




recreating the original sound

the Stereo Times

The Complete Audiophile Magazine

www.upgradecompany.com

LUMINOUS AUDIO



you

HOME
ARCHIVES
FEEDBACK
RECORD REVIEWS
AD INDEX
CONTACT
SHOW REPORTS



Associated Equipment:

Analog Front End

BIX turntable
 Rega RB250 (modified)
 tone arm
 Audio-Technica PB12S
 cartridge
 Basis record clamp

Digital Front End

Rega Planet CD player

Amplification

B&K Pro 10 preamp
 NuForce Reference 8 and
 Reference 9
 VSP Labs TransMos 150
 amplifier (modified)

Loudspeakers

VMPS RM 30 planar
 ribbon hybrids

Cabling

SignalCable Analog Two
 and Silver-Resolution
 interconnects
 SignalCable Silver
 Resolution speaker wires
 SignalCable SPDIF/
 digital coax
 SignalCable MagicPower
 AC cords
 Belden 14-gauge AC
 cords

Power Conditioning

PS Audio UPC-200
 power filter

Accessories

dbx 14/10 Computerized
 Equalizer/Analyzer
 VPI MDF isolation base
 with AQ Sorbothane
 footers

NuForce Reference 9 Amplifiers and Benchmark DAC1

A Tale of Power, Finesse, and Emotion

January 2006

My recent introduction to NuForce amplifiers and my subsequent review of the Reference 8 and 8B amplifiers has been a romantic adventure of sorts. I was so enamored of the Reference 8 series that they became my reference amps of choice.



When the production version of the Reference 9 amplifiers became available, NuForce's Jason Lim intimated to me that it might be possible for him to send me one of two pairs of the amps that he had available in the gold-anodized finish. Upon my agreement, the amps arrived, and I must say that the gold finish is absolutely gorgeous!



Michael Green Room
Tune
BDR cones, hardwood
blocks, and super-balls



At about the same time, I noticed a lot of talk/fuss on the Internet about the Benchmark DAC1. Benchmark Media Systems, Inc. is a company that focuses mainly on the Pro-sound market, but seems to have captured the interest of audiophiles with its DAC1— a stereo, 24-bit, 192-kHz Digital-to-Analog audio converter.

The main features of the DAC1, are its UltraLock™ circuitry (which Benchmark claims makes it 100% immune to jitter), balanced (XLR) and unbalanced (RCA) outputs that can be configured for either a fixed or variable output level, and two HPA2™ high-current, quarter-inch headphone jacks. The DAC1 has 3 digital inputs, TOSLINK, XLR, and a coaxial BNC connector; and includes a BNC to RCA adapter. All inputs accept both AES/EBU and S/PDIF digital audio formats. There is a female AC IEC receptacle for your choice of power cord (a shielded cord is provided), and the DAC1 is switchable for 110 or 220VAC operation.



Benchmark is very proud of the performance they have achieved with the DAC1 and provides copious graphs in the owner's manual to illustrate its extremely low distortion, immunity to jitter, frequency response linearity, and ultra-low noise floor. So would this translate into superior subjective audio performance? We shall see.

Getting back to the NuForce Reference 9s, these amps use the same basic amplification circuit of the Reference 8 series, but with a considerably larger power supply. The higher capacity power supply necessitates a larger chassis—both to physically contain the components and to effectively dissipate the extra heat that higher power generates. The Reference 9 amplifiers are rated at 160 watts rms into 8 ohms and 300 watts into 4 ohms, with 676 watts of short-term peak power available at 4 ohms.



While the NuForce Reference 8 amplifiers are available in either balanced or unbalanced versions, the Reference 9 amps include both. A small rear-panel toggle switch facilitates this choice. Now standard on the Reference 9s are the Eichmann Speakerpods, which seem to be an improvement over the previous Cardas Uni-



clamp design. NuForce also offers a couple of low-cost upgrades, which include WBT NextGen RCA input jacks and extra input decoupling capacitance for extended bass (recommended for the Ref 9 driving bass driver in a bi-amping configuration).

With the 9.02 version, all the previous little bugs appear to have been addressed and worked out. These include reduced turn-on transient noise, reduced RFI interference, and a circuit that makes the amps stable in a no-load condition. NuForce has accordingly extended the limited warranty to 3 years.

