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The EXTRAORDINARY

(and Extraordinarily Expensive)

DARTZEEL NHB-458 AMPLIFIER



darTzeel HIGH END AUDIO
Hand Built World Class Audio Equipment

MICHAEL FREMER

darTZeel NHB-458

MONOBLOCK AMPLIFIER

A recent (unpublished) letter to the editor argued that the reference for audio perfection is the sound of real instruments in a real space.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 in 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 Soullution 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.



SPECIFICATIONS

Description Solid-state monoblock power amplifier. Inputs: unbalanced voltage-mode (RCA), unbalanced Zeel (BNC), balanced (XLR). Output power: 450W (26.5dBW) (850W peak) into 8 ohms, 800W (26dBW) (1700W peak) into 4 ohms, 1000W (24dBW) (1800W peak) into 2 ohms (software limited). Voltage gain (user selectable): 26 or 32dB into 8 ohms. Input impedance: >30k ohms,

5Hz–200kHz (RCA); 50 ohms, 41 ohm (Zeel); 10k ohms per phase (XLR). Output impedance: <0.28 ohm, 20Hz–20kHz (into 8 ohms). Frequency response: 0.7Hz–700kHz, +0/–3dB; 20Hz–20kHz, +0/–0.2dB. THD: <1%, 7Hz–77kHz. Signal/noise: >115dB, A-weighted, ref. nominal power. **Dimensions** 18" (460mm) H by 11" (277mm) W by 20" (511mm) D. Weight: 154 lbs (70kg).

Serial number of units reviewed

TZ-UA1458.538L/R. Price 135,000 Swiss Francs/pair (\$144,500/pair at time of going to press). Approximate number of dealers: 9. **Manufacturer** darTZeel Audio SA High End Audio Manufacture, 2 Ch. Louis-Hubert, CH-1213 Petit-Lancy, Geneva, Switzerland. Tel: (41) 22-793-8284. www.darTZeel.com. US distributor:

Blue Light Audio, 2725 SW Sherwood Drive, Portland, OR 97201. Tel: (503) 221-0465. Fax: (503) 221-0463. www.bluelightaudio.com.



During normal operation, the front-panel display indicates peak (top) and RMS power.

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.

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MEASUREMENTS

To perform measurements on the darTZeel NHB-458, I used Stereophile's loan sample of the top-of-the-line Audio Precision SYS2722 system (see www.ap.com and the January 2008 "As We See It," www.stereophile.com/asweseeit/108awsi/index.html). Before testing one of the monoblocks (serial number TZ-UA1458-538L), I ran it at 1/3 its rated power into 8 ohms for 60 minutes, which thermally is the worst case for an amplifier with a class-A/B output stage. At the end of that period, while the shrouded heatsink on the amplifier's rear was too hot to keep my hand on, at 63.5°C/146°F, the top of the enclosure was only warm, at 40.8°C/107.4°F, according to my infrared thermometer. The THD+noise with the amplifier stone cold was 0.08%; after an hour with the amplifier hot, it had risen slightly, to 0.083%—a much smaller change than I have found with some other solid-state amplifiers.

I wasn't able to test the NHB-458 through its impedance-matched 50-ohm Zeel input; I measured its performance using the conventional unbalanced and balanced inputs, selecting each with the front-panel Menu buttons. (Connecting pin 1 of the XLR input to ground was also selected with the Menu buttons.) As used by Michael Fremer, the amplifier's gain was set to "32dB"; via the unbalanced in-

put, the voltage gain into 8 ohms measured 32.05dB. The balanced input's gain was 6dB lower. Both inputs preserved absolute polarity (ie, were non-inverting), the XLR being wired with pin 2 hot.

