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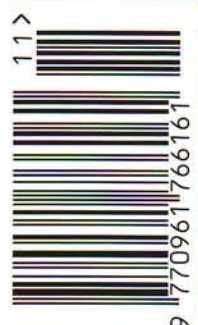
EXCLUSIVE! MARTIN LOGAN THE SOURCE ELECTROSTATIC SPEAKERS



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the ultimate phono stage?

NOVEMBER 2008



8 PAGES OF YOUR QUESTIONS ANSWERED

Logan's Son

The newest, smallest and most affordable Martin Logan electrostatic loudspeaker is with us, in the slender shape of The Source. David Price directs the listening...



Regular readers will know how highly we regard the products of Martin Logan. *Hi-Fi World* has always taken a great interest in elegant engineering solutions, and here's one loudspeaker that offers precisely this. Compared to cooking moving coil designs, electrostatics are a difficult, fussy and expensive way of making sound – not easy to get right at all. Properly done however, the results can be startling, because they have none of the deep flaws intrinsic to conventional box loudspeakers.

Martin Logan is one of the few companies that can do electrostatics properly. Indeed, I'd say that the panels themselves are superior to that illustrious name that brought the breed to British households, namely Quad. All well and good then, but a brace of superb high end designs does not a great affordable package make. The Source you see here retails for 'just' £1,599, putting it up against some really rather effective conventional designs, and right into one of the most competitive market segments in the UK. Actually, this is the first time I remember this happening; normally 'statics are the preserve of the very well healed, but The Sources are actually affordable to most audiophiles self-disciplined enough to save up.

The benefits of this type of speaker are instantly apparent, but are best expressed in terms of what they *don't do wrong* rather than what they do right! First and foremost, you're not listening to a couple of drive units of differing weights, stiffnesses and profiles wobbling around in a hollow box together. Instead, you have (in the case of Martin Logan) single panels of special plastic film, tightly tensioned across a frame, vibrating by an electrical charge. Whereas a conventional two way speaker with a cloth dome tweeter and a Kevlar mid/bass needs a clever, complex crossover to get the two to work together acoustically and electrically, an electrostatic doesn't. Think of it like this - moving coil speakers are rather like trying to sprint with a boot on one foot and a sandal on the other – no matter how much you try and alter your running style, the difference in footwear means you'll never show your body's full potential.

However, electrostatics have their own set of 'issues' that handicap them in other ways. First, the physics of the panels are such that they can't really do bass. Or rather they don't do it anywhere near as effectively as a magnet wobbling a big paper cone. For this reason, 'statics are either very big (i.e. Quad 989) or come with a moving coil bass unit (i.e. Martin

Logan). Technically then, these are hybrid designs – and that in itself is another big challenge to surmount. Just as a cone woofer and dome tweeter don't have much in common, so an electrostatic midrange/treble panel and a moving coil bass driver aren't natural bedfellows. For my money, this has been an issue with Martin Logan speakers of yore; I've never been completely convinced by the way the panels crossover to the

"it doesn't feel like you're listening to a great loudspeaker, because it doesn't feel like you are listening to a speaker at all... II

cone. More of which later...

The other problem is that by most people's standards they're unpredictable in rooms. Being dipoles that radiate sound both to the front (obviously) and rearwards (but not sideways), the angle of incidence of the speakers relative to the listener's ears, and the arrival time difference between direct and reflected sound, makes or breaks their performance. You really must have a suitable room and spend serious time positioning them – plonking them on the floor so they look nice next to your rubber plant ain't going to work!

Having spent several years with Quad ESL 989s, which I both love and hate, it was interesting to look at Martin Logan's quite different thoughts on how to make the ideal electrostatic. My biggest criticism of the Quads is the floppy wooden cabinets (now firmly fixed with the new ESL2905). The Source also takes cabinet rigidity seriously, using so-called AirFrames, manufactured from aerospace-grade aluminium alloy, to hold the panels as tightly as a tennis racket.

