 100 BaseT Ethernet Connector (only use unshielded cables)

Standouts

- Two ultra-low noise studio-quality discrete microphone preamplifiers
- Locally adjustable microphone gain, in selectable increments between 30 and 54 dB

- Local volume control of up to 8 channels of audio (4 local analog inputs and 4 Dante digital inputs)
- 1/8" Stereo Input (input 3/4)
- Ultra-low distortion of 0.001% THD+N (even with 60 dB of gain on the microphone preamp!)
- PoE+ power guarantees ground isolation between M8RX interfaces
- Standard unshielded CAT6 cabling delivers power and Dante digital audio to each M8RX
- Zero latency headphone monitoring of the local analog inputs
- All 4 local analog input channels are made available on the Dante network as sources
- Can use stand-alone (without a Dante network connection) as a small microphone preamp, analog mixer, and headphone amplifier (great as a more-me system)
- Easily mounts to a mic stand using the built-in ¼"-20 camera-tripod mount and the included 5/8"-27 adapter

M8RX Construction

The Switch Back M8RX is constructed of UV-stabilized ABS and has a built-in standard camera tripod stand mount (1/4" 20 thread). Additionally, a tripod thread to microphone stand adapter (1/4"-20 to 5/8"-27) is also included to allow mounting on a microphone stand.

Status Indicators

The M8RX has six types of status indicators:

Front Color-Changing LED

A large color changing indicator is provided to allow easy identification when multiple Switch Back M8RX interfaces are used in a setup. The color of this indicator is user-selectable by pressing both input buttons simultaneously for several seconds. This indicator will also automatically cycle through the color spectrum when booting and also when the identify function is triggered in the Dante Controller software.

Dante

The Dante bus has three indicators that are bi-color. They are **BLUE** under normal operating conditions and **RED** alerting the user a problem exists. The SYS indicator is **BLUE** if at least one other Dante device is connected to the same network, otherwise it is **RED**. The SYNC indicator is **BLUE** if the internal clock circuitry is operating properly, otherwise it is **RED**. The ERR indicator is normally off. If there is a problem with the firmware or memory then the ERR indicator will turn **RED**.

Gain

Five **GREEN** indicator LEDs located below and between the XLR input connectors will illuminate when one of the input buttons is pushed (located below each XLR input). These indicators display the current input sensitivity for each input from -54dBu to -30dBu for XLR microphone inputs (-36dBu to -12dBu for ¼" inputs). These indicators will automatically turn off after a few seconds of pressing one of the input buttons.

Phantom Power

A single **ORANGE** LED indicator is located below each XLR input with the label "48v" below it. When illuminated, 48 volts DC is present on XLR pins 2 and 3 with respect to pin 1. This provides power to any microphones requiring phantom power. This is toggled on or off by holding one of the input buttons for 2 seconds.

Audio Signal

Six indicator LEDs located below the input volume controls illuminate **BLUE** when signal is present and **RED** when the input is too strong and causing distortion. 3 of these indicators represent the A, B, and C Dante inputs (red Dante logo above each) and 3 of these represent the A, B, and C analog inputs (blue XLR logo above each).

Headphone Amplifier Fault

The fault indicator is normally off and only illuminates **RED** if an over-current or short circuit condition occurs for a long enough period to cause overheating of the amplifier (100°C or 212°F). Continued use of the amplifier in a fault condition is not recommended as it can degrade the amplifier's performance and life.

Controls

The M8RX has four different types of controls:

Input Volume Knob

There are 3 input volume knobs labeled "A", "B", and "C". Each of these knobs has two parts that can be adjusted independently: a tip and a ring. The tip of each volume knob adjusts the level of each analog input located on the bottom of the M8RX. The ring of each volume knob adjusts the level of each Dante input which arrives over the Ethernet network connection. These can be assigned from any other Dante device on the network using the Dante Controller software. These volume knobs only adjust the audio level to the headphones, they do not affect the audio level sent to the Dante network.

