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Gallo's Pole

The spherical satellite specialist's new speaker is a full-range system without a main enclosure

Quite what I was expecting when I decanted this pair of Anthony Gallos from their enormous flight cases I am not sure, but I know it was not the rather petite speakers that confronted me. Divested of their cloth over steel frame covers which are designed to make them look almost conventional, the speakers themselves are much smaller than any design of such wide frequency range has a right to be - just 89cm tall and 20cm across the beam at their widest point. But size apart, this is one of the most exotically constructed loudspeakers you are ever likely to encounter.

The Nucleus Reference III is a three-way moving coil loudspeaker system which is about as different from the mainstream as it is possible to get. For one thing it has no conventional 'cabinet'. Each drive unit inhabits its own entirely separate enclosure - apart from the tweeters, whose diaphragm completely covers what might otherwise be described as its enclosure. The CDT (Cylindrical Diaphragm Transducer) tweeter diaphragm consists of a hoop of silver-plated Kynar, a light and extremely flexible plastic, which is said to "expand when a voltage is applied across the silver conductor". The tweeter, fed by its dedicated drive transformer, claim a 330 degree horizontal radiation pattern, and its response extends to 50kHz (-3dB), rendering a separate super-tweeter superfluous.

The tweeter is flanked in a d"Appolito configuration by a pair of 100mm midrange drivers with woven carbon fibre cones, each in a spherical enclosure. Why spherical? In the maker's words, because a sphere has no internal standing waves (in fact there will be one dominant resonance corresponding to the sphere's diameter), because there is no external baffle diffraction to smear the signal (an oversimplification, since diffraction still takes place, but of a less damaging character). In addition, a sphere has the lightest possible weight (compared to a rectangular box of similarly low resonance). These qualifications are spelt out here to illustrate the difficulty of assessing this speaker according to the usual criteria, a difficulty encountered with various design elements, some of which have had to be taken out on trust.

The bass unit is a 250mm driver housed in what appears to be a sealed stainless steel can about the size of a large saucepan. The unit is equipped with two voice coils, one wired to the amplifier in the usual way, the other optionally to a low pass filtered input, essentially a subwoofer feed, which extends bass output from a claimed 34Hz to an impressive 22Hz (-3dB). The maker will eventually release an optional BAM (Bass Augmentation Module) filter/amplifier to support this feature.

The four drive units are mounted via rubber baskets to a curved aluminium spine that sits on spiked platform. The curvature provides an upwards tilt to the mid/treble drivers which in combination with adjustable spikes allows the speakers to point towards ear level. The bass unit is fairly close to the floor, and benefits from boundary reinforcement. The spinal column has a varying cross section, deepening out towards the base, and houses the first order (6dB/octave) minimum phase crossover at 125Hz for the bass.mid units only. The 3kHz mid/treble crossover is purely mechanical, with similar 6dB/octave slopes.

The bass unit enclosure in particular looks much too small to function normally. This would indeed be the case, except that it is open to an internal spine cavity, which is part filled by dense, shredded, sound-absorbent material. This appears to have the effect of making the enclosure behave as though it's much larger than it actually appears.

"We're not dealing with a loudspeaker that is like anything you've heard before"

SOUND QUALITY

By now you should have realised that we're not dealing with just another loudspeaker. In fact, we're not dealing with a loudspeaker that is like anything is like anything you've heard before, and sure enough it auditions differently. But first there is the issue of set-up, which is complicated to a degree by the number of variables. The first question to answer is whether the bass units should be pointed outwards or inwards, and this is followed by adjusting the enclosure for correct orientation (vertical and toe-in) and the appropriate setting of the three-position tweeter level switch, which spans about 2.5dB. An even more fundamental decision is whether to avail yourself of the second bass unit voice coil, which in the absence of the BAM module will require a separate low-pass filter and amplifier. No on-sale date has yet been decided for this add-on.

Being one of those who parks his car by Braille, I bi-wired the speaker without noticing that the second set of input terminals was not a bi-wire connection, but was marked as a sub input. Immediately it was obvious that the low to mid bass (centred on 40-100Hz or so was being overcooked and it seemed that some fundamental miscalculation has been made in the voicing. Of course this wasn't so. Next, and in the absence of the Anthony Gallo BAM module, I wired the sub inputs to subwoofer outputs on an Arcam AV8 processor via an Arcam P7 power amp. Although the mono feed is far from ideal, it was more than enough to show the extra depth and muscle available from the Reference III. Even without the added low-frequency reinforcement, the speaker behaves creditably like a full-range transducer, belying its compact dimension. But with said reinforcement implemented, the bass has almost unfeasible strength and stature, and generates an image of what can only be described as unprecedented scale for such a compact loudspeaker.

Without a properly designed feed for the second voice coil however, most of the listening was conducted with this feature disconnected. In my four-metre-wide room, system balance and stability of the centre image was better with the two bass units facing each other, but with more room available you may find that swapping the speakers over gives improved image scale and consistency. It functions happily when close to the rear wall, pointed towards the listening position. With a sensitivity of 88dB per watt at one metre you won't need a lot of power, but it is very responsive to the quality of the amplification. We used a Hovland valve pre/power amp, which sounded quite marvellous.

And this is the real point. From the outset it was obvious that the Reference III has some very special qualities, and I ended up feeling that there was still a lot to learn about the abilities and limitations of the design, and of the many possible system and set-up permutations. But there was no mistaking its main qualities, namely the complete absence of the normal wooded box type colorations and smearing, and the unusually dynamic quality, albeit with the volume set moderately high. For some reason the music failed to communicate properly when the volume was set too low.

The bass is bold and extremely tuneful, and the treble is just as impressive, with levels of subtlety and detail that many tweeters simply don't reveal. There are some minor colorations, a pervading slight roughness, but it more than makes up for this its bold, lively qualities, and its ability to get at and reproduce the expressive core of well recorded music. In particular, it was adept at showing the benefits of high resolution discs, SACD and DVD-Audio, which too often are more potential than actual.

VERDICT	
Sound 88%	PRO Tuneful , vivid, and dynamic loudspeaker which is almost completely lacking smear and other box-type artefacts, and which delivers full bandwidth music from tiny dimensions.
Ease of Drive 85%	
Build 90%	CON Some mild but noticeable midband/treble colorations, love it or loathe it aesthetics, mild sonic degradation with removeable covers in place.
Value 83%	
CONCLUSION	
This radical speaker sets a new paradigm at the price, one that is unfailingly musical, with less of the sometimes comforting wooded box coloration of traditional speakers. Rather raw at times, musically it's never less than informative and engaging.	
HI-FI CHOICE OVERALL SCORE	>> 86%

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