The unbalanced input impedance, specified as being >30k ohms, was a usefully high 46k ohms at low and middle frequencies, dropping inconsequentially to 37k ohms at the top of the audioband. The balanced input impedance was 20k ohms at all frequencies, as specified. The output impedance was high for a solid-state design, at 0.3 ohm (including 6' of speaker cable) at all frequencies. Consequently, there was a slight, ± 0.25 dB variation in frequency response with our standard simulated loudspeaker (fig.1, gray trace), due to the Ohm's Law interaction between this impedance and that of the load (see www.stereophile.com/content/real-life-measurements-page-2). The NHB-458's small-signal frequency was otherwise flat within the audioband

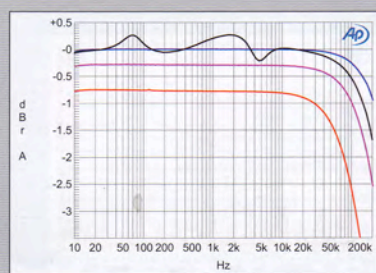


Fig.1 darTZeel NHB-458, frequency response at 2.83V into: simulated loudspeaker load (gray), 8 ohms (blue), 4 ohms (magenta), 2 ohms (red) (0.25dB/vertical div.).

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 stereo power 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

Hervé Delétraz claims that THD "has nothing to do with musical performance."

measurements, continued

with all impedances above 2 ohms; the bandwidth into 8 ohms was wide, the response being down by <1dB at 200kHz (fig.1, blue trace). As a result, the amplifier's reproduction of a 10kHz squarewave into 8 ohms featured very short risetimes (fig.2), with no trace of overshoot or ringing. Good stuff!

The darTZeel amplifier was quiet, the unweighted, wideband signal/noise ratio (ref. 2.83V into 8 ohms) measuring

81.4dB with the RCA input jack shorted to ground. Switching an A-weighting filter into circuit increased the ratio to 92.4dB, as the noise predominantly comprised low levels of the 60Hz AC supply frequency (fig.3), perhaps partly due to magnetic interference from the massive toroidal transformer that is the amplifier's heart.

Figs. 4, 5, and 6 show how the THD+N percentage changes with output

power into 8, 4, and 2 ohms, respectively, taken from the unbalanced input. This is a powerful amplifier. Defining the clipping point as the power when the THD+N reaches 1%, the NHB-458 clips at 530W into 8 ohms (27.2dBW), 900W into 4 ohms (26.5dBW), and 1025W into 2 ohms (24.1dBW). (Although all amplifiers under test are powered from a dedicated 20A circuit, I don't hold the wall voltage constant for the power test; measuring

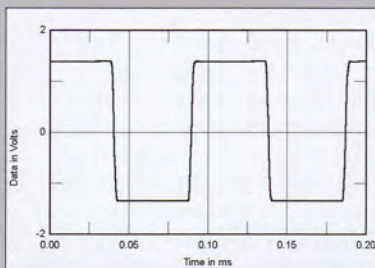


Fig.2 darTZeel NHB-458, small-signal 10kHz squarewave into 8 ohms.

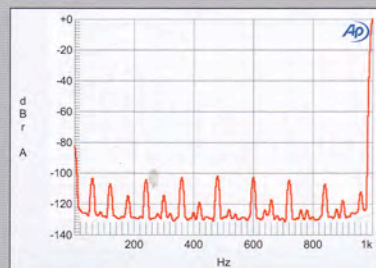


Fig.3 darTZeel NHB-458, spectrum of 1kHz sinewave, DC-1kHz, at 1W into 8 ohms (linear frequency scale).

