

NuForce Reference 18 V3 Monoblock Amplifier

Chris Martens



I have been following the gradual evolution of NuForce's Class D Reference 9 Series monoblock amplifiers for years and have been impressed with the progress the NuForce team has made with the design over time. From the outset, I felt the NuForce amps had much to offer in terms of detail, transient speed, expressive dynamics, and rock-solid bass, though I recognize that their sound is also considered controversial by some critics who felt the amps sounded overly analytical, mechanical, or even bright—as if delivering what one writer termed, “highs under glass.” Taking these criticisms to heart, the NuForce team labored, successfully in my view, to give successive versions of the Reference 9 a smoother and more mellifluous sound intended to deliver “sweeter highs” and “a more natural and relaxed presentation.” Each new iteration of the amplifier offered small but worthwhile incremental improvements, which is all to the good. Still, over the past year or so, NuForce decided to develop a new amplifier that would be capable of taking much bigger sonic steps forward—an amplifier meant to compete directly with statement-class amplifiers regardless of price. The result of that design effort is the new Reference 18 monoblock amplifier (\$7600/pair), which is the subject of this review.

EQUIPMENT REVIEW - NuForce Reference 18 V3 Monoblock Amplifier

Thus far NuForce's monoblock amps have traditionally been extremely compact, featuring deep but narrow enclosures roughly one-half rack space wide. The Reference 18, however, uses a considerably larger, 17-inch wide chassis that gives the amp the appearance of a wide, flat, metal slab finished in satin black, with the NuForce logo set in recessed letters on its top plate. At the front of the amplifier is a sharply beveled faceplate whose sharp angles remind me of the shape of Lockheed's F-117 Nighthawk "stealth fighter." The only oddity is that the amp appears, at first glance, not to have a front panel on/off switch of any kind. If you look closely at the amplifier's "stealth" faceplate, though, you'll see what appears to be a slim gloss black trim strip that in actuality turns out to be a touch-sensitive power switch. If you swipe your finger across the trim strip from left to right, the amp will power up as denoted by a red NuForce logo that illuminates from within; reverse the finger-swipe process (moving from right to left) and the amp shuts down. It's a cool and clever design touch that's fun to use. At the rear, the Reference 18 provides a pair of WBT speaker terminals and switch-selectable single-ended (RCA) or balanced (XLR) inputs.

Why did NuForce go with a larger chassis for its new amp? The short answer is that the firm wanted to equip the Reference 18 with a bigger and better power supply than the one used in the Reference 9. The planned high performance power supply in turn features an extremely elaborate array of capacitors that would never have fit within the tight confines of the small Ref 9 enclosure. NuForce calls its special bank of capacitors a "Cross-Matrix Array" (or CMA, for short)—an array said to minimize potentially

audible "parasitic resonances" of all kinds and thus to offer a "no-compromise route to the ultimate in performance." NuForce's Web site provides the following description of the CMA capacitor bank:

The Ref 18 CMA employs the highest-quality capacitors of various values arrayed in a quasi-random pattern in order to spread resonances over a wide range of low-amplitude frequencies. In order to minimize stray magnetic fields, and hence, to reduce parasitic inductance, the capacitors are positioned so that their polarities are reversed with respect to each other. By lowering inductance, any remaining resonance is elevated to frequencies where its elimination becomes an easier task. Finally, low-value resistors combine with capacitors in strategic locations in order to dampen residual resonances.

Interestingly, the purpose of the CMA array is *not* to increase the amp's power output *per se* (both the Reference 18 and the Reference 9 produce an identical 175 watts at 8 Ohms or 335 watts at either 4 or 2 Ohms), but rather to improve *qualitative* aspects of power delivery. NuForce says the array enhances the amp's ability to resolve subtle, low-level textural and transient details and to handle both small and large-scale dynamic shifts with grace, speed, and finesse. Are these claimed sonic benefits borne out in real-world listening? Indeed they are, and with results that are far more dramatic than you might at first expect.

Let me begin by noting that the Reference 18, like all NuForce amplifiers, benefits from a good bit of run-in time (our samples were trade show demo units that had received plenty of burn-in in advance). I found that from the moment I



powered-up the Reference 18s they immediately produced a more detailed, three-dimensional, and dynamically expressive sound than any of the NuForce amps I've reviewed in the past. What is more, those sonic differences became even more fully fleshed out and refined after the amps were allowed to warm up for several hours. In short, the Reference 18 left behind the world of small, incremental improvements and instead offered a substantial sonic leap forward.

