

# EQUIPMENT REPORT



## Musical Fidelity M1 DAC and V-Link USB Adapter

Raising the Bar in Affordable DACs

Steven Stone

I know the cynics in the audience may have a hard time believing this, but sometimes when I receive a component for review I don't know its price. In the case of the Musical Fidelity M1 DAC and V-Link USB adapter, time had erased their price-point from my memory banks. When I finally discovered how little they cost—\$699 and \$169, respectively—I was more than pleasantly surprised. Practically anyone who can afford a Mac Mini can probably also spring for a M1 DAC and V-Link, creating a playback system that will enthrall all who give it a listen.

According to Musical Fidelity, "the M1 and V-series offers state-of-the-art performance for a low price. It is done by solid commercial principles and state-of-the-art circuit/PCB design. The V-series has no extraneous anything. It is state-of-the-art circuitry laid out to perfection with no trimmings, packaged in a simple low-cost housing made in large numbers." How well does Musical Fidelity succeed at bringing the state of digital art to the masses? Well enough to elicit a gentle tugging at purse strings.

### Fidelity Ain't Cheap

Musical Fidelity has a blue-chip reputation that comes from making A-grade audio components for over two decades.

Headed by designer Anthony Michaelson, Musical Fidelity specializes in electronics, and was among the first companies to make a high-end digital-to-analog converter (DAC). The V Series components were a big leap for Musical Fidelity, from the rarefied heights of "If you have to ask what it costs you can't afford it" to "I'll take one for each room." Historically, few audio companies have succeeded in covering such a wide price range without shortchanging some parts of their lines. But Musical Fidelity has managed to consolidate its position at the *über*-high end with products such as its Titan Class A power amplifier, while simultaneously creating the new M1 and V Series budget lines.

Technically, what differentiates the M1 DAC from its competition are its extremely low-distortion circuits (with overall distortion of less than 0.005% across the entire frequency band). The M1 DAC also uses a Class A analog output circuit that generates 2.25V RMS via its RCA single-ended outs and 4.5V RMS from its balanced XLR outputs. In addition, the M1 employs a special choke-filtration system that acts like a power conditioner for its entire power supply.

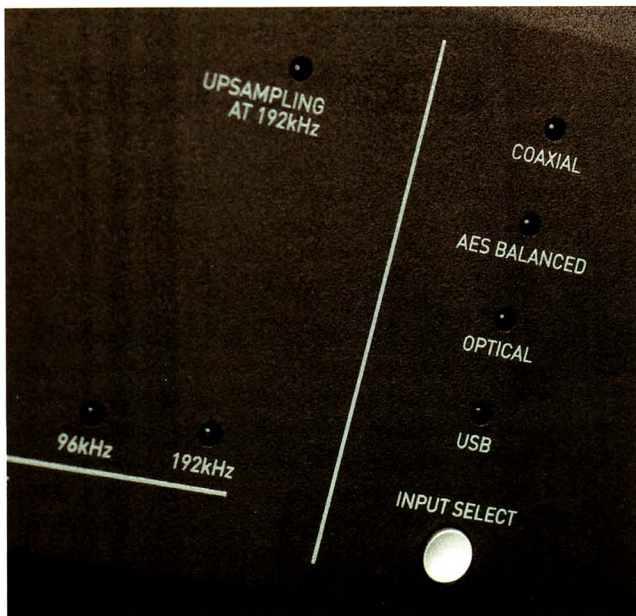
Physically, the M1 DAC is an exercise in simplicity. The front panel is all black except for a tiny inset silver nameplate. The rest of the faceplate is empty save for the small white printing and

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tiny LED condition lights. There are only two control buttons on the front panel—one for on/off and the other for selecting the active input source. Small LED confidence lights show the incoming sample rate, input source, and whether the M1 is properly upsampling the signal to 192/24. The M1 DAC doesn't have a remote or an adjustable output level. It supports every sample rate from 32kHz to 192kHz and has inputs for coaxial S/PDIF, TosLink, AES/EBU, and USB.

