




Thank you for choosing EMM Labs

Welcome	001
Table of Contents	002
Safety Instructions	003
Warranty	004
MTRX2 V2 1KW MONO AMPLIFIERS	005
Features and Specifications	007
Installation	008
Front Panel & Functions	010
Back Panel & Functions	012
Operation Power Requirements, Modes and ON/OFF Sequence	013
Operation Audio Connections	016
Operation Unbalanced Connection	017
Operation Speaker Connections	018
Operation Power Mode Description	019
Operation System Connection	020
Care and Maintenance	021

Safety Instructions

Prior to installing any EMM Labs product please read the following safety instructions:

- Read and follow all instructions
- Keep these instructions
- Do not use or install product near any sources of water, rain and/or moisture
- Clean using only a dry lint free or micro fiber cloth
- Install only in accordance with the manufacturer's instructions
- Refer all servicing to approved service personnel
- Do not install near any heat sources such as radiators, heat registers, stoves, open flames or other apparatus that produce heat
- Do not install product outdoors or in direct sunlight
- Leave at least 30cm or 12 inches around product to ensure proper ventilation
- Do not cover/block ventilation openings
- Do not place product near strong electrical or magnetic radiation/emissions
-  Terminals marked with this symbol should be considered hazardous and live. Proper precautions should be taken wiring these terminals

All EMM Labs products must be connected to a mains socket or outlet, with a protective earthing connection (grounding pin).

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO WATER OR MOISTURE.

 **EEC: This product has been designed and tested to comply with the limits set out in EN55032:2022, EN55035:2018, and EN 62368-1:2014 (electrical safety).**

Warranty

EMM Labs warrants the MTRX2 V2s against defects in material and workmanship under normal use and service for a period of time specified by the product's serial number from the date of first delivery to the owner. The warranty time period is 5 years.

Warranty is limited to the original owner and is non-transferable. EMM Labs will pay for return shipping charges back to the owner when the product is sent to EMM Labs within the first 90 days after purchase (US and Canada end-users only). Otherwise, owner will be responsible for all shipping charges to and from EMM Labs.

For all warranty claims, a copy of the original invoice must accompany the product. Opening the product or modifying it in any way by the owner, including but not limited to cryogenic treatment, will void any warranty.

Please contact EMM Labs (support@emmlabs.com) for RMA number and shipping instructions before shipping any product to EMM Labs.

EMM Labs products are sold worldwide through authorized dealers with restricted territories. **EMM Labs product purchased from any non-authorized dealers or from dealers selling outside their authorized territory will automatically void product warranty.**

MTRX2 V2 1KW MONO AMPLIFIERS

Introducing the MTRX2 V2s: A masterpiece of precision and passion. These 1000W Class A/B solid-state mono amplifiers fuse expertise and innovation, meticulously curated by Ed himself. With the introduction of the high-current Meitner Power Driver, these amplifiers effortlessly handle demanding speaker loads while maintaining low distortion and wide bandwidth. Re-designed proprietary power systems ensure unwavering performance and reliability.

The MTRX2 V2s boast an impressive array of features:

- Proprietary fully discrete circuit topologies
- Re-imagined proprietary power system for enhanced performance
- Aerospace-grade ceramic PCB boards for superior durability
- Fully balanced audio paths throughout, guaranteeing optimal signal integrity
- Capability to deliver massive transient currents instantaneously
- Ability to tackle complex loads down to 1Ω with ease
- Internally wired with Kimber Kable, ensuring premium connectivity
- Real time protection system, monitoring both amplifier and speakers

Crafted, manufactured, and meticulously built in Canada with an unwavering commitment to quality, the new MTRX2 V2 mono amplifiers redefine the boundaries of audio amplification technology.

