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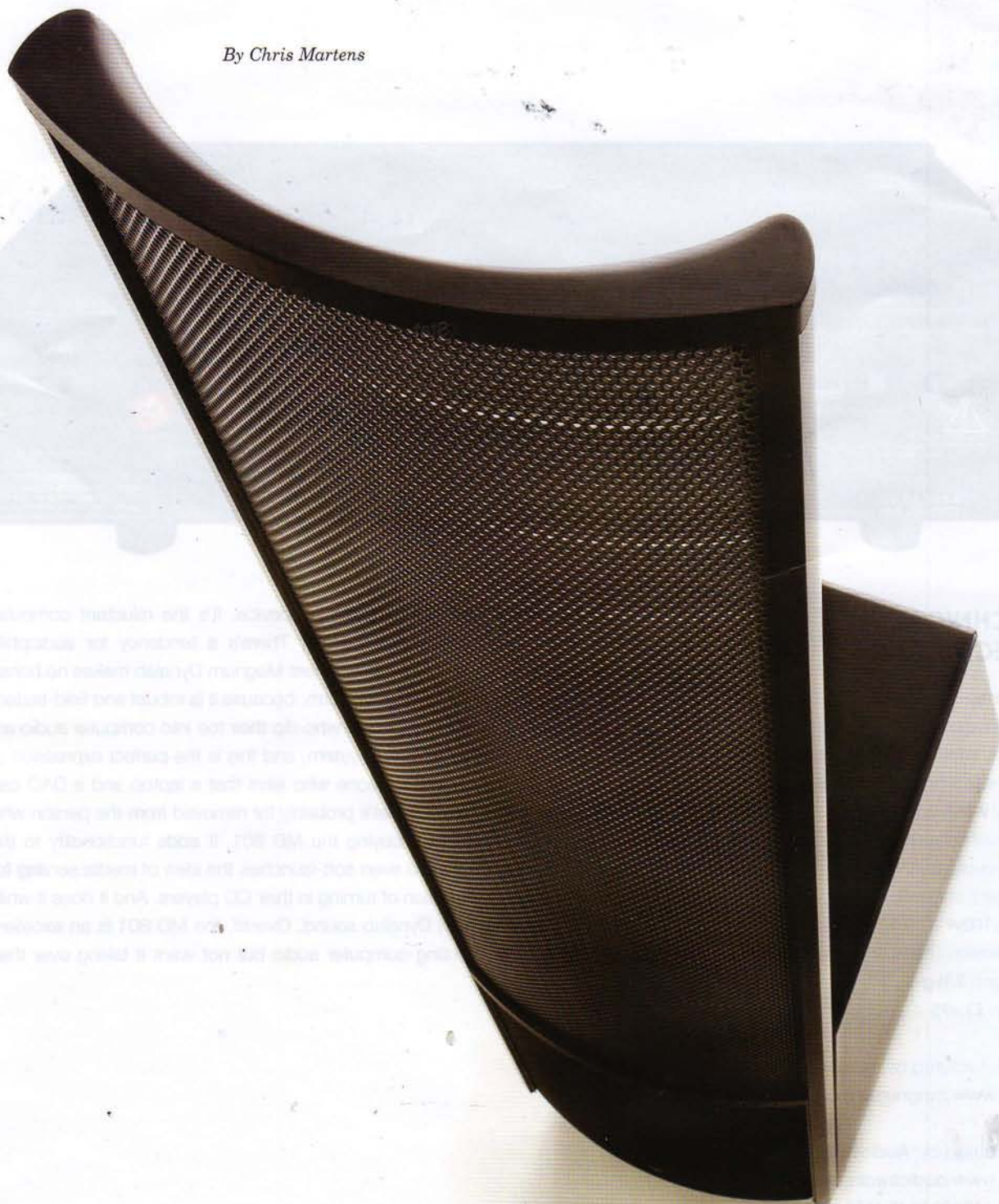