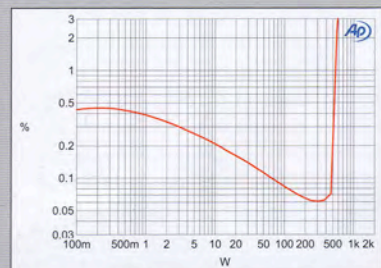
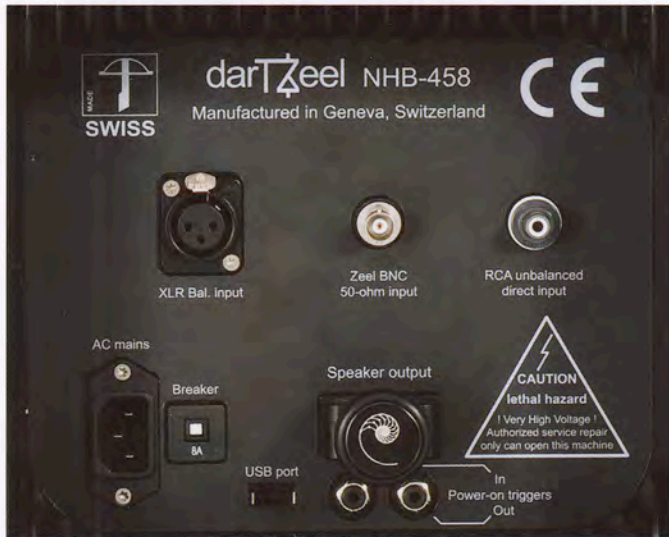


Fig.4 darTZeel NHB-458, distortion (%) vs 1kHz continuous output power into 8 ohms.



Balanced, unbalanced, and Zeel input jacks; a Cardas single-screw output terminal pair.

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. Other-

wise, 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.

So I wondered: Compared to the competition, how would the NHB-458s sound through the MAXX 3s in my home system? On the Soudution side of fast, tight, and detailed? Or would the darTZeels be "neatly threading the needle between the Soudution [710]'s cool speediness, the VTL [MB-450 Series III Signature]'s assertive top end, and the [Musical Fidelity Titan]'s warmer if less resolving sound," as I reported the big MBL Reference 9011 first sounding? More listening with the 9011 revealed bass response that, while "complete in terms of extension, texture, and finesse," was "less than fully developed in punch and forward thrust," while the top end was "less [than] crystalline on top," with "high-frequency transients [that] were slightly soft compared to the Soudution." Of course, all that added up to pleasingly seamless top-to-bottom performance.

The first listen in my system made one thing clear: The NHB-458s delivered "never heard before" high-frequency cleanness and transparency combined with as perfect a high-frequency transient response as I've heard from any amplifier, all emerging from velvety-black backdrops. The attack was neither slightly soft nor a bit too fast or tight, the latter of which can produce a hard, wiry sound that

measurements, continued

123.4V AC with the darTZeel at idle, the wall voltage had dropped to 119V with the amplifier clipping into 2 ohms.) Usually with a solid-state amplifier, the shapes of the traces in figs. 4, 5, and 6 would indicate that the THD+N reading was dominated by noise at low powers, with the actual distortion rising out of the noise floor at each trace's inflection point. But the NHB-458 is a very quiet amplifier, and these traces reveal that the distor-

tion is, very unusually, higher at lower powers than at higher powers, at least until the amplifier starts to clip. I would have suspected crossover distortion due to a lack of output-stage bias current, except that crossover distortion comprises subjectively irritating high-order harmonics—and, as you will see, the NHB-458's distortion spectrum is dominated by low-order harmonics.

To ensure that noise didn't affect

the measurement, I examined how the darTZeel's THD+N percentage changed with frequency at a fairly high voltage, 12.67V (equivalent to 20W into 8 ohms, 40W into 4 ohms, and 80W into 2 ohms). The results are shown in fig.7; while the THD roughly doubles with each halving of the load impedance, it remains constant at all frequencies, which is something I conjecture correlates with good sound quality,

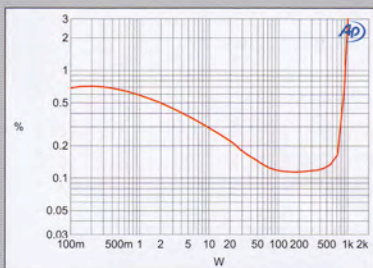


Fig.5 darTZeel NHB-458, distortion (%) vs 1kHz continuous output power into 4 ohms.

