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The Speaker They Said They'd Never Build...

The MartinLogan CLX Full-Range Electrostatic Loudspeaker

by Roy Gregory

It is 20-years on from the original CLS and MartinLogan are back in the electrostatic loudspeaker business. "What?" you might well say, "I thought they never left." But every model they've launched since the CLS (in its various versions) has been a hybrid, relying on moving-coil bass drivers to fill-out the bottom-end; No big surprise given that Monolith, the company's original product was also a hybrid. So it is an ironic if inescapable fact that for many audiophiles, the product they most associate with MartinLogan is also the exception to the company rule, a situation that's seen the question, "When will MartinLogan produce a new CLS?" take its place in audio mythology, alongside the likes of, "What's the best amp to drive the Quads?"

In short, the answer to that question has always been, and remains, "Never" – for all the reasons listed in the accompanying sidebar. But the interest in a full-range electrostatic design is undeniable and has loomed like a shadow across everything the company has done since they ceased production of the CLS. So much so that eventually their stance shifted from "Not on your life" to "I wonder what if..." The resulting product is emphatically not a CLS – or even a CLS development or replacement. It is a CLX – and if anything it's the result of the hard lessons learnt from the earlier design. It's not just distinct, it's different in just about every way from what many will persist in seeing as its spiritual

ancestor. But get past the perforated stators and clear diaphragms that result in a superficial similarity and you'll quickly realize that the CLX is very much its own speaker.

The first thing you are going to notice about the CLX is its size; this is a very large, imposing panel. Fortunately it has the confidence to make a strong aesthetic statement; there's no hiding a speaker this size and you'd be foolish to try. So, rather than trying to fade into the background behind the inadequate cover of a few bits of curved and polished Walnut, stand loud and proud with cabinetry you are not ashamed to show off. Initially, the CLX was only available in a special limited edition 25th Anniversary finish, the first 100 pairs featuring a baffle constructed from solid machined billet, brushed and anodized aluminium designed with no visible hardware in a distinctly linear, post-modern style; it's both striking and architecturally impressive. For those who want to soften the visual impact, by the time you read this the baffle parts

will also be available in a range of carefully contoured and lacquered or dyed wooden Art frame sections, in finishes that vary from jet black through a whole range of natural wood tones to a striking bright green or orange, individually selectable through MartinLogan's Custom Shop Configurator programme. In theory, these wood finishes will also be cheaper, but be aware that, rather like the options on an Audi, step

outside the basic spec and the price starts to climb alarmingly... Fortunately the Custom Shop Configurator, as well as allowing you to select (and view) everything from the colour of the LEDs and binding posts through to the finish on the power cable, also gives you a running total of the costs you are racking up. The vast majority of the baffle area is taken up by the two electrostatic drivers; two because, although this is a pure electrostatic speaker, it's also a two-way design. The inner edge of each baffle is occupied by the slim mid/treble ▶



A Hard Act To Follow...

When a hi-fi product achieves legendary status it's normally for one of two reasons: either, like the Goldmund Reference turntable or Wilson WAMM loudspeaker, it's so ruinously expensive that few if any members of the audiophile community actually get to hear it – or, it delivers a genuine slice of high-end sound at a price that's almost affordable. The Martin Logan CLS was definitely in the latter category, but never forget that the operative word is slice.

When it first appeared the CLS set new standards for elegance. Here, in the days of bent metal casework, was a product of such aesthetic distinction, such style and class that it became an overnight icon, a large loudspeaker that was both invisible and in full view. Add to that a performance that delivered the sort of transparency and resolution we'd only ever read about, expansive soundstaging and an ego boosting quota of high-end Brownie points and you had the recipe for a runaway success. And it was. CLSs sold faster than the company could hand-build the panels.

But all that enthusiasm conspired to conceal problems with the speaker. Sonically, the most telling were a one-note bottom-end that managed to aggregate the vast majority of bass information into a 50Hz thump, and an impedance curve that made them a rather more than awkward load – two problems that often served to compound each other. Like I said, the operative here is "slice" and that astonishingly transparent and quick mid-band simply distracted from the lack of overall musical coherence, an irritation that became more and more obvious over time. The other thing

that happened over time was that the conductive coating on the diaphragms started to shed, resulting in progressively diminishing sensitivity.

The panels could be and were replaced, but this was a problem that further burdened the already stretched production capacity.

Subsequent versions of the speaker sought a more balanced performance, especially at lower frequencies, but they inevitably resulted in even more demanding load characteristics, loss of sensitivity and ultimately, loss of the immediacy and clarity that had made the speaker such a success in the first place. But with so much momentum behind the model and with interest in each subsequent version stoked to fever pitch, the rush of pre-orders – followed by the absence of significant sell-through – created a boom and bust cycle that almost sank the company.

