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DAC Reviews

Audioengine D1 24-Bit DAC

By Michael Lavorgna • Posted: Jan 24, 2012

Device Type: Digital to Analog Convertor
Input: (1) S/PDIF TosLink (24-bit/192kHz), (1) USB (24-bit/96kHz)
Output: (1) pair RCA, (1) 3.5mm headphone
Dimensions: 3.5 x 4 x 1"
Weight: 1.0lbs (0.5kg)
Availability: Online and through Authorized Dealers
Price: $169.00
Website: audioengineusa.com

The Weight

The Audioengine D1 DAC is the latest product from a company whose products I would describe as no nonsense in a hobby not exactly famous for no nonsense. I ran into Audioengine co-founders Brady Bargenquast and Dave Evans earlier this month at their booth in the South Hall of CES 2012 and when they asked what I thought about a certain DAC, I began to describe in standard audiophile-speak its sonic merits and demerits. I believe it was when the word "resolute" left my lips that I saw the most obvious signs of fatigue weigh down on them like the prospect of Sisyphus' boulder sitting once again at the bottom of that big-ass hill.

The Audioengine D1 is the Audioengine wired DAC priced at $169 and there's also a wireless DAC, the D2 which comes in at $599 (I have one of these here as well, review coming soon). The wired D1 DAC offers a 24-bit/96kHz input via USB and a 24-bit/192kHz input via optical Toslink. If you decide to use the latter, you'll still need to connect that USB port to your computer or to a USB power adapter (Audioengine sells one for $18.00) since the D1 gets its power from the USB input. On the front side of the D1 DAC you'll find a power LED indicator that doubles as the on/off button and lights up when the D1 is on/receiving, a 3.5mm headphone jack and a

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Packed into the tiny but handsome package with its black matte end caps and dark gray metal body, sits the AKM4396 DAC, CS8416 Toslink receiver, TI1020B USB controller and a TI NE5532 op amp amplifying the headphone output. The USB circuit is run in adaptive mode which means the D1 receives its clocking signal from your computer as opposed to Asynchronous mode USB that sits the clock in the DAC, more or less. The entire D1 package includes a 2' USB cable and a Microfiber bag to keep your D1 warm at night and safe on trips.

Some feel Adaptive-mode USB is more prone to jitter and therefore will not sound as good as an Asynchronous USB implementation but this idea does not gel with my experience. In other words, there is no direct correlation between sound quality and the USB mode used in a DAC. In theory all kinds of things are nice and simple. In practice not so much unless you believe that you should select hi-fi equipment according to how much you enjoy listening to music through it as opposed to the theories behind its execution in which case you'll save yourself a lot of unnecessary grief.

How Good Can A 1lb. DAC Be?
The Audioengine D1 sounds all of its $169 asking price and in my experience and opinion it also sounds pleasantly and surprisingly more than a bit more. I used the D1 DAC with my MacBook Pro running Pure Music (v1.85) as well as BitPerfect and connected to it via Toslink and USB with an AudioQuest Carbon USB cable as well as an AudioQuest Forest USB cable which makes more sense from a price-perspective. On the receiving end of the D1's output sat the Leben CS-300SX integrated amplifier connected to my DeVore Fidelity The Nines.

A nice package, too

Other DACs on hand and used in and out of the same system during the D1's residence included the Musical Fidelity M1 DAC, Musical Fidelity V-DAC II, Rein Audio X-DAC, Wavelength Brick, Wavelength Proton, Logitech Squeezebox Touch, and the Ayre QB-9. I mention this list and associated equipment for those wondering about such things. For those wondering if the Audioengine D1 DAC is better than the $2,750 Ayre QB-9 let me put your curiosity to rest and say no, it isn't.

If you prefer a fat, rich and saturated sound as opposed to lean, fast and resolute you'll enjoy the Audioengine D1 DAC. If you listen to 16/44 ripped CDs that are not audiophile-grade recordings, you'll enjoy the D1 DAC. If you stream music from services like MOG or Spotify you'll enjoy the D1 DAC. And I say this because fat, rich and saturated makes less-than-ideal recordings and streaming sources sound just fine and fun to listen to. DACs and other gear that lean towards lean, fast and resolute push a listener toward higher quality recordings because less-than-ideal can sound harsh and grating. Some audiophiles call this "accurate".