The Reference 9 amps come in three attractive standard finishes—black, silver, or gold, and may be ordered in custom-color anodized finishes at extra cost and waiting time. Some intriguing color samples are located on the NuForce website for curious and fashion-conscious 'philes to peruse.

When I first received the NuForce Reference 9 amplifiers, I was using a Rega Planet CD player as my source, which provides very good performance on its own. But I was seeking a more state-of-the-art digital source for my VMPS RM30 speaker system. My hope was that the combination of the Benchmark DAC1 feeding the NuForce Reference 9 amplifiers would yield a very high performance, cost-effective solution. Consequently I contacted Benchmark Media and they kindly agreed to send the DAC1 for evaluation and review. The particular DAC1 I received was the silver-faced model and the accompanying owner's manual and the version appears to be "Revision H," which was initiated in May, 2005. The following changes have been incorporated into the DAC1 since its original introduction:

- 1) RCA output impedance changed from 1.25K Ohms to 30 Ohms
- 2) RCA output level calibrated to 2Vrms at 0 dBFS (old levels were higher)
- 3) 20 dB pads enabled at factory on XLR outputs
- 4) Lower DC offset at all outputs
- 5) Lower DC offsets internally
- 6) Quiet gain control pots
- 7) Detented gain control (front panel)
- 8) 192 kHz input rates
- 9) Higher internal sample rate
- 10) Reduced brightness of Blue LED
- 11) Added gain balance trim (factory adjustment)
- 12) Brushed aluminum anodized finish on face plate (old finish was anodized polished aluminum)

Listen, and you will hear...

My first listening session with the production version of the Reference 9 amplifiers proved very interesting. If I could choose just one word to describe the sound of the Ref 9s, that word would be "relaxed." The Reference 9 amps immediately flexed their collective muscles and allowed me to play my system comfortably at average levels a few decibels louder than I had been able to manage with the Reference 8s and other amps I had tried (excepting the PS Audio GCC-250, which played as loud but didn't sound quite as musical).

I'd characterize the sound of the stock Reference 9s as warm and smooth, with deep, articulate, punchy bass. Yes, they played louder, and sounded more "at-ease" than the Reference 8s; and

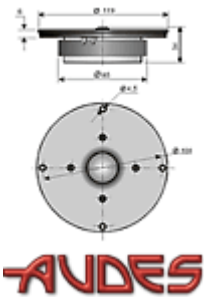


there appeared to be no lack of bass extension. Yet, at the end of the day, I didn't think they sounded quite as fast and transparent as the Reference 8s. To my ear, the original Reference 9s had a more rounded and slightly less incisive character than the Reference 8s, more like what one might hear from a decent tube amplifier. That said, the difference between the Ref 8s and Ref 9s was not large and a family resemblance was unmistakable. But in high-end audio, it's the small differences that count and these minor contrasts between amps had me scratching my head and splitting hairs as to which model I preferred.

As fate would have it, a couple of weeks of my vacillating passed and I received an e-mail from Jason Lim who said he had a few improvements for the Reference 9s if I cared to send them back. And from that point, my amps made a few additional trips back to NuForce for subsequent upgrades. Indeed, I believe NuForce regards me as part of their extended R&D team. Since I was having some fun trying successive versions and evaluating how the sound had changed with each revision, I was a willing participant. Consequently, I know a lot about the evolution of the design and how each change affected the sound of the amplifier. I won't try to cover that experience here, because it would make this article unduly lengthy and would not represent current production.

The result of this developmental process is the Reference 9, version 9.02. NuForce had added some safety features to the circuitry to make the amps more stable and to increase their long-term reliability. In Addition, they increased the bandwidth out to 100kHz, which is the main performance enhancement of the 9.02 version. My Reference 9s contain all presently available factory options, including doubling of the input capacitance, the now-standard Eichmann Speaker Pods, and finally, the gold-plated copper WBT NextGen input jacks. Happily, all these options are available from NuForce at very reasonable extra cost. This is the version I will be commenting on for the remainder of this review. It represents, in my view, their best sounding production model to date.

As it happened, the Benchmark DAC1 arrived just before the NuForce 9.02 update. However, I initially tried the 9.02 version with the stock Rega Planet CD player so that I could compare apples to apples before the DAC1 was added to the system.



AUDES



Next Page



Add this page to your favorites!