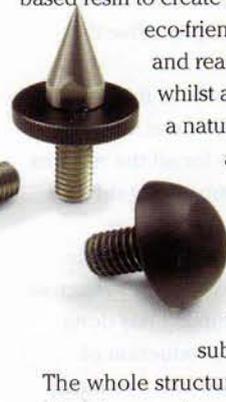
Eventually, they recognized the reality of the situation and simply retired what was an inherently limited model. But they couldn't extinguish the magic – the tantalizing prospect of state-of-the-art performance brought within reach – and even killing the product couldn't kill the legend. Indeed, if anything it just made it more powerful. Other companies even produced dedicated accessories and sub-woofer systems to match the speaker, some indication of both its popularity and the urge to try and finally unlock its potential. Sadly, that potential was defined by the limits of a single diaphragm of modest dimensions – the reason why the CLX doesn't follow that path. In reality, one's forced to conclude that the potential glimpsed in the CLS was largely theoretical and realizing it on a grander scale demanded a totally new approach, the results of which are finally before us...

– and that despite the company's long experience of hand-building electrostatic transducers – you'll begin to appreciate just how precise a process it requires. The resulting panel operates from a –3dB point of 56Hz up to the crossover point at 360Hz, with an efficiency of 90dB, making the CLX equivalent to a compact floorstander of similar sensitivity, at least in terms of bandwidth.

Behind the aluminium baffle work, you'll find the power supply housing at the base of the speaker, and running up from it at right angles to the outer (wider) edge of the front baffle there's a tapered buttress or 'wing'. This acts as a wave-guide, helping to reduce the low-frequency comb-filtering effects suffered by di-pole designs as a result of rear wall cancellation. The buttress and electronics cabinet are constructed from a material dubbed EcoSound, developed for audio applications by MartenLogan in conjunction with Klip BioTechnologies. A 50/50 blend of wood pulp and rapidly renewable bamboo fibre, it is bound by a water based resin to create a material that is

eco-friendly, dense, rigid and readily machined, whilst also offering a naturally clean and attractive surface finish. It also makes a significant contribution to the CLX's substantial weight.

The whole structure is supported on four large spikes, complete with spanner flats and large diameter knurled locking washers. Normally I wouldn't make such a thing about the spikes supplied with a speaker but in this instance their quality and placement is crucial, because getting these speakers onto an identical vertical axis is essential to achieving their best performance. In terms



▶ panel, a 1450mm by 210mm curved array that's essentially identical in technological terms to the units found in the likes of the Summit. It's taller, narrower aspect allows for better dispersion, but essentially it relies on the same micro-perf stators and ClearSpar construction that represents the current state of MartinLogan's art. But it's the flat panel next to it that's the really interesting part. The same height as the midrange driver, this 300mm wide driver is a triple stator, double diaphragm design, a topology that emerged around 30 years ago but which has never found its way into a commercial design. By running

the two diaphragms in opposite polarities, you produce a di-polar output that generates twice the force for a given bias voltage on the stators. Given the obvious potential benefits, you might well wonder why nobody ever applied the technique, but if I tell you that Martin Logan started experimenting with the approach back in the mid-90's and it's taken this long to get it to the point where performance is consistent and the unit can actually be manufactured

► of quality these are well up to the job, but the rear pair are recessed well below the electronics box, a peculiar decision as it makes access something of a chore.

The front spikes screw straight into the base of the baffle, but with a speaker this tall, to eliminate risk of toppling, the speakers arrive with an additional plate of EcoSound bolted to the bottom and extending forward of the speaker's front face. Undoubtedly effective, this solution is also plug ugly – although removing the plate does give you the opportunity to appreciate the rigidity and mechanical integrity of the resin-based material...

The electronics box is internally illuminated to highlight the cutouts of the cooling logo, while a second logo is placed at the base of the midrange panel. Both switch off when the speaker isn't in use (in keeping with the CLX's eco credentials) and can be permanently defeated by small, rear-mounted toggle switches. Aside from the IEC power input and the single pair of wing-nut, spade-only binding posts on the rear panel, that's your lot. No bi-wiring option is offered as the lack of a back EMF from the bass driver eliminates the benefits, while the passive, second-order crossover reflects the speaker's purist stance, the benefits of musical coherence across the entire bandwidth outweighing the ability to extend

or equalize the bass output through active drive.