In terms of input preferences, I leaned toward USB mainly because I enjoyed listening to everything I played through it and I appreciate a simple setup and using a USB cable to power the D1 and Toslink for audio seems like a waste of cable. Besides, the MacBook Pro's Toslink output is limited to 24-bit/96kHz so the only real gain is one of preference. Certainly you could make the argument that Toslink offers better isolation from computer-generated noise that can travel on the USB bus, thus reducing jitter. And I wouldn't disagree in theory. In practice, enjoyment trumps theory.

Comparative Wrestling and Audio Weight Class

I suppose I should point out the negative sonic qualities of the Audioengine USB D1 DAC especially seeing how I was so hard on the Musical Fidelity V-DAC II. As a matter of fact, some readers felt I was too hard on the V-DAC II especially given its price. The problem with this point of view becomes evident when you compare it directly to a DAC that costs less than half its asking price. Like the D1 DAC. Of course the V-DAC II offers additional inputs and outputs and a sonic signature that some listeners may prefer over the D1 DAC. And there are DACs that cost less than the D1 like the recently released and similar looking HRT HeadStreamer ($139.95) which I have not yet heard. But in theory, if the lower the price the less critical we should be, does that mean that the least expensive DAC is beyond criticism? (the answer is no, just in case you had to think about it).

If the Musical Fidelity V-DAC II is "a tad under-ripe" which is what I said and what I still feel to be the case, then the Audioengine D1 DAC is a tad over-ripe. A bit richer than real. For those with a highly resolving system and lots of high definition recordings, you may find the D1 DAC to be a bit dark sounding, not as lit up up top. Not as sparkly and perhaps you'll even notice an overall sameness to the sound as compared to more refined presentations. Where this is most noticeable is on larger, complex acoustic orchestral music where things get a bit congested due to a lack of differentiation. Instrument's varied voices are not as varied as they can be. Here, the Musical Fidelity V-DAC II pulls things apart for sonic inspection more so due to its emphasis on edge. Is one better than the other? Yes, the one you prefer.

Another aspect of the Audioengine D1 DAC that goes into my plus column is its way with bass which is pleasantly plump and impact-full. It is by no stretch thin-sounding which runs counter to a few audiophile theoretical cliches including price (cliche: inexpensive stuff sounds thin) and power supply (cliche: only stuff with beefy power supplies can offer phat bass). If I were to generalize further I'd say the D1 DAC offers a more physical sound as opposed to a headier one; body versus mind, more balls than brains.

If you choose to use the D1 DAC as a headphone amp connected to your computer, I tried this setup with my iMac and Audio-Technica ATH-W1000s, you're in for a real treat. Compared to plugging your headphones directly into your computer and using its internal DAC, the D1 sounds like music while the computer sounds like three week old unrefrigerated chopped liver smells. For those with lots of frequent flyer miles, the D1 would make a nice, simple, and lightweight travel companion. Unfortunately the D1 does not work with the Apple Camera Connection Kit so you cannot tether it to your iPad in this manner.

I also snuck into our daughter's room and borrowed their Audioengine A2 powered speakers for a day while they were away at school (I'm not saying whose pair I borrowed to avoid teenage wrath). Running the iMac's audio out to the D1s USB in and then out through a pair of RCAs to the A2s was again a significant step up in sound quality from direct connecting the A2s to the iMac. Bigger, badder (in a good way) with bass that demanded getting the tiny A2s up off the desktop otherwise I would have drowned in it. This setup represents a lot of desktop musical fun for a total audio system price of $369 + cables.

For those home theater 2.0 types or disk owners who still want to occasionally spin instead of rip, you can connect your disk player or any other audio source with Toslink out like Apple TV to the D1 DAC. My Oppo OPDV971H player happens to be so endowed and the D1 DAC offered a pleasant and weighty upgrade to the player's stock sound.

The Unbearable Lightness of Enjoyment
If it isn't already obvious I need to brush up on my writing skills and add that I very much enjoyed the Audioengine D1 DAC. After it has a chance to settle in (I'd guess about 20 hours or so before which it can sound a bit hard) I would recommend feeding it anything and everything your music library and the big streaming service in the sky has to offer. I did and I wasn't nearly as disappointed by what it doesn't do as much as I enjoyed what it does. And considering its price, I'd call that an uphill battle won.

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Comments

D1 is great
Submitted by dparker on January 24, 2012 - 7:56am.

