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NEAT XLS Loudspeaker

A small loudspeaker that is truly mesmerizing and emotionally moving.

Review By Malcolm Steward

NEAT Acoustics produced its first loudspeaker back in 1989. That unassuming-looking but ground-breaking model, the Petite, quickly became my 'reference' compact, high-end, two-way. It has retained that position for more than two decades. While the latest mark for iteration, the Petite SX, has replaced the somewhat utilitarian looking original, with its almost bitumen-like finished cabinet, little else – certainly nothing fundamental – has changed in all that time... except the price, of course. The Petite has now been joined in my listening room – and affections – by another and rather grander.



NEAT: The Ultimatum XLS

This multi-chamber, multi-driver confection looks to the seated listener like any other two-way stand-mount. However, closer inspection reveals that the bass-midrange section uses two, isobarically loaded 168mm drivers; the HF uses a single Sonomex domed XL driver; and on the top face of the enclosure sit two EMIT 25mm planar/ribbon super HF units – aka super-tweeters. That enclosure is unusual as well. It is fabricated from slow-growing, Birch plywood, chosen for its consistency and its excellent behavior in terms of resonance. The front baffle consists of controlled density fiberboard bonded to the main cabinet with a Polyethylene membrane. This produces a remarkably inert platform upon which to mount the mid-bass and high frequency drivers. Each of this array of drive units is located in its own discrete chamber: the largest of these cavities is also ported to provide ideal loading for the rear unit of the isobaric bass pairing.

Aside from all the technical and constructional excellence, what has made me such a devoted fan of these designs is their musical performance, which is little short of spell-binding. They simply blend all the vital attributes necessary to present music in the most plausible and engaging manner one can imagine. The fact that the designer is an active semi-pro, multi-instrumental musician, and his right hand-man is a gifted guitarist, song writer, and recording engineer – coupled with them having a recording studio set-up in their factory – probably goes a long way towards explaining why their speakers communicate so convincingly.



The XLS comes with two pairs of terminals to allow bi-wiring or, preferably, bi-amplification. They are not a 'difficult' load – with a quoted 87dB/W/m sensitivity and a minimum impedance of four Ohms – and can be driven easily by even a small, say 30W, integrated amplifier, provided it can handle a low impedance load. However, they seem to thrive when bi-amplified using, in my case, a pair of Naim NAP 250 power amplifiers. Regardless, their performance was entirely satisfactory with a modest Naim SUPERNAIT/Hi-Cap combination single-wired with Tellurium Ultra Black loudspeaker cables. I say all this having lived for the past 15 years or more with an active loudspeaker set-up, which tends to foster dissatisfaction with passive loudspeakers for their tendency towards time-smearing. The Ultimatum do not have that problem and I can listen to them for hours on end without becoming aware of any annoying temporal imprecision.

Helping keep things clean, undoubtedly, is the minimalist, four-element crossover network the XLS employs. This uses precise tolerance components – low-loss air cored inductors, and Polypropylene film and foil capacitors – along with some damping and attenuating resistors. First-order slopes and mechanical roll-offs encourage what NEAT refers to as "a natural, uninhibited" performance.

One unexpected inclusion on the XLS, for me at least, are the upward-facing 'super-tweeters'. Previously such devices have struck me as coming decidedly from the smoke and mirrors school of hi-fi design. NEAT explains that their output, which extends to 40kHz and, although extremely quiet to inaudible, affects the content within the audible frequency spectrum and "lends an open, airy quality to the presentation." If this sounds implausible it is sufficiently easy to prove or disprove this assertion: place a cushion on the top face of each cabinet and take a listen. The music adopts a slightly dulled character and the stereo imagery suffers a noticeable loss of ambience, vitality and air.

