




Thank you for choosing EMM Labs

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Safety Instructions

Prior to Installing you new 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 fibre 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 when wiring these terminals.

This EMM Labs product must be connected to a mains socket 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 EN55013, EN55020 and EN 60065:2009 (electrical safety)

Warranty

EMM Labs warrants the MTRX2 product 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 non-authorized dealers or from a dealer selling outside his / her authorized territory will automatically void product warranty.

MTRX REFERENCE AMPLIFIER

Hot on the heels of Ed Meitner's ground breaking reference MTRX amplifier, comes the eagerly anticipated debut of its smaller sibling monoblocks, the MTRX2.

The MTRX2s are 1KW Class A/B solid-state powerhouses built using MTRX technology.

The MTRX2 REFERENCE AMPLIFIER features:

- 1000W Class A/B balanced mono-block design
- Ed's proprietary fully discrete circuit topologies
- Ultra low distortion
- Very high bandwidth
- Zero overall feedback
- Ability to deliver massive transient currents instantaneously
- Ability to drive complex and difficult loads down to 1 Ohm
- Fully balanced audio paths throughout
- Proprietary systems for speaker protection and self-protection
- Exclusive aerospace-grade ceramic circuit boards

The MTRX2 monoblock amplifiers just like our reference MTRX amplifiers are designed, manufactured, and built in Canada with no compromise.

Features & Specifications

Frequency Response : DC - 500Khz (Full Rated Power)
Signal to Noise : Greater than 120dB (A Weighted)
THD+N : Less than 0.005% (20-20Khz, Full Rated Power)
IMD : Less than 0.005%

Slew Rate : Greater than 100V/ μ S
Damping Factor : Greater than 1000

Inputs:

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

Input impedance:

- 100K Ω Balanced (XLR)
- 100K Ω Un-balanced (RCA)

Output:

- 2 Sets Furutech Binding Posts

System:

- 1 RS-232 Communication Port
- 1 USB Communication Port

Features & Specifications

Power & Accessories:

- 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):

544 x 584 x 297 mm

21.4 x 23 x 11.7 inches

Amplifier Weight:

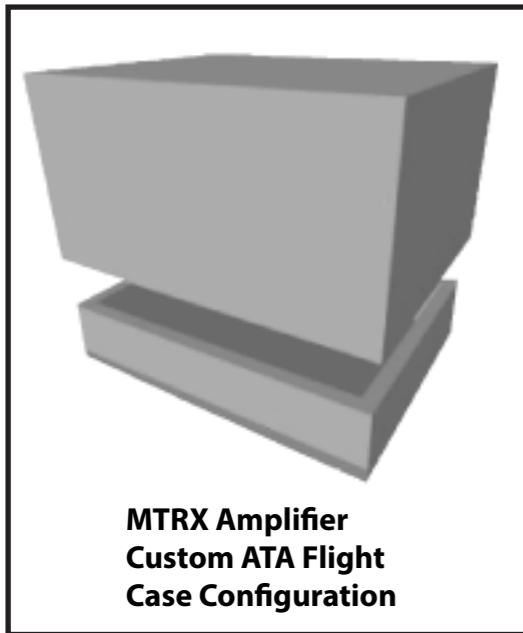
82kg

180lbs

Installation

Unpacking:

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



The MTRX2 comes packed in its own individual custom made heavy duty ATA flight case. Included are the premium Kimber power cables, CD manual plus included documentation. The flight case also has removable heavy duty wheels with brakes, making it easy to move the amplifiers close to the appropriate install position.

To unpack the amplifier two people are required to unlock and carefully lift the top cover of the flight case over the amplifier. Remove the custom amplifier cloth cover before lifting the amplifier out of the flight case.

Do not attempt to lift or move the MTRX2 without adequate assistance. At least two people are required to lift or move the MTRX2 amplifier. A third person is highly recommended when removing the amplifier off the flight case base/platform. While lifting the amplifier up off the base/platform, the third person should stop the base/platform from moving. 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.

