aricAUDIO

MOTHERLODE XL PREAMPLIFIER

ARIC AUDIO TUBE GEAR

CONTENT

INTRO

The Motherlode XL is a fully balanced differential line-stage compounding on the popular Motherlode II platform. It features two sets of balanced XLR inputs, two sets of RCA inputs, and one set each of balanced XLR and RCA outputs utilizing high-end broadcast-quality transformers. Several other upgrades have been added to this model to bring performance to an even higher level.

The Motherlode XL features a two-chassis design with a separate power supply with “twist-lock” umbilicals. The power supply employs a split toroidal power transformer, a Hybrid bridge rectifier, all-film capacitor filtering, and multiple chokes for serious ripple reduction. Rounding out the power supply are Vishay wire-wound resistors, a 5U4GB rectifier, (2) OD3 regulators, and copper shielding. The preamplifier uses Vishay metal-film composition resistors throughout the tube signal path. It has a Khozmo remote volume controller, upgraded Jupiter copper foil PIO coupling capacitors as the final output in each channel, tube isolation damper plates, a resistor-based output level control, and Neutrik connectors in the same hardwood chassis. A full complement of tubes is included (please inquire for selection). Balanced connections support the AES48 standard.

Aric Kimball
Owner

IN THE BOX

- Aric Audio Motherlode XL
- Power Cord
- Umbilical Cable
- (2) 6SN7 tubes
- 5U4GB rectifier tube
- (2) OD3 regulator tubes

FRONT & TOP PANELS

1. OD3 Regulator Tube
2. 5U4GB Tube
3. On/Off Toggle
4. OD3 Regulator Tube
5. 6SN7 Tube
6. 6SN7 Tube
7. Volume
8. Volume Display
9. Input Selector

REAR PANEL

1. XLR Inputs
2. RCA Inputs
3. XLR & RCA Outputs
4. Ground Switch
5. Output Level
6. Umbilical Input

REMOTE

1. Display Control
2. Volume Down
3. Volume Up

OPERATION

Operation is pretty straightforward- with the unit turned off (OFF is to the left and ON is flipped to the right for the power switch on the front of the power supply), make sure that the power supply has the rectifier tube (5U4, 5U4G or 5U4GB- please do not use 274B rectifiers as their specs are much lower) installed in the center position, flanked by a pair of OD3 regulators on each side and that the preamplifier chassis has either a pair of 6SN7s installed in the sockets that reside in the tube damper plates. Note: All tube sockets are oriented so that the center “guide pin” key faces the front dead center of the chassis. Keep in mind that some new production tubes will have “loose” (or slightly smaller) guide pins, and it may be possible to insert them incorrectly. It is recommended to visually observe the position of the center guide pin on the bottom of the tube before inserting it into these jacks. Inserting a tube incorrectly can incur damage to the unit.

Also, make sure that both umbilical cables are inserted and twisted so that the metal release tab is clicked forward towards the chassis (locked in place). When correctly inserted, the metal tab will face the top dead center position.

Inputs/Outputs

On the rear of the preamplifier, starting from the left-hand side, are inputs 1, 2, 3, 4, and 5, respectively (5 is not tied to any Inputs so that it can be used as a MUTE). The rotary selector switch on the right-hand side of the unit starts counter-clockwise on Input 1, and each turn clockwise accesses the next set of Inputs- 2, 3, 4, and 5, respectively. The two sets of output jacks (XLR and RCA, respectively) are in parallel- meaning they both output the same audio signal and can be used for connection to multiple amplifiers or an amplifier and a pair of mono subwoofers (or a single stereo subwoofer). Note that the signal between these outputs is shared, so when an additional amplifier of the same type is connected, the apparent level of these outputs will be cut in half.

OPERATION (CONT.)

Ground Switch
A ground switch on the rear paneltethers the XLR outputs' ground to either Chassis (UP- and recommend) or Signal (DWN). The middle position is "floating", which may be used in cases where both other positions incur noise in the signal. Try all the positions to see which sounds the best to you in your system. The issue is that not all equipment disconnects the ground, and further complicating matters, some will use the chassis ground, and some will use the signal ground instead. This switch is to provide flexibility with various components. If you're unsure which method of XLR grounding your device uses, try the switch in the UP position first, and if noise is encountered, flip it down.

