ModWright Instruments, Inc.

Analog Bridge

Owner's Manual

Manufactured by ModWright Instruments, Inc.
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CAUTIONS:

Do not operate or power up unit without ALL tubes installed in tube sockets. Failure to do so will result in damage to tubes.

WARNING: DO NOT POWER UNIT ON UNTIL LID IS ENTIRELY FASTENED. VERY HIGH VOLTAGES ARE PRESENT INSIDE UNIT DURING OPERATION. IT IS CRITICAL THAT PREAMP ENCLOSURE NOT BE OPEN WHEN UNIT IS POWERED ON. FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY OR DEATH.

WHEN CHANGING TUBES, POWER UNIT OFF AND DISCONNECT FROM ALL POWER SOURCES. FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY OR DEATH.

IMPORTANT NOTE – TUBE INSTALLATION:

The octal sockets for the 6SN7 tubes are very tight to ensure a quality contact with the tube pins. Please make sure to align the 6SN7 tubes carefully and install with care. Tubes broken due to improper installation and/or removal will not be covered by warranty.

Introduction:

Thank you for purchasing a ModWright Instruments product. This unit is designed to offer high performance and exceptional reliability.

The ANALOG BRIDGE analog processor offers high bandwidth, low noise and distortion, and exceptional musicality. We have designed this analog processor to allow the reproduction of music that is accurate, transparent and musical.

The ANALOG BRIDGE includes the following features:

- Tube rectified supply allowing for wide ranging tube rolling.
- Two separate circuits, 6922 and 6SN7 based, switchable on-the-fly.
- Two inputs, selected via toggle.
- Two RCA outputs, Optional XLR input and output pair, fully balanced.
- RCA/XLR selected via rear toggle.
- Unity Gain.
- Extremely low noise.
- Extremely low distortion (<.005% THd)
- Extremely low output impedance (< 20 ohm).
- Reverts to straight wire bypass when powered off (RCA Input 2).

The ANALOG BRIDGE is a unit gain, low noise analog processor design with exceptional flexibility. It is intended to bring the sonic strengths of tubes to any system, without adding noise or distortion. Rather, the ANALOG BRIDGE brings the body, three-dimensional soundstage and tonality of tubes to any system. The use of tube rectification as well as two separate circuits (6922 based and 6SN7 based) allow very different tonal selection and customization to suit any system.

The ANALOG BRIDGE is not a tone control and does not vary frequency response or add any gain. It does provide exceptional buffering however, with a VERY low output impedance, allowing it to drive any amp or preamp.

Setup:

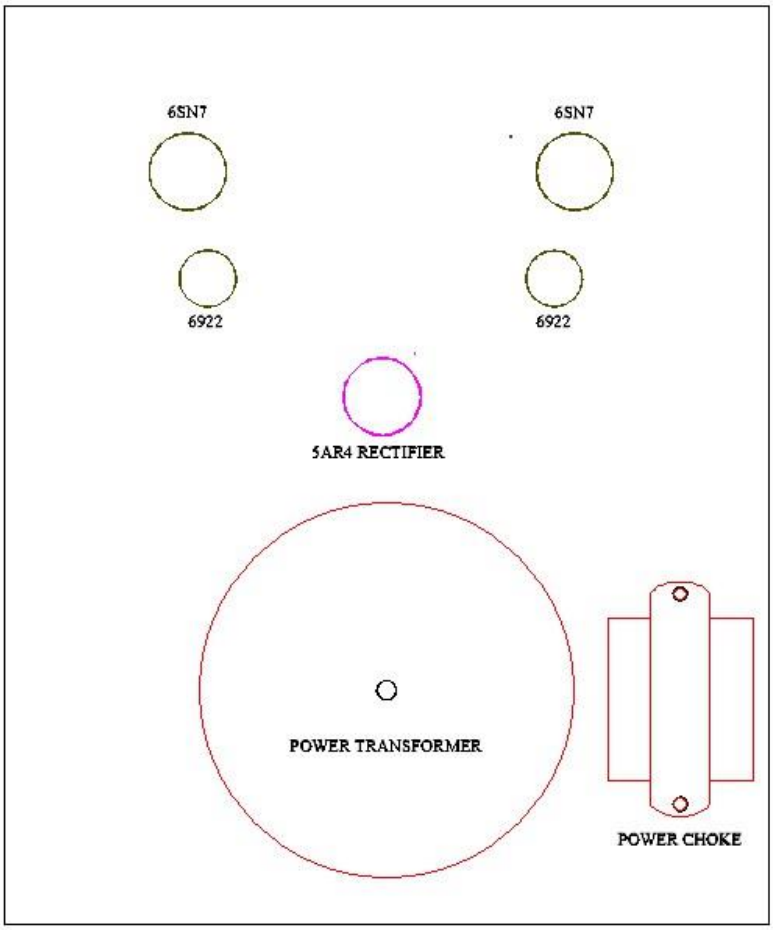
Be sure that the unit is not connected to AC power and that the power plug is disconnected from the unit and wall outlet. Install (2) 6922 in 9-pin mini tube sockets, (2) 6SN7 signal tubes and one 5AR4 rectifier tube in ceramic octal sockets. Align tube pins with socket and gently but firmly press the tubes down into socket until seated.

