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Issue 44
£4.50

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The MartinLogan Summit Hybrid-Electrostatic Loudspeaker System

by Roy Gregory

In one sense, the interview that accompanies this review actually covers much of this product's background and the thinking behind it. But the Summit's get really impressive once you get down to the detail. Their svelte, even petite profile hides a generational step-change in hybrid-electrostatic technology as applied by MartinLogan. Their compact dimensions (remember, everything's relative and we are talking about an electrostatic here) barely hint at the scale and quality of the performance they're capable of, or that this represents a genuine range-topping model. The massive, four-tower Statement e2 no longer exists so technically and technologically the Summit represents a new (albeit rather more modest) flagship.

It's also the best-looking MartinLogan ever – and that's saying something.

Heart of the Summit is its XStat curvilinear panel – the see-through vertical element that has become the company's unmistakable, identifier. But despite the conclusions possible at first glance (one of the dangers of familiarity) this is a far cry from those original CLS or Monolith transducers. For a start it uses the MicroPerf stators, meaning that the curved plates that embrace the diaphragm are punched with more, smaller holes, giving a greater space to metal ratio (and a really neat look). More importantly, these are the first panels that use a vacuum press for final assembly. Until now, all MartinLogan electrostatic transducers have been laboriously hand-assembled. Well, the

XStat panels are still physically assembled by hand, but the final stage of actually sandwiching the diaphragm and spars between the stators is now executed mechanically. This affords greater consistency between panels and all importantly, a narrower gap between the stators. The end result is a transducer with greater efficiency and reliability, which helps explain

why the XStat panel used in the Summit is about half as wide as a CLS transducer.

Visually the biggest change is the use of extruded aluminium structural spars in place of the

woodwork that graced earlier models. This AirFrame construction reduces physical and visual bulk while also allowing careful profiling of the surfaces around the transducer in order to minimise diffractive effects. Used with solid billet end-plates, these aluminium spars are also more rigid,

reducing parasitic resonance and intermodulation distortion – particular problems when you have a structure this large. Take the physical reductions along with the increased efficiency of the narrower gap and you end up with a curvilinear line-source transducer 111cm long and only 32cm wide. And it's see-through.

But if the new panel technology dominates the visual presentation of the Summit, it's the bass element in its hybrid configuration that demonstrates the greatest forward strides. The asymmetrically shaped cabinet contains the two driver differential arrangement first seen in the Prodigy, but this time it's active. Applying the ICE-power modules first employed in the Descent sub-woofer has allowed the creation of a dedicated, active bass enclosure to mate with the new panel. The 250mm drivers used are task specific, engineered for different functions within the system and each driven by its own 200 Watt amplifier.

The forward facing unit located at the bottom of the electrostatic transducer, and visually shielded by the same punched steel material used for the stators, crosses over at a relatively high (for a 250mm driver) 270Hz, meaning that it generates necessary output well into the all important mid-bass. That requires not just long throw, but a light and precisely controllable cone. Meanwhile, the downward firing driver operates below 100Hz, where cone mass and a low fundamental resonance become far more critical. As well as separate drivers and amplification, the bass range gets a pair of level controls, one centred ►



▶ on 50Hz, the other on 25Hz. These equalize and optimize the output of the bass cabinet, ensuring a seamless interface with both the panel and the listening room, but more on that later. On the back of the cabinet you find bi-wire terminals, one set for the panel and one for the bass cabinet, along with a third control that simply sets how brightly the illuminated logo on the upper surface of the cabinet shines. Hey – if you've got it flaunt it.

The one obvious question arising out of this configuration, as sophisticated as it is, is why MartinLogan eschewed their preferred force-canceling arrangement as used in the sub-woofers? The answer is both simple and prosaic. On the one hand the differential equalization of the two drivers reduces the absolute efficiency of the approach, but more importantly, with one driver necessarily firing forwards, they didn't want to have the other on the cabinet's rear panel. Why not? Because it would have meant having the input panel and controls on the top of the cabinet, which would have been a definite aesthetic no-no. Given the superb results achieved by the existing arrangement, I have to call that decision good.

Bolt all these elements together, including a passive high-pass filter to feed the electrostatic panel, and you end up with a product that is purposeful and elegant in appearance, beautifully finished and presented and a lot more compact than pictures lead you to believe. At first our prevailing culture makes you wonder why such an expensive speaker is so small and visually unobtrusive, but even a cursory examination of the technology and design parameters makes you realise that the petite proportions are deliberate, and actually represent something of a product engineering tour de force. That bass cabinet contains two 250mm units plus all the electronics to control and drive them, as well as those necessary

to interface them with the panel; take those elements and simply stack them in a cardboard box and you'd end up with a package of about the same size! That's how seriously MartinLogan have taken their minimization mantra.

