



## **The Wheatfield Audio HA-1**

The HA-1 Headphone Amp / Pre-Amp from Wheatfield Audio is an affordable vacuum-tube headphone amplifier that is also designed to be used as a single-source pre-amp to drive a power amplifier.

### ***Elegant Simplicity***

We believe in simplicity. So, the circuitry employed in the HA-1 is as simple as possible. A single-ended, class A triode gain stage is directly coupled to a single-ended triode cathode follower. No negative feedback is employed. There is only one capacitor (actually two in parallel, an electrolytic and a polypropylene) directly in the signal path.

### ***Good Tubes***

The tube used for the gain stage is the venerable 12AU7/ECC82 medium- $\mu$  dual triode. The output stage employs a special dual triode, the 7044. The 7044, originally designed for computer service, makes an outstanding low-output-impedance cathode follower. Two sections are operated in parallel in each channel to provide an output impedance of around 35 ohms.

Good supplies of both 12AU7 and 7044 tubes are available in the marketplace. For those that like to experiment with changing tubes, there are many good 12AU7 types to choose from, and the 7119 and E182CC can be used in place of the 7044 with no modifications.

### ***A Fine Headphone Amplifier***

First and foremost, the HA-1 is designed to be an audiophile-quality headphone amplifier.

Because of its low output impedance, the HA-1 can drive nearly any dynamic headphones, from 32 ohms to 600 ohms. Unlike many competing amps (both tube and solid-state), which either lack the current drive for low-impedance headphones, or the voltage capability for high-impedance headphones, the HA-1 can drive them all.

### ***A Zero-Feedback, Single-Source Pre-Amp***

The HA-1 is an excellent single-source pre-amp to act as a line stage between a CD player and a power amplifier. It's ideal for use in a simple system, or to drive a single-ended triode power amp to provide a true all-triode, zero-feedback system. It can also be used between a source (like a CD player) and a pre-amp or integrated amp, to provide the utmost headphone listening quality, and to add some tube "character" to a solid-state system.

As a pre-amp, the HA-1 is very different from other tube pre-amps. Most use several high gain tubes as gain stages, with negative feedback employed to lower the distortion. In contrast, the HA-1 uses only one medium gain tube gain stage, with no negative feedback.

While it's true that the HA-1 has higher distortion figures than tube pre-amps that use negative feedback, to many listeners it sounds better. *And it's the sound that matters.*

The line outputs are provided through gold-plated RCA jacks on the rear panel. The line outputs are muted when you plug a pair of headphones into the front panel headphone jack.

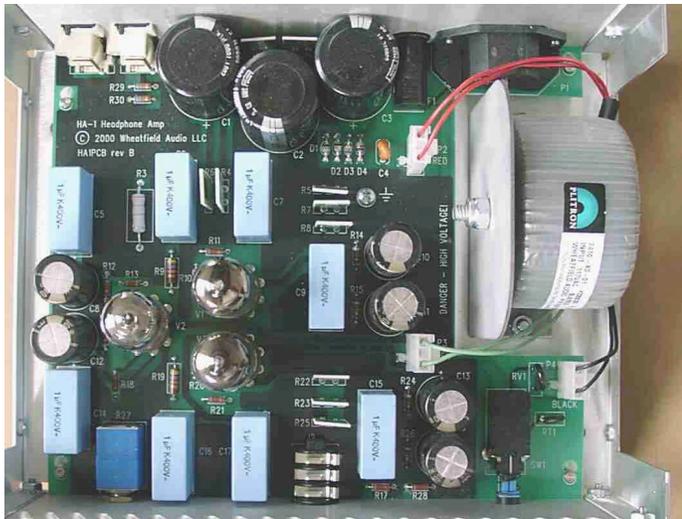
### ***Quality Components, Quality Construction***

High-quality yet affordable components have been chosen carefully for use in the HA-1. Polypropylene capacitors are used alongside quality electrolytic capacitors, like the Nichicon "Muse". Quality carbon composition and metal film resistors are selected for their sonic characteristics.

The tubes provided with the HA-1 include a JJ/Tesla ECC82, and NOS GE 7044 output tubes.

All components (except the power transformer) are mounted on a single PC board. This method of construction provides superior signal integrity and consistency from unit to unit, compared to expensive hand wiring.

The HA-1 is assembled by hand in the USA.



## Specifications

### **General**

Input impedance: 50k ohms  
 Input connections: Unbalanced, gold-plated RCA  
 Tube complement: 1x ECC82 (12AU7), 2x 7044  
 Power supply: Silicon rectifier, 3-stage RC filter  
 Power requirement: 117V, 60 Hz, 50W  
 Dimensions: 9.5" W x 3.6" H x 7.1" D  
 Weight: TBD  
 Warranty: One year on all parts, including tubes

### **As a Headphone Amplifier**

Frequency Response :  
 600 ohm load: <9Hz - 250kHz +/- 3 dB  
 32 ohm load: 12Hz - 250kHz +/- 3 dB  
 THD+N (1kHz, 1V RMS out, 100 ohm load): <0.12%  
 Noise: TBD  
 Maximum output voltage (5% THD):  
 600 ohm load: 13V RMS  
 32 ohm load: 1.5V RMS  
 Output impedance: Approx. 35 ohms  
 Output connection: Standard 1/4" stereo headphone jack

### **As a Pre-Amp**

Frequency Response (10k ohm load) :  
 <9Hz - 250kHz +/- 3 dB  
 <9Hz - 95kHz +/- 1 dB  
 THD+N (1kHz, 1V RMS out, 10k ohm load): <0.18%  
 Noise: TBD  
 Maximum gain: 28 dB  
 Maximum output voltage (5% THD):  
 10k ohm load: 15V RMS  
 600 ohm load: 8V RMS  
 Output impedance: Approx. 35 ohms  
 Output connections: Unbalanced, gold-plated RCA

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