Martin Logan panels are superb in my view, and The Source sports the second generation of their CLS (Curvilinear Line Source) transducer with ultra-low-mass PET (polyethylene terephthalate) diaphragms and 'MicroPerf' stators claimed to expose more of the diaphragm surface, expanding effective radiating area without increasing panel size. Working with these is a single paper-coned 203mm woofer, mounted in an MDF box which also houses the crossover, complete with rear-mounted reflex port.

Underneath this is an adaptable rotating base sitting on 'Energy Transfer Coupler' spikes, which can be adjusted from 1° to 13° degrees

of rake. The back of the boxes sports monowire binding posts and a DC power input (each speaker uses a single, offboard AC power adaptor). The result is a tall, slim loudspeaker (130x24.5x37cm), elegantly and subtly finished and weighing a hefty but manageable 21.4kg.

SOUND QUALITY

I can't think of many loudspeakers that are harder to get 'on song' than

Martin Logans, and curiously their less expensive designs almost seem fussier than higher end models. Unboxing them and placing them in my usual large loudspeaker 'place' in my listening room, where most work reasonably well, the MLs were appalling. In fact, I've heard better from £50 multimedia speakers. However, given that I like a challenge, I set out to get them going...

Martin Logan's UK distributor Absolute Sounds say that they need at least forty eight hours of being continuously powered up to really give their best, with twenty four being when they "start to not sound bad". I'd go along with this, meaning that if you're serious you've got to leave them on all the time. They're certainly fussier than the Quad 989s, which I find I can turn off at night and on in the morning, making them ready for a good evening's listening twelve hours later.

There's also the vexed issue of placement. Given that everyone's room is different, then experimentation is the order of the day. They need to be moved out a good way into a room, whereupon suddenly they snap into focus. Their angle (rake) is also critical, and again depends on your ear height – laying back on my lowish sofa, I found they needed to be almost vertical. You'll soon hear the correct setting, as treble is quite subdued if you're not in the sweet spot.

I started the listening with a BBC CD of Radio 4's 'Alan Partridge', offering as it does well recorded speech (and lots of great comedic moments, "aha!"). The contrast between listening to male voice on a box loudspeaker and the Martin Logans was striking. Being humans, we are so well attuned to what natural voices sound like, and this

sound points out chestiness, bass boom and poor integration between drivers on conventional designs. Not so with The Source, which was even and open right up and down the frequency spectrum – comedian Steve Coogan's voice was delivered with an uncanny clarity. It didn't sound as impressive as your average £2,000 box however, the MLs having no bass or treble boost to make things stand out. Instead, there was a gentle, natural, easy sound with fine timbre – nothing more, nothing less.

Moving to altogether more processed music, and Prefab Sprout's 'Appetite' again delivered a quintessential electrostatic sound. Hook up a pair of KEF XQ40s, for example, and you get a feisty, engaging and punchy sound, whereas the MLs were altogether more subdued and subtle. While the KEFs impress immediately, these take longer but when you've got used to the lack of boxy colouration they make a more lasting impression. At first it's almost anticlimactic listening to The Sources, but they charm through not doing anything badly rather than doing a single thing particularly well. Their naturalness, speed and ease make them satisfying long term listening partners, rather than flashes-in-pan. 'Appetite' is a powerful, well produced pop song – and The Sources don't quite capture its massive thump and dramatic dynamic contrasts as well as some box speakers, but more than make up for it in their open, organic sound. Put simply, it doesn't feel like you're listening to a great loudspeaker, because it doesn't feel like you're listening to a speaker at all.

Switching to the classic funk/jazz strains of Donald Byrd's 'Streetlady', these loudspeakers really sang – in their way. These panels, unlike the heavy cones of most mid/bass units, showed tremendous delicacy, offering a subtle window into the music with little editori-



alising. Compared to my reference Quads, they sounded slightly tighter and faster, able to capture the leading edges of plucked guitar strings and percussion better. This made for excellent timing, and a highly musically satisfying rendition of the song; all the notes seemed superbly syncopated, the musicians playing together right on the nail.

