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SOLID STATE POWER AMP REVIEWS

## darTZeel NHB-458 monoblock amplifier

Michael Fremer | Aug 3, 2012



A recent (unpublished) letter to the editor argued that the reference for audio perfection is the sound of real instruments in a real space. The writer claimed that, since the art and/or science of audio is advancing, and because it is a "scientific truth" that the closer you get to perfection, the less divergence there is components, that therefore there should be less difference in sound among the components listed in Class A of *Stereophile's* "Recommended Components" than among those in Class B, much less Class C. This should be true of loudspeakers, he said, but even

more true of top-rated amplifiers, since "they inherently have less divergence."

Over the last few years I've reviewed a number of truly fine amplifiers, including the Musical Fidelity kW and Titan, the VTL MB-450 Series III Signature, the Soulution 710, the MBL Reference 9011, and now the darTZeel NHB-458. I can assure you that, while each is a Class A performer, all sound *very* different from one another. We are a long way from approaching the sonic uniformity predicted by the letter writer, and that's something to celebrate.

We all bring to our listening different sets of sonic prejudices, preferences, and past experiences. We listen for or are more sensitive to difference aspects of sound reproduction. That's true for both listeners and designers, and in the case of the darTZeel NHB-458 monoblock power amp, the designer is Swiss electrical engineer Hervé Delétraz.

### **Visually Sensational**

The widely divergent reactions among my friends to the distinctive-looking NHB-458s demonstrated that we all have differing *visual* as well as aural prejudices and preferences. Some loved how the darTZeels looked. Others, not so much.

Like darTZeel's NHB-18NS preamplifier, with its brushed, dark-gold front panel and retro-industrial, red-anodized chassis (which I described in my June 2007 review as reminiscent of Radio City Music Hall before its renovation), the NHB-458s exude darTZeelness.

This Swiss-built monoblock measures 18" high by 11" wide by 20" deep and weighs 154 lbs. It looks like an art-deco computer tower on a fanciful sled or slippers. Its curvaceous lines, jewel-like finish, and lack of handles made moving and placing the amplifiers tricky.

Tinted glass side panels emblazoned with the darTZeel logo let you peer inside, where an enormous cylindrical transformer the size of a hat box, black and mounted on its side, seems to float in space. The core cap, finished in darTZeel gold, completes the scene. As well as being physically

attractive, these glass panels serve an electrical purpose by allowing the magnetic fields to "escape" the chassis.

The amplifier's entire massive power-supply section floats on a suspended subchassis that's shipped locked in place by four large bolts. After removing these bolts, you plug the holes with four gold-plated dummy bolt heads. The suspended platform uses dampers tuned to absorb frequencies from 40 to 70Hz, to block the transformer's 60Hz vibrations from being transmitted to the chassis, and to isolate the transformer itself from airborne musical vibrations.

There are actually two transformers: the big one is for power, the small one for the logic and circuit controls. They're mounted at 90° to one another, to eliminate any electromagnetic transmission between them. The power transformer is also separately suspended.

The front panel is another work of sculpted art better seen than described. Operating parameters are set via five small pushbuttons below a rectangular fluorescent screen. When not in Menu mode, the screen monitors the amp's peak and RMS outputs. The Power/Standby and Menu buttons flank a status light that goes from red to amber on power-up.



A large heatsink dominates the rear panel, with a cutout for connections

that include RCA and XLR inputs, as well as a Zeel BNC 50 ohm input, for use with darTZeel's NHB-18NS preamplifier and Playback Designs' SACD/CD player and DAC. While the XLR input is "truly and actively balanced," per darTZeel, it uses a "translator balanced to unbalanced circuit"; darTZeel recommends using the single-ended input with non-darTZeel components, if possible. If not, the performance loss due to the extra circuitry is claimed to be "slightly reduced . . . but extremely small." The speaker terminal is Cardas's single-knob design. Also on the rear panel are a circuit breaker and in/out triggers for remote power-up by darTZeel's preamp.

### **Power at a Price**

Five years ago, in my review of the darTZeel NHB-18NS preamplifier, I wrote: "With the introduction of the NHB-108 stereo amplifier, Swiss-based darTZeel quickly established a reputation for pristine, hand-built quality, fanciful industrial design, and elegant circuitry—all accompanied by a healthy jolt of sticker shock."

All of that is still true today. Despite being a relatively small company, darTZeel makes products that include the latest in surface-mount circuit-board technology and other modern construction techniques. DarTZeel's products may look fanciful, but their insides are all business.

The NHB-458 is immensely powerful, outputting 450W RMS into 8 ohms, 800W into 4 ohms, and 1000W into 2 ohms (and 850, 1700, and 1800W peak, respectively). And with claimed frequency responses of 0.7Hz–700kHz, +0/–3dB, and 20Hz–20kHz, +0/–0.2Hz, it combines ultrawide bandwidth with essentially flat (claimed) response throughout the audioband.

Total harmonic distortion is specified at less than 1% from 7Hz to 77kHz. That's fairly high in today's solid-state world (though across that bandwidth it's pretty impressive), but Hervé Delétraz claims that THD "has nothing to do with musical performance." Like the darTZeel's original NHB-108 integrated amplifier, the NHB-458 has a zero-feedback, true open-loop output stage, so there's no output-impedance compensation (*ie*, Zobel

Network). The specified output impedance is less than 0.28 ohm, 20Hz–20kHz.