NuForce Reference 9 amplifiers and Benchmark DAC1

HOME ARCHIVES FEEDBACK RECORD REVIEWS AD INDEX CONTACT SHOW REPORTS



origin live
recreating the original sound

the **Stereo Times**
The Complete Audiophile Magazine

LUMINOUS AUDIO
Clear

the new sound of bamboo

HOME ARCHIVES FEEDBACK RECORD REVIEWS AD INDEX CONTACT SHOW REPORTS



NuForce Reference 9 Amplifiers and Benchmark DAC1

Page Two

Off to the races!

Upon inserting the updated Reference 9s into my system, it became clear to me that this version was one that I was going to enjoy. The bass was solid and ample, the midrange was natural and the highs seemed to possess just the right amount of extension and air without being overly bright. The transient edges on fast guitar work were rendered intact and were not smeared or rounded off.



Moreover, the Ref 9s are very clear sounding amps—pellucid, really, and the soundstage dimensionality had definitely improved. Not only did it become extremely wide when the recording dictated, but there was an impressive amount of depth, as well. My feeling with the 9.02 was that its speed, bass control, treble extension, and overall focus had likewise improved over earlier versions.

I first installed the DAC1 via its coaxial output from the Rega Planet. The DAC1's variable RCA outputs were connected directly to the inputs of my dbx 14/10 analog equalizer. (Yes, I use an equalizer to fix a broad bass rise at 125Hz, get over it!) The output of the EQ then fed the NuForce Reference 9 amps. I keep my EQ settings constant when reviewing other gear, and that way, I get an accurate representation of how the unit under evaluation compares to my reference.

With the introduction of the Benchmark DAC1 the holographic imaging capabilities of the Ref 9s, as well as the micro-dynamic aspects of the sound field, improved even more—as did the immediacy and clarity. As veils lifted from vocalist's lips, I could hear tiny changes in the syllable-to-syllable micro-dynamic contrasts that made the singers sound, well, more human. Try a track like Buddy Holly's "Well...All Right," on his CD, *Buddy*



www.bluecircle.com



Holly—From The Original Master Tapes [MCA MCAD-5540] to illustrate this phenomenon perfectly. There are lots of low-level volume changes in his voice as well as wide, macro-dynamic bursts of vocal volume. The combination of the NuForce Ref 9s and the Benchmark DAC1 let Holly's voice soar, unbridled and clear.

Another aspect of the Benchmark's resolution, possibly due to its very low noise floor and exceptional clarity, is its uncanny ability to allow the listener to hear deeply into an almost infinitely layered soundstage. The image specificity of different instruments and sounds within the sound field was impressive because the subtle ambient clues are not lost. On live recordings, for example, one can hear people talking, yelling, and making odd noises with astounding clarity and precise positioning.

Still, I felt something was amiss, and I suspected it was a lack of dynamic slam in the lower frequency registers. Lacking weight in the bass seemed to put more focus on the highs, which imparted a slightly bright system balance. This caused me to experiment with the DAC1 in different system configurations.

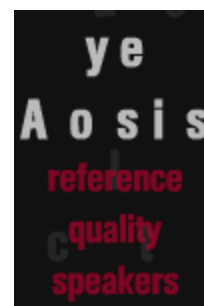
I was quite surprised to hear how similar the DAC1 sounded to the Rega Planet when I routed them both through my active preamplifier. Indeed, if that was the configuration I'd have stayed with, I probably would have concluded that the DAC1 did not offer me enough improvement to consider buying it. I definitely felt that the DAC1's previous transparency and micro-dynamics suffered. I tried both the DAC1's variable and fixed outputs and it seemed that the fixed configuration was slightly more solid sounding in the bass; but that going through my solid-state preamp's gain stage had essentially destroyed the finer points of the DAC1's translucent presentation.

Then, on a whim, I did something as easy as pushing a button. I bypassed my preamp's active gain stage and fed the DAC-1's fixed outputs through the preamp's direct, buffered, unity-gain circuit. This required turning the preamp's volume control much higher to achieve the same sound level, but I still had plenty of gain for all the CD's I encountered. And the relative noise level did not appear to change.



This more direct path proved to be a revelation. Playing through *A GRP Christmas Collection* [GRP GRD-9574] I was literally stunned by the difference. All of a sudden the lower registers came alive. The sound was smooth, full-bodied, and simply glorious. From the very first track, Daryl Stuermer's rendition of "The Little Drummer Boy," was so emotionally involving that I felt tears welling up in my eyes at the sheer beauty of the musical tapestry. "Sold!" I said to myself; this was the kind of sound I was missing and the kind of sound I'd been searching for.

