



DAC8

High resolution USB – S/PDIF Digital to Analog Converter

We are pleased to introduce the new DAC8 digital to analog converter. Although physically similar to its predecessor, the DAC8 represents new engineering that advances the state of the art in high resolution USB audio and S/PDIF audio.

Audio Research has maximized the USB capability of the DAC8 by incorporating USB 2.0 HS (High Speed) which runs at 480Mbps. USB 2.0 HS has a lower jitter specification than USB 2.0 FS (Full Speed 12mbps), consequently the DAC8 is capable of reproducing music at higher definition/resolution (up to 24/192) than products communicating at USB 2.0 FS speeds (24/96).

In addition, the DAC8 employs a low jitter Dual Master Oscillator design that will provide superior digital to analog conversion via its USB 2.0 HS input as well as via the more traditional S/PDIF (RCA, BNC, Toslink and AES/EBU) inputs that are also included on the DAC8. Our USB 2.0 HS audio interface is optimized for all six sample rates currently in popular use; 44.1, 48, 88.2, 96, 176.4 and 192kHz. In the past, S/PDIF was the default interface mode for High Resolution music files at 176.4 and 192kHz. Now, with Audio Research's Dual Master Oscillator, USB 2.0 HS interface, and our Quad D/A converter design, USB audio is finally elevated to the status once dominated by S/PDIF. Consequently, regardless of whichever digital input you select, the Audio Research DAC8 promises to provide a superior listening experience.

In addition to the High Performance USB design, the DAC8 features:

- "DAC8 HD Audio Device" software drivers, which allow listening to your music in its native sample rate as well as assuring BIT PERFECT, low jitter, data transfer from the computer to your DAC8. Because PC and Mac operating systems do not adequately support sample rates over 96kHz, Audio Research has developed ASIO drivers to make the USB audio experience sonically transparent at all sample rates.
- Sample Rate measuring function: Measures and displays the correct digital sample rate being sent to the DAC8. This works in USB as well as S/PDIF mode. Consequently, at a glance, you always know exactly which sample rate is being decoded.
- The DAC8 employs four 24-bit D/A converters. Each channel uses dual 24-bit D/A converters running in mono mode to lower the noise floor and increase the dynamic range.
- Dual Master Oscillators: When the time base of any DAC is not an integer multiple of the digital music sample rate, decoding and quantization errors occur. Consequently, the DAC8 uses two low jitter Master Oscillators; one for 44.1, 88.2 & 176.4kHz sample rates and the other for 48, 96 & 192 kHz sample rates.
- The DAC8 automatically selects the correct Master Oscillator the instant digital music is detected at the selected input.
- All inputs are galvanically isolated from the source to reduce or eliminate noise and/or jitter from entering the DAC8.
- The Analog amplifiers in the DAC8 have received the same attention to detail as the digital section. Each channel of the DAC8 uses a true direct-coupled differential amplifier with a bandwidth in excess of 90kHz.
- The DAC8's USB and S/PDIF inputs are designed to accept signals from an HRx, 176.4kHz, 24-bit, High-Resolution music server system playing HRx's DVD-R recordings. See www.reference recordings.com/HRxSETUPS.asp for recommended music server setups.
- By virtue of all of the above points and our proprietary software drivers, intrinsic jitter has been reduced to less than 10ps.

With a choice of high-resolution 24/192 S/PDIF inputs (RCA, BNC, AES/EBU and Toslink) in addition to the highest resolution 24/192 USB available, the ability to adjust sample rates, the DAC8 provides the new standard in high performance digital music playback.

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SPECIFICATIONS

OUTPUT, ANALOG (STEREO): Balanced XLR 6.6V RMS (16.4dBV) max.; Single-Ended RCA 3.3V RMS (10.4dBV) max.

OUTPUT IMPEDANCE: 500 Ω Bal, 250 Ω SE

FREQUENCY RESPONSE: 0.5Hz – 90kHz, +0 -3dB; 20Hz – 20kHz, +0 -15dB

SIGNAL TO NOISE RATIO: >114dB

TOTAL HARMONIC DISTORTION: 0.015%

IMD + NOISE: 0.013%

QUAD DAC RESOLUTION: 24 bits each

CHANNEL SEPARATION: 105dB

INPUTS - DIGITAL, ALL GALVANICALLY ISOLATED: USB 2.0 HS (480Mbps) 44.1 to 192kHz; RCA 75 Ω SPDIF, 44.1 to 192kHz; BNC 75 Ω SPDIF, 44.1 to 192kHz; XLR 110 Ω SPDIF; AES/EBU 44.1 to 192kHz; OPT 660nM, Toslink Fiber 44.1 to 96kHz

MASTER OSCILLATOR: 22.579mHz \pm 20Hz for 44.1, 88.2 & 176.4kHz; 24.576mHz \pm 20Hz for 48, 96 & 192kHz

INTRINSIC JITTER: <10pS

POWER SUPPLY: 2 Transformers, 7 Regulators

POWER REQUIREMENTS (detachable power cord): 100-125VAC 60Hz (200-250VAC 50/60Hz) 18W max, Sleep Mode 4W

COMPLIANCE: FCC & CE

FRON PANEL DISPLAY: POWER ON, MUTE, INVERT, INPUT SELECT, SAMPLE RATE BEING PLAYED

FRONT PANEL CONTROL FUNCTIONS: POWER: on/off, INVERT: output polarity, INPUT: select (advance), MUTE: outputs

INFRARED REMOTE CONTROL FUNCTIONS: POWER: on/off, MUTE: outputs, INPUT: USB, RCA, BNC, XLR, OPT, USB:

play/pause, previous, next, stop. INVERT: output polarity

DIMENSIONS: 19" (48cm) W x 5.25" (13.4cm) H x 10" (25.4cm) D. Handles extend 1.5" (3.8cm) forward of the front panel. Rear connectors extend .75" (1.9cm)

WEIGHT: 11.5lbs. (5.2kg) Net; 18lbs. (8.2kg) Shipping

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