




*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 MTRS 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](mailto: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.

## MTRS STEREO AMPLIFIER

EMM Labs is proud to present its latest innovation in audio technology: the MTRS Stereo Amplifier. The MTRS is a 400W Class A/B solid-state amplifier. The MTRS is able to drive the most severe loads with no overall feedback, using Ed's completely re-designed high current Meitner Power Driver. The MTRS can handle any speaker load with ease, delivering high power, low distortion and wide bandwidth. The MTRS also incorporates:

- A new proprietary power system
- Fully discrete circuits
- Fully balanced audio paths throughout
- Our custom ceramic PCB boards
- Real time protection to avoid speaker and amplifier damage

The MTRS is the ultimate amplifier for those who demand the best in audio reproduction in a stereo package. Just like our reference MTRX and MTRX2 amplifiers, the MTRS Stereo Amplifier is designed, manufactured, and built in Canada with no compromise.

## Features & Specifications

Power	: 400W Peak Power per Channel into 4Ω : 330W RMS Continuous Power per Channel into 4Ω
Voltage Gain	: 30dB
Frequency Response	: 0.1hz - 200Khz (Full Rated Power)
Signal to Noise	: Greater than 120dB (A Weighted)
THD+N	: Less than 0.01% (20-20Khz, Full Rated Power)
IMD	: Less than 0.01% (20-20Khz, Full Rated Power)
Slew Rate	: Greater then 100V/μS
Damping Factor	: Greater than 200

### *Inputs:*

- Left and Right Balanced (XLR)
- Left and Right Un-balanced (RCA)

### *Input impedance:*

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

### *Output:*

- Left and Right Sets of Furutech Binding Posts

### *System:*

- 1 RS-232 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

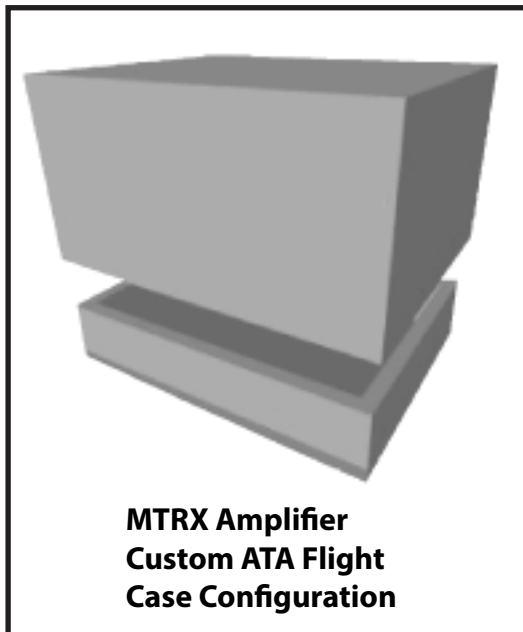
180lbs



## Installation

### *Unpacking:*

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



The MTRS 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. The flight case also has 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 amplifier cloth cover before lifting the amplifier out of the flight case.

Do not attempt to lift or move the MTRS without adequate assistance. At least two people are required to lift the MTRS amplifier. 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.