Features and Specifications

Power (into 4Ω)	: 1,300W Peak (RS-490 EIA) : 1,000W RMS Continuous (standard 120/230V line voltage)
Voltage Gain	: 30dB
Frequency Response	: 0.1hz - 200Khz (Full Rated Power)
Signal to Noise	: Greater than 120dB (A Weighted)
THD+N	: Less than 0.015% (20-20Khz, Full Rated Power)
IMD	: Less than 0.015% (20-20Khz, Full Rated Power)
Slew Rate	: Greater then 100V/μS
Damping Factor	: Greater than 200

Inputs (per mono amplifier):

- 1 Balanced (XLR)
- 1 Un-balanced (RCA)

Input impedance:

- 100KΩ Balanced (XLR)
- 47KΩ Un-balanced (RCA)

Outputs:

- 2 Sets of Furutech Binding Posts

System:

- 1 RS-232 Communication Port

Features and Specifications

Power & Accessories (per amplifier):

- 30A 250V 3-pin, IP44, IEC60309 type power inlet
- Custom Kimber Kable 30A Power Cable
- Custom EMM Labs Flight Case

Amplifier Dimensions (W x D x H, per amplifier):

- 544 x 584 x 297 mm
- 21.4 x 23 x 11.7 inches

Amplifier Weight (per amplifier):

- 82kg
- 180lbs

Installation

Unpacking

Please save the flight cases for future shipping needs. Use the included cover, to cover the amplifiers when not in use. Do not cover the amplifiers while in standby or during operation.



The MTRX2 V2s comes packed in its own individual custom made heavy duty ATA flight case. Included is a premium Kimber power cable, CD manual plus included documentation.

To unpack the amplifiers, two people are required to unlock and carefully lift the top cover of the flight case over the amplifier.

Remove the amplifier cloth cover before lifting the amplifier out of the flight case. Do not attempt to lift or move the MTRX2 V2s without adequate assistance. At

least two people are required to lift an MTRX2 V2.

A third person is highly recommended when removing the amplifier off the flight case base/platform. Once the amplifier is lifted up off the base/platform the third person can easily slide the base/platform away, and the amplifier can then be lowered to the ground.

