



The Wadia PowerDAC 151

By Jeff Dorgay

Two years ago, Wadia began a digital revolution with their 170i transport, being the first to unlock the digital bitstream and give the iPod serious clout as an audiophile component. Their latest creation, the 151 PowerDAC mini, utilizes the same form factor as the 170i and allows the 170i to be stacked on top for a high-performance yet space-efficient audio system. MSRP for the Power DAC mini is \$1,195.

Wadia's engineers have managed to squeeze a full-function amplifier and DAC into an 8x8-inch box, taking advantage of Class-D amplification technology. The power supply is also built into the chassis, eliminating the need for an external power supply as the 170i has. This is definitely a 21st Century audio component, with a form factor that eschews the "big box" look, making up the core of a high-performance-yet-compact system that should fit anywhere with ease. The 151 looks as if you put one of Wadia's full-size disc players in a shrink machine, with identical styling cues, right down to the spiked feet, which are made of hard rubber instead of the aluminum ones found on the big players.

The 151 uses a rectangular aqua-blue display with off-white lettering, similar in look and feel to the full-size Wadia components. The top level of information shows the input choice, while the lower level gives the volume level based on a series of vertical bars. A nice remote control is also included to control the 151. To the right of the display are five small rubber buttons labeled: Input, Phase, Mute, Volume + and -. Though full, the back panel offers respectable space with the speaker binding posts on the left half, the right housing the digital COAX 1 and 2 inputs on top, and the Toslink and USB on the bottom. The power switch and standard IEC power-cord receptacle occupy the chassis' far right. (*continued*)





Tech Background

One of the standout features of the 151 is its volume control that operates in the digital domain, just like their five-figure disc players. Though tougher to implement than an analog volume control, adjusting the gain before converting to analog eliminates distortion in the output stage. Wadia president John Schaffer commented, "It took a lot of finesse to get this level of performance at this price point. We were able to offer a lot of the feel of the 381/S7i/781i components in the 151."

One of the major design goals was to keep the signal in the digital domain until just before it goes to the speaker terminals. The process begins by converting the Pulse Code Modulation from the DAC into Pulse Width Modulation, thus allowing the signal to be amplified digitally. Wadia also uses a light version of their DigiMaster reconstruction filter (upsampling) in the 151, accomplishing the digital-to-analog conversion in the software domain, not relying on an off-the-shelf chipset, with DSP occurring with 24bit/384k resolution. A filtering algorithm is used to eliminate distortion and the signal is amplified by a Texas Instruments TA5162 chip. The signal is then passed through a passive low pass filter to output 50 watts per channel into 4 ohms. A very unconventional approach indeed.

Setup

The 151 has only digital inputs, so it has to be part of a digital-based system. I did most of my listening via Wadia's i170 iPod dock and my old Denon 3930 Universal Player. For anyone wishing to add a disc player at a budget to a system like this, the 151 is a fantastic performer. As there just happens to be a Wadia 381 CD player in system two, I made it a point to check the performance and was pleasantly surprised at how well the 151 did.
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You should be able to have the 151 up and playing music with one hand tied behind your back in about five minutes. Plug in your digital source, the AC mains cord and speakers of your choice, and you're rocking. As chip amplifiers always tend to be just a touch speaker sensitive, I tried the 151 with a very wide range of speakers to see where the rocks in the road might be. While contributor Mark Marcantonio could not find peace and harmony with his Verity Audio Finns, I had excellent luck here with all of the speakers at my disposal.

Though I used the Harbeth Monitor 40.1's, B&W 805D and even the \$140,000 GamuT S-9's with no problem, I did a lot of my listening with the \$2,000/

pair Penaudio Rebel 3's and the Mordaunt Short Aviano 6 Floor-standers (\$995/pair) to keep more in line with what the typical 151 owner might choose with which to pair these speakers. I also kept cabling very basic, using the supplied AC mains cord and some DH Labs speaker cable. It's worth mentioning that this little amplifier was not embarrassed when used with megabucks speakers, evidence that the Wadia engineers really did their homework on this product.

One thing to keep in mind, though, is that the 151 will take about 150-200 hours to sound its best. There is a bit of high-frequency glare when you first take it out of the box, but about 80 percent of that is gone after

a couple of days of continuous play, and the rest will go away shortly thereafter.

A lot of sound hiding in that little box

The overall tonal balance of the 151 is very similar to that of Wadia's top CD/SACD players, and I say that from experience, having used one of their players (the 581, 781 and now the new 381) as reference components for the past four years. The 151 is resolving and dynamic without being harsh or grainy. Very impressive for a chip amplifier. Even more so, considering you are getting an amplifier *and* a DAC for just under \$1,200 bucks.

When listening with the B&W 805D's, a quick swap from the *(continued)*



reference combination of McIntosh C500 preamplifier and MC1.2kw monoblocks was indeed intriguing. While the 151 did not have the level of warmth possessed by the McIntosh tube preamplifier, it did not sound harsh through the 805D's, which are highly resolving and will offer a poor showing with a bright amplifier.

On one level, the sound of the 151 is a bit reminiscent of the best Naim gear, with a healthy dose of pace and timing. The 805D's probably presented the toughest challenge to the 151, with only an 88db sensitivity rating and an 8-ohm impedance. The Wadia's power level drops to 25 watts per channel with an 8-ohm load, but it never had a problem driving the 805D's in my somewhat small (11 x 17 foot) living room. In a larger room, they might need a little more juice, but if you aren't playing at concert hall levels, the 151 should be fine in almost any situation.

Vocals came through clean and clear, with stringed instruments sounding natural, but unlike a tube amplifier, the 151 does not embellish or add body to the sound. However, if it's on the recording, it will come through as intended. If you consider that this is essentially a \$600 DAC and a \$600 amplifier in one compact chassis, I think you will be hard-pressed to find this kind of performance elsewhere at this price point. The only other \$600 amplifier I really enjoy is the Rega Brio3, but it is the antithesis of the Wadia. Where the Wadia has lots of resolution, the Brio is a bit on the warm, somewhat dark side. I like them both, but each will appeal to a different customer.

Going through some of my favorite classic-rock tracks from Genesis, Pink Floyd and Yes, I was impressed at the amount of bass extension and control that the 151 was able to muster. A brief stint with my GamuT S-9's (which are only 3db down at 17hz) confirmed that the 151 would go down deep.

Listening to an equal mixture of Apple lossless and uncompressed files on my iPod Touch through the i170 dock and a few different pairs of mini monitor speakers in the \$500/pair range, I was consistently impressed at how musically rewarding this combination offers up for about \$2,000.

Conclusion

The Wadia 151 PowerDAC is the perfect anchor for a high-performance, all-digital system in a small space. Whether you choose to use it with a disc transport, computer or Wadia's own iPod dock, the 151 offers great sound quality with ease of use and setup. We are happy to award it one of our Exceptional Value Awards for 2010. Wadia has created another breakthrough product that may just define a new category, as their i170 did two years ago. ●

— Staff writer Marc Marcantonio contributed to this review.