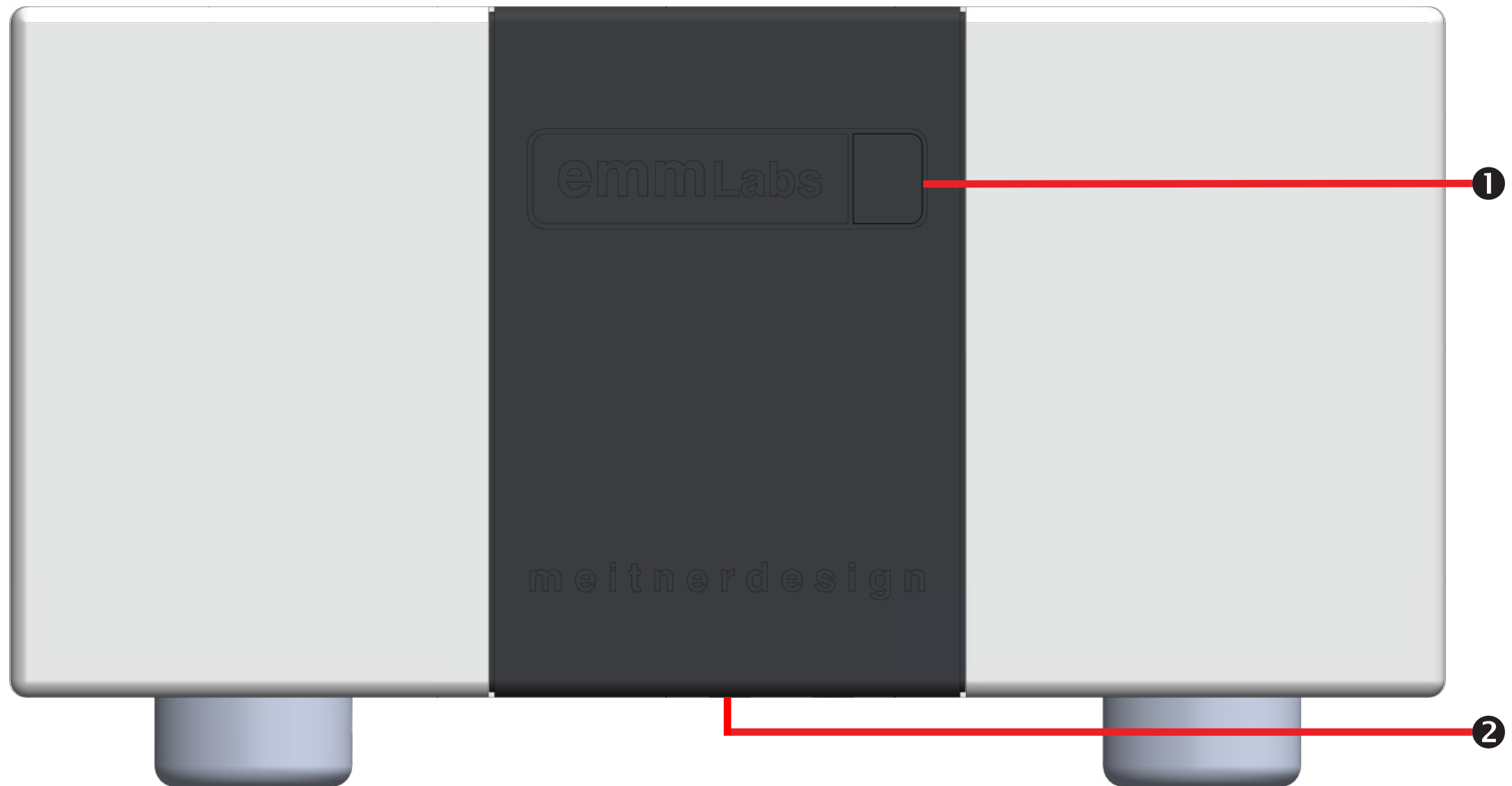
## Installation

### *Location & Precautions:*

- Install the MTRS amplifier on a solid level surface.
- Install the MTRS 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 during standby or operation.
- Do not cover or obstruct ventilation holes or heatsinks.
- Do not place MTRS close to low level components. The MTRS 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 MTRS to sources of heat or open flame, steam, water, dampness, excessive humidity, smoke or dust.