Master Volume Knob

The master volume is used to set the overall volume level of the headphone output.

Input Gain Push Button

Each button is located below its respectful channel's XLR inputs on the bottom of the M8RX. Pushing one of these buttons will display the current input gain for the chosen input on the 5 **GREEN** LED indicators below and between the two XLR inputs. Every press of this button after the initial press will step the gain up or down one step. The gain first steps up until it gets to the top, and then it steps back down until it gets to the bottom and continues to repeat this pattern. Gain has input sensitivity adjustments from -54dBu to -30dBu for XLR microphone inputs (-36dBu to -12dBu for ¼" inputs). Holding one of these push buttons for 2 seconds will toggle the phantom power for the input which is indicated by an **ORANGE** LED below the XLR input. Pushing and holding both of these buttons at the same time will cycle through colors on the font color-changing LED. These buttons can also be locked or unlocked.

Dante Failsafe Button

Accessible through a small hole using a paper clip or small screw driver. Only use this button if instructed by our technical support.

Inputs

The M8RX has three different types of inputs:

Balanced Mono Input

The M8RX has two balanced mono inputs labeled "A" and "B". These inputs have a special "combo" connector that allows either a XLR microphone connector or a ¼" TRS connector. The XLR input is designed for microphones and has adjustable

input gain with sensitivity adjustments from -54dBu to -30dBu and a 48 volt phantom power supply that is selectable per input. The ¼" input has an 18 dB pad and is designed for line-level and instrument inputs with input sensitivity adjustments from -36dBu to -12dBu. These two inputs can be monitored locally in the analog domain (zero latency) by turning up the tips of volume knobs "A" and "B" respectively. These inputs are also available on the Dante network as channels 1 and 2.

Unbalanced Stereo Input

The M8RX has one unbalanced stereo input on a 1/8" TRS connector labeled "C". This input is designed for line-level sources and has a fixed input gain sensitivity of -10dBu. This input can be monitored locally in the analog domain (zero latency) by turning up the tip of volume knob "C". This input is also available on the Dante network as channels 3 (left) and 4 (right).

Dante Digital Input

The M8RX has 3 channels of digital audio inputs from the Dante network. These can be monitored using the rings on volume knobs "A", "B", and "C". The first two inputs are mono and audio can be routed to them using the Dante Controller software on channels 1 and 2 of the M8RX. Dante input "C" is a stereo input and audio can be routed to it using the Dante Controller software on channels 3 (left) and 4 (right).

> **NOTE**
>
> If Dante sampling rates 88.2kHz or 96kHz are used, only 2 channels of audio are supported: "A" and "B".

Lock Out Gain/Phantom Power Buttons

Procedure to lock out Gain/Phantom Power Buttons:

1. Unplug power.
2. Press and hold BOTH blue push buttons (A and B) while inserting network cable to reapply power.
3. Once power is reapplied, release BOTH push buttons.
4. Press either blue button to lock or unlock the Gain/Phantom Power. The LED on the front of the M8RX will glow **RED** when LOCKED and **GREEN** when UNLOCKED.
5. Once set, it will take approximately 10 seconds for the M8RX to reboot (cycles through the color scheme).
6. To change settings again, repeat the steps above.

Headphone Amplifier

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**
>
> - ALWAYS turn down the "Master Volume" before putting on in-ear headsets or headphones because the Switch Back M8RX is capable of driving most headphones to extreme levels that can damage your HEARING!
> - 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. **Set all volume controls to "Off"** (full counter-clock-wise position), connect the headphones or in-ear monitors.
3. **Connect the M8RX to PoE+ power** such as an in-line PoE+ power injector or PoE+ network switch using unshielded Cat6 cable (never use shielded Cat6 cables). The M8RX receives its power over the unshielded Cat6 cable. The Hear Technologies PRO Mixer Distro is a good choice for a PoE+ network switch. The M8RX can receive power on any pair of the unshielded Cat6 cable. Since the M8RX uses 100BaseT Ethernet, the pairs on pins 4/5 and 7/8 are unused and lend themselves for an easy way to implement a passive power supply. 48 volts DC can be applied to any pair and ground can be applied to any pair. The M8RX must receive 36 - 52 volts DC with a minimum of 320mA.
4. **Adjust the level at the input source** (microphone gain, Dante source, etc.) until the **RED** clip LED's on the M8RX just come on and then reduce the input(s) until you have a bright **BLUE** LED.

