

## Bowers & Wilkins 803 Diamond Loudspeakers

The Bowers & Wilkins 803 Diamond loudspeaker is the middle model in the company's current flagship line. Below it are the 805 Diamond bookshelf (\$5000 USD/pair) and the smaller floorstander, the 804 Diamond (\$7500/pair). Above it are the 802 Diamond (\$15,000/pair) and the 800 Diamond (\$24,000/pair), both distinguished by the spherical midrange-driver enclosures of Marlan that sit atop the bass cabinets.

When the Diamond range, which replaces the 800D series, was announced about a year ago, it was the 803 Diamond that captured my attention. First, the price is \$10,000/pair. My experience has taught me that \$10k is the threshold for what even many audio enthusiasts consider downright expensive for a pair of speakers. However, we live in a time when speakers costing over \$100,000/pair are not uncommon, *and* \$500 can buy you a very decent set of bookshelf speakers. To my mind, \$10,000 should get you a whole lot closer to the performance of \$100,000 speakers than merely a step or two above the \$500 models.

I was also taken with the 803 Diamond's appearance, which to me is far more attractive than those of its dearer relatives, the 800 and 802. The 803's simpler cabinet and cleaner lines distinguish it from the pricier models, which visually scream *High-tech speaker!* The 803 Diamond will fit into listening spaces that, domestically speaking, could not easily accept the larger models.

But more important, the 803 Diamond includes much of the technology of B&W's more expensive Diamonds.

### Technology

The 803 Diamond's most prominent design feature — and the one most visitors to my listening room commented on first — is the Nautilus Tapering Tube (NTT) that sits atop its cabinet. This oblong enclosure houses the latest iteration of B&W's 1" diamond tweeter, features that are common to all the speakers in the line. The new tweeter employs a quad-magnet-powered voice-coil and a new surround material, among other improvements on the 800D models. The NTT driver-loading method is designed to dissipate the tweeter's backwave — the soundwaves generated by the rearward motion of the tweeter diaphragm, which can negatively affect the direct response of the driver if not somehow suppressed or absorbed. The NTT is filled with damping material and acts as a black hole for sound. Those highs simply are not reflected back out the front to your ears.

The other obvious design feature that stands out is the 6" yellow Kevlar midrange driver, in this case a special version developed by B&W called a Fixed Suspension Transducer (FST). This unit is unique in the world of speaker drive-units in not having a conventional surround (the ring of rubber or foam that links cone to basket and lets the driver cone travel back and forth). In fact, B&W calls the FST "surroundless," because it terminates in the same material of which the cone proper is made: Kevlar. There *is* a foam ring, however; it sits directly under the termination point of the cone to the basket and absorbs resonances transmitted by the cone — a task normally accomplished by a drive-unit's surround. One problem this method solves that B&W thinks is critical are the acoustic cancellations caused by the surround. They state that the cancellation issue "involves the cone moving more than it should in one direction, while the surround moves in the opposite direction. Whether this results in a dip, peak or no change in the amplitude response depends on the relative area velocity of the cone and surround, but more often than not it is a dip, often referred to as the surround dip. These standing-wave patterns can be modified if attention is paid to the mechanical impedance of both the surround and the voice coil. If these can be matched to the mean mechanical impedance of the outer rim and neck of the cone respectively, bending wave reflections can be reduced in magnitude, with a

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consequent reduction in the level of delayed energy coloration." B&W says that since cone excursions are small in the frequency band in which this driver operates, this termination method yields better sound than would a conventional surround.

The 90-pound weight of the 803 Diamond gives some clue that there's more in the box than might be indicated by its not-huge dimensions of 45.8"H x 12"W x 18"D. Inside is the Matrix — a network of horizontal and vertical braces of MDF that has been a hallmark of B&W's top speakers for about 20 years, and that strongly damps the cabinet while keeping its walls from flexing.

I was also captivated by the bass section of this three-way loudspeaker. Instead of the 802 Diamond's twin 8" woofers, the 803 Diamond has three dual-magnet 7" Rohacell drivers. That doesn't seem like much of a liability to me — in fact, you can argue that having three motor systems instead of two might even result in better power handling, due to the greater thermal dissipation available from three voice-coils instead of two. B&W states on their website that the 803 Diamond gives up very little in the bass range to the 802.

I prefer the look of the 803 to any other model in the Diamond range, although the 805's near-perfect proportions come close. The painted Piano Gloss Black finish on my samples was glossy and smooth, and rivaled some of the best finishes I've seen, if falling short by the narrowest margin due to a slight waviness in the MDF enclosure. The black paint was virtually free of swirls, however. Rosenut and Cherrywood real-wood veneers are also available.