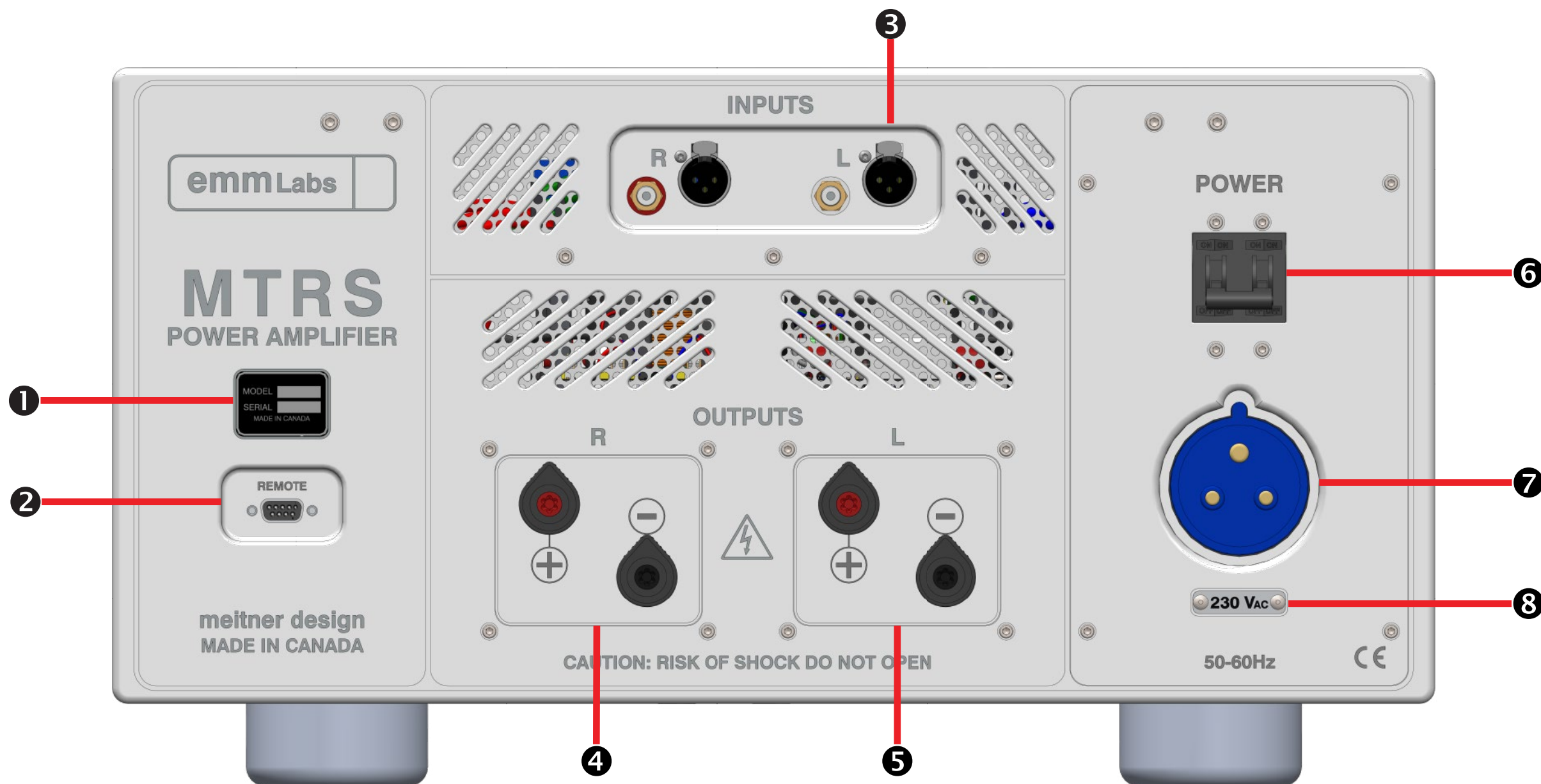
The MTRS Stereo Amplifier must be connected to a mains socket outlet with a protective earthing connection (grounding pin). Do not install a “ground lifter” or “cheater” adaptors.

## 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 &amp; 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 diagnostics and firmware upgrades

### 3. *Analog Inputs:*

- Left and Right XLR Balanced Inputs
- Left and Right Un-balanced (single ended) Inputs