What's even more reassuring is the quality of the execution. Fit and finish is flawless, while the basic housekeeping has received equal attention. The binding posts work while the large, milled feet that space the downward firing driver from the floor contain massive, easily adjustable spikes fully half an inch in diameter. These are reversible to flat stubs for polished floors while the large diameter of the locking rings makes leveling the speaker a simple and permanent operation. Likewise, the owners manual is a model

of clarity and sensible, useable advice on positioning and set-up. It's available on the MartinLogan website and manufacturers wanting to know how it should be done could do worse than download a copy. Would that all products arrived with such instructions.

To get a real feel for just how radical the Summit is, let's compare its external dimensions to its predecessor, the Prodigy. Summit is 20cm shorter and 10cm narrower than the old model – quite a difference given the physical

limitations imposed by the electrostatic transducer. More telling is the depth of the footprint, again reduced by 20cm – but even that doesn't tell the whole story. The Prodigy's bass cabinet is taller than it is deep; the Summit's is the other way round, and tapered

in rather than out. The end result is a 70% reduction in the volume of the bass enclosure, which has a pretty dramatic effect on the visual bulk of the system as a whole. Weight is down too, with the new model being almost half as heavy as the old. All that and it goes deeper in the bass, is more efficient and sounds better too. Now that's what I call progress.

Of course, all this good stuff would be a complete waste if the speaker didn't work. Getting it to work, like any electrostatic hybrid, is down to things: getting the dipolar panel to work in the room, and getting the bass to integrate properly. Unlike most speakers, it's the former that really dictates position, the adjustability of the bass cabinet then being used to achieve proper integration.

This is where the manual comes in; following the instructions on location precisely (execute a pair of simple equation and then place the speakers accordingly – to the mm!) and you'll achieve near perfect positioning and toe-in. Further, subtle shifts once the bass controls have been tweaked will dial in the last degree of focus, but that's about it. What you'll end up with is the speakers further forward than you'd have guessed and closer together too, although it does depend on room dimensions. Bass settings will depend on your room, although with $\pm 10\text{dB}$ ▶



▶ of control centred on 25 and 50Hz, if you can't achieve a good working balance then you are either blessed with the room from hell, one that's cubic or simply too small. The interesting thing is that in just the same way that sub-woofer design has informed the development of the Summit, so familiarity with that genre makes setting up and adjusting the speaker so much easier. What could be a fairly daunting task given the transparency and speed of the stat panel and the prodigious capabilities of the bottom end trying to match it is actually an exercise in simplicity. The elegance of MartinLogan's concept only really becomes clear when you work with it. The spacing of the two bass frequencies is sufficient to render their impact clearly distinguishable while their duality mirrors the twin bass humps that characterize most listening rooms. Small adjustments are clearly heard in their musical impact, while the fact that the bass cabinet is interfacing with a known transducer (unlike a lot of sub-woofers) also eases the interface considerably. I ended up with the 25Hz control set at -2 and the 50 Hz at -0.8, settings that took about half an hour to achieve and which never varied by more than 0.2 over the following days of dial-in. All that remains is to set the brightness on the funky blue status indicators...



That's less adjustment than normally goes into a pair of conventional speakers; all the more remarkable given that this is a genuinely full-range system with true flagship capabilities.

Not that set-up is entirely painless. Whilst positioning and adjustment are astonishingly straightforward, the speakers' revelation of partnering equipment is just as astonishing. Any shift in spectral balance or variation in energy levels across the range is revealed just as clearly (and unflatteringly) as swimsuits reveal unwanted rolls of flesh. Linearity is everything with this speaker, a challenge to amplifiers in particular as they do require a certain amount of power.

The flatness (no pun intended) of the Nordost cables hooked up to the Hovland RADIA proved ideal, delivering sufficient dynamic range, speed and control to really make the most of the speakers' transparency and wide-open soundstage.

Likewise the evenness of the Stabi XL/Airline carrying either the Titan or Koetsus (Coral or Jade) delivered the micro dynamic detail and harmonic substance that brought the Summits dramatically to life. The intimacy and texture delivered by this exceptional analogue source, devoid of the usual thickening and slurring that afflicts the

bottom end of so many turntables, was just what the MartinLogans ordered. Playing 'The Great Divide' from Neil Young's *Silver and Gold* really underlined the depth and precision of the Summit's tactile bass, it's easy mastery of the loping rhythm (all too easy to slow to a dirge-like plod). But what really impresses is the way that the speakers impose an entirely new acoustic on the confines of the listening room. They don't put the musicians in the room, they bring the room with them. It's not just the dimensions of the recorded space (synthetic or not) or the layout of the band, it's the sonic character of that space that's laid so bare. You suddenly realise just how dominant your own listening room's acoustic colour is in defining what you hear – which makes the Summits' "time and space machine" act all the more impressive.