NOTE: 6SN7 tubes and 5AR4 rectifier tube are installed in octal sockets with a spline key, which must be lined up for the tube to fit. Some tubes may fit very snugly in the tube socket, so verify that the tube is aligned properly before pushing firmly into place.

6922 tubes are installed in 9-pin mini sockets which do not have a key or spline, but the hole pattern only allows the tubes to be installed one way.

If the tubes do not light up when the unit is powered on, or if there is no signal in one or both channels, verify that the tubes are installed properly.

DO NOT POWER UNIT ON IF THE LID IS NOT FULLY FASTENED. VERY HIGH VOLTAGES ARE PRESENT INSIDE UNIT DURING OPERATION AND IT IS CRITICAL THAT THE ENCLOSURE NOT BE OPEN WHEN UNIT IS POWERED ON. FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY OR DEATH.



ANALOG BRIDGE TUBE INSTALLATION DIAGRAM

The ANALOG BRIDGE analog processor has a tube rectified power supply. This tube can be any of the following: 5AR4/GZ34, 5U4GB, 5V4GB, 5U4G, 5U4GB, 5R4GY, 5R4GYS, 274B and equivalents.

FUSE SIZE: The Analog Bridge uses a single **SLO-BLO fuse, 5mmx20mm** in size. For **120V** operation, the fuse should be rated for **3A**. For **240V** operation, the fuse should be rated for **1.5A**.

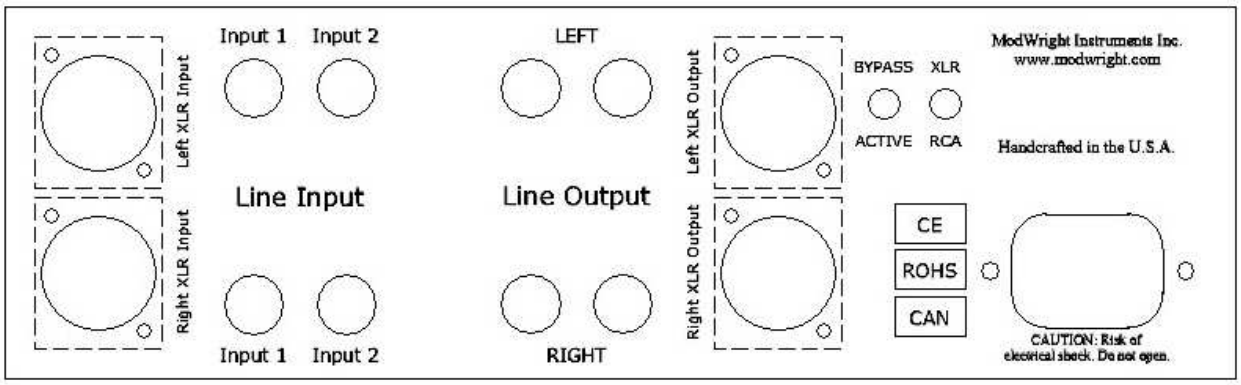
Signal cables must be connected for input and outputs. You may use the ANALOG BRIDGE in the following ways in your system:

Between Source and preamp.
Between Preamp and amp.
Between Source (with volume control) and amp.
Between Passive Attenuator and amp.
Between Home Theater Processor (with volume control) and amp.

The ANALOG BRIDGE features two pairs of RCA inputs, selectable via front toggle switch. It features two pairs of RCA outs, wired in parallel.

If the XLR fully balanced option is installed, the ANALOG BRIDGE will also be equipped with two XLR input connectors and two XLR output connectors and a toggle to select between RCA and XLR, Single Ended or Fully Balanced operation.