### 4. *Right Speaker Terminals*

### 5. *Left Speaker Terminals*

### 6. *Main Power Breaker/Switch*

### 7. *Main Power Connector:*

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

### 8. *Voltage Indicator:*

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

## Operation

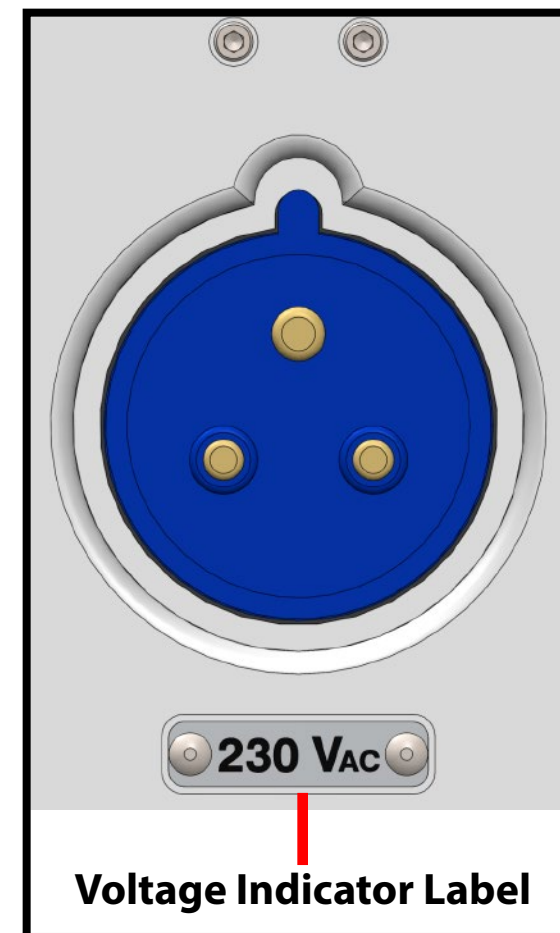
### *MTRS Power Requirements:*

The MTRS is pre-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 the MTRS, under the power inlet, matches the correct voltage before installation.

The MTRS 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 MTRS remarkable power handling capabilities we strongly recommend that that amplifier be installed on its own dedicated AC 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 MTRS Stereo Amplifier.





## Operation

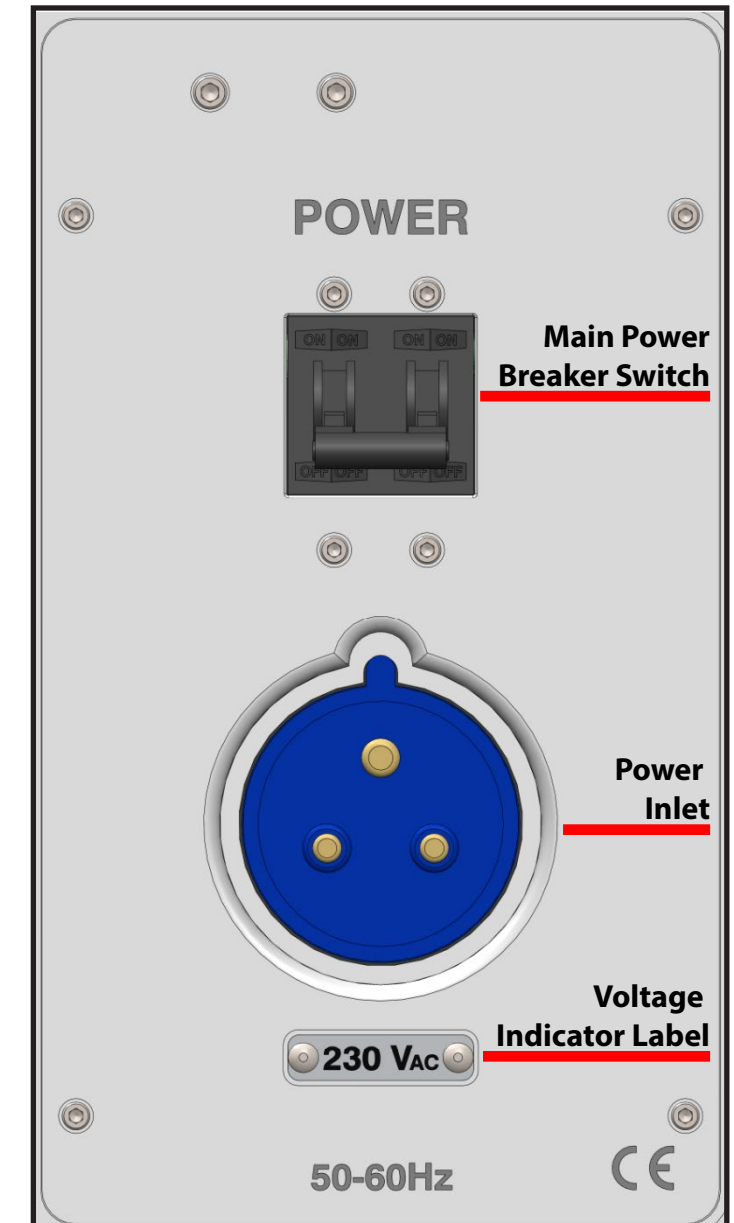
### *MTRS Power Modes and Precautions:*

- Off:** AC power is disconnected either using the Main Power Breaker Switch in the back of the MTRS 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. MTRS indicator lights will glow RED.
- On:** Once in Standby mode press the front panel Standby button to fully power the MTRS. The MTRS 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 MTRS indicator lights will glow BLUE.
- Ind. Off:** MTRS with indicators off function. Press and hold the front panel button for 2 seconds while in Standby mode. The MTRS 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 and Turn OFF Sequence*