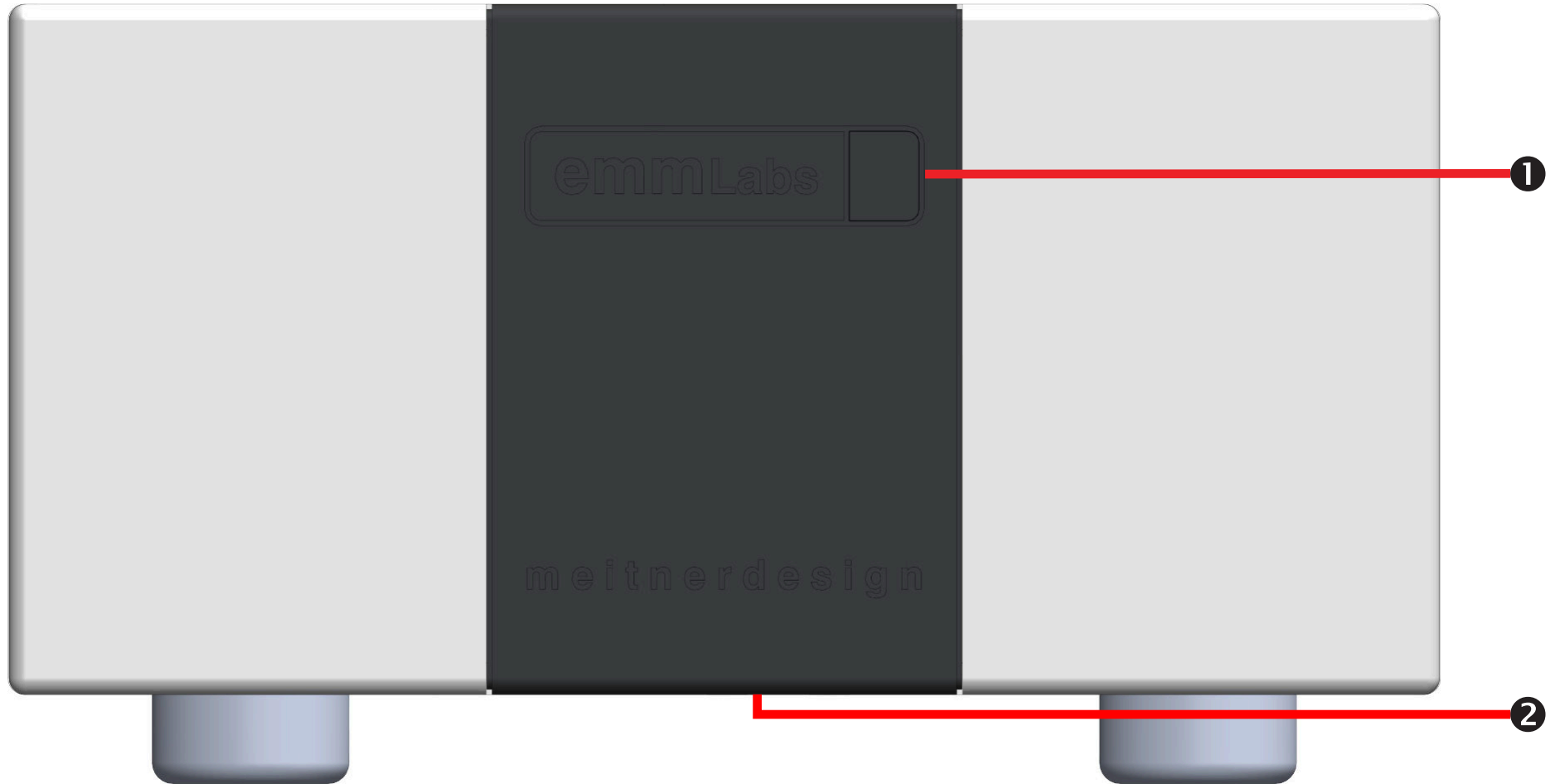
Installation

Location & Precautions:

- Install the MTRX2 V2 amplifiers on a solid level surface
- Install the amplifiers in a dry and well ventilated location out of direct sunlight
- Allow at least 60cm or 2 feet of clearance behind the amplifiers for power cords and cable clearance
- Allow at least 30cm or 1 foot of clearance above and around the amplifiers for proper heat dissipation
- **Do not cover** amplifiers during standby or operation
- **Do not cover** or obstruct any of the ventilation holes or heat sinks
- **Do not place** MTRX2 V2s close to low level components. MTRX2 V2s are power amplifiers capable of producing large output currents, and hence large magnetic fields, which can interfere and induce noise in sensitive components
- **Do not install** or expose the MTRX2 V2s to sources of heat or open flame, steam, water, dampness, excessive humidity, smoke or dust.