One of the first things I noticed was that the Reference 18, despite having the same rated power output as the Reference 9, seems significantly more powerful and expressive. When dynamic shifts in the music occurred, whether large or small in scale, the forceful Ref 18s instantly responded with an almost startling degree of speed, power, and control. There was never any sense that the amplifier was working

hard, not even in the midst of taxing or highly complicated dynamic passages, so that at every point the Reference 18 seemed ready, willing, and able to do the musical signal's bidding—no matter how sudden or severe the demands on its power reserves happened to be. In fact, this agile, "energy-on-demand" quality is one of the Reference 18's signature characteristics—one that makes other amps sound, by comparison, as if they are struggling to keep pace with the music (or to overcome internal dynamic constraints). I found the Reference 18s dynamic agility not only benefited large-scale orchestral works and the like, but also gave quieter, more contemplative material greater impact and realism.

To appreciate the Reference 18's benefits on large-scale material, try listening to the second (Scherzo: Allegro molto) movement of the Copland Organ Symphony with Tilson Thomas and the

EQUIPMENT REVIEW - NuForce Reference 18 V3 Monoblock Amplifier

San Francisco Orchestra [SFS Media, SACD], where you will hear relatively quiet passages unfold to become full-fledged crescendos of thundering proportions. What I found particularly interesting about the Reference 18's handling of the movement was not just its ability to navigate the crescendo sections with muscular grace, but also—and perhaps even more importantly—its ability to highlight the dynamic *contrasts* between crescendos and the quieter passages that preceded them. Dynamic contrasts are one of the things the Reference 18 does best, so that at times the amp creates the illusion that it has, in a subtle and entirely appropriate way, unlocked and expanded the dynamic range of familiar records.

But there is more to the Reference 18s than dynamic expression, because these amps also offer two more vital and interconnected characteristics that help to enhance realism: namely, terrific transient speed and excellent resolution of very fine, low-level details—areas where the Reference 18 comfortably exceeds the performance of the already good Reference 9 V3 SE. When first powered up, the Reference 18 sounded detailed with a capital “D,” so that I couldn't help but notice how much sheer sonic information the amplifier was conveying. Long experience has taught me, however, to be cautious when details draw too much attention to themselves, even in seemingly good or pleasant ways, since this can be an indication that there are elements of artificial “highlighting” or “spotlighting” present (qualities that can be exciting at first, but that foster listening fatigue over the long haul). However, given adequate warm-up time, the amp undergoes a subtle yet significant

sonic transformation, so that its sound—while still exhibiting tons of resolving power—becomes noticeably more liquid, easygoing, and relaxed. As a direct consequence, musical details are allowed simply to *happen*, unfolding effortlessly and naturally without the amplifier imparting any excess edge enhancement or unnatural brightness that isn't part of the recording itself. As this transformation occurs, several beneficial things happen at once.

First, the amplifier does an increasingly good job of capturing the sense of air surrounding instruments or reverberating within the confines of recording spaces. Second, previously veiled nuances not only become easier to hear, but also become more smoothly and fluidly integrated within the musical whole (this is the “liquid” quality I mentioned above). Third, imaging and soundstaging cues sound more whole, complete, and realistic, so that sounds no longer arrive with

an unnatural and almost mathematical precision (as in, “Attention listeners: this sound just originated from a point defined by coordinates X, Y, and Z), but rather arrive from believable locations within equally believable soundstages (as in, “the conch player just stood up to play a few solo notes before sitting down, back on the far left side of the stage just behind the conga player”). The fascinating result is that both lateral and front-to-back imaging becomes at once more focused and specific, yet also exhibits a more natural and organic sound (or at least that's what happens on good recordings). Finally, timbres and tonal colors become purer, better defined, and truer to themselves.

For a good example of all these qualities in action try listening to the track “Palmyra” from Bela Fleck and Edgar Meyer's *Music for Two* [Sony Classical] through the Ref 18s. The track opens with Meyer stating an elegantly simple

theme on solo piano, only to be joined several measures later by Bela Fleck offering soaring, lilting, and almost ethereal lines on his banjo. Then, as the song unfolds, Meyer switches from piano to his primary instrument—an acoustic bass that, on this track, is played *arco* rather than *pizzicato*-style. It is a delicious study in contrast to hear the Reference 18 delineate the very different and yet equally evocative voices of these three instruments, and one fascinating aspect of the performance—as rendered by the NuForce amps—is that the sound of each instrument remains perfectly stable, full, and complete whether the other instrument is playing at the same moment or not. This might seem an obvious point, yet it is not. With many amps one has the sense of there being a painfully finite reservoir of clarity to draw upon, so that as more instruments join the mix the amount of resolution that can be devoted to any one of them gradually decreases. But not so with the Reference 18; it seems able to provide clarity-on-demand to fit the requirements of the record.