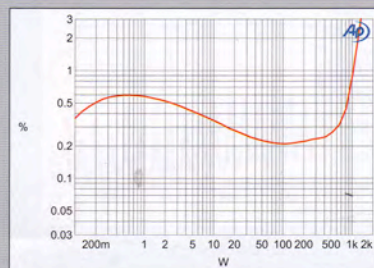


Fig.6 darTZeel NHB-458, distortion (%) vs 1kHz continuous output power into 2 ohms.

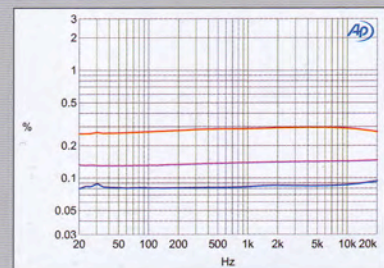


Fig.7 darTZeel NHB-458, THD+N (%) vs frequency at 12.67V into: 8 ohms (blue), 4 ohms (magenta), 2 ohms (red).

never lets you forget that you're listening to electronics, not live music.

Months later, that's still what I'm hearing as I listen to *Mel Tormé and Friends: Recorded Live at Marty's, New York City* (2 LPs, Finesse W2X37484), which I first heard at a long-ago Consumer Electronics Show through a pair of Apogee speakers in the room of their late co-designer, Jason Bloom. Tormé's friends here include Gerry Muligan and Janis Ian; the master tape has gone missing, so I pick up every clean copy I see, including the latest, a 1A pressing purchased on last April's Record Store Day for \$9. This sonically superb set was recorded by Dale Ashby and Big John Laberdie; played back at the right volume, it's transporting. Even the audience applause seems carefully miked, but it's Tormé's voice that's especially well recorded, appearing between the speakers as if you're listening from in front of Tormé in Marty's on that night.

In his liner note, Rex Reed writes: "Being there, with the patina of an artist's bravado rubbing off on the ringsiders, is one thing. But 'in person' albums sometimes make the listener uncomfortable, like walking in the snow and knowing there's a warm, festive party going on down the block in which you're not invited. That doesn't happen here." I'll say!

The NHB-458's transparency and "just right" attack begins at the very bottom of the audioband and extends to the very top. If the Soudation 710 was so fast and clean that I wished it might slow down a bit and reveal more texture, and the MBL 9011 was top-to-bottom coherent but I kept wishing it would tighten and speed up a bit, the NHB-458 was, to my ears, like Goldilocks' favored porridge: just right. The NHB-458s produced exceptionally clean and transparent high frequencies that combined the speed and fine image size of the best solid-state gear with the textural and transient delicacy and generous harmonic instrumental structures of the best tubed components.

The very first thing that startled was the way the darTZeels reproduced drums. I just keep playing Larry Young's *Unity* (two 45rpm LPs,

Blue Note/Music Matters MMBST-84221)—and with the organist backed by tenor sax man Joe Henderson, trumpeter Woody Shaw, and drummer Elvin Jones, no wonder! It's among engineer Rudy Van Gelder's best drum recordings, and was one of the first records I played through the NHB-458s. Record after record, my response was "Best drum sound I've ever heard."

But less important than such superlatives was *why* it was the best, and after months of listening to what's *still* the best drum sound I've ever heard, from cymbals to kick drum and, especially, what's in between, I finally figured it out: the NHB-458's combination of high, instantaneous power, absolutely spot-on attack speed, ideal sustain, and graceful, extended decay. The darTZeel wasn't the only amp I've heard that made drums "pop," but it followed that up with stunning textural authority in the sustain, then equally fast and symmetrical decay.

Recently, a Blue Note record producer brought over some test pressings of Norah Jones's catalog, now being reissued on vinyl by Acoustic Sounds. I think what he heard those LPs sound like took him by surprise—in a good way. Turned out he's also a fan of Larry Young, so I played the first track of *Unity*. His reaction to first hearing that very familiar track through the NHB-458s was the same as mine had been: astonishment.

