

*Herron Audio*  
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**Owner's Manual**  
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**M1A**  
**Power**  
**Amplifier**

# M1A Power Amplifier Owners Manual

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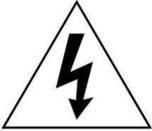
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# M1A Power Amplifier Owners Manual

## General Safety, Installation, and Operation Instructions

It is important to read this document before attempting to use this product. Pay close attention to safety instructions.



Appears on the component to indicate the presence of uninsulated, dangerous voltages inside the enclosure – voltages that may be sufficient to constitute a risk of shock.



Appears on the component to indicate important operation and maintenance instructions included in the accompanying documentation.



Appears on the component to indicate compliance of with the EMC (Electromagnetic Compatibility) and LVD (Low-voltage Directive) standards of the European Community.

### **WARNING**

**WARNING** Calls attention to a procedure, practice, condition, or the like that, if not correctly performed or adhered to, could result in personal injuries or death.

### **CAUTION**

**CAUTION** Calls attention to a procedure, practice, condition, or the like that, if not correctly performed or adhered to, could result in damage or destruction to part or all of the component.

### **Note**

**Note** Calls attention to information that is essential to highlight.

**Please read the Owner's Manual Completely BEFORE operating the unit**

# M1A Power Amplifier Owners Manual

## Important Safety Instructions

- 1. Read these instructions**
- 2. Keep these instructions.**
- 3. Heed all warnings.**
- 4. Follow all instructions.**
- 5. Do not use this apparatus near water.**
- 6. Clean only with a dry cloth.** Great care and attention has gone into the materials chosen to produce the product. A gentle wipe with a dry, clean cloth is all that is required to remove any dust. Treat it as you would a fine piece of furniture because that is how they have been designed.
- 7. Do not block ventilation openings.** Install in accordance with the manufacturer's instructions.
- 8. Do not install near any heat sources** such as radiators, heat registers, stoves, or another apparatus that produces heat.
- 9. Do not defeat the safety purpose of the polarized or grounding-type plug.** A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or third prong is provided for safety. If the provided plug does not fit into the outlet, consult an electrician for replacement of the obsolete outlet.
- 10. Protect the power cord from being walked on or pinched,** particularly at plugs, convenience receptacles, or the point where it exits from the apparatus.
- 11. Only use attachments and accessories specified by the manufacturer.**

## M1A Power Amplifier Owners Manual

12.



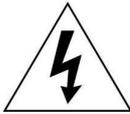
**Use only with the cart**, stand, tripod, bracket, or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury or tip over.

**13. Unplug this apparatus during lightning storms** or when unused for long periods of time.

**14. Refer all servicing to qualified service personnel.** Servicing is required when the apparatus has been damaged in any way, such as when the power cord or plug has been damaged; liquid has been spilled or objects have fallen into the apparatus; or the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

**15. No naked flame sources, such as candles**, should be placed on the apparatus.

16.



**The appliance coupler is used as the disconnect device**, the disconnect device shall remain readily operable.

**17.** Terminals marked with this symbol may be considered HAZARDOUS LIVE and the external wiring connected to these terminals requires installation by an INSTRUCTED PERSON or the use of ready-made leads or cords.

18.



**This exclamation point within an equilateral triangle** is intended to alert the user to the presence of important maintenance (servicing) instructions in the literature accompanying the appliance.

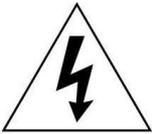
**Warning!** To reduce the risk of fire or electric shock, do not expose the apparatus to rain or moisture. Do not place objects containing liquid, such as vases, on this apparatus.

Please read the Owner's Manual Completely BEFORE operating the unit

# M1A Power Amplifier Owners Manual

## Warning

- TO PREVENT FIRE OR SHOCK HAZARD, DO NOT USE THIS PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE
- TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE
- TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE PLUG TO WIDE SLOT AND FULLY INSERT



This lightning flash with an arrow head symbol, within an equilateral triangle, is intended to alert the user to the presence of un-insulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to the persons.



Warning: To reduce the risk of electric shock, do not remove cover (or back), no user-serviceable parts inside. Refer servicing to qualified service personnel.



This exclamation point within an equilateral triangle is intended to alert the user to presence of important maintenance (servicing) instructions in the literature accompanying the appliance.

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## IMPORTANT! (U.K. only)

This unit is supplied in the U.K. with mains lead fitted with a moulded 13 amp plug. If, for any reason, it is necessary to remove the plug, please remove the fuse holder and dispose of the plug safely, out of reach of children.

**It must not be plugged into a mains outlet.**

The wires in the mains lead supplied with this appliance are coloured in accordance with the following code:

Green and yellow.....Earth  
Blue.....Neutral  
Brown.....Live

### **WARNING - This appliance MUST be earthed**

As the colours of the wires of the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in the plug, proceed as follows:

The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked with the letter E or coloured green or green-and-yellow, or by the earth symbol :

---

The wire which is coloured **brown must be connected to the terminal which is marked with the letter L or coloured red.**

The wire which is coloured **blue must be connected to the terminal which is marked with the letter N or coloured black.**

If connecting to a BS1363 plug, a 13 amp fuse must be used.