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EQUIPMENT REVIEW

MartinLogan ElectroMotion ESL loudspeakers

By Chris Martens



The name MartinLogan will forever be associated with high performance hybrid electrostatic loudspeakers, since this is the area where the firm has done most of its pioneering development work. Even so, some MartinLogan hybrids seem to work better than others and one of the models I remember most fondly was, oddly enough, a relatively inexpensive one: namely, the late, lamented Aeries i. Though it is a difficult thing to put into words, my sense was always that the electrostatic and traditional dynamic drive units in the Aeries i somehow 'gelled' in an almost magical, musical way, meaning that the speaker sang with one wonderfully coherent voice (a goal to which all hybrid designs aspire, but that few actually achieve).

While the Aeries i is now long gone, the great news is that MartinLogan has recently released a 'successor' model, called the ElectroMotion ESL, which easily surpasses the performance of its well-loved predecessor in every way, yet sells for roughly the same price as the Aeries did so many years ago – £2,499 per pair in standard finish (or £2,998 per pair gloss black). Now that's what I call forward progress.

Veteran high-end audio enthusiasts may view the preceding paragraph with a healthy and I would say perfectly appropriate dose of scepticism, and here's why. The honest truth is that while the concept of using hybrid technologies is appealing (the train of thought being that you would have opportunities to combine the best aspects of multiple driver types), the practical reality often paints a far less rosy picture. The fact is that it is difficult to get disparate types of drivers to work and play well together, and harder still to get them to produce a truly coherent, self-consistent sound. Is the MartinLogan ElectroMotion ESL able to pull off this admittedly challenging feat? For the most I think that it is, as I will explain in a moment. But first, let's take a look at some of the technical highlights that make the ElectroMotion ESL special.

The ElectroMotion ESL (or EM-ESL, for short) is, like the Aeries i-model floorstander, a relatively compact, two-way, floorstanding hybrid electrostatic loudspeaker. Up top, the EM-ESL sports a large (86cm high x 22cm wide), curved, thin, see-through electrostatic panel that handles all midrange and high frequencies from about 500Hz to well beyond 22kHz. The panel requires a low-voltage outboard DC power supply (included), which is triggered by a signal-sensing circuit and

that charges up the panel within two seconds of detecting an audio signal. The electrostatic panel incorporates a number of signature technologies the firm has developed over the years:

- **CLS (curvilinear line source) technology:** MartinLogan's answer to the decades-old problem of achieve horizontal dispersion from electrostatic panels has been to develop an ingenious curved panel architecture that provides about 30 degrees of horizontal dispersion—enough to provide a relatively wide listening area, but not so much as to interact in undesirable ways with the sidewalls of rooms.
- **XStat Transducer technology:** a package of technologies (too numerous to list) that allow MartinLogan to use an incredibly thin (just 0.013mm thick) conductive diaphragm that is driven in push-pull fashion between a pair of the firm's signature MicroPerf stators. The driver is said to provide exceptional linearity, wide bandwidth, low distortion, and to play surprisingly loudly without danger of arcing or other damage.
- **MicroPerf stator technology:** Many electrostatic drivers use heavy, bulky, grid-like stators that block part of the sound emanating from the diaphragms within, but MartinLogan electrostats use insulated steel stators with myriad tiny 'microperf' openings spread over their entire surface, allowing more sound from the diaphragm to pass through unimpeded. MartinLogan claims that output from its panels can match the output of competing electrostatic panels twice their size.
- **AirFrame technology:** MartinLogan uses light, compact, yet exceptionally rigid extruded aerospace-grade aluminium frames both to support its electrostatic panels and to attach them to woofer enclosures below, while minimizing unwanted vibration or resonance.