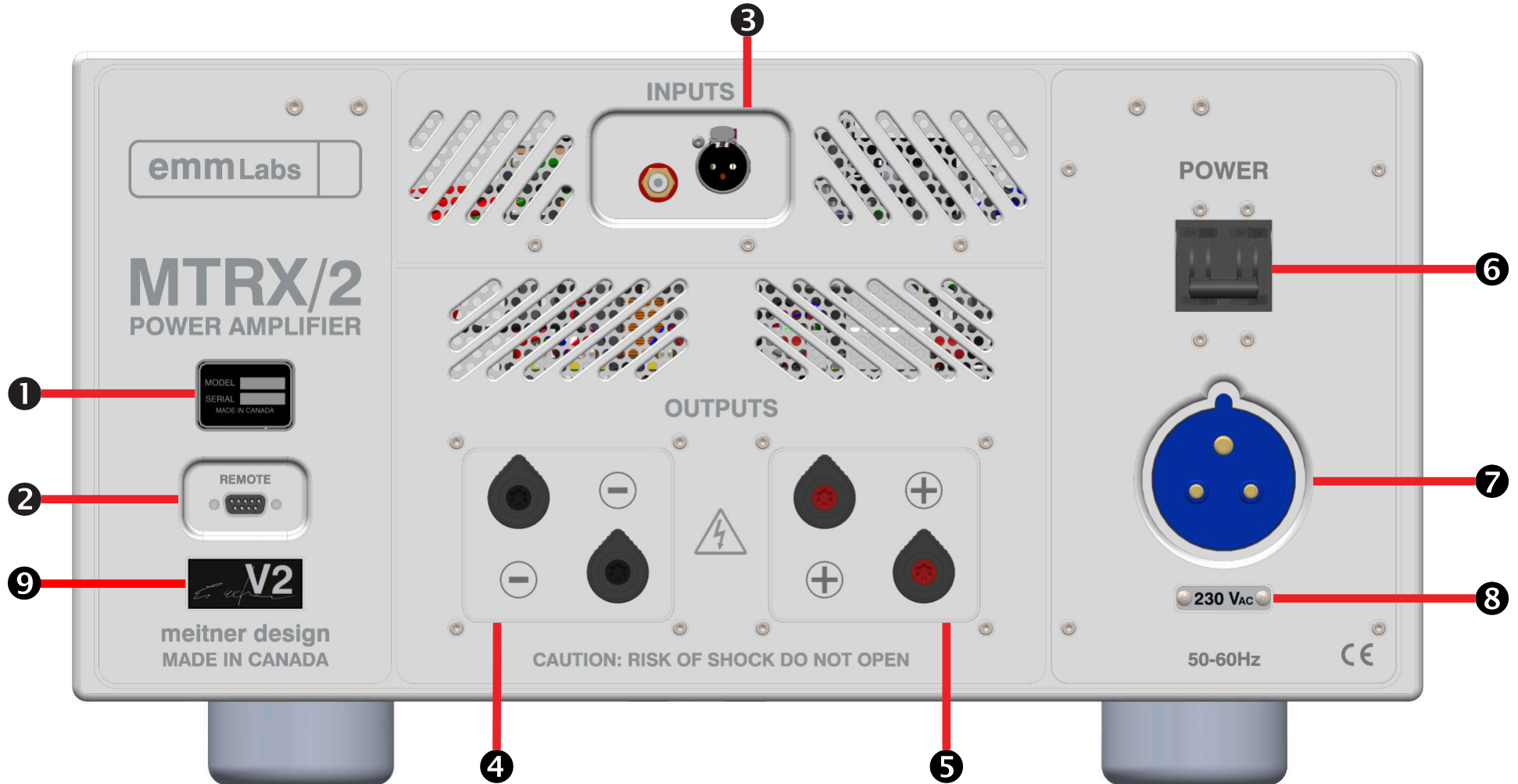
Both MTRX2 V2 amplifiers must be connected to a mains socket outlet with a protective earthing connection (grounding pin). **Do not install a “ground lifter” or “cheater” adapters.**

Front Panel & Functions



1. *Standby/On Touch Button:* Toggles the amplifiers between standby/fully on mode.
2. *Down lit indicators:* Power mode and diagnostic led indicators.

Back Panel & Functions



1. *Product model and serial number indicator:* Warranty void if model/serial number indicator is not attached to unit, missing or damaged whereby serial number cannot be seen.

Back Panel & Functions

2. *System Ports:*
RS232 Communication Port for real-time diagnostics and firmware upgrades.
3. *Analog Inputs:*
 - XLR Balanced Input
 - RCA Un-balanced (single ended) Input
4. *Dual Negative Speaker Terminals (**Black**)*
5. *Dual Positive Speaker Terminals (**Red**)*
6. *Main Power Breaker/Switch*
7. *Main Power Connector:*
Only use included power cable with 30A connector to connect to the MTRX2 V2 power inlet (30A 250V 3-pin, IP44, IEC60309 type).
8. *Voltage Indicator:*
Indicates working voltage of the MTRX2 V2s. Only power the amplifiers with the indicated line voltage.
9. *MTRX2 V2 Signature Plate*