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

5. **Mixer Adjustment:** Once you have the signals optimized, turn the master volume to about 12 o'clock and then raise the desired input volumes. For best performance, avoid adjusting the master volume too high and running the inputs too low.

Dante Network

With hundreds of professional audio manufacturers now supporting Dante, it is an easy way to route multiple channels of high quality audio at a very low latency between two or more pieces of equipment (including directly out of a PC or Mac using only its Ethernet port.) Dante (Digital Audio Network Through Ethernet) is a standard audio-over-Ethernet protocol developed and supported by Audinate Pty Ltd.

Please note that we did not develop the Dante protocol. We are simply an end-point. In this manual, we just barely scratch the surface of Dante's capabilities. The creators of Dante know their protocol better than anyone!

Please visit www.audinate.com for a vast wealth of training videos, example setups, and documentation.

Our Switch Back M8RX connects four channels of simultaneous audio input and output with other Dante enabled equipment using a standard Ethernet network connection and unshielded Cat6 cabling. Dante will work with standard network switches and routers and is safe to combine with your existing computer network, if necessary. 100BaseT network speed is supported.
The M8RX supports four channels of inputs and outputs at sampling rates of 44.1kHz or 48kHz and two channels of inputs and outputs at sampling rates of 88.2kHz or 96kHz.

A Dante network requires at least two devices that support the Dante protocol and a single unshielded Cat6 network connection between the two devices. Before you can send audio over the Dante network, you must first connect a Windows PC or Mac running the Dante Controller software (download from www.audinate.com) in order to configure audio channel routing. You must choose what you want to send to each of the four channels of the M8RX and also if you want to route any of the audio from the 4 inputs of the M8RX to any other Dante

device. Whatever is assigned to channels one through four in the Dante Controller software is what will show up on channels A, B, and C on the M8RX. A and B are mono channels and C is a stereo channel.

After configuration, the computer can be disconnected. To connect the PC or Mac, you can connect the computer's Ethernet cable directly into the M8RX (using an in-line PoE+ power injector to power the M8RX) or into a PoE+ network switch to which the other Dante devices are also connected.

