

# *Butler*

## **CUSTOM**

**OWNER'S INFORMATION FOR  
"MONAD" A100**

**CLASS A 300B  
VACUUM TUBE DRIVEN  
MONOBLOCK POWER AMPLIFIER**

UTILIZING

**TUBE  
DRIVER**  
**BLUE**®  
THERMIONIC

VACUUM TUBE TECHNOLOGY

Concept & Design: B K Butler

**HAND BUILT & Patented in the USA**  
Worldwide patents pending

*"Monad", Tube Driver", "Tube Driver Blue" and "Thermionic" are trademarks of or patented by  
BK Butler*

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# ***Congratulations from BK Butler***

Please accept my sincere thanks and congratulations for making your musical choice my hand-made "MONAD" A100 amplifier. This new *USA-Patented* technology is an inherently classic design.

***Definition:***

*MONAD: "The ineffable source of all being and existence. Singly superior to all others yet fully known only to itself"...*

...

After more than 25 years of tube audio experience in the Professional Music Industry with some of the world's greatest musical talents, I've created an entirely new type of tube audio amplifier. Utilizing the incomparable qualities of our proprietary audiophile-grade 300B power triode in SE Class A mode, an amplifier without equal has been achieved. Producing more than 100Watts RMS of power with ZERO negative feedback and greater than 2 Farads (2,000,000 uF) of primary Class A voltage supply filtering on board, the *MONAD* rightly becomes the new vacuum tube audio standard of the industry.

***The Past is the Future™***

The *MONAD* A100 incorporates the finest application of the pure "Edison Effect," or the *essence* of Thermionic vacuum tube emissions to produce every nuance and characteristic of the best classic SE 300B triode tube amplifiers at more than 10 times the previous usable power. With painstaking efforts and great attention to detail, the sonic response, load and transfer characteristics of the classic 300B power triode tube have been carefully balanced to operate under optimum conditions at extremely useful and satisfying power output levels.

This groundbreaking design completely eliminates one of the most inefficient and non-musical components in typical 300B SE amplifiers: the Output Transformer. Without hundreds of feet of phase-shifting, musicality-robbing wire and many pounds of induction-generating core iron to overcome, my newly patented current-multiplying DC coupling circuitry allows the 300B output driver tube to directly operate into a fixed ratio-reduced speaker output load. This novel design results in the production of authentic triode tube characteristics many times greater in power than the normal capability of 300B tubes yet all their superior musical qualities are retained.

I invite you to enjoy the finest 300B SE amplifier on the planet. The CNC casing has been precision machined from the finest billet aluminum. Over 100 hrs. were spent on the machining, fit and finish of the case alone. The *MONAD* A100 is truly the result of a painstaking labor of love for the art. It has been my pleasure to design and build this finest of amplifiers for you.

Sincerely,

BK Butler, Designer and Builder

**Description:**

BK Butler's MONAD A100 is a 300B Class A vacuum tube-driven monoblock power amplifier. Both RCA and true BALANCED precious metal plated input jacks of the highest quality are provided. The RCA input jack and the 5-way speaker output binding posts are top of the line Cardas. The 300B vacuum tube is proprietary Butler design and manufactured per our specifications. Sprague polypropylene capacitors, Vishay-Dale mil-spec 1% resistors are employed throughout the entire audio chain. Internal circuitry interconnections are positive military-type screw connectors utilizing #10 hardware.

**Power Output:**

The MONAD A100 is powered by a 700W toroid power transformer, which easily provides the necessary reserve power necessary for continuous operation. An exceptionally large heat exchange area on the internal heatsink is coupled into the large bulk and mass of the CNC custom chassis for remarkably cool operation. The MONAD A100 has reserve power capable of producing 200 Watts into 4 ohm loads. Therefore an appropriate source of 120VAC nominal input line voltage with a minimum current supply of 5A is required. 230-240 VAC models require approx. 50% of the current rating of 120V models.

