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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  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  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  CALLS ATTENTION TO INFORMATION THAT IS ESSENTIAL TO HIGHLIGHT.
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.

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.
**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 Symbol](image)

**Caution**

AVERTISSEMENT — RISQUE DE CHOC ELECTRIQUE — NE PAS OUVRIER.
TO PREVENT FIRE AND SHOCK HAZARD, DO NOT EXPOSE THIS DEVICE TO RAIN OR MOISTURE.
TO PREVENT ELECTRICAL SHOCK DO NOT REMOVE COVER! 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.

**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.
Welcome!

Thank you for your investment in the Herron Audio Vacuum Tube Phono Preamplifier, a masterpiece of high-precision analog audio playback equipment. It is designed to be the finest product of its type available. The care in engineering and manufacturing of this product anticipates a lifetime of musical enjoyment.

The Herron VTPH-2A Phono Preamplifier was created to address the retrieval of musical information from vinyl LPs without compromise. The original design (the VTPH-1) was originally only intended for use by a few dedicated music lovers in their cutting edge audio systems. The design was so good and demand so high that the unit was refined and engineered with the additional features and performance enhancements which are incorporated in the VTPH-2A. In the process, important discoveries were made about tolerances and the threshold of human hearing limits.

The VTPH-2A is a significant step forward in the art and science of phono preamplification. Its dynamics and startling transparency may be difficult to describe, but are not difficult to hear. Expect to discover new joy from every record in your collection.

At Herron Audio, our goal has always been to reproduce, as faithfully as possible, the musical experience captured on each of your cherished recordings. Nothing removed, and—equally important—nothing added. Meticulous design, painstaking selection of component parts, and the evolution of our experience help us get closer to that target with each new model.

This product is engineered to be user friendly and overcomes the fears that many have expressed concerning the use of vacuum tubes in their systems. Its limited production ensures that the components in each unit are matched to the highest standards in the industry. Manufacturing of the unit is performed under the tightest of quality controls. Components are hand-matched to exacting standards to ensure identical unit-to-unit performance. For example, capacitors in the RIAA equalization stage are hand matched to tolerances of better than 0.1%. The units are burned in, bench tested, and hand-matched to the original design.

These techniques ensure that each unit performs to the high standards established in the development of the original prototypes. This process is reflected in the unprecendented performance and lack of unit-to-unit variations of Herron Audio components.

The special power supply in all Herron Audio products reflects the engineering innovation that allows the Herron VTPH-2A Phono Preamplifier to provide the highest musical satisfaction without the artifacts produced by most other tube-based components. This power supply provides a rigid voltage source to the tubes, producing remarkable resolution of musical events in time and sound stage. The circuit board layout was engineered with all of its electrical properties considered in order to achieve fine audio performance with greater consistency than hand wiring. Compromise was not an option. The unique design of the Herron VTPH-2A Phono Preamplifier, along with its conservative design and operating parameters means that owners can expect the industry's highest level of performance to be maintained over the extended life of the unit.

Operating the Herron VTPH-2A Phono Preamplifier is easy and straightforward. The unit has been designed to be exquisitely simple and user friendly, with its operational readiness easily monitored. During the manufacturing process, every unit is subjected to a battery of quality control checks. Each unit is run through a full forty-eight hour burn in, and then measurements are made to make sure that it is functioning correctly. Last and most importantly careful listening tests are made in comparison to a reference unit, to make sure each phono preamplifier performs up to the strictest Herron Audio standards.

The staff of Herron Audio are audiophiles who regard the high-quality reproduction of the performance of music as one of the finest pursuits in the engineering arts. We at Herron Audio believe in the pursuit of audio perfection. We hope you enjoy the fruits of our efforts. If you have any comments, suggestions, or questions, please contact us at 314-434-5416.
**Design Considerations**

- Two operating modes: Moving Coil and Moving Magnet
- Separate RCA input connectors for Moving Coil and Moving Magnet inputs
- Additional RCA connectors for external Moving Coil loading
- Moving Coil/Moving Magnet mode switch
- 15 second mute during mode change
- Cartridge bias Moving Coil input stage allows for infinite load resistance (operation with cartridge unloaded)
- All-tube signal path (moving magnet mode)
- Passive RIAA equalization for accurate phase and amplitude response
- Available in two factory set tube configurations
- Class A operation
- Star grounding for low interference susceptibility and clean signal path
- Zero feedback—no feedback loops in the audio circuitry
- Low noise
- High input signal capacity without overload; see technical specifications
- Gold plated RCA and ground connectors
- Audio path capacitors are high quality metal film
- Hand-picked components for accurate response
- Automatic muting at startup and shutdown
- 78,000 mF of power supply energy storage capacitance
- 4 levels of high voltage regulation
- Regulated soft-start DC filament supply
- Regulated tube bias supply
- Toroidal power transformer
- Reversing power line (AC) polarity switch for minimizing line-to-chassis reactive currents and noise pickup
- Controlled warm-up of tube filaments and high voltage for extended tube life
- Low plate operating currents for extended tube life and cool operation
- Front panel indicators for power, voltage, and output (mute release)
- Each unit is given a 48-hour burn-in, including rigorous bench and listening tests