#### Turn ON Sequence:

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





## Operation

Turn ON Sequence (continued from previous page):

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

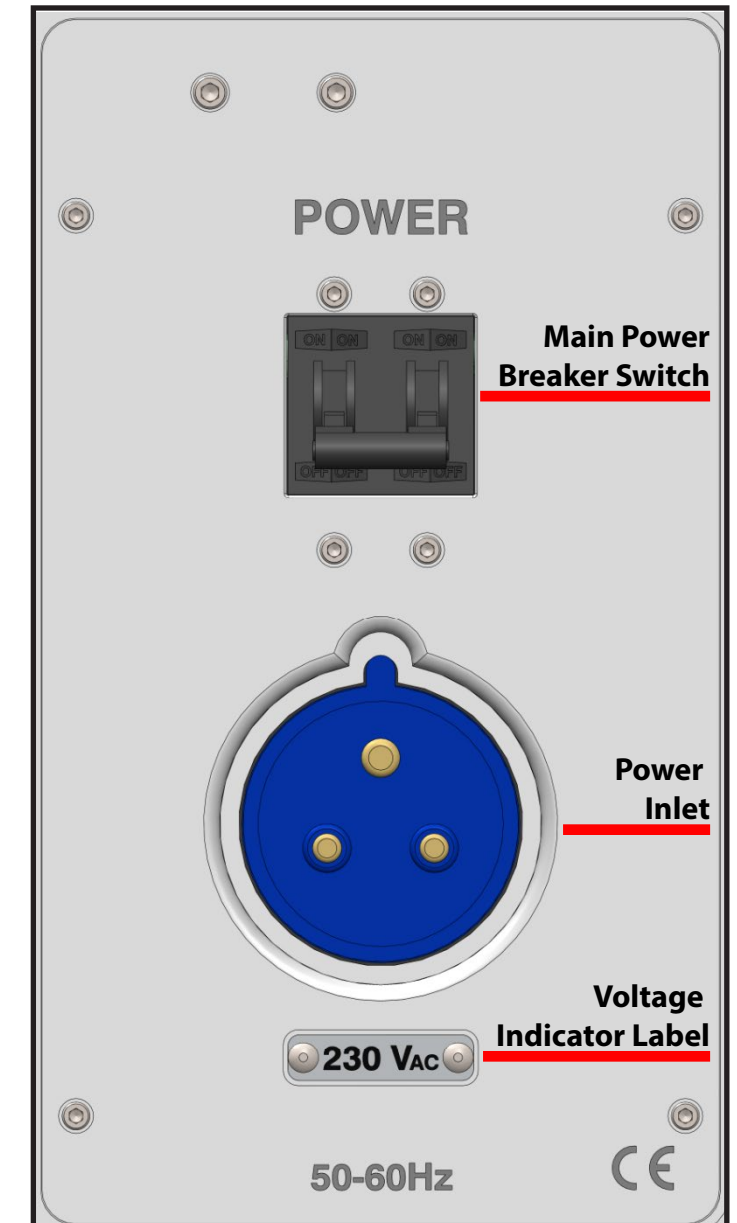
Turn OFF Sequence:

1. Push the Standby button on the front panel to put MTRS 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 MTRS and to remove speakers cables or disconnect power cables.

### *MTRS Power Modes and Precautions:*

MTRS Stereo 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 MTRS Stereo Amplifier.