Channels Transmitted to Dante

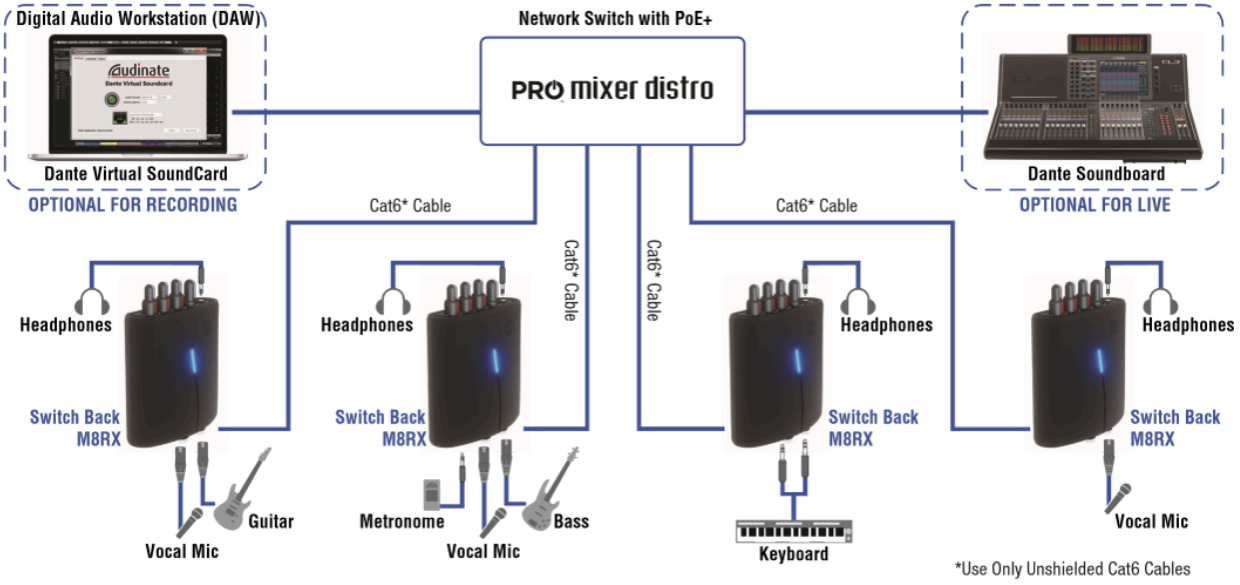
Transmit Channels		
#	**Description**	**Headphone Volume Control**
1	Input "A" Balanced XLR or 1/4"	Analog Input Level "A" Knob Tip
2	Input "B" Balanced XLR or 1/4"	Analog Input Level "B" Knob Tip
3	Input "C" Unbalanced 1/8" Line Left	Analog Input Level "C" Knob Tip
4	Input "C" Unbalanced 1/8" Line Right	

Channels Received from Dante

Receive Channels		
#	**Type**	**Headphone Volume Control**
1	Mono Dante Channel "A"	Dante Input Level "A" Knob Ring
2	Mono Dante Channel "B"	Dante Input Level "B" Knob Ring
3	Stereo Dante Channel "C" Left	Dante Input Level "C" Knob Ring
4	Stereo Dante Channel "C" Right	

