

# Reference Phono 3

## Phono Preamplifier

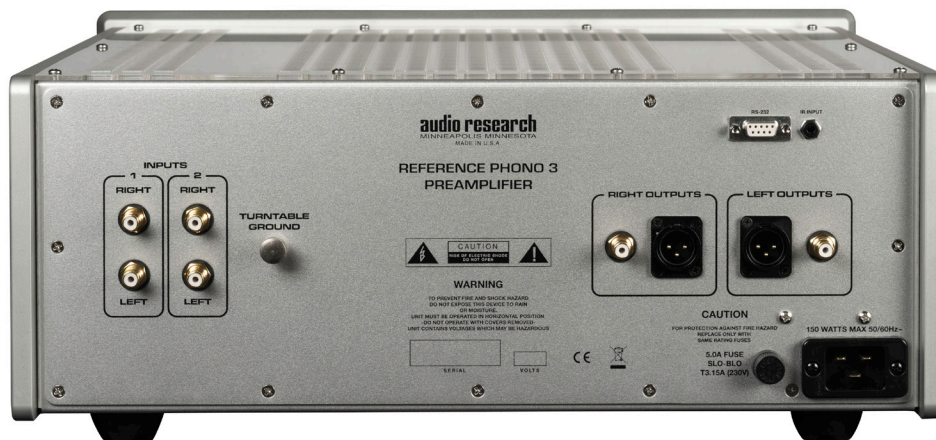
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The Reference Phono 3 is a continuation of the work which has been evolving other components in the Audio Research Reference Series over the past year. In mid-2015, all of the amplifiers received significant performance enhancements with the SE updates - new output tubes, components, and other parts ushered in a new level of sonic accuracy and musicality. This exposed a need for higher resolution and dynamic capabilities in components upstream from the amplifiers, and in October 2015 the Reference 6 was introduced. The Reference Phono 3 is the next step in our pursuit of musical realism.

Like the Reference 6, the tube count in the analog section Reference Phono 3 has been increased from four to six. The power supply has been redesigned to accommodate the additional tubes, as well as provide a greater dynamic range. Numerous other components and parts, including proprietary coupling capacitors, wiring and cryogenically-treated pieces advance the playback experience to a level reminiscent of master tape playback for a realism and palpability previously unavailable.

The Reference Phono 3 phono preamplifier is housed in a single chassis paneled in custom-machined aluminum. The vacuum tube audio stage utilizes six 6H30 vacuum tubes (three per channel), and one 6H30 and a 6550WE provide regulation in the power supply. The large, vacuum fluorescent display on the front panel shows all functions relative to the selected input. A row of six buttons control power, mute, input, and menu controls. Menu functions include: auto shutdown, gain and load settings, display brightness, equalization settings, and tube hour reset. High and low gain settings, as well as six fixed and one custom impedance setting, accommodate most any moving magnet or moving coil cartridge. Two single-ended inputs provide connectivity to two turntables. There are two main outputs providing both balanced and single-ended outputs. RS-232 and IR input allow for additional control options. The Reference Phono 3 ships with a full-function metal remote.



## Specifications

**Frequency Response:**  $\pm 2$  dB of RIAA, 10 Hz to 60kHz; 3 dB points below 0.3Hz and above 300 kHz.

**Distortion:** Less than .002% at 1.0V RMS 1kHz output.

**Gain:** Selectable 51 dB (Low) and 73 dB (High) at 1kHz BAL; 45 dB (Low) and 67 dB (High) at 1kHz SE. (MC and MM compatible).

**Input Impedance:** 47k Ohms and 100 pF SE. Selectable loads: 1000, 500, 200, 100, 50 Ohms, and Custom.

**Output Impedance:** 400 ohms Balanced, 200 ohms SE. Recommended load 50k-100k Ohms and 100 pF. (10k Ohms minimum and 2000 pF maximum).

**Output Polarity:** Non-inverting.

**Phono Equalization:** (selectable) RIAA, Columbia, and Decca.

**Maximum Input:** 250 mV RMS at 1kHz (680 mV RMS at 10kHz) - Low Gain.

**Rated Outputs:** 2V RMS (1V RMS SE) into 200K ohm balanced load (maximum balanced output capability is 30V RMS at less than 0.5% THD at 1kHz).

**Controls:** 6 Push Buttons: Power, Menu, Option, Enter, Input, Mute.

**Power Supplies:** Electronically regulated low and high voltage supplies. Automatic 2 minute warm-up/brown-out mute. Line regulation better than .01%.

**Noise:** 0.28  $\mu$ V equivalent input noise, IHF weighted. Shorted (Low Gain) input (71 dB below 1mV 1kHz input). 0.082  $\mu$ V equivalent input noise (High Gain). (62 dB below 0.1 mV 1kHz input).

**Tube Complement:** (6)-6H30P dual triodes, plus (1 each) 6550WE and 6H30P in power supply.

**Power Requirements:** 100-135VAC 60Hz (200-270VAC 50/60Hz) 130 watts. Standby: 2 watts.

### Dimensions:

Width	19" (48 cm)
Height	7.8" (19.8 cm)
Depth	16.5" (41.9 cm)

Handles extend 1.6" (4 cm) forward of the front panel.

**Weight:** 36.5 lbs. (16.6 kg) Net; 53 lbs. (24 kg) Shipping.