Down below, the EM-ESL uses a 20.3cm, long-throw, high-rigidity, paper cone mid-bass driver housed in a reflex enclosure (with a downward-firing port). Importantly, the woofer enclosure features a non-resonant 'asymmetrical chamber' design, as can plainly be seen when the woofer section of the EM-ESL is viewed from the side. As an appealing and useful detail touch, the EM-ESL comes fitted with beefy floor spikes that are, in turn, equipped with removable rounded floor shields. The concept is that users will leave the floor shields in place until a final position for the speakers is



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► found. Then, if the room features carpeted floor surfaces, the shields can be removed to allow the spikes to penetrate the carpet to more firmly anchor the speaker in place.

One final point worth noting is that the EM-ESL speakers come with what I regard as hands down the finest manual I have ever encountered with any loudspeaker (competitors take note). Speakers with dipolar tweeter/midrange panels are not always easy to place properly, but MartinLogan’s manual provides guidance that should make it easy for first-timers to get their ESL’s sounding good from the outset, while also offering extremely detailed suggestions for fine-tuning speaker positioning so as to wring out the last few drops of ultimate performance.

MartinLogan recommends giving the ESL’s a full 72 hours (or more) of break-in at levels of around 90 dB before settling in to do critical listening, and I would second that recommendation. The ElectroMotion ESL speakers sound good (even *very* good) straight out of their boxes, but they really need that break-in time in order to loosen up and—importantly—to develop the kind of sonic ‘fluidity’ that enables the textures of the drivers to merge and meld in a harmonious way. Once break-in is complete, prepare to be delighted.

To come straight to the point, the EM-ESLs are among the finest speakers I’ve yet heard at their price (although Magnepan’s magnificent 1.7 planar magnetic speakers

offer extremely strong competition). The EM-ESLs offer a really intoxicating set of virtues: open, airy, and beautifully extended highs; almost shockingly transparent, pure, and agile midrange frequencies; and fast, taut, and surprisingly deeply extended bass (granted, the EM-ESLs don’t offer a lot of output in the very lowest octave, but above that point they sound potent yet beautifully focused). Best of all, the transition between the electrostat panel and the dynamic mid-bass driver is handled so artfully that you have almost no awareness of crossing from one type of driver to the other.

Please note that I used the qualifier ‘almost’ in the preceding sentence, not because I’m bent on being bull-headedly finicky about things, but because I know and respect the sound of MartinLogan’s über-expensive, flagship *full-range* electrostatic CLX speaker, which is one of the most eerily coherent-sounding speakers on the planet. I won’t tell you the EM-ESLs are fully the equals of their magnificent big brothers (that would be untrue), but I will tell you they capture an awful lot of the sonic ‘vibe’ of the big guys for about *one-tenth* the price. In my book, that fact alone makes the EM-ESL’s a marvel of value-oriented engineering. What is more, once fully broken in, the EM-ESL seems to have almost no problems with perceived excess treble brightness or stridency when reproducing hard, sharp treble transient sounds—an area where the larger MartinLogan hybrid electrostats occasionally have been known to exhibit quirks. Imaging, too, is exceptionally good, with superbly delineated soundstaging. My point is that the EM-ESL gives most of the joys of top-tier hybrid electrostats, with essentially none of the potential drawbacks.

Let me provide two illustrations that show how the EM-ESL’s sonic qualities play out with real-world music. First, me talk about the way the MartinLogans handled the Chicago Symphony Orchestra brass and percussion sections performance of Silvestre Revueitas’ ‘Sensamoyá’ from *Chicago Symphony Orchestra Brass Live* (CSO-Resound, multichannel SACD). This remarkable modern composition features the orchestra’s brass section (including a solo tuba), clarinet, string bass, and many of the instruments of the percussion section. The theme, according to Philip Huscher’s liner notes from the recording, is to musically recreate the feel of a Cuban poem about “a ritual Afro-Cuban chant performed while killing a snake.”