Genuine acoustic recordings are a joy. The sound-scape extends well beyond the outer edges of the speakers; depth and separation of individual instruments and groups within the orchestra is utterly natural. There's no effort in seeing to the back of the stage, of hearing the rear wall, a distinct rear wall, rather than simply the wall behind the speakers. The Ricci *Carmen Fantaisie* (Decca SXL 2197) underlines the MartinLogan's strengths. A soloist's as well as an orchestral showpiece, it shows the Summits to full advantage. Unlocking the quicksilver bow-work and precision of Ricci, the speakers' react so quickly to the signal that they banish strain from this most difficult of pieces, allowing you to marvel at the maestro's easy grace and poise, bringing control and shape to what can sometimes seem like a welter of cascading notes. But for a speaker so fast and responsive to nuance, the orchestral accents and punctuation arrive with impressive substance and body, underpinned by that sure-footed bass. For once, the percussion sits ▶

► back where it should rather than hovering somewhere forward in the stage. There's no loss of drama or tension in the slower passages either, where Ricci's masterful restraint is evident. For many, the very idea of a hybrid electrostatic is anathema, and until now if I wasn't one of them then I was certainly a sympathizer. The Summits reduce the issues of integration to below the level of those experienced in all but the best moving-coil designs (those like the Avalons that ironically boast an "almost electrostatic continuity"). There is no corner here, no obvious shift in speed between the bass drivers and the membrane, no loss of substance through the mid-bass transition, which are the all too common giveaways.

In fact, if I had to point a finger it would be at a slight sheen, a hint of plasticity tone far further up the range. It smooths away some of Ricci's notorious cutting edge, adds a subtle hollow quality behind the chest of some vocalists. How big an issue is it? Small enough to be submerged below the artifacts of most recordings; small enough to make you wonder whether it IS the recording. But listen long enough to enough material and you find a subtle extra percussive quality to the piano's right hand, a hint of twangy attack to guitar strings. It's subtle and could even be seen as an enhancement in certain cases, but if it's truth you're after then enhancement shouldn't be on the menu.

One of the most abiding musical disagreements that separates Louise and me is the vexed subject of Pat Barber. Well, vexed as far as I'm concerned. Too many audiophile pressings and schmaltzy recordings have left me with a

distinctly jaundiced view of the lady. But, responds Louise, you need to hear her live, without the over production and added sweetener. Well, Classic's recent release of the live album *A Fortnight In France* has rather supported her

point – Pat can,

definitely sing. Even the deep, plucked bass of 'Blue Prelude' that carries a little extra weight and warmth, presents the Summits with no problem.

Notes start – they stop; pitch steps and pace changes are clear. You don't even notice the clumsiness in the fingering injected by the extra padding.

Which is really the point.

These MartinLogans are so innately articulate, so holistic and of a piece, that in the same way that they reveal Ricci's control, they cut through to the deep groove that's driving Michael Arnpol. It's the effortlessness of the access that sets them apart, the ease with which they

unravel the playing and the player's skill. When they need to be big, bold and powerful, they are. When they have to be subtle and intimate, you guessed it – just not quite how subtle they really can be. They react to the signal – in every sense and every parameter, which can stress the partnering system as surely as it can stress the recordings being played, but through it all, like all truly great and truly transparent products the summit is transparent to the sense of the music as much as the fact. It's quite a saving grace.

Listen to these speakers with the

lights off. Enjoy their seamless staging, scale, dynamics and coherence. Play them loud and then play them louder. Feed them with a quality source and drive them with some power that can match their agility. Love their immediacy and presence, feel their low-end extension, reach out and touch your favourite vocalist. Now turn the lights on and remind yourself that this is an electrostatic, that it's a hybrid and that it's one of the most elegant speakers you've ever seen. There's none of the wimpiness and fragility that betrays so many 'statics. There's no jarring discontinuity where cones end and clingfilm begins. There's just a superbly engineered loudspeaker making the most of its technology to make the most of your music. The Summit is righteously named; it's the speaker that MartinLogan always threatened to make.



TECHNICAL SPECIFICATIONS

Type:	Hybrid electrostatic loudspeaker
Drive Unit Complement:	1x 111cm Xstat Panel 2x 254mm aluminium coned bass drivers
Crossover Frequency:	270Hz
Bandwidth:	24Hz – 23kHz ±3dB
Impedance:	4 Ohms (0.7 Ohms minimum at 20kHz)
Sensitivity:	92dB
Bass Amplifiers:	2x 200 W/Ch ICE Power modules
Bass Controls:	±10dB
Power Handling:	100 – 300 Watts
Dimensions (WxDxH):	320 x 1500 x 520mm
Weight:	34 kg ea.
Finishes:	Myriad
Price:	£8498

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