

SP20

Preamplifier



Influenced by some of our classic groundbreaking SP preamplifiers, the SP20 takes visual cues from past Audio Research products while incorporating our latest designs and technologies. The SP20 is a full-function line stage which incorporates a phono preamplifier and, for the first time ever on an Audio Research preamp, there is a ¼" headphone jack. Front panel controls have been minimized to two rotary controls and an interactive touch screen display, along with power, mute and output selector buttons.

The interactive touchscreen has been designed to take full advantage of the feature set the SP20 offers, and operation is intuitive and easy-to-use. Numerous adjustments allows customization to the performance and display of the SP20 for seamless system integration, including input naming and gain offsets, volume presets, and tube hours. System checks have been put into place to alert when tubes have exceeded standard serviceable hours (4,000), and a low line auto mute function engages in the event of a power brown-out.

The SP20 is fully balanced, pure Class-A with zero feedback. There are seven levels of voltage regulation, a large power supply, and a very low-noise R-core power transformer. Both the line and phono stages feature low-noise JFET inputs and 6H30 (2 per section) outputs. The latest high performance coupling and bypass capacitors are used in both stages. Both the line stage and phono preamplifier offer extraordinary frequency response and low noise. The phono section provides 58dB of gain, so the SP20 can be used with a wide variety of phono cartridges, including moderately low output moving coils.

The headphone output is no mere afterthought; it is a low-distortion, high-performance vacuum-tube headphone amplifier designed to comfortably drive a wide impedance range of headphones. The button next to the headphone jack switches off the main (amplifier) outputs for headphone listening, or it switches off the headphone jack for speaker listening.



Specifications

Frequency Response:

Line: $\pm 0.3\text{dB}$ 2 Hz to 80 kHz; -3dB 0.8Hz to 220 kHz
 Phono: $\pm 0.1\text{dB}$ of RIAA 10Hz to 20kHz; $\pm 0.4\text{dB}$ 5Hz to

80kHz

Headphone: $\pm 0.05\text{dB}$ 20Hz to 20kHz; -3dB 0.8Hz to

220kHz

THD+N:

Line: $< .003\%$ at 2V RMS, Bal output
 Phono: $< .005\%$ at 3V RMS output, to Record output
 Headphone: $< .009\%$ at 1V RMS output

Gain:

Line: 13.8dB, Processor: 0dB
 Phono: 58dB @ 1kHz to Record output
 Headphone: 11.3dB

Noise:

Line: $< -101\text{dBV}$ volume at max.
 Phono: $< -77\text{dBV}$ to Record output
 Headphone: $< -88\text{dBV}$ volume at max.

Channel Separation:

Line: $> 105\text{dB}$ Balanced output
 Phono: $> 76\text{dB}$ to Record output
 Headphone: $> 62\text{dB}$

Signal to Noise Ratio:

Line: $> 125\text{dB}$ Balanced output
 Phono: $> 94\text{dB}$ to Record output
 Headphone: $> 110\text{dB}$

Rated Outputs:

Line: 2V RMS (1V RMS SE) into 200k ohms balanced load (maximum balanced output capability is 18V RMS at less than .5% THD+N at 1kHz.)
 Phono: 0.5V RMS into 100k load at Record output (maximum output capability is 25V RMS)
 Headphone: 6V RMS maximum into 30 to 300 ohm load.

Input Impedance: 120k ohms Balanced, 60k ohms SE; Phono impedance programmable (100, 200, 500, 1000 or 47k ohms w/200pf unbalanced).

Output Impedance: 500 ohms Balanced, 250 ohms SE; 1000 ohms Record Out SE; $< .05$ ohms Headphone SE.

Output Polarity: Non-inverting.

Maximum Input: Line: 19V RMS Balanced, 9V RMS SE. Phono: 12.5mV RMS at 1kHz.

Controls: Rotary Volume (104 steps), Rotary Input selector. Push Buttons: Power, Mute, SPKR Off. Interactive Touch Screen. Rear RS-232 control and Remote IR input.

Power Supplies: Electronically regulated low and high voltage supplies. Automatic 30 sec. warm-up/brown-out mute. Line regulation better than .01%.

Tube Complement: 4 6H30 dual triode.

Power Requirements: 100-125VAC 60Hz (200-250VAC 50/60Hz) 77 watts maximum. Standby 2.7 watts.

Dimensions:

Width 19" (48 cm)
 Height 5.25" (13.4 cm) (standard rack panel)
 Depth 16.5" (42 cm) D.

Weight: 17.8 lbs. (7.4 kg) Net; 27.8 lbs. (10.5 kg) Shipping.