Hook-Up Diagrams

EXAMPLE HOOK-UP



System Notes

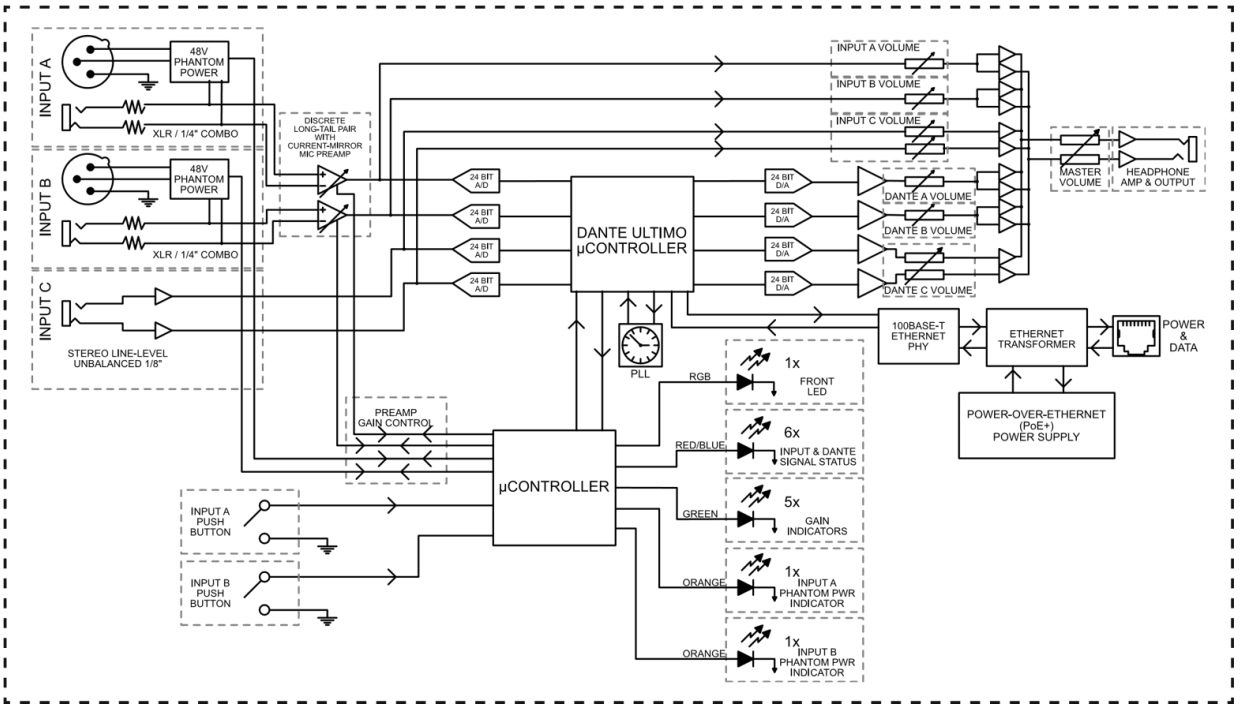
General

- **DO NOT USE SHIELDED CAT6 CABLES.** Rebooting and ground loops will occur. Use only unshielded network cables.
- If the Mixer detects a headphone short, it will automatically mute the output in attempt to keep from damaging the headphones.

CAT6 Cables

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

Block Diagram



Technical Specifications

Inputs A & B

Available on Dante network as channels 1&2

Mic Input Configuration:
Mono, Balanced XLR
Mic Input Frequency Response:
10Hz - 120kHz +/-0.5dB (analog input to headphone output)
Mic Input THD+N:
0.001% @ 150mV input
Mic Input IMD:
0.004% @ 150mV input
Mic Input X-TALK:
-86dBu @ 150mV input
Mic Input Sensitivity:
-64dBu (gain at max), -30dBu (gain at min)
Line Input Frequency Response:
10 Hz - 120kHz +/-0.5dB (analog input to headphone output)
Line Input THD+N:
0.001% @ 1V input
Line Input IMD:
0.004% @ 1V input
Line Input X-TALK:
-91dBu @ 1V input
Line Input Sensitivity:
-13dBu (gain at max), +20dBu (gain at min)

Input C

Available on Dante network as channels 3&4

Input Configuration:
Stereo, Unbalanced 1/8" TRS
Input Frequency Response:
10Hz - 120kHz +/-0.5dB (analog input to headphone output)
Input THD+N:
0.005% @ 200mV input
Input IMD:
0.015% @ 200mV input
Input X-TALK:
-70dBu @ 200mV input
Input Sensitivity:
-10dBu (fixed gain)

Headphone Power (per channel)

Load Impedance	THD less than 0.01%
8 Ω	1.2 W
16 Ω	1.6 W
25 Ω	2.0 W
32 Ω	1.8 W
50 Ω	1.5 W
100 Ω	1.1 W

Load Impedance	THD less than 0.01%
200 Ω	500 mW
600 Ω	220 mW

Inter Modulation Distortion:
Typically less than 0.02%

System Noise Performance

Noise, A-Weighted:
-97 dBu
Dynamic Range:
122 dB

Physical

Size:
5.5" H x 4.45" W x 1.625" D (13.97 cm H x 11.30 cm W x 4.13 cm D)
Unit Weight:
9.5 oz. (0.27 kg)
Mounting:
Standard camera tripod thread (1/4" 20 threads per inch), mic stand or desk mountable

Power

Power Requirements:
PoE+ 36-52 VDC, 15 Watts max**

**Provided by Hear Technologies PRONET or equivalent network switch with PoE+ capability.

Cabling

Use only unshielded Cat6 cables for network connections.