Output Level Control
On the rear panel, next to the Speakon power jack, is a 5-step output level control that sets the preamplifier's gain. This control may be adjusted while the preamplifier is on; however, a small "pop" or "tick" sound may be omitted depending on the amplifier's sensitivity. I tested this with an amplifier with a 600 mV input sensitivity, and the pop was mildly annoying- but no harm will come to the speakers or any other equipment. With the control all of the way UP, the preamplifier gain is 17. All of the way down sets the gain to 3 (the minimum gain this preamplifier will produce), with the middle clicks falling respectively in between.

OPERATION (CONT.)

Balanced/Single-Ended switch
This switch changes the output configuration of the ML XO from fully balanced differential to single ended. Both XLR and RCA outputs are affected by this switch. With the switch UP, the outputs are fully differential and will produce a + and – signal from pins 2 and 3 of the XLR jacks and tip and shield of the RCA jack, respectively. An amplifier that is FULLY balanced at the inputs (not quasi-balanced) can benefit from the switch in this position. With the switch flipped DOWN, this ties pin 3 to the ground and also BYPASSES the balancing transformers in the ML XL. This setting is ideal for amplifiers with “quasi-balanced” inputs and sends a single-ended signal out. However, both XLR and RCA connections can be used. This position will be slightly more “pure” as the signal is taken directly from the output capacitors- before the transformers. NOTE: This switch should NEVER be flipped when the amplifier is turned on as it will essentially disconnect the amplifier’s inputs momentarily and most likely will emit a loud POP or THUMP from the amplifier, which could potentially damage speakers. Make sure the amplifier is turned OFF before changing the position of this switch to avoid speaker and amplifier damaging pops.

Umbilical cable
The umbilical cable carries all of the high-voltage, low-voltage, and ground connections from the power supply to the signal stage. Please ensure this cable is fully twisted and locked into place on both ends prior to operating the units. Also, please ensure that this cable is only disconnected after the unit has been powered off for a full five minutes to ensure residual current is drained from the power supply.

Signal stage
This version of the Motherlode II keeps the signal path fully balanced differential in both inputs and outputs. The XLR and RCA Inputs are tethered to a pair of high-quality Jensen nickel input transformers. The XLR output signal is also split to fully balanced differential out using a pair of Edcor interstage transformers (RCA outs are single-ended). This preamplifier can easily drive a 10K balanced load as it has a nice low 300 ohm output impedance. The rule of thumb is to have the preamplifier’s output impedance be 10Xs less than the impedance of the amplifier it is driving (AKA the 1/10 rule). So, for example, the minimum impedance seen by the preamplifier would be 3 kOhms (much lower than any conventional amplifier has!).

SPECS & FEATURES

- Fully transformer balanced Inputs using Jensen transformers
- Fully transformer balanced Outputs using Edcor transformers
- Designed exclusively to use the 6SN7
- Exclusive film capacitor power supply
- Well filtered via multiple chokes in the power supply
- Jupiter copper foil paper-in-oil coupling capacitors
- Toroidal power transformer
- Tube rectified using a 5U4. 5U4G or 5U4GB
- Tube regulated using a pair of OD3 tubes
- Copper lined solid wood chassis
- 100% hand-made in the USA
- Khozmo remote volume controller with digital display
- Vishay metal-film resistors used in the signal path
- Gain between 3-17 depending on output level
- Controller position
- 5-40,000 hz +/-1 db
- Balanced XLR Inputs (2 sets)
- Single-ended RCA inputs (2 sets)
- Balanced XLR Outputs (1 set)
- Single-ended outputs (1 set)
- 6 position output level control
- Input impedance: 50 kOhms
- Output impedance: 300 Ohms
- Balanced standard: AES48
- Power Supply dimensions: 13″ X 14.5″ X 9″ (not
- Including tubes)
- Power Supply weight: 34 lbs
- Preamplifier dimensions: 13″ X 14.5″ X 6.5″ (not including tubes)
- Preamplifier weight: 27 lbs