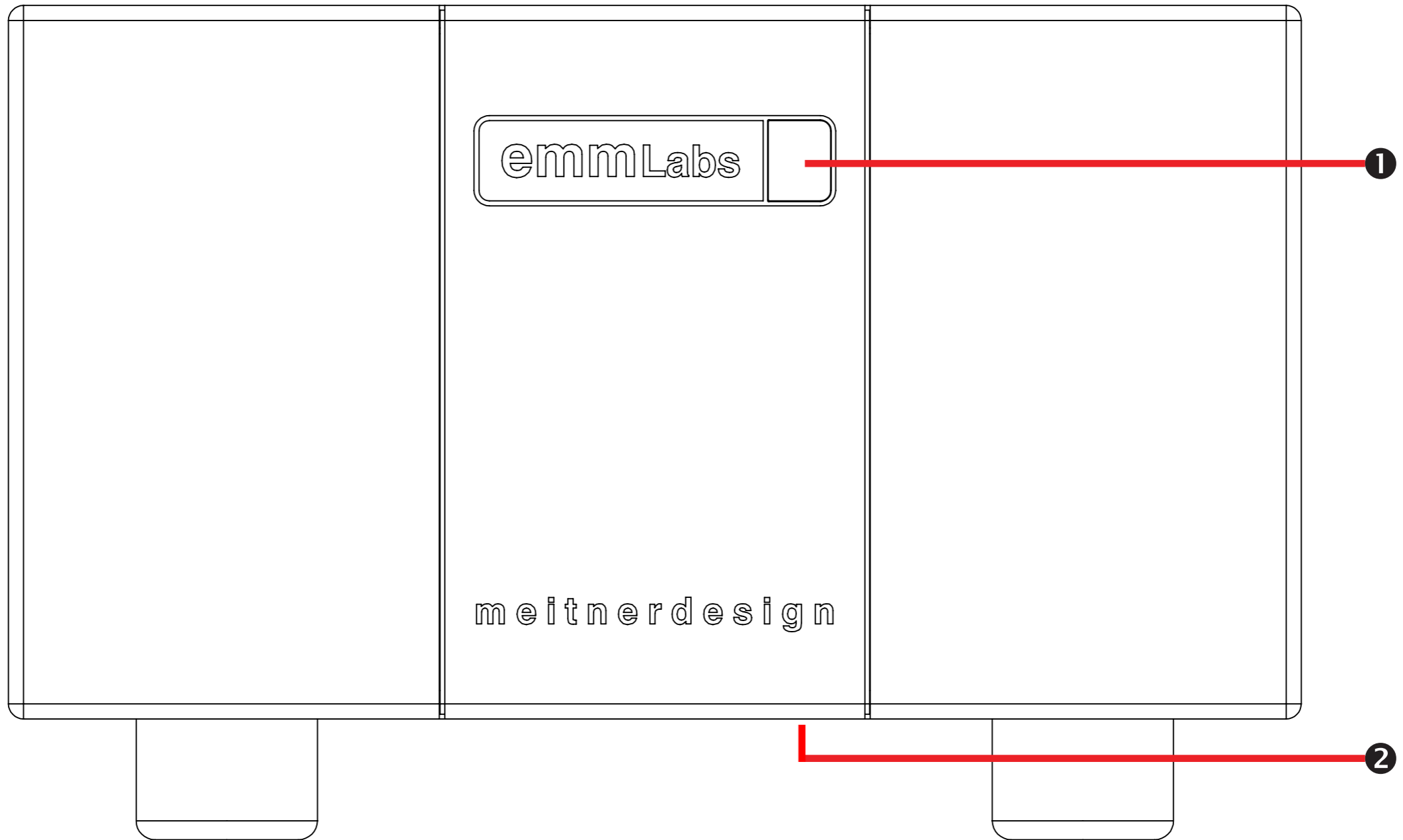
Installation

Location & Precautions:

- Install MTRX2 amplifier on a solid level surface.
- Install the MTRX2 in a dry and well ventilated location out of direct sunlight.
- Allow at least 60cm or 2 feet of clearance behind the amplifier for power cords and cable clearance.
- Allow at least 30cm or 1 foot of clearance above and around the amplifier for proper heat dissipation.
- Do not cover amplifier with custom cover during standby or operation.
- Do not cover or obstruct ventilation holes or heatsinks.
- Do not place the MTRX2 close to low level components. The MTRX2 is a power amplifier 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 to sources of heat or open flame, steam, water, dampness, excessive humidity, smoke or dust.