Over time, it became apparent that the same qualities that produced the ideal drum sound brought a clarity and believability to

The darTZeels combined the speed and fine image size of the best solid-state gear with the textural and transient delicacy and generous harmonic instrumental structures of the best tubed components.

measurements, continued

provided the spectrum of the distortion consists of low-order harmonics. Which the NHB-458's distortion spectrum does: Fig.8 indicates that it primarily consists of the subjectively innocuous second and third harmonics. This graph was taken at a low power; at high powers, higher-order harmonics can be seen (fig.9), though the spectrum doesn't change significantly when a 4 ohm load (red

trace) is substituted for 8 ohms (blue trace), other than an increase in the third harmonic. Despite the higher-than-usual harmonic distortion, the NHB-458 did relatively well on the high-power, high-frequency intermodulation test (fig.10). While the difference component at 1kHz lies at -64dB (0.06%), all the higher-order intermodulation products lie below that level.

Its measured performance reveals that darTZeel's NHB-458 offers extremely wide dynamic range capability. While its distortion is not as low as is usually found in modern solid-state designs, perhaps of greater importance is the fact that that distortion comprises low-order harmonics, and that the distortion doesn't change its harmonic character with frequency—**John Atkinson**

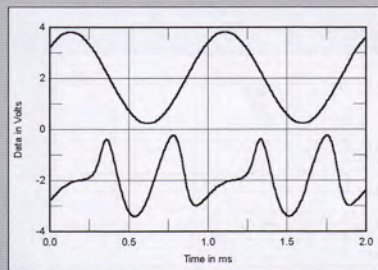


Fig.8 darTZeel NHB-458, 1kHz waveform at 10W into 4 ohms (top), 0.187% THD+N; distortion and noise waveform with fundamental notched out (bottom, not to scale).

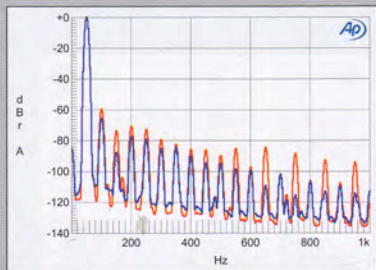


Fig.9 darTZeel NHB-458, spectrum of 50Hz sine wave, DC-1kHz, at: 150W into 8 ohms (blue), 300W into 4 ohms (red) (linear frequency scale).

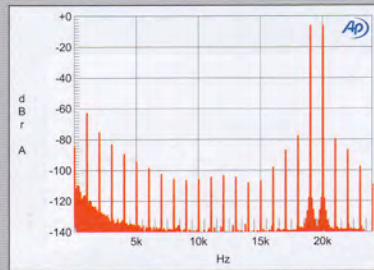


Fig.10 darTZeel NHB-458, HF intermodulation spectrum, DC-24kHz, 19+20kHz at 200W peak into 4 ohms (linear frequency scale).

piano recordings. The more crowded the soundstage, the more distant the miking, and the more reverberant the backdrop, the more the NHB-458s were able to lay out that first transient without overwhelming the textural sustain and decay. It's what you hear in a great concert hall—even Avery Fisher.

Could the darTZeels rock? With that much power, you'd think their dynamic possibilities would be unlimited. You'd be correct.

Consider, for instance, a reissue of Brahms's Piano Concerto 1 with pianist Clifford Curzon, and George Szell conducting the London Symphony (LP, Decca SXL 6023/London CS 6329/ORG 103), recorded by Kenneth Wilkinson at Kingsway Hall in spring 1962. The recording was simply miked, which produces eerily lifelike imaging and palpable physical presences of instruments, enveloped by the hall's acoustic. Like most Wilkinson recordings, it sounds great through just about any system. The absence of spot mikes means that the piano appears honestly sized in the mix, which means its physical presence can easily get overwhelmed on record—something that doesn't happen live, even if

you're seated well back in the hall. The NHB-458s managed a particularly believable, properly proportioned apparition of the piano, with an ideal balance between the hammer attack, the soundboard sustain, and the decay into the hall acoustic. A harder-sounding amp would accentuate the attack and probably shortchange the contribution of the soundboard; a softer-sounding amp would communicate the soundboard's warmth, but miss the piano's percussive qualities.