### **WARNING:**

**ANY MODIFICATIONS TO THIS PRODUCT NOT EXPRESSLY APPROVED BY HERRON AUDIO WHO IS THE PARTY RESPONSIBLE FOR STANDARDS COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THIS EQUIPMENT.**

## The Amplifier

### The Amplifier

The M1A is a full complementary symmetry bipolar implementation and contains no coupling capacitors in the forward direction. It employs the latest technology in wide band output devices with enhanced low level linearity. Proper stage-to-stage impedance matching insures extraordinarily low distortion and unique successive stage to output confluence provides a seamless combination of micro/nano-resolution from forward stages and robust controlled power and authority from successive stages. This unified current summation drive stage network eliminates the crossover notch problems common in many solid state amplifier designs. High idle current or class A bias output stage operation is not necessary! The M1A runs cool under most listening conditions and provides a live presentation with none of the hardness normally associated with solid state amplifiers. The output network of this amplifier is reso-

nance free and remains stable even with a 1 micro-Farad capacitor connected across the output terminals. The M1A engenders the fine resolution and liquidity normally associated with tube amplification plus the power and bass control of solid state. Individual voices remain distinct and clear amidst the crescendo full orchestra and chorus. The sound of the M1A is pure and true to the source.

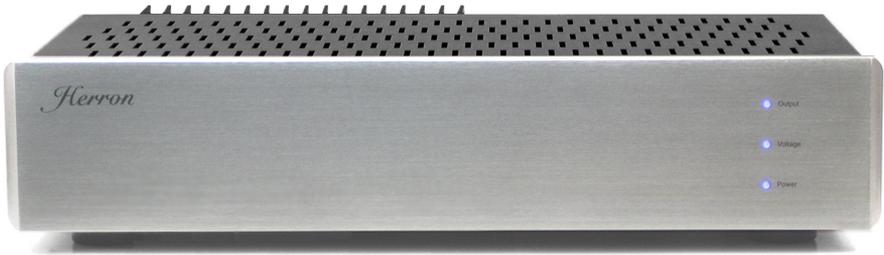
It has the clarity, focus in time, and natural sound inherent in all Herron Audio products.

### DC Response

The M1A incorporates automatic low level d.c. offset cancellation plus high level d.c. shutdown speaker protection circuits. The effects of continuous low level d.c. at the input of the M1A will be nulled out over time and higher levels of d.c. at the input will engage the shutdown protection.

# M1A Power Amplifier Owners Manual

## Front Panel Features



The front panel has three indicator lights for easily monitored operational readiness of the unit. The first light is the “power” indicator. This indicates that power has been turned on. The “voltage” light indicates that the amplifier circuitry has been activated.

Upon shutdown the amplifier is deactivated at the same instant that the output relay is opened. This prevents contact wear and contamination from arcing which is common in conventional designs. The approach used in the M1A prolongs the life and sound quality of the relay.

A blinking “voltage” light indicates that there is d.c. present at the input of the amplifier. The blue “output” light indicates that the output relay is engaged and the M1A is ready for listening. If the M1A is overheated (78 degrees Centigrade), the “output” light and the “voltage” light will turn off (amplifier deactivated) until the heat sink cools 10 degrees Centigrade. The normal start-up sequence of the unit is designed to run a self check and accelerate the warm up/break-in process.

# M1A Power Amplifier Owners Manual

## Rear Panel Features

The rear panel was designed for flexibility and ease of access to less frequently used functions. The high precision RCA input jack and output connectors are gold plated to minimize signal degrading corrosion.



### Power Connection

An IEC power cord connector is provided for attaching the Herron Audio-provided power cord or another chosen by the user.

### Power Switch

When placed in the on position, the unit is powered up. At power up, the unit goes through a start-up sequence and remains muted until the output light comes on. When the switch is moved to the off position the unit is automatically muted and powered down.

### Output Terminals

The M1A has two gold-plated speaker binding post terminals. These terminals are labeled with the designation "OUTPUTS" on the rear panel of the unit.

The polarity is designated with red and black insulating collars. The red collar signifies the positive terminal. The M1A is non inverting. Connection to the speaker binding post terminals should only be made while the unit is powered down.

# M1A Power Amplifier Owners Manual

## Heat Sink

The heat sink on the back panel of the M1A is designed to dissipate heat generated by the output section of the amplifier. For best performance and long life the unit should be used in a well ventilated area. Excessive heating may occur under heavy load conditions in a poorly ventilated location and could cause the unit to shut down.

## Input Connector

The M1A has one gold-plated RCA input connector. The RCA input plugs (interconnect terminations) should be inserted firmly into the input jack while the unit is powered down. It is not recommended that the unit be powered on without an input connection.