In order to maintain its timing and imaging precision, the XLS must be supported by a suitable loudspeaker stand. I used the dedicated 24-inches tall, \$1425, slate-based and laminated steel topped, four pillar model, which provided a suitably stable and inert platform for the speaker. I attached the speaker to this with a thin wad of Blu-Tack putty in each corner. The stands and speakers then needed careful placement in the listening room. Fine adjustments – an inch or two of movement or a slight change in the angle of toe-in – can exert a surprising degree of influence over the performance, so it is worth spending some time finding the ideal position for them in your particular environment. In my room I placed them just over eighteen inches away from the rear boundary and approximately twice that distance from the side walls. They were toed-in so that I could just see the inner cabinet walls from my listening position. When you find the ideal spot, the stereo image gels like the image in a camera lens when it is focused precisely. At that point it is time to get out your wrench, get down on the floor, and adjust and firmly tighten the spikes to remove any vestige – no matter how slight – of rocking in the assembly.

Once set-up it is time to enjoy a little musical magic. The XLS deserves a particularly fine source and the best amplification. I used a Naim HDX-SSD hard disk player drawing music from a home-built NAS unit running Asset UPnP software on top of Windows XP, feeding my Naim DAC and multiple-amplified Naim system wired to the speakers with the highly revealing Tellurium Ultra Black speaker cable. All the electronics were supported by Quadraspire Sunoko Vent stands.

Sound Quality

The first thing one notices about this compact loudspeaker, invariably, is the quantity and quality of bass it produces. It sounds more like a much larger loudspeaker but with small speaker speed and accuracy. There is none of the bloated, under-damped, slow bass typical of many larger and floor-standing designs. As a result the bass guitar on The Tedeschi Trucks Band's album *Revelator* was easy to follow throughout – as well as being clearly distinguishable from the bass drums in – each track despite not being especially forward in the mix. On albums where it had greater prominence, such as Tal Wilkenfeld's *Transformation*, the instrument was rendered with delightful clarity and control. The XLS positively reveled in exposing timbre and playing detail, ably demonstrating why Ms Wilkenfeld is Jeff Beck's current bassist of choice. Her bass was unfailingly tuneful and exhibited fine note shape: it never descended into being a monotonous thump or drone.

This cleanliness leaves the midrange rather exposed without any cloying warmth to take the harsh edge off voices and harmonicas, for example: Bob Dylan fans, in particular, will need to be meticulously careful about setting up this speaker: try using his vocal on the track *Spirit on the Water* from his album *Modern Times* to assist with the process. His nasality should not provoke you to throw things at the loudspeakers: if it does, try repositioning them and adjusting the toe-in more carefully.

Songs such as *Hide and Seek* from Imogen Heap's album *Speak for Yourself* with its heavily processed, multi-tracked vocals demonstrated that the XLS was equally dexterous at the opposite end of the frequency spectrum: the high frequencies had energy in abundance but were kept under strict control. Even her breathing was explicitly portrayed without imparting any harshness to the vocals. Notwithstanding cosmetic considerations, the most outstanding facet of the performance of the XLS was its enthusiasm to involve the listener in the music's impetus and drive through its overt temporal precision. Its timing acuity was outstanding and, no matter what the tempo, the speaker invariably set feet and/or fingers tapping. Its overall balance and transparency played a large part in its success in this respect, exposing every instrument that made any contribution to establishing the music's swing, be that a sturdily plucked bass or the gentlest touch of a brush on a hi-hat.

Similarly, the XLS excelled with exposing phrasing subtleties on albums such as über- expressive vocalist ,Sia's *Lady Croissant* and Van Morrison's *Too Long in Exile*. This facility turns a song that is enjoyable on any other speaker into one that is truly mesmerizing and emotionally moving. In truth, the NEAT XLS deserves the attention of anyone seriously looking for a small, stand-mount loudspeaker that is astoundingly in tune with music – regardless of the genre.

Specifications

Type: Monitor loudspeaker

Drive Units: HF unit 26mm Sonomex Domed XL

Super HF units Emit 25mm planar ribbon (x2)

Bass/midrange driver 168mm NEAT unit with Aluminum phase plug (x2)

Enclosure Type: Multi-chamber incorporating ported isobaric internal cavity

Sensitivity 87dB/W/m

Impedance 6 Ohms average (4 Ohms minimum)

Recommended amplifier power 25 – 200 Watts

Dimensions: 15 x 9 14.5 (HxWxD in inches)

Weight: 33 lbs.

Prices (per pair) Standard finishes: \$7380

Premium finishes: \$8990

Stands: \$1425

Company Information

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