It's easy to assume that the CLX is all about that bass driver – and in many respects you'd be right. As soon as you hear bass notes through this speaker (and, inevitably, some bass-heavy material is the first thing you reach for) you realize that they do something special. Play some up-right bass, something off of a mid-sixties jazz recording with typically wooly nether regions and you'll be astonished at the degree of pitch definition and texture the CLXs unearth. Of course, having the likes of Grand Prix Audio's Monaco turntable, the Kuzma Stabi XL with the magical new 4POINT tonearm and CD players from the likes of Wadia and Zanden on hand doesn't hurt. Nor does feeding those sources through the Connoisseur pre-amp

and David Berning power amps, but few other speakers manage this trick, very few at the

Logan's price and none that don't go down a lot deeper.

But what's really impressive is the uninterrupted continuity that travels from the lowest notes to the highest. There must be a join between the output of the bass panel and the bottom of the mid-band, but I've yet to detect it. Add that to a distinctly un-electrostatic sense of weight, solidity and presence and you've got the foundations for something very special indeed. Play 'Trans-Am' from Neil Young's *Sleeps*

With Angels and the instrumental detail lifted off the disc by this set-up, and duly delivered by the speakers is remarkable. The bass line is deep and measured, overlaid with the bottom registers of guitar, yet the CLX keeps notes separate and the steady pace measured rather than leaden. Even when Young hits an open string, there's just enough undamped resonance and fuzz to garner full effect. As the song slowly (and I do mean slowly) builds to its guitar solo climax, the bass moves to the top of its range, chopped notes chorusing the guitar's tortured line. It's an

impressive display of control, separation and continuity that makes an impressive musical performance more effective still.

The degree of continuity is remarkable, because it embraces not just pitch and speed but texture and tonality as well.

That's helped by the sense of substance and presence instilled by the bass, a quality that in turn embraces and fills out the midrange and treble. So much so that in many ways (staging aside) the CLX really doesn't sound like an electrostatic at all – and that's a serious compliment. There's none of that floaty, insubstantial, ethereal

character to the sound, none of the plasticity colouration that makes so many 'statics sound quick and clean. These Logans sound quick



▶ because they are, and clean because so much thought has gone into the structure and materials employed. The result is sound with a real feeling of physical presence and impact when required, a natural solidity and stability even through quieter moments. If the best modern moving-coil designs are starting to approach electrostatic levels of continuity, transparency and freedom from cabinet colouration, the CLX matches those boxes for dynamic impact, musical substance and coherent bandwidth.

In common with other panels, you need to be seated to get the correct balance from the CLXs, the reason they are so critical of rake-angle. At least the horizontal window isn't as restricted as some, the sweetspot being at least two full seats wide before the soundstage loses its independence and you start to hear the nearer speaker. But in the zone and with things set up just so, you can expect a sound that has an inviting warmth and sweetness without ever cloaking or obscuring detail. Images have depth and physical volume, transients can snap and crackle if required. Just listen to the propulsive drumming and cymbal work on Young's 'Piece Of Crap', a full-on grunge-rant that the CLXs hurl into the room with gusto, following that up with the acoustic contrast between the subtle, distinctive, mechanical complexity of the tack piano and the deep detonations of mariba on 'A Dream That Can Last'.

If we take all these facets of the CLXs' performance and bind them together we can see them reflected in their musical presentation and range of expression. So, if we listen to the Ricci *Carmen Fantasia*, it reveals both their considerable strengths and inevitable compromises. Ricci's virtuoso playing and the enthusiastic support of the LSO, beautifully measured and restrained under

Feeding and positioning...

Any di-pole speaker will be extremely critical of placement, toe-in and particularly, distance to the rear wall. The CLX is no exception, and when it comes to fore and aft positioning, it's far more critical than most. How critical? Change your amp, expect to adjust the speaker position to rebalance the bottom-end. It will probably only need about 5-10mm, but you will clearly hear the benefit, a sensitivity that makes choosing matching electronics something of a challenge. Of course, in part this reflects the transparency, weight and pitch security on offer at low-frequencies – as well as the effectiveness of the rear-facing wave-guide in evening out the bass response. But don't underestimate the demands this speaker will place on your reserves of both precision and patience. You must also start with the electronics box exactly horizontal, both laterally and front to back, which will tilt the baffle back 2 degrees from vertical, the recommended starting position. It's a task that requires considerable time spent scrabbling on the floor. Thereafter, soundstage focus and midrange presence will depend on toe-in and subtle rear tilting of the baffles, but to get the best from the CLX all adjustments must be exactly symmetrical.

