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Nu Force's storming new Reference 9SE power amplifiers

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# Hand In Glove

**There's no such thing as the perfect power amplifier, and there probably never will be, but if you want an ultra versatile, super clean sounding high end device, NuForce's new Reference 9SE is the one, says David Price...**

**T**he relationship between an amplifier and a loudspeaker is a special one, and the two have to be more than comfortable in one another's company. The problem with all the suitors that have been through my front door (amplifiers, that is) is that they've often done some great things, but have consummately failed to do it all.

For example, the Sugden A2ISE (£2,000 Class A integrated) was a brilliantly lucid musical performer, but lacked the muscle to truly tickle

Jungson's JA-88D (£900 Class A power amp) was an interesting diversion; a lot more power than the Sugden and only a little less musicality, but despite its vast acreage of heatsinking, still couldn't completely lock down those Yamaha woofers. Lyngdorf's SDA2175 (£800 semi-digital power amplifier) had superior low bass grip and oodles more power, but simply sat on transients at high levels, making things sound too dispassionate. Musical Fidelity's kW500 (£4,000 Class AB integrated) had a vice-like control,

once put it, "for a custom fit in an off-the-rack world", has been a frustrating and ultimately unfulfilling experience then. But just when I was contemplating switching back to my Quad 989 electrostatics as my main reference loudspeaker, along came NuForce's Reference 9SE, which proved the first thing I've heard that truly fits 'hand in glove' with my troublesome transducers...

## **N – A CLASS OF ITS OWN**

It isn't just the distinctive burnt orange ("Rose Copper") aluminium



the Yamahas' fancy. It could sing like a canary, play tunes like Paul McCartney and generally bring joy to anything it touched, but didn't have the motive force to stamp its authority on these notoriously unforgiving loudspeakers.

but lacked charm and tonal colour. My own modded World Audio K5881 (£1,500 Class A tube amp) was deliciously fluid and tonally sublime across the midband, but fell to pieces down below.

Looking, as Martin Fry of ABC

casework that's different about the tiny Reference 9SE. Inside is a novel variation on Class D amplification. A very high frequency PWM switching circuit produces the output waveform from the power amplifier, and its very low distortion



is achieved by building in a local feedback integrator around the switching circuit to ensure that the average output voltage from each digital switching cycle is exactly equal to the reference (desired) output voltage. NuForce says this eliminates the need to take overall negative feedback from the output of the filtering circuits feeding the loudspeaker load, which complicates feedback and limits the bandwidth of Class D amplifiers.

The reduced component count increases overall energy efficiency over Class-D, and reduces heatsink and cooling requirements, overall size and cost, it's claimed. Essentially then, this is a modern digital amplifier with a twist.

Because of the diminutive dimensions, it's a real tight fit inside, with tightly packed SMT circuit boards, a sprinkling of bespoke NuForce ICs and NuForce audio-grade capacitors. The 9SE boasts an elaborate power supply with a vast bank of small capacitors (as opposed to two large caps on the standard, cheaper non-SE version). Further enhancements include a separate switching power supply for the analogue front end, and improvements to the signal input section, including higher quality input capacitors, and the installation of premium 6-nines, oxygen-free copper input wiring.

It is surprisingly compact considering its claimed 160W RMS power output. With the 9SE being an American creation, we'll use 'old money' and quote its vital statistics as being 6.5x10.5x1.75in and 3lb (which to my aching back feels about one fiftieth of the bulk of the JungSon JA-88D!). It's just as amenable in other ways, too. Round the back is an IEC power socket and an on-off switch. With its tiny current draw, you can leave it on permanently if you so wish, and the unit auto-senses voltage (from 84-264V).

There's a pair of rhodium over copper speaker binding posts (superior sounding and about twice as expensive to make compared to gold plated, don't forget), and single Cardas phono input, plus an XLR input too (complete with a microswitch to toggle between balanced and non-balanced operation). The brushed, anodised aluminium casework is largely non-resonant, and electrically screened so the amps can sit one atop the other. Finish is superb – indeed the only thing I can think of that might count against it in the showroom are its aforementioned diminutive dimensions – it looks tiny and weighs

next to nothing. Of the Musical Fidelity kW school of electronic design it is not!

## SOUND QUALITY

The aforementioned Lyngdorf SDA2175 is an extremely clever semi-digital (ostensibly Class D) amplifier, and sounds it. The JungSon is a sort of 'uber Sugden' (Class A), and sounds it. Both have the same, single great strength – clean power – but deliver it so differently. The Lyngdorf is a tad cerebral and slightly undynamic, despite the truly high levels it's capable of, whereas the JungSon is muscular and transparent but a little zingy across the high treble. Strip these objections away and you have an amplifier that's powerful, muscular, dynamic and transparent almost to a fault – the NuForce Reference 9SE.