The front venting of the 803 Diamond is handled by a Flowport, whose dimpled surface resembles that of a golf ball. The dimples address the smooth flow of air leaving the enclosure. The Flowport is said to prevent the dreaded port chuffing at high volume levels.

The 803 Diamond's claimed frequency responses are 35Hz-28kHz,  $\pm 3$ dB, and 28Hz-33kHz, -6dB. The sensitivity is listed as 90dB/W/m, the nominal impedance 8 ohms. The rated power capacity is 500W with unclipped program material. Two pairs of custom binding posts are included for biamping or biwiring, and they're some of the best I've used: easy to tighten, extremely sturdy, and while they're unknurled, I could easily get a firm grip on them to ensure a tight, secure cable connection. Jumpers are supplied for single-wiring.

### Setup

I set up the 803 Diamonds in my Music Vault listening room and tried to find the best locations for them. As with all speakers I audition in this room, this involved a lot of trial and error: listening, moving, measuring the frequency response, listening some more. The 803s ended up slightly toed-in and 11' 8" apart (measured from tweeter to tweeter), 4' 3" from the front wall (from the cabinets' rear panels), with 5' 7" between each speaker's outer side panel and the corresponding sidewall. The supplied grilles attach with magnets, a nice touch seen in more and more speakers these days, but I left them off for the duration of the review period.

### Sound

A loudspeaker's overall sound is largely a function of its tonal balance — a conclusion I came to a while back, after many years of reviewing speakers. Conducting in-room measurements has taught me much, but nothing set so solidly in stone as the fact that an accurate statement of a speaker's frequency response (FR) will tell you quite a bit about how loudspeakers will sound when you're seated in a chair planted in front of them. The 803 Diamond had a distinctive sonic character in my room that seems to me to be a deliberate effort by B&W to follow a house sound through an

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**"This is a wholly  
finished product that  
will not disappoint  
in any part of the  
ownership  
experience..."**

expertly tailored FR. Such a design choice — a speaker's voicing, if you like — can be a matter of taste, and in this instance I liked the results, and imagine you will, too.

When you see that diamond tweeter perched atop the 803, you might at first assume that the speaker's highs will sonically stick out from the whole, and perhaps create a tipped-up, bright tonal balance. Like other audiophile myths — e.g., that silver cables always sound thin — having a diamond tweeter physically separated from the rest of the drive-units can be visually disconcerting, even if the sonic results are quite different. In the case of the 803 Diamond, what I heard on first listen was a high range that was just the opposite of what you might expect — it was expertly integrated into a very *smooth* overall sound, and didn't stick out in any way. Forget spotlight highs or bright sound — the 803 was the antithesis of all that. I won't say that the highs were actually subdued — there were still goodly amounts of detail, sparkle, and life — but the upper frequencies were neatly tucked into the overall sound and never called attention to themselves.

Listening to Carla Lother sing "Let's Grow Old," from her *100 Lovers* (24/96 AIFF, Chesky/HDtracks), accompanied by acoustic guitar, gave clear evidence of this. There was detail aplenty in the strings, but this detail never sounded like a hyped-up addition to the recording. The sound of Lother's voice, on down to the percussion, was continuous and smooth and, again, well integrated into the whole without flaw. Most important, the generous highs in this hi-rez track never grated or made me want to turn down the volume.

The above description gives you a hint of the rest of the picture. Yes, the 803 Diamond had a full, slightly rich tonal balance. The midrange was clean and clear — I heard nothing that obscured the middle frequencies — and because of this I heard very deep into vocal recordings. But there was enough body in male voices, for instance, to make the 803 a captivating listen with music of many types. This full tonal balance added a touch of presence and, in some cases, drama. I enjoyed recordings such as Livingston Taylor's cover of Stevie Wonder's "Isn't She Lovely," from *Ink* (24/96 AIFF, Chesky/HDtracks), because of how the 803 clearly revealed the nuance and expression in Taylor's singing. His whistling at the start was every bit as detailed and clean as the beryllium tweeter I heard in PBM Audio's Montana Sammy loudspeaker (\$29,500/pair, reviewed on *Ultra Audio* in October of 2010), though the 803's highs were a bit lower in level in absolute terms (and certainly lower in level than the KEF Reference 205/2, which Randall Smith reviewed for *SoundStage! Hi-Fi* in September 2010). The lower midrange was a touch more forward than the slightly recessed mids of the PBN. This gave greater presence to Taylor's voice, making him sound very in-the-room close to my listening position. I could hear the detail and texture in his singing, and a hint of warmth that translated into extra-beautiful tone color.

