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The plot continues to thicken around USB-stick-sized micro DACs. The release of the AudioQuest Dragonfly and subsequently the Meridian Explorer pushed the burgeoning genre even further into the audiophile consciousness. The lowly (by audiophile standards) cost of entry beckons the question, how far is this game going to go? The answer from Audioengine is another step in the southern direction with their newest release called the D3 ($189).

While Audioengine is perhaps know best for its affordable computer audio

loudspeaker setups, its reasonably priced D1 DAC unit ($169) has not gone completely unnoticed among the budget computer audio faithful. The followup micro DAC here keeps the company on pace with current industry trends and further challenges the idea that high fidelity listening has to cost an arm and a leg.

The actual size of the unit harkens back to the gum-sized USB sticks of yesteryear. A single mini-jack analog out serves as a feed for both headphones and line-level output. Indicator lights are limited to two. One serves as a power indicator and the other as a "HD" indicator for file resolutions above 48kHz. The DAC section is capable of 192kHz input but output tops out at 96kHz similar to the Dragonfly. Audioengine stuck with a rather bare bones approach from a cosmetic vantage point with its simplistic silver-metallic two-piece chassis. After significant usage some heat can be felt emanating from the compact component, but nothing above and beyond the usual warm dissipation of your typical audio component. All-in-all the product looks quite content attached to my Macbook Air, matching the style and colorings of the silver casing with a single circular Audioengine logo gracing the top of the small device. Its overall weight seems both sturdy and compact enough to toss in your pocket or computer bag without a worry.

The very straightforward website clears the way for several interesting technical tidbits. Output impedance: 10 ohms. While the overall effect of impedance on sound quality for headphone listening is still up for some debate, the power from the D3 and its LME49726 headphone amplifier was sufficient to gracefully push all but the hardest-to-drive headphones. From the Audioengine site: "The D3 is powered directly from the USB bus and power is passed through two stages of regulation to ensure no USB bus power variations affect the audio quality. This low-noise, low-ripple power supply is located on a separate circuit board for extra isolation and thermal management." The background through the D3 proved to be dead silent. I wasn't even remotely able to pick up the all-too-common hum that plagues so many devices via the sensitive JH Audio JH16s custom in-ears. Audioengine chose the AKM4396 chip for decoding responsibilities in tandem with a TI1020B USB controller. While ESS Sabre DAC may currently be the popular choice for full-size digital components this year, AKM chipsets have made a few appearances in some more premium-priced mobile devices (including Centrance's Hifi-M8, $799). "The heart of the D3 is the AKM4396 DAC, well regarded for its low noise and high fidelity. Due to the high signal-to-noise specs of the AKM4396 and the added benefit of double redundancy power source conversion and filtering, the D3 presents impressive low noise and low distortion characteristics. The D3 can process digital audio at any bit depth up to 24 bits and any sample rate up to 192kHz. D3 pads (upsamples) all bit depths internally to 24 bits, thus achieving a higher signal-to-noise ratio." Indeed, Audirvana Plus did

identify file resolutions up to 192 entering the device, but output was limited to 24/96. Volume control is done via your computer's operating system, and proved to work quite simply with both Audirvana Plus and my Macbook Air's internal controls. In order to avoid some of the quality pitfalls of a purely digital control system, the Audioengine D3 employs a stepped analog volume control which is then manipulated digitally from your computer. The end result works just as well in execution as it does on paper. The D3 suffered no major shortcomings in control as either a headphone amp or a source when connected to an external amplifier or loudspeaker system. The LME49726 amp was surprisingly transparent in its lower volume translations of the DAC section, which turned out to be quite a blessing as sensitive IEMs listening levels were most comfortable at the lowest three or four steps of the volume control. The overall sound signature from the digital chipset at lower levels ran parallel to the sonic output through an external headphone amplifier with little deviation. That's not to say that your favorite premium-priced headphone amplifier won't bring a little more to the table, but rather the overall feel and characteristics of the DAC itself remained intact across the volume sweep to line level output (full volume from the D3).

The D3 sounds like any good DAC should, uncolored and linear. Its even handed frequency response is further complemented by detail retrieval that is as good, if not better than most of the micro-DACs currently on the market, many of which cost a good deal more than D3's current asking price. No major flubs here, just a solid, compact unit that can pull what you need from your digital source files.