**Protection:**

Listed below are the various types of internal protection provided for unexpected conditions:

1. AC input fuse for protection against any major system power fault. Do not replace with a fuse of higher current rating.
2. Thermistor-protected against AC input line transient voltage spikes and surges.
3. Soft-start vacuum tube filament warm-up: Provides safe, *fully regulated*, gentle turn-on 5.0 VDC for the 300B tube heater filament. This technique promotes longest tube life.
4. Turn-on and warm-up transient delay: This circuit will not allow the speaker relay to close (connect power module output to speaker posts) for a delay of approximately 5 - 8 sec. after turn-on. This provides for safe vacuum tube warm-up and output stabilization.
5. DC Offset Voltage at Speaker Output: Continuous monitoring circuit immediately opens the speaker relay upon the detection of any excessive DC voltage level.
6. Short circuit protection: This continuously active circuit becomes effective to the speaker output below a load of approx. 2 ohms. It will prevent a catastrophic over-current

condition in the case of a direct short circuit between the + and - output speaker binding posts.

7. Over Temp Circuit Breaker: Opens the speaker relay if the heatsink temperature exceeds 115 deg. C. If this occurs, the amp will automatically begin operate again after the temperature has decreased sufficiently.

**NOTE: BE CERTAIN THAT AIR FLOW IS COMPLETELY UNRESTRICTED ABOVE AND BELOW THE AMPLIFIER. THIS AMP IS DESIGNED FOR USE ONLY AT ROOM TEMPERATURE WITH ADEQUATE OPEN VENTILATION AND CIRCULATION. IF ENCLOSED IN A CABINET, FORCED AIR VENTILLATION IS RECOMMENDED.**

***IMPORTANT: COOL OPERATION = LONGEST LIFE AND RELIABILITY!  
DO NOT OPERATE WITHIN A COMPLETELY CLOSED CABINET OR ENCLOSURE WITHOUT POSITIVE FORCED AIRFLOW!  
LET YOUR AMP BREATHE!***

### ***Use and Operation:***

***Important: Do not apply power until you have read and understand this section!  
Connect or disconnect cables only with amplifier OFF.***

***Note: Your new Butler MONAD amp is designed to operate with ONE separate speaker system connected. Connect "Speaker Output" to speakers only! DO NOT SHORT ACROSS SPEAKER OUTPUT POST TERMINAL.***

### ***Power Switch:***

Supplies main AC power to the amplifier. The ON position is up and will be indicated by the illuminated blue Butler logo on the front panel. The intensity of the logo is adjustable with the "Dimmer" control.

***Inputs:***

The highest-quality Rhodium plated Cardas® RCA-type input jack will accept the line-level signal supplied from most pre-amplifiers. The silver plated Neutrik XLR accepts true balanced signals. The input gain has been internally preset to equal full (100 Watts) output at 8 ohms for an input sensitivity of 1.7 Volts. The input impedance is a very compliant 47K Ohms at each input to accept a wide range of signals without undue loading.

It is good practice to keep the shielded connecting input audio cables as SHORT as possible. Cable lengths longer than 10 feet are not recommended and excessive length cables should *never* be coiled. Use the proper cable lengths; the performance and sound quality of this amplifier is worth it!

***Speaker Output Binding Post:***

A top-of-the-line Rhodium / Gold plated Cardas® heavy duty 5-way binding post is supplied to accommodate virtually any type of speaker connection. Speaker wire should be kept as short as possible and away from input cables. Shielded cables must NEVER be used, as this may cause high frequency loss and introduces an unnecessary capacitive load to the amplifier. **DO NOT SHORT ACROSS SPEAKER BINDING POST!**

***Speaker Phasing:***

Correct speaker phasing is essential for optimum operation. As most applications will use at least a pair of MONAD amplifiers, be certain to connect the positive or + speaker lead to the + speaker output binding posts and likewise for the – speaker lead and binding posts. Otherwise weak bass response and phase errors will be introduced, greatly degrading the sound quality.

### ***Cable Quality:***

It has been our experience that you generally get what you pay for in cables. A good set of shielded input connection cables coupled with large gauge, high quality low-loss speaker wire is well worth the investment. Do not degrade the remarkable performance of this amplifier with inferior connecting cables.