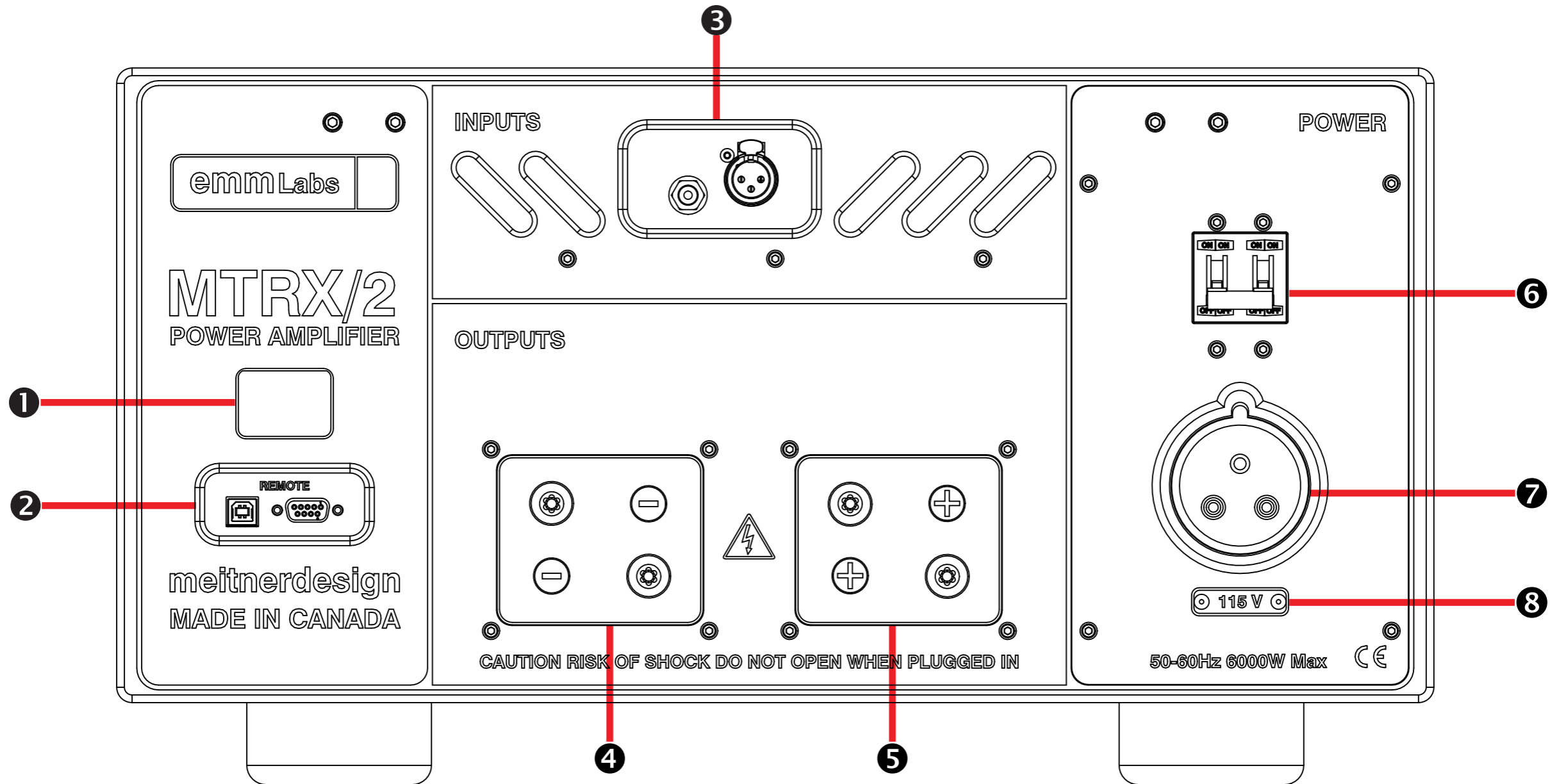
The MTRX2 amplifier must be connected to a mains socket outlet with a protective earthing connection (grounding pin). Do not install a “ground lifter” or “cheater” adaptors.