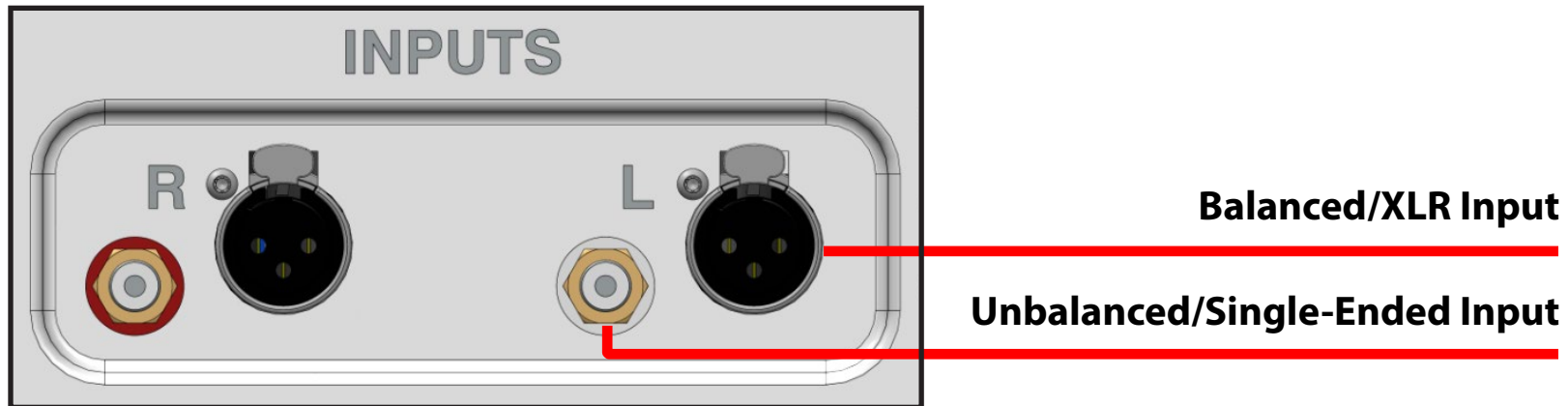
We recommend unplugging the MTRS from the main AC circuit during lightning storms or when unused for extended periods of time to prevent damage from power surges.



## Operation

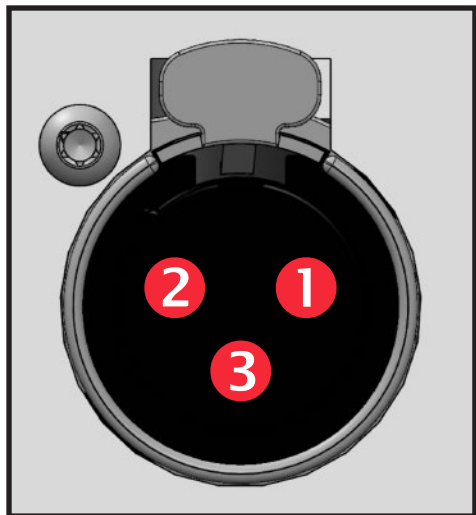
### *MTRS Audio Connections:*

#### Analog Inputs:



Each MTRS Stereo Amplifier has a set of two (Left and Right) balanced/XLRs and a set of two (Left and Right) un-balanced/single-ended connectors for audio input shown above.

#### Balanced/XLR pin assignments:



Pin 1: Signal Ground

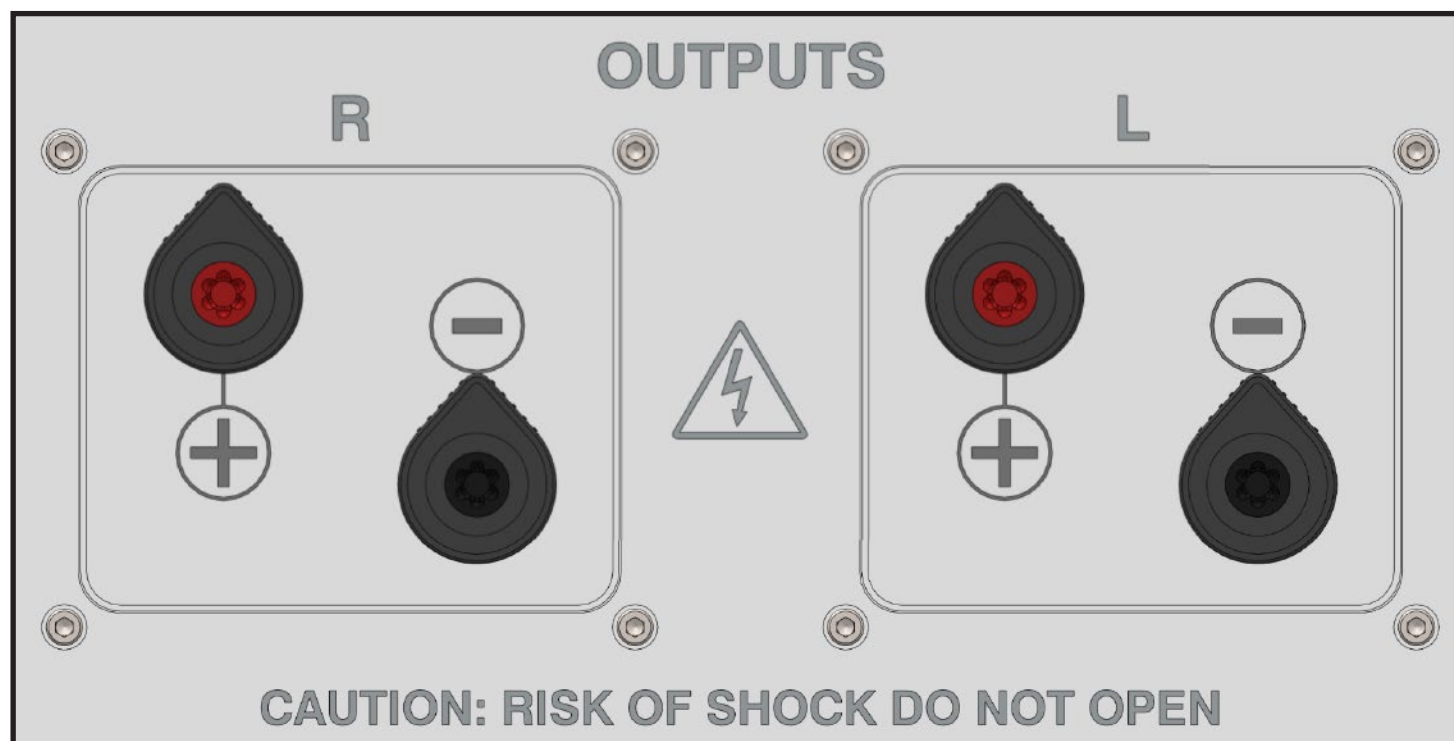
Pin 2: Signal + (non-inverting)