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

Troubleshooting

No Signal for Analog Input

- Verify M8RX has power (front LED illuminated).
- Check input connections, input gain (in input is "A" or "B"), input volume controls, and master volume control.
- Check output devices, headphones, wireless transmitter/receiver, monitor amplifiers, etc.
- Test input source and output device with other known good equipment to rule out the fault through a process of elimination.

No Signal for Dante Input

- Check the Dante audio signal present LED below the volume knob on the M8RX and verify volume knob and master volume knob are turned up enough.
- Check routing in the Dante Controller software and make sure there are green check marks on the M8RX receive channels to indicate that a source is routed.
- If there are red circle-backslash symbols on the M8RX Dante receive channels in Dante Controller, verify that the M8RX and the source you are trying to send are set to the same sampling rate. (Dante devices do not follow sampling rate changes. You must change the sampling rate on all devices individually in Dante Controller).
- If there are yellow exclamation symbols on the M8RX Dante receive channels in Dante Controller, this indicates that the source is missing from the Dante network. Verify source network connectivity and power. Try rebooting the source device.

Input "C" is only coming out of one ear

- Input "C" is a stereo input, you must feed audio into both channels.
- If you are using the 1/8" Analog input "C", you must use a 3 conductor 1/8" connector (TRS) and there must be signal on both the tip and the ring. The tip is the left ear and the ring is right ear.
- If you are using the Dante input "C", you must route audio to both channel 3 and 4. Channel 3 is the left ear and channel 4 is the right ear.

Power goes out and comes back on when volume is turned up

- The M8RX requires 15 watts of power. If you are using a PoE power supply that is not PoE+ it will typically turn off the power to the port that the M8RX is plugged into whenever it exceeds 13 watts. You must make sure to use PoE+ network switches and power injectors to power the M8RX.

The headphone amplifier fault indicator is on.

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

Unable to route audio in Dante Controller

- Verify that the M8RX and the source you are trying to send are set to the same sampling rate. The M8RX can only receive audio from 2 different Dante devices (2 different receive streams).

Front LED blinks red constantly

- This indicates a communication problem between the Audinate Ultimo processor that handles the Dante audio and the microcontroller that

processes the gain and handles the push buttons and status LEDs. Try rebooting the M8RX. If the problem persists, please contact technical support.

Hum or buzz in audio

- Ensure you are not using shielded Cat6 cables. Use only unshielded Cat6 for M8RX ethernet connections.

Mixers reboot when others are plugged in

- Use only unshielded Cat6 for connecting M8RX ethernet to the network. Do not use shielded Cat6 cables.

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

PRO Distro

- A rugged PoE+ gigabit network switch for Dante, Waves SoundGrid, or any other Ethernet application.
- Works with our Hear Back PRO, Switch Back M8RX, and Switch Back PLUS.
- When used with the Hear Back PRO system, allows a single CAT6 cable to be run from a Hear Back PRO Hub to the stage/studio where the PRO Mixers are located (unlimited daisy-chaining possible with multiple Distros).
- Provides (8) RJ45 gigabit Ethernet ports with PoE+ power for powering up to 8 PoE+ devices. A ninth port is included to link multiple Distros together, connecting to another network switch, or when using with the Hear Back PRO system, it can connect to the HBUS out on a Hear Back PRO Hub.
- Durable anodized housing available in black or silver finish.
- Not compatible with original Hear Back or OCTO Mixers.

PoE Power Injector

- Works with the Switch Back M8RX (for the Switch Back PLUS or Hear Back PRO mixers, a Gigabit PoE Power Injector is required)
- The POE Power Injector provides 18 watts of 48 volt PoE+ power @ 375mA.
- The supply is universal, and can handle voltage inputs anywhere from 90 to 264 VAC, 50 or 60Hz.
- Includes (1) Universal Power Supply, (1) Power Cord, and (1) RJ45 Breakout Cable (standard T-568-B pinout).

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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Contact

Hear Technologies®

991 Discovery Drive

Huntsville, AL 35806

www.HearTechnologies.com

Support Resources:

www.HearTechnologies.com/support/