

Herron Audio
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Owner's Manual
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VTPH-2
Vacuum Tube
Phono Preamplifier

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-2 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-2. In the process, important discoveries were made about tolerances and the threshold of human hearing limits.

The VTPH-2 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.

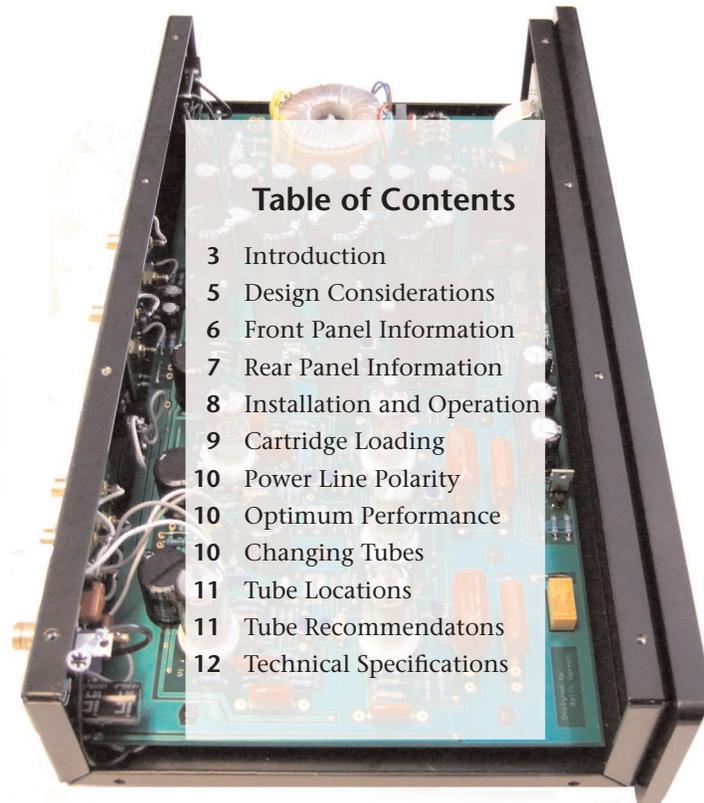


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Please read the Owner's Manual completely BEFORE operating the unit.

These techniques ensure that each unit performs to the high standards established in the development of the original prototypes. This costly process is reflected in the unprecedented 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-2 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-2 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-2 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 μF 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

Please read the Owner's Manual completely BEFORE operating the unit.

The Front Panel



The VTPH-2 features a ½ inch thick anodized aluminum front panel with three lights for monitoring the operational readiness of the unit. When the VTPH-2 is powered up, the automute 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 automute 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.

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:

Used to change from moving coil to moving magnet mode

MM Inputs RCA Jacks:

Used to connect to moving magnet cartridge

Outputs RCA Jacks:

Used to connect the unit to a line stage preamplifier

Please read the Owner's Manual completely BEFORE operating the unit.

Installation and Operation

The operation of the Herron VTPH-2 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-2. (this may be needed to prevent hum at the inputs to the VTPH-2)
3. Connect the cartridge signal leads from the turntable (tone arm) to the VTPH-2 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-2 (left-to-left and right-to-right)
5. Plug the power cord into the VTPH-2. 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-2 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-2 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)

Please read the Owner's Manual completely BEFORE operating the unit.

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-2 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-2 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 Preamplifier. 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.

This can dramatically improve performance. We recommend that the VTPH-2 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-2 that the cables between the phono stage and the line stage be a low capacitance type.

Changing Tubes

When changing tubes, the VTPH-2 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

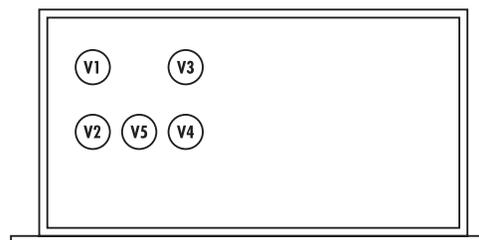
have time to discharge before entering the unit.

Care needs to be taken during this procedure in order to prevent damage by static electricity to the VTPH-2 internal components. **Use of a grounding wrist strap is highly recommended.**

The original tubes should provide many years of good performance, due to the conservative plate voltage and current operating requirements of the Herron 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



Tube Recommendations

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

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

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

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

Other current production or NOS tubes may be preferred with experimentation.

← Tube locations as marked on the printed circuit board

Install the grounding lug under the top screw at the rear of the chassis when reinstalling the cover.

CAUTION CAUTION CAUTION CAUTION CAUTION CAUTION

When changing tubes, the phono stage 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.

Please read the Owner's Manual completely BEFORE operating the unit.

VTPH-2 Technical Specifications

Tube complement	(Available in two 5 tube factory set configurations) (4 × 12AX7, 1 × 12AT7) or (2 × 12AX7, 3 × 12AT7)
Gain Moving coil mode:	(2 × 12AX7, 3 × 12AT7) 64 dB (4 × 12AX7, 1 × 12AT7) 69 dB
Gain Moving magnet mode:	(2 × 12AX7, 3 × 12AT7) 43 dB (4 × 12AX7, 1 × 12AT7) 48 dB
Frequency response	RIAA 20 Hz to 20 kHz ± 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:	
Moving Coil Inputs:	Infinite impedance with no load resistors connected
	NOTE: load resistors can be connected externally via RCA connectors or soldered in 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:	½ amp 250 volt slow blow
Export:	230 VAC 50/60 Hz, 30 VA
Fuse:	¼ amp 250 volt slow blow
Overall dimensions:	17.6" wide x 4" high × 10" deep
Warranty:	3 years, parts and labor 90 days for tubes