I have a D1 running some A2's in my home office and love it. Only issue I with this system is an occasional dropout when touching the speakers or the DAC. My theory is that static electricity (sock feet!) jumps to the chassis and kicks something, maybe the sensor that switches over to headphones and mutes the RCA outs. It can be fixed by unplugging and replugging the USB cable into the DAC. Did you have any issues like that? Very minor, and my own darn fault for not releasing static before

touching the chassis.

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Hmm. No I did not experience anything like this.
Submitted by Michael Lavorgna on January 24, 2012 - 8:25am.

I have a sisal carpet over wood floor which does not build up static electricity so if your static theory is correct, this may explain why.

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Rein
Submitted by kavon yarrum on January 24, 2012 - 12:28pm.

Hi ML:

Can you share any premilinary thoughts on the Rein X-DAC?

Thanks!!

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Not yet
Submitted by Michael Lavorgna on January 24, 2012 - 4:29pm.

It's too early for me to offer anything of value.

But, it does come in a very nice box ;-)

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Thanks!
Submitted by kavon yarrum on January 24, 2012 - 6:41pm.

A nice box does matter...

I would definitely appreciate any informal notes you take on that unit...

Don't worry< it will not be taken in the context of any formal review.

Is it me is the sub $1000 DAC field exteremely crowded?

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Reference system
Submitted by kavon yarrum on January 25, 2012 - 12:18pm.

Hey ML:

Is the Leben/DeVore combo still the heart of your reference system?

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Yes

Submitted by Michael Lavorgna on January 25, 2012 - 12:31pm.

The Leben CS-300XS and DeVore Fidelity The Nines remain constant. It may make sense for me to include this list at the bottom of each review for reference.

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Thanks!

Submitted by kavon yarrum on January 25, 2012 - 1:51pm.

Thanks, nice combo I am sure...!

Yes, a reference sytem side bar would be cool so readers can track any changes

to your system.

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Perhaps even better...

Submitted by Michael Lavorgna on January 26, 2012 - 3:51am.

Here's a link to a post on my room(s) and system(s) - The Listening Room

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Much obliged!

Submitted by kavon yarrum on January 26, 2012 - 8:05am.

Nice looking room thank you!

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sweet

Submitted by sonicsatori on January 30, 2012 - 2:45pm.

great piece as always!

I LOVE my D1!! I ended up traveling with it, and everybody that I played it for loved it! I LOVE showing people how much better the sound can be out of their computers (I use my Macbook w/ mine as well) and, w/ the toslink - turn their consumer-level Blu Ray or DVD player into a better sounding CS player!!

and the D2 blows my mind, in terms of the bass definition they managed to squeeze from a wireless DAC - freakin' fantastic

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---I believe it was when the
Submitted by Kevin Doyle on January 30, 2012 - 9:41pm.

---I believe it was when the word "resolute" left my lips that I saw the most obvious signs of fatigue weigh down on them like the prospect of Sisyphus' boulder sitting once again at the bottom of that big-ass hill.---

oh, god, that made me laugh. i, too, love my d1 with my a2 speakers. although the thought has crossed my mind in the past, i cannot imagine spending more for a desktop solution. it's the centrance dacmini for cheapskates...like me.

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How does it affect battery life?
Submitted by bwr on January 31, 2012 - 1:29pm.

If one uses the D1 as a portable DAC/headphone amp with a laptop what effect does it have on laptop battery life?

I assume if the computer's battery is powering the D1 and providing power to drive headphones that there will be a reduction in battery life. If so, how much? 10%? 50%?

Thanks for the review.

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D1 draws around 200mA from
Submitted by bradyb on January 31, 2012 - 3:53pm.

D1 draws around 200mA from the USB bus, so it shouldn't have much of an affect on the average laptop's battery charge. I use D1 (and D2) with a 2-year old MacBook Pro and usually reach the 50% mark after 2-3 hours, which is when I try to plug it back in. Seems this would also depend on the type of computer, battery size, and battery age I suppose.

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iPad Compatible with powered usb hub?
Submitted by kidcoleco on January 31, 2012 - 8:07pm.

I understand you mentioned this will not work with an an iPad CCK but how about with a powered USB hub or charger in the mix?

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Excellent question
Submitted by Michael Lavorgna on February 1, 2012 - 6:25pm.

I will try this and report back (probably next week).

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vs NuForce uDAC-2
Submitted by Baygul on February 10, 2012 - 10:32pm.

The obvious competitor to this is the NuForce uDAC-2, and it would be nice to know how the Audioengine D1 stacks up to it.