The NHB-458s nailed that record, as it did Wilkie's recording of Vladimir Ashkenazy and Georg Solti performing the Beethoven piano concertos with the Chicago Symphony (LP, Decca SXLG 6594-7)—another set that would sound good on a boom box. Through the NHB-458s, the piano's textural and tonal clarity and physical focus were a few significant steps better than what I've heard from the other amps mentioned.

Could the darTZeels rock? With that much power, you'd think their dynamic possibilities would be unlimited. You'd be correct. What's more, the more I cranked them, the better they sounded. They never got hard or brittle, but seemed to always sound . . . just right. XTC's superbly recorded and mixed masterpiece, *English Settlement* (2 LPs, UK Virgin), has sounded spectacular ever since the first time I played it, through Spica TC-50s, in 1982. Through the NHB-458s, it sounded so good, and so much better than I'd ever heard it, that I laughed out loud. Track 1, "Runaways," is a densely packed, chant-like track with an impenetrable overlay of jangly guitars anchored by thundering bass drum and thick, undulating bass guitar. The NHB-458s reproduced the bass line with an ideal mix of control and textural elasticity, to give it the desired "sticky" feel, in front of which the

curtain of jangly guitars sat well forward, spatially farther separated from the bass parts than I can ever recall hearing, and so fast and precisely rendered! If you love this album, as I do, I wish I could sit you down and play for you "Yacht Dance": so delicately drawn, yet so three-dimensional and so physically solid. The handclaps had *never* sounded so well fleshed out. In fact, handclaps in general, whether on the Beatles' *Abbey Road* or Mel Tormé's audience at Marty's, had never sounded quite so fleshy or real.

The new vinyl reissue of Paul Simon's masterpiece, *Graceland* (LP, Columbia/Legacy), was cut to lacquer (as opposed to DMM for the 1986 release) from the original analog tape by Ryan Smith at Sterling Sound, who learned the trade from veteran George Marino. This LP demonstrated everything great about the NHB-458: "rapid response" speed, dynamics, transparency, tonal and textural finesse, and, especially, soundstaging. The amp's ability to cleanly and transparently layer instruments in three-dimensional space was superior to anything else I've heard.

In "Diamonds on the Soles of Her Shoes," Ladysmith Black Mambazo's opening chant, split between the channels, attained a hair-raising level of transparency and three-dimensionality, while the drum *thwack* that introduces the melody exploded from the left channel with alarming power and textural suppleness. As the "ta-na-nas" faded out at the end, everyone who sat and listened, from manufacturers to friends to John Atkinson, and without exception, exclaimed, "Wow!"

Caution and Zeel Listening

After a few weeks of happy—no, *ecstatic*—listening, the Wilson MAXX 3s were wheeled out to make way for the Joseph Audio Pulsars, which I reviewed in June. The NHB-458's manual includes enough cautions about

connecting and disconnecting speakers and preamps to give me pause about the amp's robustness and stability in the event of, say, a shorted speaker cable. Before disconnecting and connecting cables, you're warned to shut off the amp, disconnect the power cord, and wait a few minutes. Because of the NHB-458's power reserves, lethal voltages can be present at the speaker terminals. Which partly explains the cautions.

So I was cautious. Anyway, the Cardas speaker terminals make it just about impossible to cross spades at either end. Using a flashlight, I double-checked all connections before plugging the darTZeels in again.

I turned on the left amp without incident. When I powered up the right amp, it went through its normal startup routine, but as soon as the relay clicked, there ensued a catastrophic, almost violent meltdown that I could see and smell. For this part of my listening each NHB-458 was plugged into a Shunyata Research Triton power conditioner. Its circuit breaker blew; unfortunately, the one on the right NHB-458 didn't. I have no idea what caused the amp to malfunction, but it had to go back to Switzerland for repairs. With a friend's help, I carefully repacked it in its shipping crate, but had forgotten to secure the suspended subchassis with the four bolts, which caused



The heatsink dominates the rear panel.

additional damage by the time the amp arrived back in Geneva—for which I profusely apologized to Hervé Delétraz.