*Connection to the speaker binding post terminals should only be made while the unit is powered down.*

*The RCA input plugs (interconnect terminations) should be inserted firmly into the input jack while the unit is powered down. It is not recommended that the unit be powered on without an input connection.*

# M1A Power Amplifier Owners Manual

## Installation

### Placement

Although the M1A power amplifier runs relatively cool, it is recommended that these amplifiers are used in an open area for best operation and prolonged life.

Each M1A contains an oversized toroid transformer wound in a configuration designed for minimum magnetic field radiation. It is recommended, however, that the M1As be placed at least a few feet away from sensitive front end equipment such as a turntable or phono stage.

### Power Connection

When possible, connect the same power outlet used for the preamp, phono stage, CD player, etc. This configuration will minimize the reactive currents from power line RF that will be impinged on the interconnect cables between the audio equipment in the system.

### Recommended Loading

We do not recommend using the M1A with a 2 ohm load. As with all audio amplifiers increasing the load will increase the distortion and defeat the purpose of having a really clean amplifier such as the M1A. For this reason we did not design the M1A to drive a 2 ohm load to full power. The over-current trip circuits will engage under those operating conditions.

### Speaker Cable

Optimum performance from the M1A will be obtained only with careful selection of the appropriate cables from the amplifier to the speakers. Minimum capacitance and inductance is preferred in order to avoid over-shoot and ringing in the cables. Here, simple high quality cable is of utmost importance.



*Zobel networks should not be added to the speaker cable connections!*

*The M1A contains three highly tuned neutralization networks in the output stage and adding additional networks will degrade the sound.*

## Troubleshooting

### Symptom

1. The output light is on (blue) and there is no sound.
  - A. Check speaker terminations
  - B. Check the interconnect terminations at the M1A and at the preamplifier.
  - C. Check the source equipment.
2. The power light is on, but the voltage light goes on and off and the output light does not come on. No Sound.
  - A. Check input source for d.c. at its output. **Note:** It is not uncommon for preamplifiers and other audio source equipment to produce a d.c. offset for a short period of time after being powered up. This condition will normally clear up after a few minutes. It is recommended that the M1As be powered up after the preamplifier, phono stage, CD player, etc. have been turned on.
3. The amplifier trips off while the output light and voltage light periodically go out (the sound is interrupted) when listening at high volume.
  - A. This condition occurs when the internal protection circuits detect an over-current condition.
4. The amplifier trips off and the output and voltage lights turn off. This condition indicates that the output section of the amplifier has overheated (78 degrees centigrade). Make sure that the unit is adequately ventilated. The unit will turn back on automatically when the heat sink has cooled to 68 degrees centigrade.
5. The power light comes on but the voltage light never comes on.
  - A. The M1A contains two AGC 6 amp internal rail fuses (F2 and F3) located on the p.c. board for circuit protection. In the unlikely event of a failure of one or both of these fuses, red indicator lights will be visible through the vents in the top of the unit.

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## Technical Specifications

<b>Configuration</b>	Single-channel (monaural)
<b>Frequency response</b>	20 to 20kHz +/- 0.1dB
<b>Output Power</b>	150 Watts @ 8 ohms, 275 Watts @ 4 ohms (measurements at 1 kHz)
<b>Gain</b>	24 dB
<b>Input Impedance</b>	220k Ohms
<b>Absolute Polarity</b>	Non-inverting
<b>Power Requirements</b>	100, 120, 230, 240 VAC. 50/60 Hz. Standard IEC power connector Toroidal transformer taps internally selected for appropriate voltage
<b>Main(s) Fuse</b>	120 VAC - MDL5 230 VAC - MDL3
<b>Dimensions</b>	17.6" wide × 4" high (including rubber feet) × 11" deep
<b>Warranty</b>	3 years, parts and labor

Manufactured by *Herron Audio* Division of Herron Engineering, Inc.  
St. Louis, Missouri

# M1A Power Amplifier Owners Manual

## FCC Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

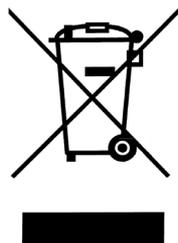
### **Caution!**

**Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.**

### Re-cycling

Correct Disposal of Waste Electrical and Electronic Equipment (WEEE) by User in Private Households in the EU.

This symbol on the product or accessories indicates that they must not be disposed of with your household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. Instead it is your responsibility to dispose of your waste equipment by handing it over to a designated WEEE collection point for recycling. The separate collection and recycling of your waste equipment will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.



For more specific information about where you can take your equipment for recycling please contact your local city/council office, your local waste disposal service or the outlet where you purchased your RadiusHD product.

### RoHS Compliance

Directive 2002/95/EC of the European Parliament and of the Council on the reduction of the use of certain hazardous substances in electrical and electronic equipment, January 2003.

#### Background

The RoHS directive restricts the use of Lead (Pb), Cadmium (Cd), Mercury (Hg), hexavalent Chromium (CrVI), polybrominated biphenyl (PBB) compounds, and polybrominated diphenyl ether (PBDE) compounds in electrical and electronic equipment sold in the European Union.