With the entry-level/gateway-drug pricing it seems more appropriate to start comparisons from the bottom up. What do you get for your hard earned funds? Improvements over the internal Macbook Air headphone amplifier and soundcard were significant, appropriate, but most importantly - immediately noticeable. It didn't take any length of time to recognize the more natural texture of the D3 over the coarse flow of the Macbook headphone jack. Even the 24-bit high resolution file of the Beatles Here Comes the Sun jumped to life under the D3's supervision. Harrision's voice floated delicately in place along the right channel, far more in focus and clear than the sub par default output of the laptop. The experience is slightly akin to looking through a freshly cleaned window to see George waving back at you, a bit eerie almost. In addition this fresh-faced acoustic refinement, the usual sonic "upgrade" fare were all in place. Improved staging, tight response and heightened dynamics all contributed to the visibly superior output of the D3.

The closest current competitor to the D3 is the Audio Quest Dragonfly. Similar in size and execution, the thumb-sized black unit has always shared a somewhat unique sonic texture that made it stand out from the rest of the herd. Extended usage with the unit as both a DAC and a headphone amplifier has revealed a bit of an energy burst that stretches from the upper mids into the treble. You could call it a more intricate sonic fabric on which to lay your music, or you could call it just a hint of color on an otherwise unseasoned acoustic retrieval. It's subtle, but its there and makes the device slightly unique. The D3 is different. The mid to upper response is more or less uncolored and feels just as linear in its response to the rest of the spectrum. That is not to say the top end doesn't sparkle and the mids aren't rich, both of these niceties are plausible, but they do so with just a little less artificial sweetener than the glass of Diet Pepsi the Dragonfly occasionally serves up. As a result, the D3 sounded slightly less processed on some of the test tracks by comparison. The separation between the two units became a little more apparent as observations turn to low-end response. This is where the D3 really performed outside its price bracket. Definition and tightness of the bass section through the tiny DAC produced surprising results. Bass drum and bass guitar were easily identifiable as separate entities. Very little smearing or bloating were audible across the mid to low bass and was instead replaced with an interesting blend of responsiveness and pitch definition. One of my favorite tracks to test bass on is the lumbering blues track Everything is Broken by Billy Burnette. The bass guitar here really stands out in the lower region of the sonic kingdom and allows you and interesting perspective on your gear's performance. The D3 delivered in rare form, handling the pronounced bass line

with firmness and grip. The fidelity rendered from the bass guitar delivered clear picture of the bass string vibrating back in forth, as if the listener could feel the rapid timing of the frequency interval as it swung quickly between fret and bridge. The final result accumulates in a delicious rumble of tempered sonic control in a region that is often troubled with loosey-goosy deliveries.

Conclusion

As the market continues to tighten around this white hot segment, you will inevitably see even more products introduced and perhaps even prices that continue to drop like a LCD TV. If we are indeed heading for a plateau we haven't hit it quite yet. Another round of revisions and upgrades for the original cast of products is already hitting the streets with a nearly annual timeline. For an initial entry, Audioengine has hit their mark with the D3. A good price, great delivery and well kempt sound quality round out the tiny package for the computer desktop junkie and budget audiophile alike. It's DAC is highly resolving for a compact component and the headphone amplifier should fit the bill for a very wide range of headphone usage, should you choose to go that route. Even though there is a large selection of choices in this category, going with Audioengine's solution is not a bad one. I highly recommend an audition if you are given the opportunity, Audioengine's in-store distribution is actually fairly robust for an audio company. If you can't find a store near you that offers their products, the Audioengine team can usually be found at all the major audio shows that appear across the US.

Product Information:

- Product - Audioengine D3 USB DAC / Headphone Amp
- Price - $189
- Product Page - Link 🔗

Associated Equipment:

- Source: MacBook Air
- DAC: AudioQuest Dragonfly (original version)
- Headphones: Audeze LCD-3, Audeze LCD-XC, Sennheiser HD650, Sennheiser Momentum, JHAudio JH16
- Amplifier: The Calyx Integrated
- Loudspeakers: Zu Soul MkII
- Playback Software: Audirvana Plus
- Cables: AudioQuest Victoria, Zu Mission RCA Mk.II-B

About The Author

Brian Hunter

I'm a recovering musician turned audio reviewer. I currently manage and write reviews for Audio-Head.com and freelance with several other publications. I love tech and the tools of music, especially the ones involved in reproduction. After I finished my undergrad degree in business I went to the local community college and got one in photography, which was way more fun. I like it when people have unbridled enthusiasm for something and I have the utmost respect for individuals who try to create, even more for those who are good at it.