Front Panel & Functions



1. *Standby/Power-Save button*: Toggles the operation between on and standby 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:*

- USB Communication Port for diagnostics and firmware upgrades
- RS232 Communication Port for diagnostics and firmware upgrades

3. *Analog Inputs:*

- XLR Balanced Input
- RCA Un-balanced (single ended) Input

4. *Dual Positive Speaker Terminals (Red)*

5. *Dual Negative Speaker Terminals (Black)*

6. *Main Power Breaker/Switch*

7. *Main Power Connector:*

Only use included power cable with 30A connector to connect to the MTRX's power inlet (30A 250V 3-pin, IP44, IEC60309 type).

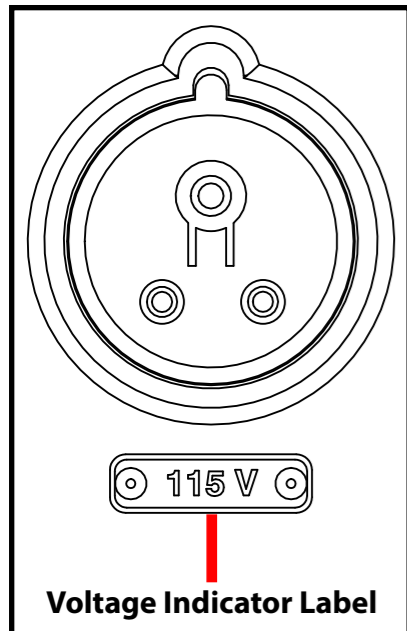
8. *Voltage Indicator:*

Indicates working voltage of the MTRX2. Only use with indicated line voltage.

Operation

MTRX2 Power Requirements:

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



The MTRX2 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's remarkable power handling capabilities we strongly recommend that each MTRX2 amplifier be configured and installed on its own dedicated AC circuit. For maximum power each MTRX2 should be configured and 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 amplifiers.

Operation

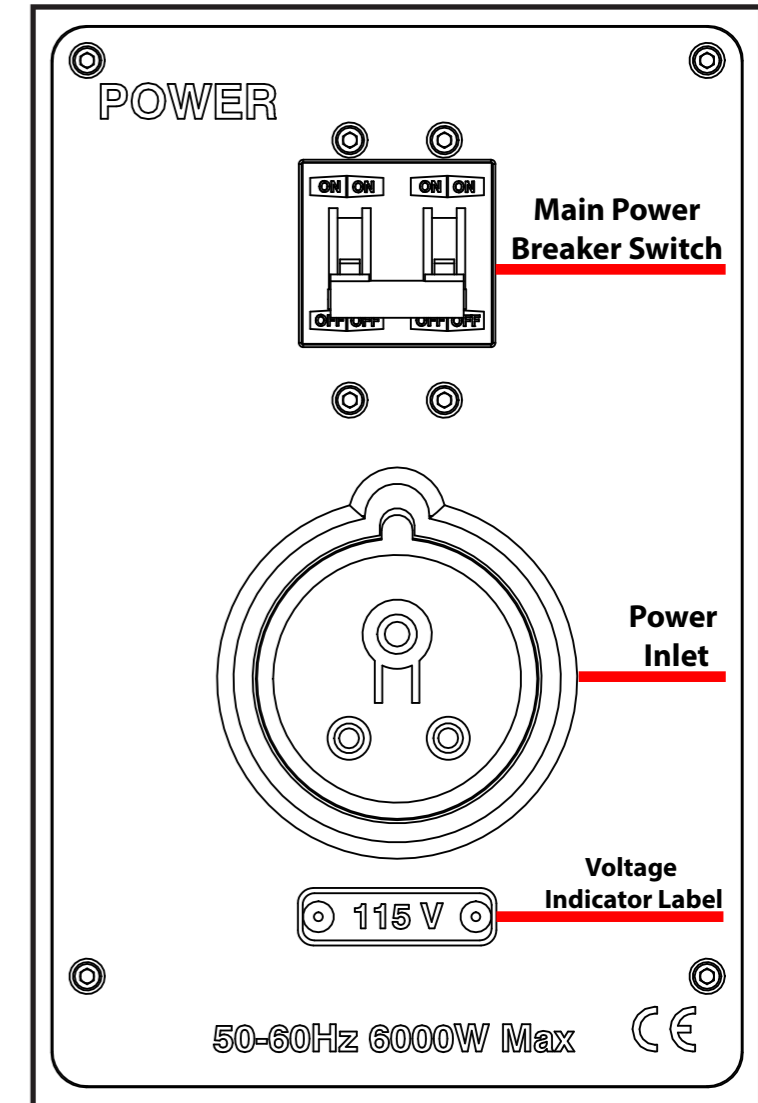
MTRX2 Power Modes and Precautions:

- Off:** AC power is disconnected either using the Main Power Breaker Switch in the back of the MTRX2 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 turned to the ON position. Safety, control and operational systems are enabled. MTRX2 indicator lights will glow RED. In Standby mode the MTRX2 consumes minimal power.
- On:** Once in Standby mode press the front panel Standby button to fully power the MTRX2 amplifier. The MTRX2 amplifier will take between 5-10 seconds to go through a complete systems and safety check before enabling full power. Once at full power the MTRX2 indicator lights will glow BLUE.
- Ind. Off:** MTRX2 will be ON but indicators will be off. Press and hold the front panel button for 2 seconds while in Standby mode. The MTRX2 will fully turn ON, indicators will glow BLUE for a few seconds before dimming and turning off. To re-enable indicators, press the front panel button for Standby mode then back ON again.

Recommended Turn ON an Turn OFF Sequence

Turn ON Sequence:

1. Check that Main Power Breaker Switch is OFF (down position)
2. Connect speakers/speaker cables to MTRX2 amplifier
3. Connect power from wall plug to power inlet of the MTRX2 amplifier
4. Plug in audio input from source components



Operation

Turn ON Sequence (continued from previous page):

5. Turn ON (up position) Main Power Breaker Switch.
6. Check that the MTRX2 indicator lights are RED (Standby Mode)
7. Push the Standby button on the front panel
8. MTRX2 indicator lights will blink BLUE while going through safety startup sequence then will glow solid BLUE once fully turned ON.

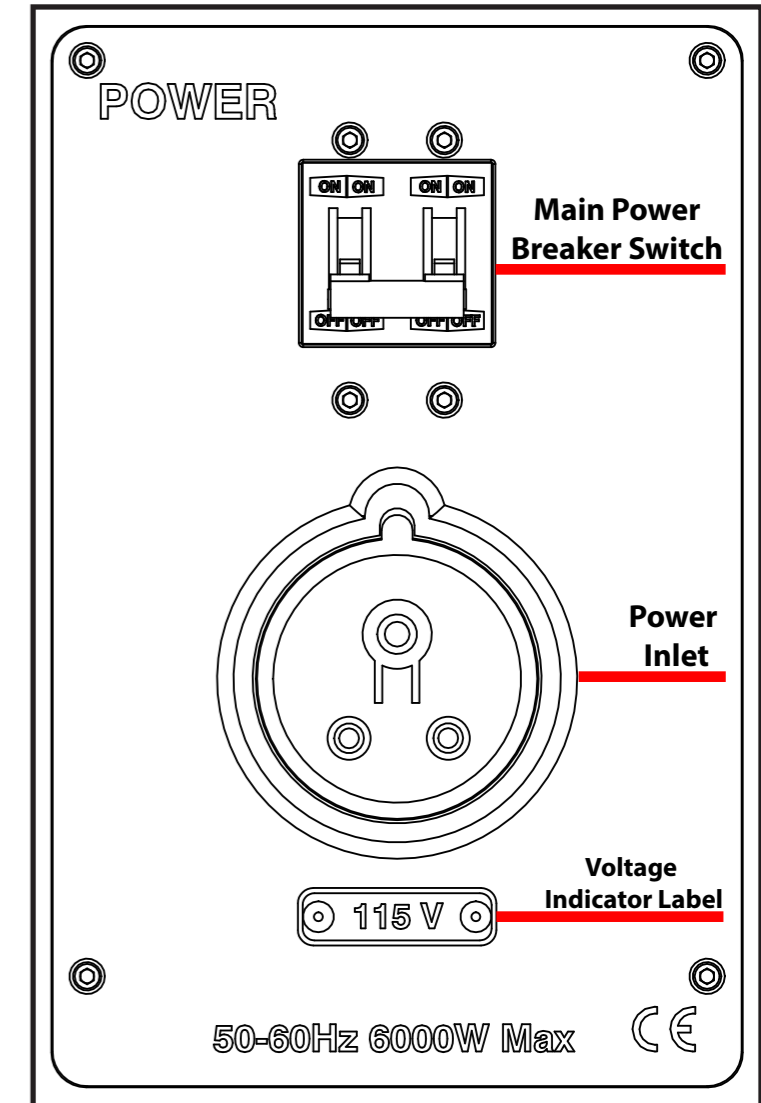
Turn OFF Sequence:

1. Push the Standby button on the front panel to put MTRX2 amplifier back into Standby Mode. Indicator lights will go from BLUE to RED
2. Once in Standby Mode you can remove the audio source cables (XLR/RCA)
3. Turn OFF (down position) the Main Power Breaker Switch to completely turn off the MTRX2 amplifier and to remove speakers cables or disconnect power cables.

MTRX2 Power Modes and Precautions:

MTRX2 amplifier should always be placed in Standby Mode before turning the Main Power Breaker Switch OFF (down position). Turn the Main Power Breaker Switch OFF (down position) before removing speaker cables, power cables or when moving or relocating the MTRX2 amplifier.

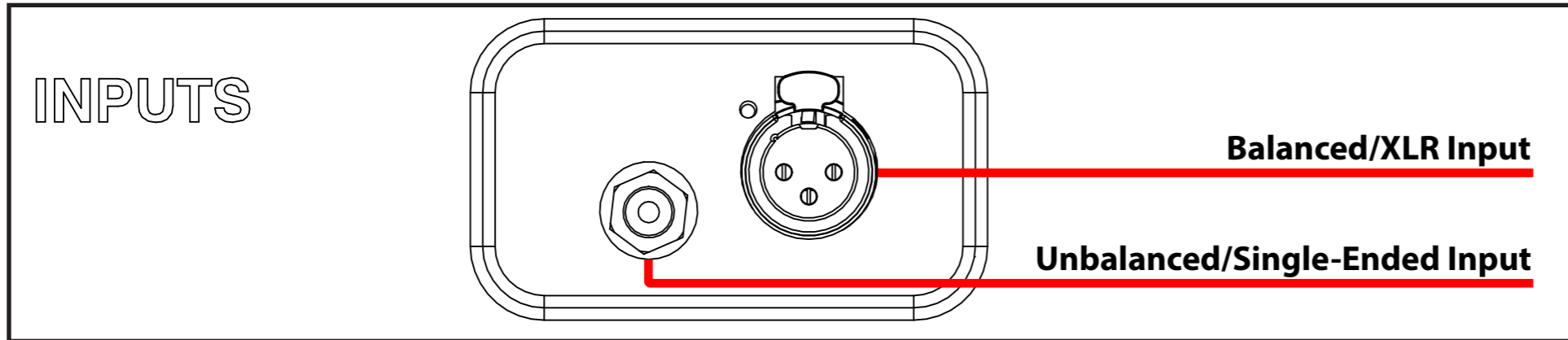
We recommend unplugging the MTRX2 (30A 250V 3-pin, IP44, IEC60309 type) from the main AC circuit during lightning storms or when unused for extended periods of time to prevent damage from power surges.



