



The Audio Circular: No.12 in a Series of Parallel Narratives: The Audioengine B1 Premium Bluetooth Music Receiver

by Gary Beard

If you frequently read high-end publications or Internet audio chat boards, then Audioengine is not new to you. Their finely engineered audio components and speakers have been recognized and lauded by publications around the world for great sound and high value. I had only heard Audioengine products at AXPONA, and even under show conditions their products seemed to perform to a level belying their low cost of admission. Last August, Audioengine USA gave me the opportunity to try out their B1 Bluetooth Music Receiver and it has been a very rewarding and positive experience indeed.



The B1!

Sometimes we audio writers get bogged down in the minutia of a product when all we really need to do is clearly state a few important points. The B1 makes this easy, because in the computer audio genre it is as simple as it gets. Here is what I did upon opening the box: Unpacked the diminutive B1 all-in-one receiver/24-bit DAC and power supply. Plugged a pair of RCA interconnects into the back of the B1 and connected the power supply. Turned on my Nexus 7 tablet's Bluetooth and paired it with the B1, then clicked on Pandora and began playing music. It took all of five minutes and that is because I couldn't remember our Pandora password. Yep, Simple.

I do not know much about Bluetooth, but according to the literature, the B1 utilizes Bluetooth 4.0 aptX codec that is an audio-only codec that provides superior sound quality and supports A2DP, and AVRCP profiles. *Yeah, the good stuff!* Actually, the sound quality is quite astounding and from what I understand, the profiles specify how the wireless device will operate within the overall Bluetooth codec

specifications. The B1 has a reported extended operational range of 100', in contrast to the more normal 30' spec of most Bluetooth devices. While I can't guarantee 100 feet of range, I know it works flawlessly within my room and I couldn't get it to stumble, even at the other end of my house—perhaps 40 crow-flies feet away. In addition to its Bluetooth input, the B1 has both RCA and Optical SPDIF outputs in a footprint so small that I can hold in my hand. The package also includes a stereo RCA interconnect and a 5v "wall wart" type power supply that features 3-stage power filtering and helps the B1 deliver a healthy 2.0 volts RMS output at 57 ohm output impedance. The B1's AKM AK4396 DAC and output stage have excellent audio specifications including a Signal to Noise ratio >100dB and 10Hz to 20kHz frequency response. Yeah, good stuff for real.

I will apologize that at the time I wrote this, I no longer had a stand-alone DAC on hand, so I was unable to use the B1 as a digital server interface. And while the B1 can operate as a wireless bridge by using its optical SPDIF output, I was most interested in its own internal digital to audio converter's musical ability. I have always liked the sound of AKM DACs and this one is no exception. The AK4396 upsamples digital signals to 24-bit depth which helps this DAC deliver an impressively low noise floor. The AKM is a smooth sounding DAC with very good extension and a very high degree of musical enjoyment. It is not fair to compare this \$189 wonder directly to my reference Sony HAP Z1ES, but I can say that the B1 makes such wonderfully engaging music that when listening to it, I don't really think much about what I am missing. During my time with the B1, I especially enjoyed the opportunity to play music services such as Pandora. I would expect that this to be one of the main uses for the B1 and I can report that playback and operation with my Nexus 7 and Pandora was perfect; not a single glitch. Sound quality was very good through my reference rig, and the pleasure factor was surprisingly high. In my living room system, which is used almost exclusively for cocktail hour background music, the B1 shined playing both Pandora and my own music file collection using J River Media Center and the Gizmo Android app. I am embarrassed to admit that until I began this exploration, I was not aware that my laptop does not support Bluetooth, but by using the J River Gizmo app, which downsamples music files to 320kbps MP3, I can play all format resolutions including DSD files through the B1 via my Nexus 7! In order to check the performance of Flac, ALAC and WAV files, I downloaded the Poweramp Music App to my Nexus. Files up to 44.1kHz sounded very good and while there was a clear quality difference between streaming Pandora and all the other file formats, the difference between the full resolution files and those same files downsampled to 320kbps MP3 by J River Gizmo was not so noticeable that I immediately wanted to change back to my reference HAP. I surmise the B1's upsampling feature may have equalized differences to a degree and it was a very nice surprise that I could enjoy all the benefits of the B1 with my big system.

One thing that is very cool about the B1 and Bluetooth audio in general is that you could put the B1 in its little microfiber bag, stick it in your coat pocket and take it with you to anywhere there is power and a stereo amp or powered speakers, and a Bluetooth device to provide the music (an internet connection would be necessary for accessing a music service or network server). The B1 sounds head-scratchingly wonderful and is damn hard to beat for the money; I can see it being a versatile tool for any computer audio/music enthusiast and especially for audiophiles who don't want to spend a small fortune on a full-tilt computer digital system but still want high quality music reproduction.

Conclusion

I concur with fellow *Positive Feedback* contributors Andre Marc's and Dean Seislove's findings ([HERE](#) and [HERE](#)) in their reports on the B1 as well as Andre's selection of the B1 as a Writer's Choice for 2014; the level of technology in this itty-bitty Audioengine B1 Premium Bluetooth Music Receiver is really remarkable and it performs, not just beyond my expectations, but blows them away. And also like Mr. Marc, my spouse would love the B1 too, but I won't let her near it!

High-end audio is a hobby where people routinely buy tweaks that cost more than \$189 bucks. Heck, the RCA interconnects I am using retailed for twice the price of the B1—but hey, as a music fan wrapped in an audiophile blanket, I just couldn't bring myself to hook up the little IC that came with the B1. Still, the knowledge that a Bluetooth DAC so fun to listen to can be purchased for less than a presidential tarmac haircut places the B1 in my "amazing value" category for its simple musical grace. Whether you are an avid Bluetooth listener or just someone like me, who likes to fire up a music service once in a while, then giving the B1 an around the block trial is a really a no-brainer. It is the highest value component I've yet heard in audio. Yeah Audioengine... Good Stuff!

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Audioengine B1 Premium Bluetooth Music Receiver
Retail \$189

<http://audioengineusa.com>

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