Suitably fettle, it's one of the best audiophile power amplifiers I've

"the Reference 9SEs hung on with total unflappability; their grip is sublime."

yet heard in some ways. It is at once effortlessly powerful but extremely musical too, and the fact that it has proved oh-so-responsive to any improvements elsewhere in the system shows how consummately transparent it is. Immensely revealing yet never cerebral or analytical, I find it a very special design. Whereas the Lyngdorf gives real, clean, visceral power but – at truly high levels – tends to sit on musical crescendos, the NuForce gives you all of the former's decibel count, but just keeps on getting louder gracefully. At full volume on my MF Audio Passive Preamp, the Ref 9SEs were pounding out swingeing sound pressure levels, yet when there was a heavily struck snare or kick drum on 4hero's 'Escape That', the amplifiers went louder still, effortlessly and with no sign of compression.

Importantly, this is useable power. The amplifiers are so clean that you can keep 'pressing the loud pedal' on your preamp (neighbours notwithstanding), going for ever high volume levels, with ease. The amps are so couch that, even at such high levels, you can easily hold a conversation with someone over and above the music (not that you'd want to), which is always the sign of really classy amplification. There's so little apparent compression (through my speakers at least), that the NuForces seem to goad you to listen ever louder, and then bowl you over with their control at such volumes. Yet



should you wish to return to more sane levels, they're no less enjoyable, displaying as they do tremendous speed and 'hear-through' clarity even a whisper-quiet listening levels.

Tonally, the NuForces aren't going to win over valve aficionados, although don't think for a minute they're monochromatic. They certainly don't sepiate the music (as per many tube amps), nor do they add grey, solid-state-style (Class B) mush to the proceedings. Rather, they're largely neutral, and prove themselves brilliantly adept at revealing the respective 'acoustic signatures' of different recording studios (often several are used on one rock or pop album) or indeed different albums cut by different artists at the same recording studio. In the latter instance, for example, they're able to effortlessly signpost the distinctive sound of (the late lamented) Compass Point studios, Nassau, on both Grace Jones's 'Nightclubbing' and Tom Tom Club's 'Genius of Love'.

Randy Crawford's voice on 'You Might Need Somebody' showed how right the 9SEs were; to these ears (used to high end tube amplification), they're just a tad on the lean and bright side, but I don't mean 'lean' in the Chord Electronics or DPA sense, but rather that they're not ever-so-slightly plummy or rich in the Quad II/40 sense. Smoothish as they are, there's no velvet lining to the 9SEs; they tell it like it is. This meant that

Crawford's voice had a grainy, gritty feel, but still retained her trademark rich 'fruitiness' – and the result was a brilliantly natural feel.

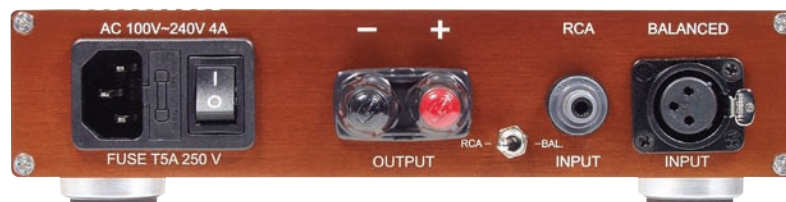
Continuing with this classic slice of seventies jazz rock, and underneath her vocals an extremely powerful and engaging bassline pushed along the proceedings. Much as I love tube amplifiers, my fine example of the breed just could not compete – the NuForce showed itself to be highly rhythmically engaging (signposting the spaces between the notes as well as almost any high end Naim), yet strong and firm and unflappable too. At first, I'd thought the bass to be ever so slightly soft and soggy, but a change to Black Rhodium's Ninja loudspeaker cables (£200/m rather than £15 of the Black Rhodium Tango I'd been using [see MATCH MAKING] showed the disarming speed, grip and transient power the 9SEs were capable of serving up – given an adequate delivery line. I wouldn't normally recommend £200/m speaker cables, but both NuForce and Yams showed how arrestingly capable they both are given the tools to do the job. With these 'uber cables', I heard a tremendously tight, taut, in control amplifier delivering massive sound pressure levels with relative insouciance; the NuForces just took it all in their stride with heady abandon.

Midband is much like the bass; it's even, fast and three dimensional. Frankly, I've heard tube amps give a more 'walk around soundstage' before, but I'm not sure if that's the euphonic sound of valves as opposed to the real recording. Still, the NuForces locked stereo images very tightly and confidently across the plane of the speakers. They are quite architectural; everything's in its place, virtually 'nailed down' to its proper location within the recorded acoustic. Again, they don't approach the best tube amplifiers in their front to back staging, but it's still very accurate and in control. With the Townshend Isolda DCT speaker cables, the stereo image appeared to hover just around the plane of the speakers, but moving to Black Rhodium Tango it dropped back slightly, and seemed happier projecting out when needed.