It soon became clear that running the DAC1 through my buffered line stage and then through the EQ was the highest performance signal path for the system. Best of all, it gave me the ability to



use other sources (like my turntable) without disconnecting and reconnecting interconnects.

Okay, so judging from my brief weeping spell, it was obvious to me that the midrange and highs were spot on. Additionally, the extra heft in the lower frequencies served to balance the highs, making for a neutral system balance. Proceeding to break out my arsenal of bass-heavy recordings, I needed to determine just how articulate and dynamic the bass had become.

With bated breath, I loaded The Ray Brown Trio's *Summer Wind/Live AT The Loa* [Concord Jazz CCD-4426] into my trusty Rega Planet. Listening to the reproduction of Brown's double-bass and Jeff Hamilton's potent drum kit, I was confident that the DAC1's pitch definition, articulation, and freedom from overhang were all first rate. Going to the Manger test CD and spinning The O-zone Percussion Group's "Jazz Variants" gave me new insights into the depth of field my system could produce. The cymbals shimmered with air and delicacy and the individual strikes were clear and palpable. Cymbal crashes were fast and potent, and when those drums started to roll, the tuning of the skins was evident as the weight of the big drums coupled to the room and enveloped me. This is a great recording because you can hear the room echo from the drums being smacked. This was bass at its best!

Going to Us3's *Hand on the Torch* [Blue Note CDP 07777 80883 2 5] produced very credible sound. I intuitively made a fine-tuning adjustment nestling a pair of super-ball type feet under the business ends of the NuForce Reference 9s. At first I thought the bass had diminished slightly, but then, as I returned to my seat, I realized it had tightened up even more. Now we're talking vice-grip, sledge-hammer bass. In terms of dynamic slam combined with detail and articulation, I had achieved a solidity to bass lines that I've never heard in my system and frankly, didn't think was possible.

Summary

Being confronted by this much musical truth can be daunting if other aspects of your system setup are wanting. Both the NuForce Reference 9s and the Benchmark DAC1 are capable of providing such transparent windows that any distortions, brightness, dullness, or shortfalls of any type will be immediately exposed. However, both pieces of gear can be mated successfully with modest components as long as the overall system balance is not tilted up in the treble—because trashy or distorted highs will be mercilessly revealed. The DAC1 will also let you know if high-frequency distortion is part of the particular recording itself. Conversely, if the recording's treble is pure, fast, and precise, you are likely to hear these qualities with greater precision, clarity and comprehension than you've ever experienced before.

I believe the addition of the NuForce Reference 9 amplifiers and the Benchmark Media DAC1 has brought my system to near state-of-the-art performance. These components are exceptional in their holographic imaging, transparency, resolution, and musicianship. Using them has provided an emotional connection to the music that I've never felt—except during a live concert experience. I can



fully comprehend why the Benchmark DAC1 has been chosen for mastering duty by respected recording engineers.

My hat is off to Benchmark and NuForce for their prescient engineering abilities and their willingness to offer these fine products at such incredibly reasonable prices.

Frank Alles

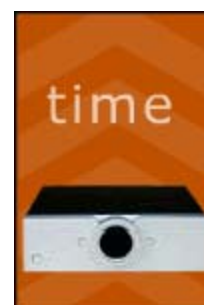


NuForce

356 South Abbott Ave
 Milpitas, CA 95035
 Phone: 1-408-426-4165
 Primary Fax: 1-408-262-6877
 Secondary Fax: 775-245-9746
 E-mail: salesteam@nuforce.com
 Web: www.nuforce.com

Pricing:

NuForce Reference 9 mono amplifier **\$1250.00 USD**
 Upgrade to WBT NextGen RCA, add \$55 per unit
 Upgrade for extended bass, add \$25 per unit



Benchmark Media Systems, Inc.

5925 Court Street Road
 Syracuse, NY 13206-1707
 Telephone: 1-800-262-4675
 Fax: 1-315-437-8119
 Email: sales@benchmarkmedia.com
 Website: www.benchmarkmedia.com

Benchmark DAC1 **Price \$975.00 USD**



Add this page to your favorites!