Operation

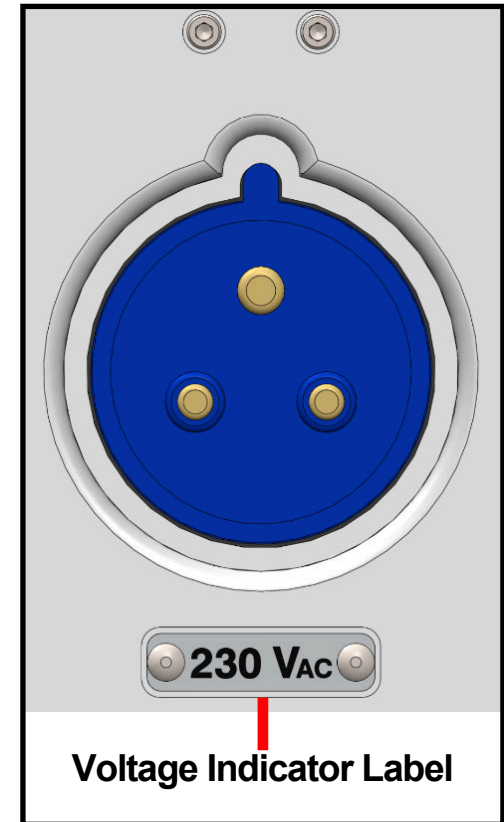
Power Requirements

The MTRX2 V2s are configured at the factory for 100, 110-120 or 230-240VAC operation at 50 or 60Hz, depending on customer/country requirements. Please make sure to check that the Voltage Indicator label on the back of each MTRX2 V2, under the power inlet, matches the correct voltage before installation.

Each MTRX2 V2 is capable of incredible performance, due to its ability to deliver huge amounts of power instantaneously to drive the most complex and difficult loads. Depending on listening habits and speakers used, the limiting factor may be your electrical service.

For optimum performance and to take full advantage of the MTRX2 V2s' remarkable power handling capabilities, we strongly recommend that each amplifier be installed on its own dedicated 230-240VAC circuit.

Building regulations and electrical codes differ from location to location, and country to country. Please consult a local licensed electrician with regards to installation of the dedicated AC circuits for the MTRX2 V2 amplifiers.



Operation

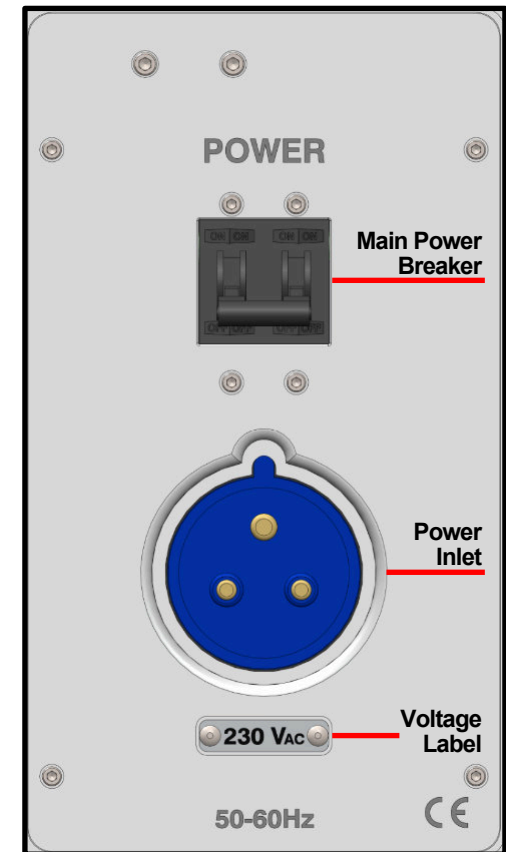
Power Modes

- Off** : AC power is disconnected either using the Main Power Breaker Switch on the back of each MTRX2 V2, or by disconnecting/removing the main power cable from the power inlet. Please see diagram on the right.
- Standby** : Power cable connected and Main Power Breaker Switch is ON (up position). Safety, control and operational systems are enabled. MTRX2 V2 indicator lights will turn solid **PURPLE** indicating Standby Mode.
- On** : Once in Standby Mode press the front panel Standby button to fully power the MTRX2 V2. Each amplifier will take between 5-10 seconds to go through a complete systems and safety check before enabling full power. Once, in Fully On mode, the indicator lights will be solid **ORANGE**.
- Ind. Off** : MTRX2 V2s without indicator lights. Press and hold the front panel button for 2 seconds while in Standby Mode. When fully turned ON, the indicators will be solid **ORANGE** for a few seconds, before dimming and turning off. To re-enable indicators, press the front panel button to initiate Standby Mode, then press it again to initiate Fully On mode.