Accordingly the piece is rhythmic, angular, and very powerful—at times almost dissonantly so, and yet it also has moments of great delicacy. What caught my ear was both the timbral purity and relative ease with which the EM-ESL system navigated the sounds of the lowest pitched brass and percussion instruments right on up to the highest pitched ones. What touched me, really, was the speaker’s ability to faithfully capture the diverse tonalities, textures, and orchestral personalities of the individual instruments, while showing how their distinctive voices became woven together to create ►

▶ the sound of the overall orchestral section. You expect high-priced high-end speakers to get subtle timbres and textures right, but it's refreshing to hear a relatively low-cost high-end speaker perform in such an accomplished way.

Tonal balance seemed pretty much ideal, with EM-ESL speakers contributing, thanks to their dipolar electrostatic panels, much less in the way of unwanted room interactions than I expected. Thus, it was easy to feel myself transported away from the acoustics of my listening room and into the three-dimensional acoustics of Chicago's Orchestra Hall at Symphony Center, where this recording was made. Importantly, the EM-ESLs created an almost perfectly seamless sound that did a great job of conveying in a three-dimensional way the sound of the ensemble arrayed in an arc upon the stage. What is more, the speaker's ability to resolve low-level details made it easy to hear subtle cues that revealed the acoustics and dimensions of the recording space.

To further explore the MartinLogan's ability to handle sonic details, I put one the Maya trio's superb recording of Robert Paterson's *The Book of Goddesses* [American Music Recordings, CD]. The Maya trio features Sato Moughalian on flutes of various types, Jacqueline Kerrod on harp, and John Hadfield on percussion. The Trio commissioned Paterson to write *The Book of Goddesses*, which is a collection of nine short, highly evocative pieces that each attempts to capture the personality of an historical goddess, with sources drawn from various cultures and story traditions from around the world. My favorite vignette is the third of the pieces in the series, named for the Greek goddess Aphrodite. I like this track in part because it includes all the members of the trio (not all of the pieces include percussion, but this one does), and because it introduces a light, jazzy, propulsive dance rhythm and beautifully reveals the voices of the trio's instruments.

Even if you sit down to listen to 'Aphrodite' in a casual way through the ElectroMotion ESLs, my bet is that it won't be long before you get drawn in and start tapping your toes in time to the music. The sound of the EM-ESL speakers is so clean and taut that they make child's play of capturing subtle variations in rhythm and syncopation. But what is more, they dig down deep to retrieve inner details that capture the very essence of the sound of the harp and flute—so that you have a sense of the speakers always having more than enough transient speed on tap to keep up with the attack, sustain, and decay of sounds from each of the instruments, whether heard in isolation or in combination with the others. No matter how complex or convoluted any passage may become, you have the uncanny sense that the electrostatic panels are consistently able to stay a step ahead of the music—a sensation that, quite frankly, few other types of speakers can convey.



I consider MartinLogan's ElectroMotion ESL to be an overachiever of the first rank. It offers very serious high-end sound quality for only a little more money than some mid-fi speakers cost. For many listeners, then, I suspect the quest for upper-tier sound may begin and end right here, and even jaded audiophiles accustomed to ultra-premium-priced gear will marvel at the sophisticated sound this system delivers. +

TECHNICAL SPECIFICATIONS

MartinLogan ElectroMotion ESL Floorstanding Speaker

Type: two-way, two-driver, hybrid electrostatic/dynamic-driver, bass-reflex floorstanding loudspeaker

Driver complement: one 865x220mm dipolar electrostatic tweeter/midrange panel, one 200mm paper-cone, long-throw mid-bass driver.

Frequency response: 42Hz -22 kHz \pm 3dB

Sensitivity: 91 dB

Impedance: 6 Ohms (but "compatible with 4, 6, or 8 ohm-rated amplifiers")

Dimensions (H x W x D): 132.3x22.9x41.4cm

Weight: 16.1 kg/each

Price: £2,499 /pair (£2,998/pair gloss black finish)

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