In “Palmyra,” for instance, it is easy to get lost in the distinctive, plaintive textures and timbres of Fleck's banjo, whose sounds begin with a fast-rising attack as the instrument's strings are first plucked, with the fuller envelope of the note unfolding an infinitesimal split-second later as the banjo's signature head and resonator begin to release energy. By comparison, Meyer's bass has a radically different way of delivering sound (not to mention its typically lower-pitched voice), so that you first hear the bow start to move, then hear the bow gain traction on the string, and finally hear the bow generate a mounting wave of acoustic energy as the string and the



EQUIPMENT REVIEW - NuForce Reference 18 V3 Monoblock Amplifier

large wooden body of the instrument begin to vibrate. The Reference 18s give you an up-close view of the collaboration between Fleck and Meyer, where Fleck's fast, fluid banjo lines have the quick, dancing quality of leaves caught in a gust of wind, while Meyer's bass lines supply an almost hypnotic surge, much like the ebb and flow of waves on a seashore. The sonic effect is both riveting and realistic, creating the illusion that the listener is seated just a few rows back from the front of the performance stage. *Music for Two* is an extremely well made live recording, and the NuForce amps let you hear the voices of the instruments unfold within the natural acoustics of the performance venue, making the spatial relationship between the players clear and explicit.

Finally, let me come right out and tell you that the Reference 18 offers some of the best—if not *the* best—bass reproduction I've ever heard from any amplifier at any price. This is an area where NuForce amps have traditionally been very good, but where the 18 takes things to an even higher level. What is so satisfying, here, is the amplifier's nearly unbeatable combination of extension,

depth, power, nuance, and, above all, control. No other amplifier I can think of does a better or more consistent job of getting woofers to behave themselves and to follow the music, rather than allowing them to wander off on uncontrolled low-frequency excursions on their own. In short, you can trust the NuForce to get the foundational elements of bass right.

To hear what I mean by these comments, try playing "Temple Caves" from Mickey Hart's *Planet Drum* [Rykodisc] and listen for the ultra low-pitched "Earth drum" to sound. The instrument is exceedingly low-pitched and powerful—qualities that, with some amplifiers, would be a recipe for sonic mush. But the Reference 18 wades right in, grabs hold of the sound of the drum, and simply nails it, so that you not only hear the attack and gradual decay of the drum, but also experience the full depth and weight of its presence. Yet even when caught up in the sheer power of the drum's notes, the NuForce preserves a sense of proportion and detail, so that you also hear very subtle modulations within the envelope of the notes. The Reference 18 adds dramatic impact, not by overstating low frequencies, but rather by

rendering them powerfully, yet with consistent nuance and precision.

Well, as with many great audio components, the Reference 18 has some of the qualities of a double-edged sword. The good news is that it will tell you exactly what's going on in your recordings. The not-so-good news is that it will tell you *exactly* how your recordings really sound. This is perhaps a roundabout way of saying that the Reference 18 has a certain tenaciously revealing quality that just won't quit, and in this respect the NuForce amps do invite what might be considered an analytical or perhaps "diagnostic" style of listening. After you live with this amp for a while, you may find you instinctively become a connoisseur of fine mixing and mastering efforts, since the amp renders well-made records with stunning and at times breathtaking beauty, but also exposes any flaws that may be present for exactly what they are—flaws. The amp doesn't browbeat you with defects in recordings, but it makes no effort to conceal them. For my part, I'd rather have the Reference 18's pure, unvarnished honesty, but you might make a different choice. But remember this: When your recordings are up to the task, the Reference 18 will make them sound mind-blowingly good.

The Reference 18 is hands down the finest amplifier NuForce has made, and I think it is good enough that it deserves to be included in most any discussion of top-tier amplifiers. Even if you have heard (and perhaps disliked) Class D amplifiers in the past, this is one I think you will find worthy of your time and consideration. Above all, the Reference 18 keeps faith with the truth of the recording itself, which is all anyone might ask of a fine power amplifier.



SPECS & PRICING

Frequency response: 20Hz (-0.3 dB)-120kHz (-3dB)

Power output: 175 watts at 8 Ohms, 335 watts at 4 or 2 Ohms

Inputs (switch selectable): One unbalanced analog audio (RCA jack), one balanced analog audio (XLR)

Dimensions: 2.95" x 17" x 15"

Weight: 16 lbs.

U.S.

Price: \$7600/pair

NUFORCE, INC.

385 South Abbott Ave.,
Milpitas, CA 95035
(408) 890-6840
www.nuforce.com

U.K./E.U.

Price: £6,995

ROBYTONE

Gerard Bilderstraat 41
5753 DE Deume
The Netherlands
+31(0)493 744 020
www.robytone.com

[CLICK HERE TO COMMENT IN THE FORUM AT AVGUIDE.COM](#)