Recommended Turn ON and Turn OFF Sequence

Turn ON Sequence (for each amplifier):

1. Check that Main Power Breaker Switch is OFF (down position)
2. Connect speaker cables to the amplifier
3. Connect power from wall plug to power inlet of the amplifier
4. Plug in audio input from source components to the amplifier



Operation

Turn ON Sequence (Cont'd):

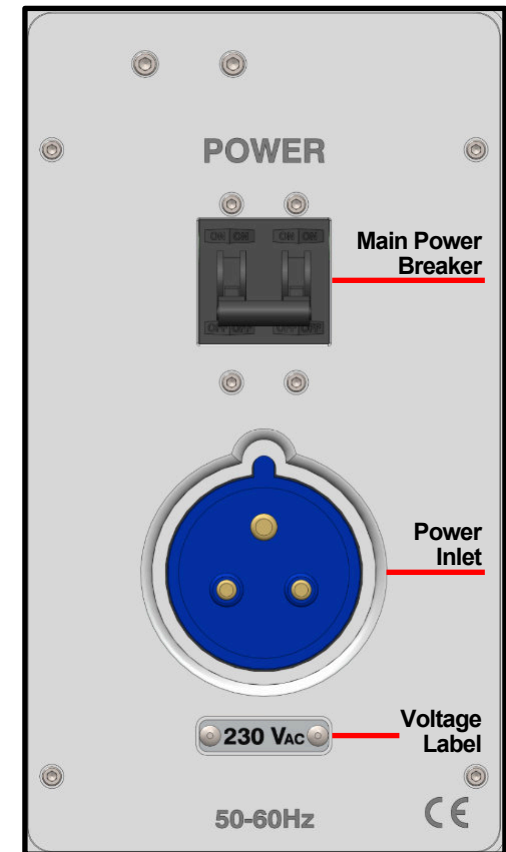
5. Turn the Main Power Breaker Switch ON (up position)
6. Check that the indicator lights are solid **PURPLE** (Standby Mode)
7. Push the Standby button on the front panel of the amplifier
8. Indicator lights will blink **ORANGE** while going through safety startup sequence, then solid **ORANGE** once fully turned ON

Turn OFF Sequence (for each amplifier):

1. MTRX2 V2 indicator lights are solid **ORANGE** (Fully On Mode)
2. Push the Standby button on the front panel to put MTRX2 V2 back into Standby Mode
3. Indicator lights will blink **PURPLE**, as it initiates its shut down sequence, and then solid **PURPLE** once in Standby Mode
4. In Standby Mode you can safely remove the audio source cables (XLR/RCA)
5. Turn the Main Power Breaker Switch OFF (down position) to completely turn off the amplifier, and to safely remove speaker and/or power cables

Precautions

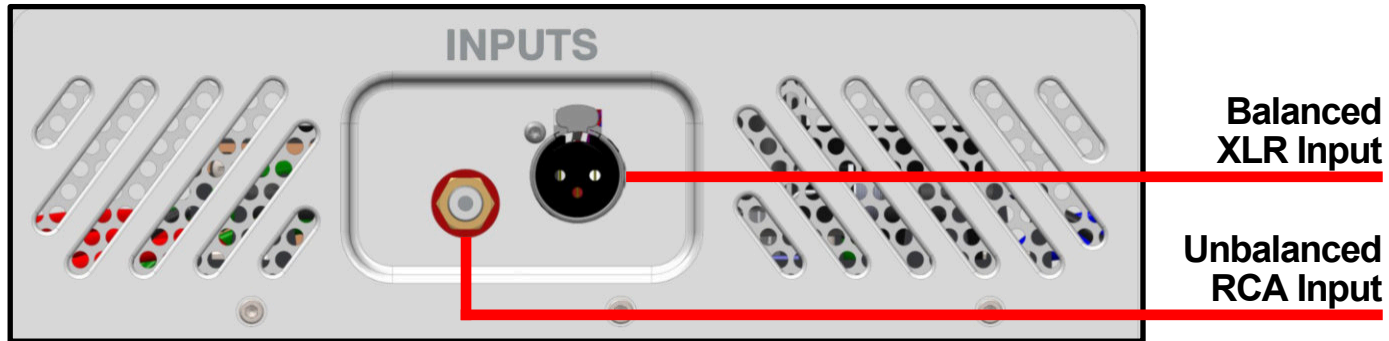
Every MTRX2 V2 amplifier should always be placed in Standby Mode before turning the Main Power Breaker Switch OFF (down position). Always turn the Main Power Breaker Switch OFF (down position) before removing speaker cables, power cables or when moving or relocating the amplifiers. We recommend unplugging the MTRX2 V2s from their main AC circuits, during lightning storms or when unused for extended periods of time to prevent damage from power surges.