### ***The Marvelous Vacuum Tube:***

Triode Vacuum Tubes were the first method of practical audio amplification patented in 1907 by Lee De Forest. At first, he used an open flame to produce thermionic emissions, but later found an electrically heated filament was much more practical.

The first triodes were quite inefficient and often very mismatched in performance. Thankfully we now have reliable sources of precision manufactured triode tubes, which are very consistent in quality and performance. Our proprietary Butler 300B directly heated power triode produces unmatched audio performance and reliability. It is a classic favorite among audiophiles the world-over. Thanks to the recent break-through of BK Butler's thermionic patent, this wonderful tube can now be appreciated at elevated power levels unavailable with former conventional designs.

Over the years, BK Butler has experimented with virtually every type of audio vacuum tube. In 1992 he obtained a large Vacuum Tube Analyzer formerly used by the FAA to test and analyze radar tubes for aviation control towers. This old but very high-quality apparatus enabled him almost unlimited control to adjust and experiment with virtually every conceivable parameter of any tube. For example, input and output pins could be reassigned. B+ voltages and bias currents switched to any desired value or configuration. During these test, it was noted that a Phantom voltage was being generated.

It turned out to be nothing less than the original thermionic effect that one of Edison's assistant technicians (a Mr. Hammer) discovered in the late 1800's while testing early light bulbs. He noted a blue glow around the positive pole in a vacuum bulb and a blackening of the wire and the bulb at the negative pole. At first, this was referred to as "Hammers Phantom Shadow", but later Edison took credit for the discovery himself (as was his practice) and re-dubbed it as "Thermionic Emission". More tests followed and soon the first vacuum tube diode was invented. Limited at first to rectifying AC into DC, Edison failed to make the one essential step needed for tubes to achieve useful amplification.

However, around 1906, Lee De Forest vastly improved the 2-electrode vacuum tube diode by adding the crucial element: a third electrode, or control grid. The rest is history. The successful invention of the amplifying vacuum tube triode, which could regulate the thermionic emissions of electrons from a heated cathode, became the foundation for our modern electronics industry.

### ***Tube Reliability:***

It's interesting to note that until the 1960's, tubes were used in virtually every area of electronics including aviation. When people flew on a commercial airliner, they literally trusted their lives on tube-powered avionics. So, aside from a common-sense warning to take care not to break the glass, there is very little reason to be overly concerned about the 300B tube used in your amplifier.

The 300B tube installed in your new Butler amplifier should last as long as the other high quality electronic components in the design. No special tube care, replacement, matching, biasing or maintenance is usually necessary. In the unlikely event a tube becomes faulty, it can easily be replaced by any generic 300B tube commercially available, but for optimum performance, we recommend our Butler 300B as replacement.

Finally, the most likely reason you invested in your new Butler Audio amplifier was to enjoy the sonic superiority vacuum tubes create. Please enjoy this revolutionary design BK Butler worked so long to produce. We're confident you'll have many trouble-free years of listening pleasure!

- Everyone at Butler Audio, Inc



**Specifications:**

**Model: Butler Custom MONAD A100**

**Serial # \_\_\_\_\_**

**Date: \_\_\_\_\_**

**Verified BK Butler \_\_\_\_\_**

**Power Output: Minimum 100 Watts RMS @ 8 Ohms  
128 Watts, RMS typical @ 8 Ohms  
200 Watts, RMS typical @ 4 Ohms**  
**Verified\_\_\_\_\_**