There's also a secondary consideration; the length of time it takes the bass panel in particular, to deliver its full performance. The

Gamba's baton, is a telling challenge for any system, but the big Logans revel in its detail and dramatic contrasts. But let's pass over the bombastically impressive opening salvos with their flashy percussion and even flashier bow work. Instead, let's look at *Act Two* and the interior of Lillas Pastia's tavern. The exposed soloist is beautifully stable and solid in space, although not focused with the same pinpoint precision you'd associate with the more holographic mini-monitors. Instead of hyper-reality, this is a more distant and actually more natural perspective, the instrument driving the cushion of air around it as a whole, rather than being dismantled into strings, body and neck. The combination of contrapuntal phrases and sudden, pizzicato punctuation makes for a

longer the speaker is plugged in and used, the deeper and weightier the bass becomes. I was gently edging it forward for at least ten days before it finally settled down – a combination of break-in and the charging effects common to all electrostatics. The differences are not subtle, so be prepared to both revisit your initial set-up and ensure that the speakers stay permanently connected to the mains.

As regards choice of amplifier, I drove the CLX with a host of different electronics, their large radiating area making a nonsense of their modest electrical sensitivity, while their capacious soundstage and sense of presence generally managed to bring the best out of partnering electronics, rather than crucifying them. Valve amps as varied as the Emille KI-40L and ARC Ref110 delivered excellent results, while both the Belles MB-200 and Hovland RADIA also excelled. But the best results of all were achieved with the astonishingly transparent and quick delivery of the David Berning Quadrature Z mono-blocs, an all tube, OTL design – but one with a spectral balance and power delivery far more reminiscent of a solid-state amp. The lesson here is simple; whilst you can get away with surprisingly modest amplification, the CLX is perfectly capable of revealing the benefits of the best amps you might choose to throw at it – which is both reassuring and something of a challenge...

steady ramping up of the musical tension as Ricci gathers momentum, the mid-hall balance bringing shape and a sense of presence to his performance.

In keeping with that perspective the soundstage spreads broad and deep, behind the plane of the speakers. The sidewalls and floor are not as apparent as they can be, a reflection of the speakers' low-frequency limitations, but the rear wall is both way back and well defined. Indeed, depth definition and the correct scaling and layering of instrumental groups is a key component in the CLXs' performance. There's also a very real sense of the acoustic space, the continuous body of air and space in which the musical performance is occurring. The air and delicacy with which the speakers deliver ▶

► Ricci's opening bars, the plaintive, almost lilting quality he brings to the haunting melody with its songlike lines and phrasing emphasize the speakers' sweetness and lack of fizz or distortion at high frequencies. As the piece builds, the patchwork of orchestral support is subtle but insistent, each instrumental choir locked beautifully scaled in terms of energy and level, clearly establishing both their distance from the soloist and their location in the coherent acoustic space, adding significantly to the sense of event, but also to their musical impact and drama. At first they hover, almost delicately prompting in the background, before building and growing into the commanding presence of the dramatic finale.



It's this sense of completeness, the way that everything you get is presented as part of a single, coherent and contiguous whole that makes the CLXs so special; that and the fact that they do so without reducing the music, the musicians or their range of colours, techniques and emotional shading, to some dulled, lowest common denominator. Sure, they lack the deepest bass frequencies, but the

bass they do deliver is remarkable both for its quality and its utterly seamless integration with the rest of the range. With so little stored energy to slow progress, the pace of music, and changes in its pace, are effortlessly natural, again irrespective of frequency. Whilst the length of bass notes means that they take time to happen, shifts in the direction of the playing or the attack on a note shouldn't be slowed in sympathy. The CLX reveals the agility in playing, whatever its pitch, underlining just how poorly most speakers perform in this regard. It is this evenhandedness across their entire bandwidth, the consistency with which they deliver dynamic and tonal information, the coherence of the spatial cues they provide, the natural sense

of energy and colour they bring to performances that makes this such an enjoyable and rewarding loudspeaker. As to enquiries regarding the extent of their bass extension, clearly those can safely be answered with that old standby, "adequate". You can easily get more, but within its working range, you'll struggle to get better.

This level of performance never comes cheap and never, ever comes

easy. The MartinLogan CLXs might make you work when it comes to set up, and make your system work when it comes to meeting their demands for quality (rather than quantity) but they'll repay the effort handsomely. They cost more than twice the price of the Summit and deliver less bandwidth for your money – but good as the Summit is, the CLX is capable of way more than twice the performance of the hybrid design. The best MartinLogan speaker I've ever heard (by some considerable margin) it finally delivers on the all-electrostatic promise – and does so to spectacular effect. ➤+

TECHNICAL SPECIFICATIONS

Type:	Two-way electrostatic loudspeaker
Drivers:	1x curved, mid/treble array 1x dual-diaphragm, triple stator bass panel
Bandwidth:	56Hz – 23kHz ±3dB
Sensitivity:	90dB
Impedance:	6 Ohms nominal
Crossover:	2nd order
Crossover Point:	360Hz
Dimensions (WxHxD):	654 x 1786 x 373mm
Weight:	50kg ea.
Prices –	
25th Anniversary:	£22500
Art:	£25000
Linear design:	£15990

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