The only good to come out of all this was that nothing I substituted for the NHB-458s came close to approaching their spectacular sound. When the repaired amp was shipped back and the NHB-458s once again powered my system, sonic bliss returned—not that

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the other amps had caused any suffering in the meantime.

At Delétraz's urging, and because I own one of his NHB-18NS preamps, I had substituted his 50 ohm, BNC-terminated, coaxial Zeel interconnect for my TARA Labs Zero. I don't have the space here to discuss transmission-line theory, or why Delétraz believes his Zeel connection is superior to any standard interconnect, especially in terms of eliminating electrical reflections. (Years ago, before he began making amps and preamps, he wrote a paper about this for *Stereophile's* November 2001 issue—also see www.stereophile.com/news/10857/index.html.) In any case, the relatively inexpensive Zeel cable

connection took everything I've described above to an even higher level of clarity, dimensionality, and harmonic and textural purity.

Conclusions

If you've already concluded that the darTZeel NHB-458 is easily the finest power amplifier I have ever heard in my listening room, you're correct. It combines lightning-stroke overall speed, effervescent and precise high-frequency transients, and unlimited dynamic capabilities at both the macro and micro levels, with supple and delicate yet powerful bass, and transparency that surpasses anything else I've heard at home. And it does all of that without sacrificing any of the harmonic riches and/or textural performance that speedy amps usually jettison. There was nothing cool, clinical, or analytical about the utterly transparent sound produced by the NHB-458s. Nor, after months of

ASSOCIATED EQUIPMENT

Analog Sources Continuum Audio Labs Caliburn turntable, Cobra tonearm, Castellon stand; Onedof turntable; Graham Engineering Phantom II, Kuzma 4Point tonearms; Lyra Atlas, Ortofon A90, Miyajima Labs Premium BE mono, Ice Blue cartridges.

Preamplification Ypsilon VPS-100, Manley Labs Chinook phono preamplifiers; darTZeel NHB-18ns preamplifier.

Digital Sources MSB Platinum Diamond DAC IV DAC, Platinum Studio ADC, Platinum Data CD IV CD transport; Simaudio Moon Evolution 650D DAC/CD transport; BPT-modified Alesis Masterlink hard-disk recorder; Meridian (Sooloos) Digital Media System, Pure Music software.

Power Amplifier Music Reference RM200 Mk.II.

Loudspeakers Wilson Audio Specialties MAXX 3.

Cables Phono: Hovland/Graham Engineering MG2 Music Groove. Interconnect: darTZeel Zeel (50 ohms), Stealth Sakra & Indra, TARA Labs Zero Gold, ZenSati Seraphim. Speaker: Shunyata Research Anaconda, TARA Labs Omega Gold, ZenSati Seraphim. AC: Shunyata Research King Cobra Helix CX & Anaconda CX, TARA Labs Cobalt.

Accessories Shunyata Research Triton power conditioners; Oyaide AC wall box & receptacles; ASC Tube Traps; RPG BAD, Skyline, Abffusor panels; Finite Elemente Pagode, HRS Signature SXR stands; Symposium Rollerblocks & Ultra platform; Audiodharma Cable Cooker; Furutech DeMag & deStat LP treatments; VPI HW-17F, Loricraft PRC4 Deluxe, Audio Desk record-cleaning machines.—Michael Fremer

listening, could I detect any obvious colorations or artifacts.

While I don't know what caused the meltdown of the right-channel NHB-458, I've been told by one admittedly biased overseas darTZeel distributor that he's sold more than a few pairs, and none of his customers has experienced *any* problems, let alone such a catastrophe. So don't let my bad experience influence your decision. If you're fortunate enough to be able to afford a pair of these amps and you're not a single-ended-triode guy driving big horns with a few watts, you should hear a pair of NHB-458s in your system. ■