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For an iMac - vs. Hegel HD2
Submitted by Griffon on February 12, 2012 - 9:40am.

Very nice review! It seems this little unit is a nice no-nonsense DAC that is quite good price-performance wise.

I listen to music through my iMac directly connected to Audioengine A5 speakers. I would like to get a better analog output to get the best out of the A5's. It seems this DAC will do this well while not breaking the bank.

I got recommendations for the Hegel HD2 DAC - around 400 $ + tax here - from a Hi-Fi forum. It's a bit over my budget. If you have had the chance to listen to it, do you think I would be better off paying the extra to go for the Hegel, or would the Audioengine D1 serve me good enough for the A5 speakers?

Thanks in advance!

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Thanks Griffon
Submitted by Michael Lavorgna on February 13, 2012 - 6:48am.

> It seems this little unit is a nice no-nonsense DAC that
> is quite good price-performance wise.

I'd agree.

In terms of the D1 versus the Hegel, I have not heard the Hegel here and even if I did I would be hesitant to offer a purchase decision. There are so many variables involved when it comes to deciding between like-audio components and ultimately the "best" choice comes down to personal preference (in general I would recommend sticking to your budget but this advice falls outside of audio concerns ;-)

Ideally you should audition the Hegel HD2 and the Audioengine D1 and decide for yourself. I realize this is not always possible but I'm sure you know that the Audioengine comes with a "30 Day Audition" period so you can return it if it doesn't work out. My feeling is if you are enjoying the A5s direct connected to your iMac, you'll enjoy your music through the D1 even more.

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Thanks for the reply!
Submitted by Griffon on February 13, 2012 - 12:26pm.

I'm glad to have received a reply from you.

I can understand your hesitance, I'm learning that listening preferences are VERY subjective. I'm used to computer hardware forums where you always know in cold hard numbers how well a component performs and how it compares to the competition, so offering recommendations is easy. Not the same thing here.

I think I'll try to find a few users who use the Hegel and see if they feel happy with their purchase, and then decide according to their comments and my budget (I'm used to stretching my budget for electronics, but even then the Hegel seems a bit too much). I live in Turkey so the 30 day audition won't work here, but the local Audioengine dealer has a nice studio where I can probably see how the D1 works with the A5.

Finally, yes, I do enjoy the A5s directly connected to the iMac.

After years of listening to "computer speakers" it's bliss. The D1 will probably serve me well.

Thanks again, and sorry for the long post. I came to Audiostream.com following a link to the D1 review but I'm liking the other parts as well. It's good to see websites focusing on computer-based listening. (And, by the way, NASes are a good topic to study!)

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Audioengine D2
Submitted by AJvR on February 13, 2012 - 1:28pm.

Hi,

Do you already have a basic opinion about the D2 wireless DAC?

Thanks

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vs. M-Audio Firewire Solo
Submitted by RGG on February 22, 2012 - 1:41pm.

This is just a fantastic review and has been very helpful to me. I was wondering if someone might be able to give me some guidance regarding my particular situation. I have been using an old M-Audio Firewire Solo strictly as a soundcard/dac. I no longer record audio on my computer so the input functionality of the M-Audio interface is overkill and I'd prefer to have something with a simpler control panel and smaller footprint for my MacbookPro. Would the D1 would be an upgrade or not from my current setup? In other words, is the quality of the DAC in my Firewire solo (which is several years old) similar or better than the D1?

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Well thanks RGG!
Submitted by Michael Lavorgna on February 22, 2012 - 5:42pm.

I'd prefer to have something with a simpler control panel and smaller footprint for my MacbookPro. Would the D1 would be an upgrade or not from my current setup? In other words, is the quality of the DAC in my Firewire solo (which is several years old) similar or better than the D1?

I'd break down your question into two distinct questions:

Q1. I'd prefer to have something with a simpler control panel and smaller footprint for my MacbookPro.

A1. Yes, the Audioengine will provide a much simpler interface and smaller footprint.

Q2. Would the D1 be an upgrade or not from my current setup? In other words, is the quality of the DAC in my Firewire solo (which is several years old) similar or better than the D1?

A2. I'd actually rephrase this to ask, "Would I like the sound of the D1 better than my Firewire solo?" And I'd suggest listening for yourself. You can buy the D1 and return it within 30 days if you find you don't like it better. This will cost you the return shipping but I feel it's the only way you'll actually know for sure which you prefer. And perhaps of even greater importance it's the only way you'll know whether or not the difference is worth the price of admission.