Operation

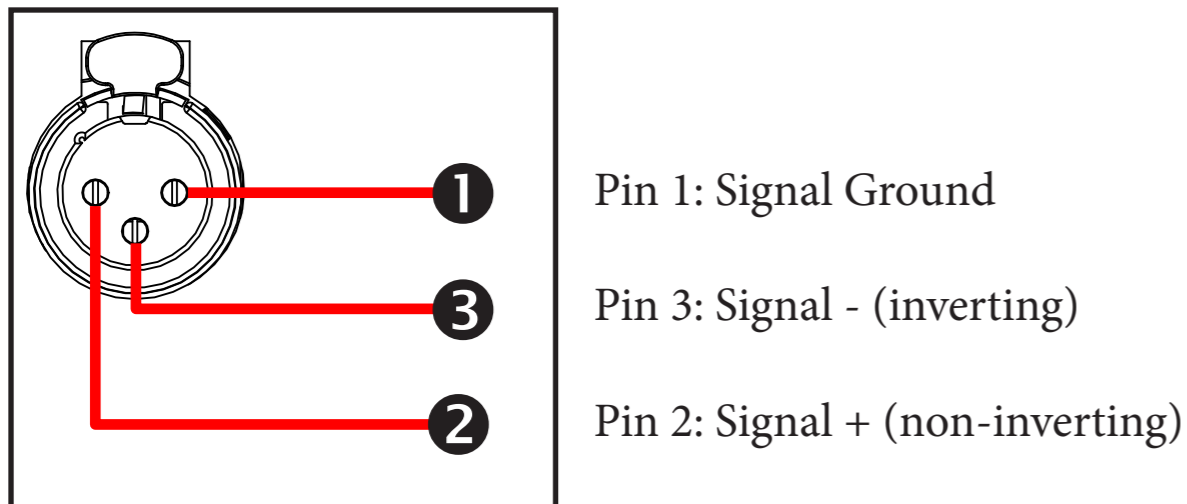
MTRX2 Audio Connections:

Analog Inputs:



Each MTRX2 amplifier has one balanced/XLR and one un-balanced/single-ended connector for audio input shown above.

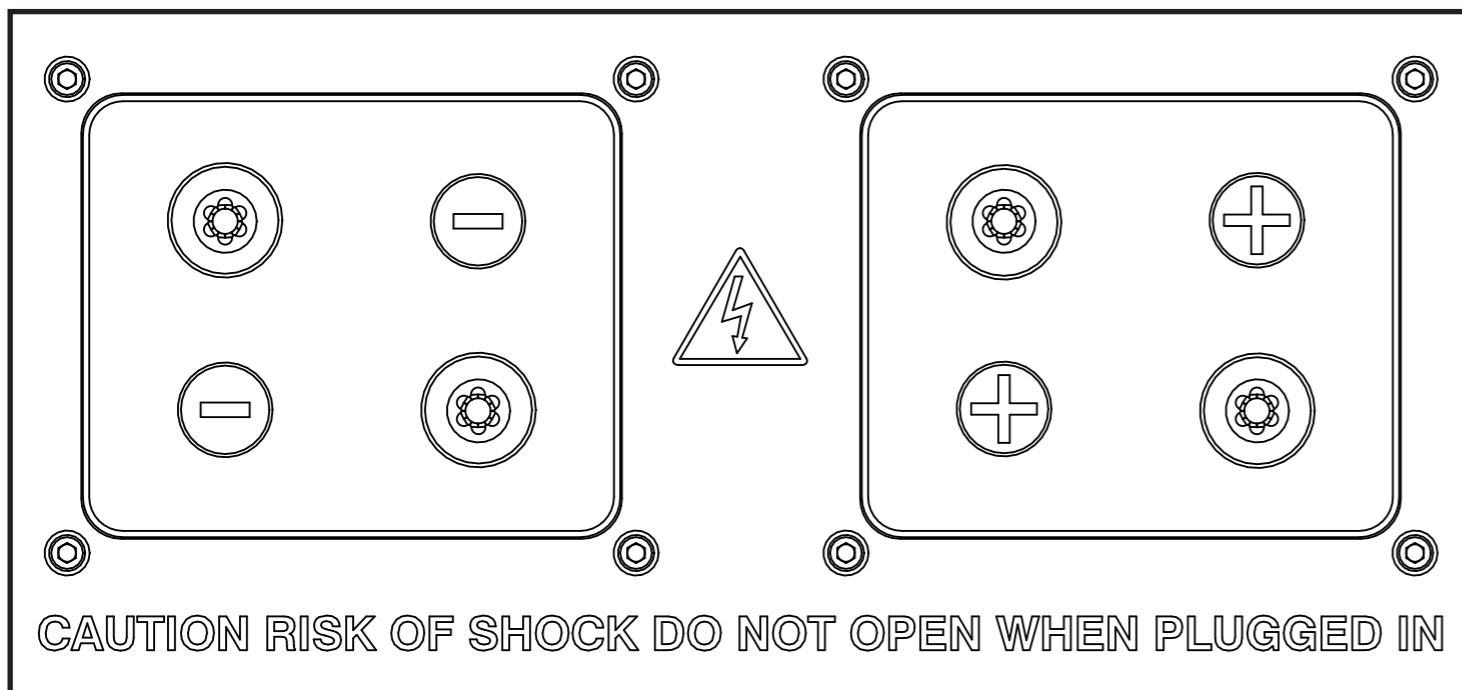
Balanced/XLR pin assignments:



Operation

MTRX2 Audio Connections:

Analog Outputs:

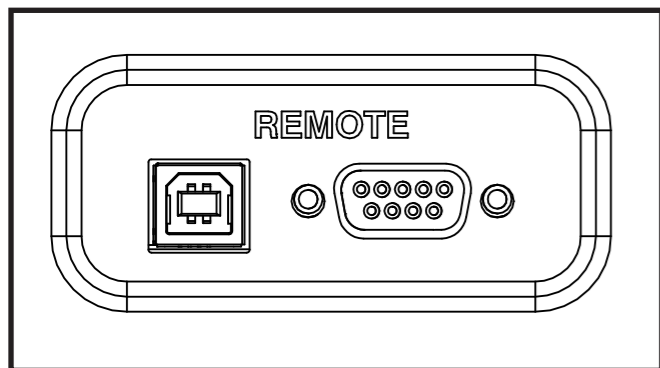


Each MTRX2 amplifier has two sets of high performance, high current Furutech binding posts. The positive (+) binding posts are RED and the negative (-) binding posts are BLACK. The binding posts can also accept banana plugs. Please ensure when connecting to a speaker that at least one positive and one negative binding post is used.

- **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

MTRX2 System Connections:



Each MTRX2 amplifier has a USB connection and an RS232 connection for system updates and for diagnostics and real-time monitoring. These ports allow for remote control, monitoring and real-time diagnostics of the MTRX2 amplifier via the onboard computer and internal sensors.

MTRX2 Diagnostic and Safety Systems:

The MTRX2 amplifier is equipped with a full and detailed set of sophisticated and 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 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 a comprehensive short circuit system protection and fast offset detection. All of which are implemented outside of the MTRX2's critical audio paths. Thus ensuring that while the MTRX2 is completely protected, its audio paths are never compromised.

Care and Maintenance (General)

The MTRX2 amplifier requires just basic routine maintenance and care to ensure optimal performance.

- Before performing any maintenance please ensure to turn the MTRX2 amplifier OFF and remove the power cable from the amplifier.
- To remove dust from the exterior surface of the MTRX2 you can use a, low pressure blower, feather duster, popular static duster (e.g. Swiffer) dry clean lint free or micro fibre cloth.
- To remove finger prints, dirt, grease from the exterior surface you can use a dry clean lint free or micro fibre cloth.
- In some cases it may be necessary to dampen the lint free or micro fibre cloth with some distilled water prior to gently cleaning fingerprints or dirt from the fine bead blasted surface. DO NOT apply liquid directly to amplifier surface always apply or dampen the cloth.
- DO NOT USE abrasive pads, steel wool, metal polish or other such abrasive means to clean the amplifier surface.
- DO NOT USE any commercial cleaners, benzene, acetone or chemicals to clean the amplifier surface.

Care and Maintenance (Exclusive 24K Gold and Custom Plated Surfaces)

For MTRX2 amplifiers that opt for the exclusive 24K Gold, deep Nickel/Silver or special ordered custom plating please follow the following procedures:

- Before performing any maintenance please ensure to turn the MTRX2 amplifier OFF and remove the power cable from the amplifier.
- To remove dust from the exterior surface of the plated surfaces you can use a low pressure blower, feather duster, popular static duster (e.g. Swiffer), dry clean lint free or micro fibre cloth.
- To remove finger prints, dirt, grease from the exterior surface you can use a dry clean lint free or micro fibre cloth.
- In some cases it may be necessary to dampen the lint free or micro fibre cloth with some distilled water prior to gently cleaning fingerprints or dirt from the plated surface. DO NOT apply liquid directly to plated surface always apply or dampen the cloth.
- DO NOT USE abrasive pads, steel wool, metal polish or other such abrasive means to clean the plated surface.
- DO NOT USE any commercial cleaners, benzene, acetone or chemicals to clean the plated surface.