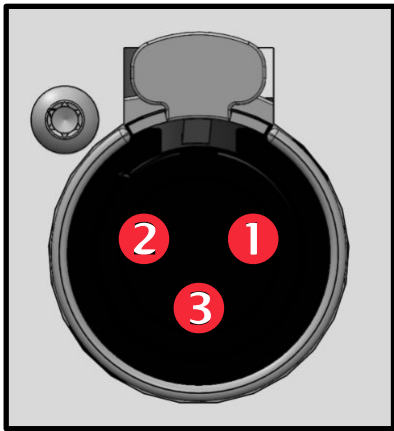
Operation

Audio Connections

Analog Inputs:



Each MTRX2 V2 amplifier has a balanced (XLR) and an un-balanced/single-ended (RCA) connector for audio input shown above.



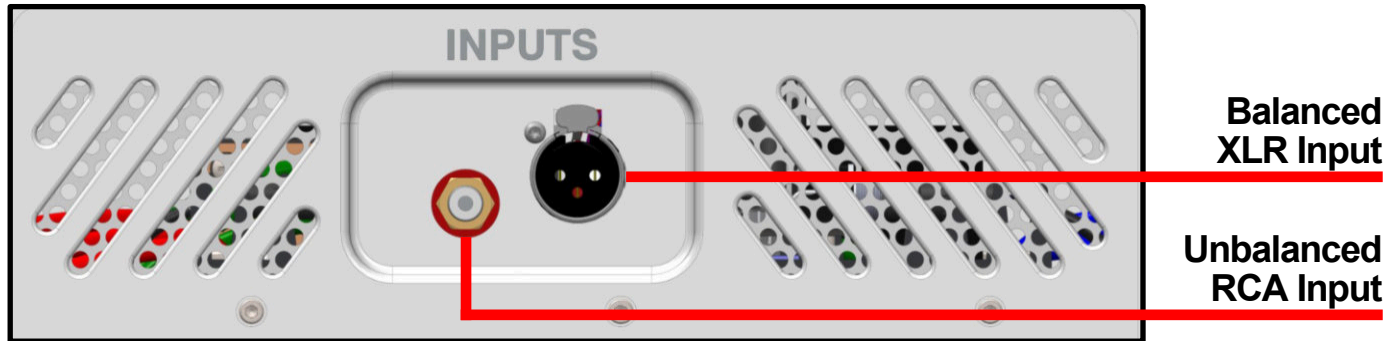
Balanced/XLR pin assignments:

- Pin 1: Signal Ground
- Pin 2: Signal + (non-inverting)
- Pin 3: Signal - (inverting)

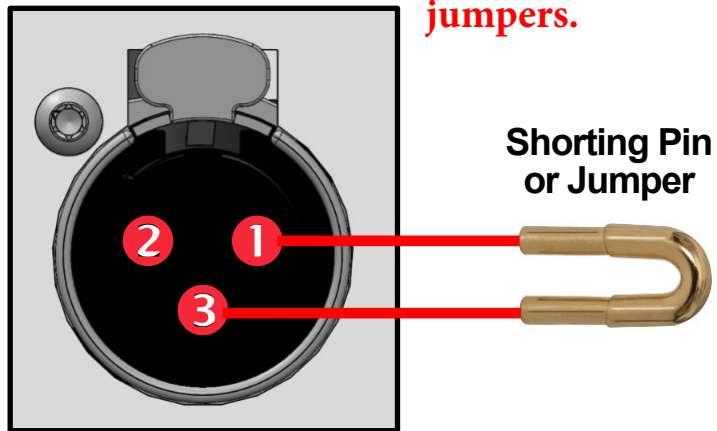
Operation

Unbalanced Connection

Using the unbalanced/single-ended (RCA) input of the MTRX2 V2:



When using the unbalanced/single-ended (RCA) input, please install the provided shorting pin(s)/jumper(s) across **pins 1 and 3**, as shown below, in the diagram. The pins need to be installed on both amplifiers. **Amplifiers must be off when installing the jumpers.**



Balanced/XLR pin assignments:

- Pin 1: Signal Ground
- Pin 2: Signal + (non-inverting)
- Pin 3: Signal - (inverting)

Operation

Speaker Connections



Each MTRX2 V2 amplifier has two sets of high performance, high current Furutech binding posts. The positive (+) binding posts are **RED** and the negative (-) binding posts are **BLACK**. The binding posts can also accept banana plugs. Please ensure when connecting to a speaker that at least one positive and one negative binding post is used. Binding posts will “click” when proper torque is achieved and won't allow over tightening.

- **DO NOT** bend or exert force on the binding posts. They will get damaged
- **NEVER** connect "red" or "black" binding posts to ground. The negative terminal is **NOT** ground in a balanced amplifier.

Operation

Power Modes Indicator Description

Standby and Full On Modes:

- Standby Mode : Solid **PURPLE**
- Power On Sequence : Solid **PURPLE**, flashing **ORANGE**, then solid **ORANGE**
- Fully On Mode : Solid **ORANGE**
- Standby Mode Sequence: Solid **ORANGE**, flashing **PURPLE**, then solid **PURPLE**

MTRX2 V2 Clipping Warning Indicator

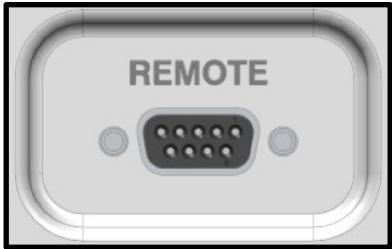
When the MTRX2 V2s are close to clipping, the indicators will flash **RED** during audio playback. It warns the user that the amplifiers are close to clipping. The clipping indicator activates when one or both amplifiers are approximately 0.5dB from full clipping.

MTRX2 V2 Fault Indicators (Protection Mode)

When the MTRX2 V2s' safety system detects either an internal or an external issue, its' Protection Mode will be enabled. In Protection Mode, the MTRX2 V2s will not be allowed to fully power on (Full On Mode) from standby. Its indicators will either be solid **RED** or flashing **RED** signifying a source, connection or amplifier issue.

Operation

System Connection



Each MTRX2 V2 amplifier has an RS232 connection for system updates and for diagnostics and real-time monitoring. This port allows for remote control, monitoring and real-time diagnostics of the amplifier via the on-board computer and internal sensors.

MTRX2 V2 Diagnostic and Safety Systems

The MTRX2 V2 amplifiers are equipped with a full and detailed set of sophisticated, comprehensive, diagnostic and monitoring systems. On top of providing critical safety, these systems also perform real-time monitoring of the amplifier. This allows the MTRX2 V2s to both perform at its maximum performance and to immediately protect not only itself but speakers and source components when it detects issues and faults.

This includes short circuit system protection and fast offset detection. All of which are implemented outside of the MTRX2 V2s' critical audio paths. Thus ensuring that while the MTRX2 V2s are completely protected, its audio paths are never compromised.

Care and Maintenance

EMM Labs products require just basic routine maintenance and care to ensure optimal performance:

- **Before performing any maintenance please ensure to turn the product OFF, and remove its power cable**
- To remove dust from the exterior surface you can use a, low pressure blower, or brush it with a dry clean lint free or micro fiber cloth
- To remove finger prints, dirt or grease from the exterior surface you can use a dry clean lint free or micro fiber cloth
- In some cases it may be necessary to dampen the lint free or micro fiber cloth with some distilled water prior to gently cleaning fingerprints or dirt from its surface.
- **DO NOT** apply liquid directly to the surface, always apply indirectly using a dampened lint free or micro fiber cloth
- **DO NOT USE** abrasive pads, steel wool, metal polish or other such abrasive means to clean the surface, of any EMM Labs products or its connectors
- **DO NOT USE** any commercial cleaners, benzene, acetone or chemicals to clean the surface, of any EMM Labs products or its connectors

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