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**The Front Panel**

The VTPH-2A features a ½ inch thick anodized aluminum front panel with three lights for monitoring the operational readiness of the unit. When the VTPH-2A is powered up, the automate feature is engaged until the unit is ready for operation. The first indicator on the panel is the Power LED, which indicates the unit has been turned on. After a few moments, the voltage LED gradually brightens, as the voltage to the filaments slowly increases. When the unit is ready to operate, the Output LED illuminates and the automate is disengaged, allowing signal to be passed to the line stage/preamp. This process generally takes just more than a minute, but can take considerably longer if the unit has not been operated for a long period of time. The output LED will flash on and off during the 15 second Moving Coil/Moving Magnet mode change. This indicates that the unit is muted for speaker protection.

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Please read the Owner’s Manual Completely BEFORE operating the unit.
The Rear Features

Power switch: On / Off

AC polarity: Allows the user to select the AC polarity offering the best performance. Used during set-up of the unit, and whenever changes are made to the AC source.

IEC power jack: Used to connect the AC power cord to the unit.

Ground connectors: Used to connect the phono ground bleed wire to the unit. Connects to the star ground system in the unit.

MC inputs RCA jacks: Used to connect to moving coil cartridge.

MC load RCA jacks: Used to connect Male RCA plugs with load resistors for moving coil cartridge

Moving coil/ Moving magnet Mode switch:

MM inputs RCA jacks: Used to connect to moving magnet cartridge

Outputs RCA jacks: Used to connect the unit to a line stage preamplifier

Installation and Operation

The operation of the Herron VTPH-2A Phono Preamplifier is straightforward. As with any fine audio component, careful set-up and integration into one’s system is important for optimum performance, safety, and reliability. Please read through the following set-up instructions completely prior to operating the unit.

Procedure

1. Position the unit in a well-ventilated area on a firm, stable surface, away from equipment that generates alternating magnetic fields such as motors, transformers, etc. Magnetic fields of this type can introduce hum into the signal path.

2. Connect the ground bleed wire from the turntable to the ground connector of the VTPH-2A. (this may be needed to prevent hum at the inputs to the VTPH-2A)

3. Connect the cartridge signal leads from the turntable (tone arm) to the VTPH-2A left-to-left and right-to-right and the appropriate input connectors (“MC INPUTS” for a moving coil cartridge or “MM INPUTS” for a moving magnet cartridge. (left-to-left and right-to-right)

4. Connect the line stage preamplifier inputs to the “OUTPUTS” RCA connectors on the back of the VTPH-2A (left-to-left and right-to-right)

5. Plug the power cord into the VTPH-2A. Make sure it is firmly seated into the IEC socket prior to inserting the plug into an AC outlet.

6. Plug the power cord into a 115 volt (U.S. spec. units) AC outlet.

7. Power up the unit by switching on the power switch.

8. Observe the LEDs for the appropriate operation (see the Front Panel Indicators section). Listen carefully for the click of the automute engaging the outputs.

9. Power up the rest of the system with the line stage input selector positioned to select any input not otherwise in use other than the phono preamplifier. With the volume control of the line stage set at its lowest position, select the phono preamplifier. Gradually increase the volume control until a normal listening level is reached.
Cartridge Loading

External MC Load Resistor RCA Plugs

Moving coil loading RCA resistor plugs can be inserted into the back of the VTPH-2A at the "MC Load" connectors to properly load specific moving coil cartridges. Check with your cartridge manufacturer for recommended loading.

The moving coil inputs can be loaded to a particular cartridge specification by externally connecting the appropriate resistors using the "MC LOAD" RCA connectors on the back of the unit, or they can be internally soldered at the MC INPUTS circuit board (this should only be done by a competent technician).

The moving coil inputs have no load resistors installed unless specified by the customer when the unit is ordered from Herron Audio.

We highly recommend trying the VTPH-2A in the no load configuration as the unit is supplied for many moving coil cartridges. 47,000 (47k) ohm RCA load plugs are supplied with the unit for optional use. Additional user specified loading plugs can also be purchased with the unit.