The bass range was *almost* everything I'd hoped for. The 803 was abundant in most of the bass qualities I look for: great punch, check; excellent articulation, yes; good weight down low, yessiree. But the 803 couldn't play quite low enough to be a world beater. Were my expectations too high? Maybe, but when I listened to my go-to track for bass depth and power, "Norbu," from Bruno Coulais's soundtrack for *Himalaya* (CD, Virgin 8 48478 2), the 803s didn't quite fully energize my room. They came so close, though. I could clearly hear and feel the whack of mallet on drum skin — a nimble display of finesse and articulation on the 803's part. I could feel the walls of my listening room *start* to flex, and hear and feel the decay of the big drum as it rolled right on behind me. But the last 5% — that elusive bit of low-end power that would have made the 803 Diamond a genuine giant killer — was missing. Is this a fatal flaw? Hardly. Get a subwoofer, perhaps from B&W, or from Paradigm or JL Audio, and you're all set. The bass that the 803s did produce was hard to fault in terms of quality, that's for sure.

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## Associated Equipment

Amplifier —

Boulder Amplifiers 2060

Preamplifier —

Boulder Amplifiers 1010

Source — Apple MacBook laptop  
running Amarra 2.1, Weiss DAC202  
digital-to-analog converter

Speaker cables —

Analysis Plus Big Silver Oval

Interconnects —

Analysis Plus Silver Oval-In

The soundstaging was as wide as from any pair of speakers in recent memory. The slightly upfront nature of the 803's lower midrange did mean that there wasn't the soundstage *depth* I've heard with some other speakers that have a more distant midband (a recessed midrange can create more apparent depth, even if it's artificial). The result of the presence in the midrange was that the 803s could sound very intimate, giving me great insight into the singing in many different genres of music. Jazz vocals recorded in small venues were simply breathtaking, for instance. I think folks will be satisfied with the imaging and soundstaging capabilities of the 803 Diamonds; there was accurate focus, and I could easily map the soundstage in my mind. The 803s didn't sound ethereal or crazy-spacious, but they certainly let me know how recordings were miked and exactly where instruments were placed.

Last, the 803 Diamond seemed to reach a heightened level of liveliness when propelled by slightly more power than I use with most speakers. They sounded fine at low levels, mind you, but they sounded most alive — the elusive "jump factor" that audiophiles speak of — when my Boulder amplifier was asked to feed them more watts. The takeaway: To hear all that the 803 Diamond can do, make sure you have a powerful amplifier of at least a couple hundred watts.

The 803 could also play plenty loud. Perhaps this quality was born of the ubiquity of B&W speakers in recording studios across the world, where output capability without damage really matters. I didn't try to actually *destroy* the 803s, but I did give them a pretty good beating. They never flinched.

## Polished

Bowers & Wilkins has crafted a fine loudspeaker in the 803 Diamond. It leans slightly toward the warm side of the audioband — it *never* approached cool or lean — a characteristic that will make it sound good to most listeners. It never grated or fatigued, and the integration of B&W's hallmark diamond tweeter was deftly accomplished. Its bass was satisfying in terms of quality and, in terms of quantity, ever so close to forget-the-subwoofer territory. It will give you most everything you need in the lows, but I'm a big-speaker guy, so perhaps my wants in this area are more extreme than most. Still, I know of many speakers costing over \$10k, and some *well* over, that won't do low bass like the 803.

When you plunk down your ten grand for a pair of 803 Diamonds, you get something more than really good sound. You get to own a B&W — a speaker with a lineage as impressive as any brand's. This is a wholly finished product that will not disappoint in any part of the ownership experience, and I can't say that of everything in the high end. If you're looking at speakers for over \$10,000 and they *aren't* better than the 803 Diamond, then they just aren't competitive high-end speakers. Listen to it and do the comparisons — the wide availability of the brand ensures that you'll have reasonable access. I'm quite sure that the 803 Diamonds will find homes in many fine music systems across the world, and rightly so.

... Jeff Fritz  
[jeff@soundstagenetwork.com](mailto:jeff@soundstagenetwork.com)

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**Bowers & Wilkins**  
**803 Diamond Loudspeakers**  
Price: \$10,000 USD per pair.  
Warranty: Five years parts and labor.

B&W Group North America  
54 Concord Street North  
Reading, MA 01864  
Phone: (978) 664-2870  
Fax: (978) 664-4109

E-mail: [marketing@bwgroupusa.com](mailto:marketing@bwgroupusa.com)  
Website: [www.bowers-wilkins.com](http://www.bowers-wilkins.com)