**Frequency Response: 20 - 20,000 Hz, +/- 0.6 dB**  
**Verified\_\_\_\_\_**

**Distortion (THD): Less than 1.0% at 8 Ohms,  
"A" Weighted**  
**Verified\_\_\_\_\_**

**Input Sensitivity 1.7V for 100 Watts into 8 Ohms**  
**Verified\_\_\_\_\_**

**S/N ratio: Better than 105dB, "A" Weighted**  
**Verified\_\_\_\_\_**

**Vacuum Tube Complement: Butler Model 300B directly heated  
power triode**

**Max. Power Consumption: 6 Amps**

**Dimensions: 17" W x 12.5" D x 10.5" H (including  
connectors, feet and 300B tube]**

**Weight 46 Lbs. (21 Kgs.)**

## **Warranty & Repair Policy:**

All Butler Audio products are manufactured using the finest parts and materials available. Butler Audio MONAD home audio products are warrantied against manufacturing defects in material and workmanship for a period of five (5) years from the original date of purchase, if purchased at an authorized Butler Audio retailer. The original purchaser must complete a Butler Audio Warranty Registration Card including the purchase date and the authorized Butler Audio Dealer name and address and mail it to Butler Audio Inc., Warranty Dept., PO Box 460572, Aurora, CO 80046-0572 within 14 days of purchase. Otherwise they are covered by a 90-day warranty. This warranty is transferable IF the secondary purchaser retains the original purchaser's sales receipt or factory invoice copy.

During the warranty period, Butler Audio will repair or replace (at its sole discretion) without charge, (pending inspection of the product's condition) valid defects in material and workmanship. If an MONAD is determined to be defective within the first 90 days from the original date of purchase, Butler Audio will replace the defective product with another new product or with a product we deem to be equivalent (over-the-counter exchange). After the first 90 days and until the end of the five (5) year warranty period, Butler Audio will repair or replace the product (with a product we deem to be equivalent) at our sole discretion. Proof of purchase (sales receipt or factory invoice) is required for all warranty requests.

### **This warranty does NOT cover the following :**

- a) Damage to any of the metalwork (i.e. chassis, heatsink, endplates, etc.)
- b) Damage caused by abuse, misuse, accident, theft or any act of GOD
- c) Damage caused by improper use or installation
- d) Any cost or expense related to removal, re-installation or shipping
- e) Service performed by anyone other than Butler Audio, Inc
- f) Subsequent damage to other components
- g) Any amplifier not purchased from an authorized Butler Audio retailer
- h) Any amplifier purchased outside the USA. Amplifiers purchased in another country are covered only by that country's distributor and not by Butler Audio.

Any removal, alteration or tampering of the serial numbers or tampering with the inside of the product will result in voiding the warranty.

Butler Audio reserves the right to determine and make final judgment as to the cause(s) of any defects. Any product determined to be free from defects will be returned, freight collect.

No person is authorized by Butler Audio to assume any other liability in connection with the sale of these products.

### **Return (RMA) Procedures**

Product(s) determined to be defective require a **R**eturn **M**erchandise **A**uthorization number (**RMA#**) to be issued by Butler Audio prior to return. To receive an RMA#, completely fill out the Butler Audio RMA form and fax or email it to the main office. Once received, an RMA number (RMA#) will be issued and faxed back. Returns will NOT be accepted without an RMA#. All returns must be packaged in their original box to prevent damage during shipping and must include a copy of the RMA form. Restocking charges will apply for any and all missing parts or repackaging materials. No credit invoices will be issued (repair or exchange only). Please call, write, email or fax:

## **Butler AUDIO**

Attn: Service Dept.

PO Box 460572 Aurora, CO 80046-0572

Ph: (303) 766-4504 • Fax: (303) 766-5032

Email: [info@butleraudio.com](mailto:info@butleraudio.com)

Further information may be found at [www.butleraudio.com](http://www.butleraudio.com)

Returns must be sent prepaid via UPS/FedEx or similar carrier to facilitate any necessary tracking. The RMA number issued must be clearly marked on the outside of the shipping box. Butler Audio assumes no responsibility for damage incurred during shipping. A copy of the completed RMA form showing the assigned RMA#, signed by an authorized Butler Audio representative and a copy of the original sales receipt must accompany all returns. All returns are processed in the order they are received. Repaired unit(s) will be returned by Ground shipping, unless otherwise agreed. If expedited return service is required or requested, please contact your Butler Audio representative for details.

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