Delétraz cautions that the NHB-458 is not suited for speakers with a nominal impedance of 1 ohm because of its low parts count: despite the high power, there are only four transistor pairs in the output stage.

All this power and bandwidth, the 750 joules of energy available from the large-capacitor reservoir visible through the side panels, the open-loop, zero-feedback output stage, the sophisticated operating system, the stunning craftsmanship, the custom extrusion work and anodizing, all come at a stiff price: 135,000 Swiss Francs/pair. (Because of the fluctuating exchange rates, darTZeel's US distributor quotes prices in Swiss francs; at the time this issue was being prepared, 135,000 Swiss Francs was equivalent to \$144,500.)

### **Operating System**

The NHB-458 comes "factory activated"; on turn-on, the screen states that it was built specifically for the buyer. If it hasn't been factory-activated, the amp will operate for 15 minutes, then shut down until you program the two supplied USB keys with codes provided by your dealer. The keys plug into a rear-panel USB port that will also be used for software upgrades, should those become available. I'm not sure I understand the need for any of this. It's not as if a stolen NHB-458 can be shut down by remote control.

If you've set up an A/V receiver, you've seen worse and more complicated menus than the NHB-458's, but still, I found it hardly intuitive, even after I'd absorbed the instruction manual. But maybe that was just me . . .

Via the menu you can select the input (RCA, XLR, Zeel), 26 or 32dB gain (the latter is the factory default), how the NHB-458 is to be turned on (manually, triggered, or when it detects a signal), and the screen brightness. Dealer setup should obviate any need to mess with the menu, and once it's set it shouldn't need to be touched, but it's a good idea to familiarize yourself with its operation. Otherwise, the NHB-458 operates like any other amplifier that lacks on/off switch. Plugged in, it's in idle

mode, in which two of them use 4W—not that anyone spending \$144,500 on a pair of amps is worried about the electric bill. An important caution: Remove the plug from the wall before making any rear-panel connections—the amplifier lacks any fuses or protection circuits. Hervé Delétraz feels that these detract from ultimate sound quality.

### **NHB = Never Heard Before. Really.**

Imagine my feelings of anticipation as I hooked up these impressive-looking monoliths. I had some idea of what to expect—I'd heard the NHB-458s driving Wilson Audio MAXX 3 speakers once before, at a Syd Barrett event in a London art gallery (see the July 2011 "Analog Corner"). Even under those very difficult conditions, the sound was extraordinary.

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#### COMPANY INFO

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#### COMMENTS

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#### **With the money stolen by the Elite Bankers**

Submitted by BarrysConspirac... on August 8, 2012 - 2:21pm

With the \$16 Trillion stolen by the elite bankers who brought you "The Fed", over 110,000,000 music loving audiophiles could have a pair of these monoblocks! OR, the world could be housed and starvation ended AND have enough money left over for as many monoblocks as there are people who would want them.



## Conspiracy Theories

Submitted by Michael Fremer on November 21, 2012 - 11:31am

Or you could do something about the "conspiracy" to take land from Native Americans by giving up your home to a nice Navajo family.

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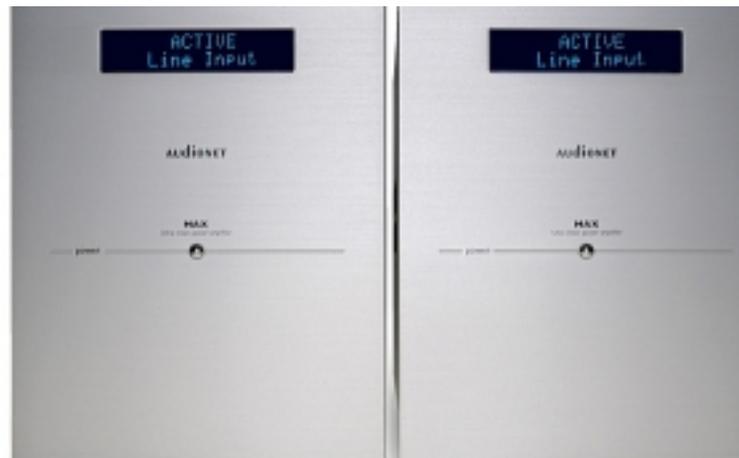
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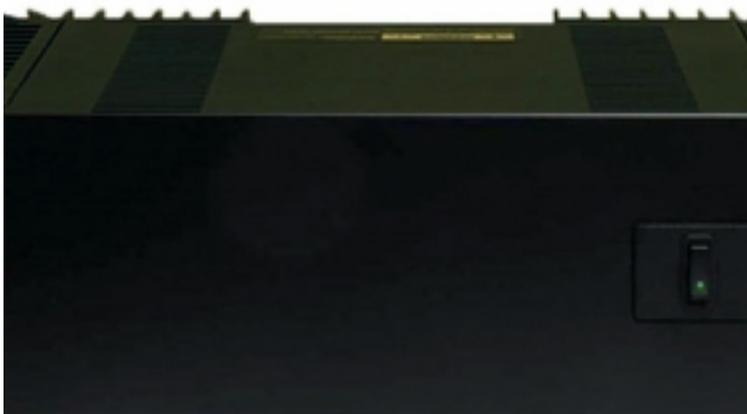
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