Midband clarity is breathtaking, as is speed. Michael Jackson's 'Don't Stop Till You Get Enough', a classic late seventies Quincy Jones production, showcased the NuForces' dizzying speed. There's so much happening in this song, massive amounts of percussion coming at you with the speed of a machine gun, and where most amplifiers simply gloss

**MATCH MAKING**

My first few weeks of listening involved my Townshend Isolda DCT loudspeaker cabling, which I've found to be a super high end design. Compared to so many cables on the market it sounds deep, dark and velvety with most amplifiers and/or speakers, but the particular combination of Reference 9SE and NS1000M proved just a little too 'chromium plated' across the upper midband. The Yamahas, if anything, have tendency to sound slightly hard; it's only very slight, and if anything is as much about its partnering ancillaries as the speakers themselves. The Reference 9SEs are so crisp and upfront that the combination proved just a tad too imposing in the midband. The arrival of one Mr Graham Nalty, clutching a case full of Black Rhodium Tango loudspeaker cable (£15/m) just pulled back the upper midband enough for this amplifier/speaker combination to completely 'hit the spot'; it was magic – true 'big audio dynamite' – and this review was written with this amp-cable-speaker combination in mind. We'll review the cable a proper soon, but suffice to say it's one of the best I've heard at the price and is now an automatic recommendation. I also auditioned the Ninja cable (£200/m), and this had quite sublime effects, removing almost everything wrong about the sound that I'd incorrectly attributed to the NuForce Reference 9SE. It is stunningly fast, incisive and transparent – so clear it's almost frightening – and boasts a massively well articulated bass performance with firecracker dynamics. Expensive, but you might like to consider placing a Reference 9SE right next to each of your loudspeakers, and running a metre or so of Ninja between the amp and speaker, with a long balanced line level lead coming from the preamp (if your preamp is capable of this).



over it, the Reference 9SEs hung on with total unflappability; their grip is sublime. Moving to Black Rhodium's Ninja again underlined it; it's real edge-of-the-seat stuff normally, but the Ninjas had my knuckles turning white, such was the massive amount of musical information coming at me, at such speed and with such clarity. The treble is no different; brightly lit yet silky when called upon so to be, it's strong and atmospheric as the occasion demands.

**CONCLUSION**

A truly special power amplifier from a company I had never heard of, the NuForce Reference 9SE is an important arrival on the 'affordable' high end scene – and you'd be mad not to make its acquaintance. It is one of the few power amplifiers I've heard that doesn't make you aware of its weaknesses, however many obvious strengths it may have. It drives – I would guess – any loudspeaker with ease, and never makes you audibly aware that it's uncomfortable, flustered or in distress, even at extremely high programme levels. Some may not like it, simply

because of its lack of 'character' – it gets on with the job in hand, and does it with great aplomb. Switch it on and you won't think it's muscular, powerful, sweet, smooth or any other such thing, nor will you find any particular vice. Rather, love it or hate it, the NuForce Reference 9SE just plays music.



**VERDICT**

Superbly clean, musical and powerful sound makes this a brilliant audiophile buy.

**NU FORCE**  
**REFERENCE 9SE** £1,550  
 HIAudio Distribution  
 ☎ +44 (0)845 052 52 59  
 www.hiaudio.co.uk

**MEASURED PERFORMANCE**

Because of the unusual behaviour of digital amps close to overload, the exact threshold of the NuForce Reference 9 SE wasn't precise; for example parasitic oscillation breaks out at high levels, so distortion from a thd meter (thd+n) is much higher than that from a spectrum analyser - and we use both. The Ref 9s produce around 32V into 8ohms and 4ohms before serious clipping (overload) occurs, translating to 130W / 260W. This level of power, delivered without heat or noise, seems a little uncanny.

However, digital isn't drama-free. High frequency distortion levels were high, ranging from 0.1% at 1W to around 0.6% just below (-1dB) full output. Harmonics were extended and varied strongly with level. The NuForce isn't band limited to 22kHz, like the Lyngdorf for example, allowing upper harmonics through. This results in higher measured distortion levels. However, the midband is very clean, distortion hovering at 0.1% or less.

A rise in output at high frequencies (+0.5dB at 20kHz) will ensure the NuForce has a bright-ish sounding balance. Where other digital amps cut

off sharply at 22kHz or so, this one peaks up to +5dB at 70kHz - not ideal with SACD which outputs strong noise here.

The NuForce Reference 9SE is something of a mixed bag under measurement. It is likely to exhibit brightness and likely treble distortion. **NK**

Power	130watts
CD/tuner/aux.	
Frequency response (1dB)	4Hz-36kHz
Noise (IEC A)	-107dB
Distortion	0.1%
Sensitivity	1.4V