Pin 3: Signal - (inverting)

## Operation

### *MTRS Audio Connections Cont'd:*

#### Speaker Outputs:

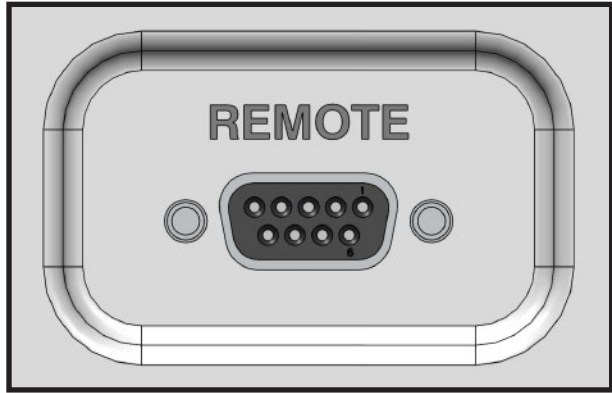


Each MTRS Stereo Amplifier has Left and Right sets of high performance, high current Furutech speaker binding posts. The positive (+) binding posts are **RED** and the negative (-) binding posts are **BLACK**. The binding posts can also accept banana plugs. Please ensure when connecting to a speaker that both positive and negative binding post are connected.

- **DO NOT** bend or exert force on the binding posts. They will get damaged.
- **NEVER** connect "red" or "black" binding posts to ground. There is no ground reference at the speaker terminals. The black (-) speaker terminal must never be treated as ground.

## Operation

### *MTRS System Connections:*



Each MTRS 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 MTRS amplifier via the onboard computer and internal sensors.

### *MTRS Diagnostic and Safety Systems:*

The MTRS amplifier is equipped with a full and detailed set of sophisticated and comprehensive diagnostic and monitoring system. On top of providing critical safety, this system also performs real-time monitoring of the amplifier. This allows the MTRS 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, comprehensive short circuit system protection and fast offset detection. All of which are implemented outside of the MTRSs critical audio paths. Thus ensuring that while the MTRS is completely protected, its audio paths are never compromised.

## Care and Maintenance (General)

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

- Before performing any maintenance please ensure to turn the MTRS amplifier OFF and remove the power cable from the amplifier.
- To remove dust from the exterior surface of the MTRS you can use a, low pressure blower or brush it with a dry clean lint free or micro fibre cloth.
- To remove finger prints, dirt or grease from the exterior surface, rub it with 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 or connectors.
- DO NOT USE any commercial cleaners, benzene, acetone or chemicals to clean the amplifier surface or connectors.