Note: When XLR option is installed, there is only one balanced input source and one pair of balanced XLR output connections. When operating in balanced mode with option installed and XLR/RCA toggle in the XLR position, no matter which input is selected via the front panel control, the XLR input will be the only source recognized.



Rear Panel Diagram of Analog Bridge

Power Up:

You are ready to power the unit up if the following have been done:

1) Tubes are installed in ANALOG BRIDGE and cover secured in place.
2) AC power has been plugged into IEC power inlet on the Analog Bridge, of appropriate AC mains voltage as indicated on back of power supply.
3) RCA or XLR signal cables (Balanced Option is installed) are connected to inputs and outputs.

Flip the power toggle up on front face of unit, to power up the ANALOG BRIDGE. When first powered on, a blue LED above the power switches will be lit. The unit will remain in mute for approximately 25-seconds, allowing for tubes to stabilize and gently reach operating voltage.

Operation:

Once the ANALOG BRIDGE is powered up, you must first select input 1 or 2. If you have the fully balanced XLR option installed, you must decide if you will be operating in RCA or XLR (balanced) mode. If in XLR, then the rear toggle must be in the UP position and XLR input and output cables connected. In this case, the input select position will not matter. There is only one XLR fully balanced input source.

Make sure that the mute toggle is in the down position. The unit will remain in mute for approximately 30 seconds after the power toggle is first turned to the on position. If the mute toggle is in the down position, the ANALOG BRIDGE will unmute in approximately 30 seconds. To mute the signal after this, the mute toggle must be in the UP position.

Assuming you have already selected your source, input 1 or 2, or XLR input, the last setting is which tube circuit that you want to listen to. The Tube Select toggle will process signal through the 6922/6DJ8/7308 based circuit, when in the UP position. The Tube Select Toggle in the DOWN position will switch to processing signal through the 6SN7 circuit. You will note that this toggle has three positions. Switching from Up to Down, or from 6922 to 6SN7, there is a momentary mute function that mutes the outputs for a moment as the switch passes through the middle position. This is to prevent any possible thump or noise when switching between independent tube circuits.

Bypass Operation: ***When powered on, all inputs will feed Analog Bridge circuit. If the bypass toggle, on the rear of the Analog Bridge, is in the up position, the unit will operate in bypass mode for RCA or XLR operation. Bypass operation means that the Analog Bridge is out of circuit in this case.*** *When the Analog Bridge is powered off,* ***RCA input 2*** *will revert to bypass at main out(s).*

Front Panel Control Diagram

Ground:

You should **ALWAYS** use a grounded AC cord with this product. The chassis is always connected to earth ground if unit is fitted with proper grounded AC power cord.

Technical Specifications:

- Gain: Unity (0dB)
- Frequency Response: 20Hz – 150Khz (-1dB)
- Distortion: < .005% THD.
- Output Impedance: < 20 ohms.
- Input Impedance: 100K
- Standard Unit Weight: 17 lbs (unit), 21.5 lbs (boxed)
- Balanced Unit Weight: 18 lbs (unit), 22.5 lbs (boxed)
- Dimensions: 10.5”W x 14.5”D (Including connectors) x 3.75”H (not counting height of exposed tubes, dependent upon which tubes are installed).

Basic Specifications:

- (2) pair RCA inputs.
- (2) pair RCA Main Outs.
- (1) pair fully balanced XLR Inputs (If balanced option installed).
- (1) pair fully balanced XLR Main Outs (If balanced option installed).

Vacuum Tubes:

- Two 6922 signal tubes – may substitute ANY 6922/6DJ8/7308 compatible tubes.
- Two 6SN7 signal tubes.
- One 5AR4 rectifier tube – may substitute GZ34, 5U4G/GB, 5V4G/GB, 274B, 5R4GY and all equivalents.

Warranty:

ModWright agrees to warranty product for a period of 5 years from the date of purchase from a factory authorized ModWright Instruments Dealer.

Warranty covers parts and labor for repairs due to equipment failure not related to customer abuse and/or neglect. Customer is responsible for shipping costs to and from ModWright Instruments or authorized service center.

Warranty is non-transferable to second party.

Contact Information:

If you have any questions about ModWright Instruments products or ModWright modifications or products, please do not hesitate to contact us via phone, e-mail or conventional mail.

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Thank you for purchasing a ModWright Instruments product.

Dan Wright,
President, Owner
ModWright Instruments, Inc.