The just-released V-Link USB-to-S/PDIF/TosLink converter box takes a USB 1.1/2.0 input and outputs a S/PDIF signal via either TosLink or S/PDIF RCA connectors. The V-Link supports up to 96kHz/24-bit sample-rates. Its digital heart is the USB receiver TI TAS 1021 chipset from Texas Instruments. Additionally the V-LINK uses a discrete crystal-oscillator for its clock reference and a discrete output chipset. The TAS1021 has been used by both dCS and Wavelength in their highly regarded USB DACs. Both wrote their own proprietary software for the TI TAS 1021 that enables asynchronous operation. Musical Fidelity also developed its own asynchronous USB-protocol interface software for the TI TAS 1021.

Why did Musical Fidelity create the V-Link if its M1 DAC already had a USB input? The simple answer is that product cycles are much shorter with computer gear, and in the 1½ years since the M1's USB input was developed, Musical Fidelity has had time to develop a much better USB application that uses the latest asynchronous-data-acquisition methodology. The engineering and sonic differences between the M1 DAC's USB and the V-Link's USB input circuit implementation are not subtle.



## "Musical" and "Fidelity" Are Like "Country" and "Western"—They Go Together

For most of my review the V-Link and M1 DAC were tethered to my desktop system (see the review equipment list), and I connected the M1 DAC's balanced outputs directly to a pair of PSI Audio A 14M powered/active monitor speakers. I adjusted levels via the speakers' individual volume controls. This allowed me to hear the M1 DAC without the sonic limitations of a preamp

and an extra run of cables. I also used the M1 DAC via its single-ended RCA outputs connected to my Accuphase P-300, which has its own volume controls so I could go preamp-less. Using either signal chain I could easily replace the M1 DAC with one of my other reference DAC/preamps for A/B comparisons.

Before comparisons let me talk about the sound of the M1 DAC by itself. First, forget about the USB input. It's an ancient (by computer-time standards) USB implementation that sounds quite flat, both dimensionally and dynamically, when compared to the M-1's other inputs. Pretend it doesn't exist. After all, you've still got three other inputs—RCA S/PDIF, TosLink, and AES/EBU. If you require a USB input add the V-Link and you'll be on a level playing field vis-à-vis the sonic capabilities of the other inputs.

## SPECS & PRICING

### Musical Fidelity M1 DAC

**Line-level outputs:** One pair RCA (phono), one pair XLR (balanced)

**Digital inputs:** One XLR AES balanced digital input; one RCA coaxial connector S/PDIF 32-192kHz (16-24-bit stereo PCM); one TosLink optical connector 32-96kHz (16-24-bit stereo PCM); one USB type "B" connector for computer/PDA 32-48kHz

**DAC circuit:** 24-bit Delta-Sigma (bitstream) dual differential oversampling to 192kHz

**Total correlated jitter:** <12 picoseconds peak to peak

**Signal to noise:** >119dBA

**Weight unboxed:** 3.4 kg (71/2 lbs.)

**Dimensions:** 8-2/3" x 4" x 12"

**Price:** Black Finish \$699, Silver \$769

### Musical Fidelity V-Link Asynchronous USB-to-S/PDIF Converter

**Sampling Rates:** 32-96kHz

**Bit depths:** 16-24 bits

**Dimensions:** 3-3/4" x 1-2/3" x 6-2/3"

**Price:** \$169

### TEMPO (U.S. DISTRIBUTOR)

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### ASSOCIATED EQUIPMENT

**Source Devices:** MacPro model 1.1 Intel Xeon 2.66 GHz computer with 12 GB of memory with OS 10.6.5.1, running iTunes 10.1.1 and Amarra 2.1, Decibel, and Pure Music 1.7 music playing software

**DACs:** Empirical Audio Off-Ramp 3, Weiss DAC 202, Wyred4Sound Dac 2, Bel Canto 3.5VB

**Preamps:** Reference Line Preeminence One B passive controller

**Amplifiers:** Bel Canto S-300 stereo amplifier, Edge Electronics AV-6, Accuphase P-300 power amplifier,

Modified Dyna St-70 amplifier

**Speakers:** PSI A 14Ms, Silverline Minuet Supremes, ATC SCM7s, Paradigm S1s, Aerial Acoustics 5Bs, Role Audio Kayaks, Earthquake Supernova mk IV 10 subwoofer

**Cables and Accessories:** Locus Design Polestar USB cable, Locus Design Nucleus USB cable, PS Audio Quintet, AudioQuest CV 4.2 speaker

