



REFERENCE DAC

DIGITAL MEDIA BRIDGE



audio research
HIGH DEFINITION®
a FINE SOUNDS company

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The Reference DAC is designed to be a digital-to-analog converter with state of the art sound quality, and also to accommodate the ever-growing formats used in today's digital world. Combining unparalleled digital connectivity with renowned Audio Research vacuum tube technology makes the Reference DAC a leader in the world of high performance music reproduction.

The experience begins with the intuitive graphic interface, guiding the user easily through input selection and the appropriate menus to begin music playback. With nine different ways to connect, plus a built-in internet radio tuner, virtually all digital sources in your system are connectable to the Reference DAC. Inputs providing metadata will allow track and album information to be displayed. All functions are controllable with the included remote or from the available iOS/Android smartphone or tablet apps. The Reference DAC has been designed to decode virtually all major formats to provide trouble-free music playback.

At the heart of the Reference DAC is Audio Research's custom designed quad DAC technology supplying perfect decoding of the incoming bit stream. The Reference DAC is capable of up to 192 kHz sampling frequency and 24 bit resolution; it also offers the option of native rate upsampling (44.1 – 88.2 – 176.4 or 48 – 96 – 192) and soft or sharp digital filter selection. After the signal is decoded it enters the analog stage. Derived from the esteemed Reference 5SE preamplifier, the vacuum tube analog stage and tube regulated power supply provide the pinnacle of nuance and musicality. The built-in volume control allows direct connection to an amplifier.

The Reference DAC is poised to be at the center of your audio system and the pulse of your digital lifestyle. The convenience, ease of use and superior performance of the Reference DAC will provide years of enjoyment.



SPECIFICATIONS

FREQUENCY RESPONSE: Analog tube amplifier: +0-3dB, 0.5Hz to 200kHz at rated output. 0.15dB 20Hz to 20kHz. [Balanced, 200k ohms load]. Digital Bandwidth Anti-aliasing filter @ Sample rate: 44.1kHz = 22kHz, 48kHz = 24kHz, 88.2kHz = 44kHz, 96kHz = 48kHz, 176.4kHz = 88.2kHz, 192kHz = 96kHz. **DISTORTION:** THD+N Less than .006% at 2V RMS BAL output. **SIGNAL TO NOISE RATIO:** 106dB **DYNAMIC RANGE (AES17):** 106dB **IMD (SMPTE):** .007% **GAIN:** Max. Digital Gain: 25dB Balanced, 19dB SE. **INPUT IMPEDANCE:** Digital: 75 ohms BNC, RCA, 110 ohms AES/EBU, OPT 660nm TOSLink fiber 44.1 to 96kHz. **OUTPUT IMPEDANCE:** 600 ohms Balanced, 300 ohms SE Main [2], 20K ohms minimum load and 2000pF maximum capacitance. **OUTPUT POLARITY:** Non-inverting. **RATED OUTPUTS:** 2V RMS .5Hz to 100kHz into 200K ohm balanced load (maximum balanced output @ 0.0dB input level is 17V RMS at less than 0.05% THD+N at 1kHz) @ 192kHz sample rate. **DIGITAL SAMPLE RATES:** 44.1kHz to 192kHz, SPDIF, USB 2.0 HS and Wired Ethernet. 96kHz max over Wireless Ethernet. **MASTER OSCILLATOR:** 22.579mHz ±20Hz for 44.1, 88.2 & 176.4kHz. 24.576mHz ±20Hz for 48, 96 & 192kHz sample rates. **INTRINSIC JITTER:** <10ps **CONTROLS:** Rotary volume selector (104 steps) and rotary input selector. **PUSH BUTTONS:** Power, <, Select, >, Exit, Mute. **POWER SUPPLIES:** Electronically regulated low and high voltage supplies. R-core transformer & 7 low noise regulators. Automatic 45 sec. warm-up/brown-out mute. Line regulation better than .01%. **NOISE:** -101dBV RMS 20-20kHz A-weighted (Volume at 1) **TUBE COMPLEMENT:** (4)-6H30 dual triodes, plus (1)-6550C and (1)-6H30 in power supply. **CROSSTALK:** -90dB **POWER REQUIREMENTS:** 105-125VAC 60Hz [210-250VAC 50/60Hz] 140 watts maximum. Sleep mode 6 watts maximum. **DIMENSIONS:** 19" (48 cm) W x 7" (17.8 cm) H (standard rack panel) x 15.5" (39.4 cm) D. Handles extend 1.50" (3.8 cm) forward of the front panel. **WEIGHT:** 32.0 lbs. (14.6 kg) Net; 43.2 lbs. (19.8 kg) Shipping.