The moving magnet inputs are factory loaded at 47,000 (47k) ohms, 100pF. (standard loading for moving magnet cartridges)

Power Line Polarity

Set the power line polarity switch to the "A" position. With the volume control at its lowest position, place the line stage input selector in the position to select the VTPH-2A phono preamplifier.

Increase the volume to a normal listening level and check for hum. Reduce the volume to a lower position and play a record. Gradually increase the volume control to the desired level and listen closely to the quality of the reproduction. This will be used as a baseline for determining AC polarity.

Place the line stage input selector to an unused position and change the AC polarity of the VTPH-2A phono preamplifier by switching the power line polarity switch to the "B" position. Repeat the process, listening to the same recording. Place the AC polarity switch in the position that sounds best.

Optimum Performance

With higher definition and detail available in the musical signal, more careful attention to the set-up of other components will yield greater benefits. We have found that the best place to start is with the turntable set-up. Adjustments of the vertical tracking angle will be easy to resolve using the Herron Phono Pre- amplifier. Users may gain improved performance by making fine adjustments. Slight changes in cartridge tracking force can improve tracking and position the coils in a cartridge at the correct position relative to the magnets.

We recommend that the VTPH-2A be used with a line stage having an input impedance of 50,000 Ohms or higher for optimum performance. Depending on the cartridge output rating, the line stage may require an input capacity of as high as 15 volts rms.

We recommend the use of high quality interconnecting cables between the turntable and the phono stage and between the phono stage and line stage. It is very important for achieving best performance from the VTPH-2A that the cables between the phono stage and the line stage be a low capacitance type.

Changing Tubes

When changing tubes, the VTPH-2A should be unplugged and left off for a minimum of 30 minutes prior to opening the unit, to insure that hazardous voltages in the power supply have time to discharge before entering the unit.
Changing Tubes

Care needs to be taken during this procedure in order to prevent damage by static electricity to the VTPH-2A internal components.

The original tubes should provide many years of good performance, due to the conservative plate voltage and current operating requirements of the Heron Audio Phono Preamplifier.

If tube replacement is required, channel-to-channel gain matching can be done using the left and right gain controls on the printed circuit board.

## Tube Locations

### Back of unit

![Tube locations on the back of the unit](image)

- Tube locations V1 to V5 are as marked on the printed circuit board.
- Other current production or NOS tubes may be preferred with experimentation.

### Front panel


## Tube Recommendations

Left channel tubes are V1 and V2
Right channel tubes are V3 and V4
Output tube (for both channels) is V5

Units RIAA passively compensated for 4 × 12AX7s, and 1 × 12AT7, the following tubes are recommended:

- V1 and V3 (first gain stage) 12AX7
- V2 and V4 (2nd gain stage) 12AX7
- V5 (output stage) 12AT7

Units RIAA passively compensated for 2 × 12AX7s, and 3 × 12AT7s, the following tubes are recommended:

- V1 and V3 (first gain stage) 12AX7
- V2 and V4 (2nd gain stage) 12AT7
- V5 (output stage) 12AT7

## Technical Specifications

### Tube complement:

- (Available in two 5 tube factory set configurations)
  - (2 × 12AX7, 3 × 12AT7)
  - (4 × 12AX7, 1 × 12AT7)

### Gain:

- **Moving coil mode:** (2 × 12AX7, 3 × 12AT7) 64 dB
- (4 × 12AX7, 1 × 12AT7) 69 dB
- **Moving magnet mode:** (2 × 12AX7, 3 × 12AT7) 43 dB
- (4 × 12AX7, 1 × 12AT7) 48 dB

### Frequency response:

- RIAA 20 Hz to 20 kHz 6.0.1 dB

### Signal-to-noise ratio:

- 80 dB, A weighted, inputs shorted (noise level will be tube dependent)

### Output impedance:

- 500 ohms nominal (12AT7 “V5” dependent)

### Input impedance:

- Infinite impedance with no load resistors connected

**NOTE:** load resistors can be connected externally via RCA connectors or soldered internally

### Moving magnet inputs:

- 47,000 (47K) ohms, 100 pF

### Absolute polarity:

- Non-inverting in both moving coil and moving magnet modes

### Toroidal power transformer

- **Power requirements:** U.S.: 115 VAC 60 Hz, 30 VA
- **Fuse:** 1/2 amp 250 volt slow blow
- **Export:** 230 VAC 50/60 Hz, 30 VA
- **Fuse:** 1/4 amp 250 volt slow blow

### Overall dimensions:

- 17.60 wide × 40 high × 100 deep

### Warranty:

- 3 years, parts and labor 90 days for tubes

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Please read the Owner’s Manual Completely BEFORE operating the unit.
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


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.