Interestingly however, The Sources don't give a 'musical' sound in the generally accepted sense; this is because there's no big bass peak down around 100Hz to artificially 'push' the song along, nor is there a sharp, searing treble add bite as per the aforementioned KEFs. The Martin Logan take on 'musicality' is about subtlety, beguiling rhythms conveyed with all their nuances intact, rather than sledgehammer bass and tizzy treble. Indeed, this brings me to the issue of bass – because I've had problems with more expensive speakers in the company's range in my front room. Indeed, I found the



Vantage quite overpowering. I'm happy to report that The Source's little eight inch woofer integrated very well, and way better than expected. The transition from panel to cone driver isn't completely inaudible, but it's subtle enough not to draw attention to itself.

Being smallish electrostatics, don't expect these to work down at your local disco; they're not at their best thumping out big stomping House tunes like Xpansions' 'Elevation'. Actually, being fast, even lithe from bottom to top they're great fun, but lack the prerequisite boom-tizz to give electronic processed pop the thump it needs. Listening to rock music was also a bit unusual to these ears (which have been living with box loudspeakers of late). REM's 'Talk About the Passion'

seemed a little tonally dry, which is another way to say the sound didn't have much in the way of euphonic colouration. The Source does play rock in a surprising musically satisfying way, but let's just say that AC/DC fans might profitably look elsewhere.

Classical and electronic music lovers will really love these baby Martin Logans however. Their crisp panels, free from overhang and cabinet reflections, gave a brilliantly incisive rendition of a Deutsche Grammophon CD reissue of Vivaldi's 'Four Seasons' (Berliner Philharmoniker, Karajan, 1971). Instrumental timbre was very clean, and the recorded acoustic was recreated with great precision. Although not as airy as high end Martin Logans, the concert hall still came over convincingly with wide left-to-right and deep front-to-back boundaries. Again, the subtlety of those panels, and the unobtrusive nature of the bass drivers, made for an involving and beguiling listen – just as it did with the electronica of Kraftwerk's 'Tour de France'.

CONCLUSION

Once properly set up and warmed through, these loudspeakers don't get a lot wrong. Instead, their sins are those of omission; they lack the massive scale of the high end Martin Logans or big Quads, they don't have the same hear-through clarity of £5,000 designs and can't 'kick ass' anywhere near as good as some similarly priced conventional designs. However, the rest is all good – banished is boxy colouration, strange phase problems arising from mating dome tweeters to cone mid/bass units and curious quacky colouration from cantankerous cone materials.

As such, at just £1,599 they are a blessed relief for those of us who've had our fill of boomfy boxes, but the problem is that

REFERENCE SYSTEM:
 Marantz TT-1000/Origin Live Silver/
 Ortofon Winfield turntable
 Note Products PhoNote phono stage
 Cyrus CD8 SE CD player
 Sugden IA4 integrated amplifier
 Quad ESL-989 loudspeakers

boomfy boxes are all most people have ever heard, so they probably don't even know what they're hearing is wrong. That, in a nutshell, is the biggest problem The Source has – they're great value, affordable esoterica in a world of common or garden fish'n'chips fare, and many will feel threatened by them. In this country at least, the sub-£2,000 speaker market is still essentially a conservative one and it's only when you spend £5,000 plus that people start craving radical designs like this. Here's hoping at least some big box buyers are ready to take a walk on the wild side!

VERDICT 
 Sophisticated transducers offering speed, subtlety and insight at a hitherto unknown price point.

MARTIN LOGAN THE SOURCE £1,599
 Absolute Sounds
 +44(0)208971 3909
 www.absolutesounds.com

- FOR**
- neutrality
 - musicality
 - stereo imaging
 - value
- AGAINST**
- lack of physicality
 - fussy set-up

MEASURED PERFORMANCE

The Source is fairly easy to visualise in measurement as it comprises an open electrostatic panel that radiates forward and backward (dipole) and works from 400Hz up to 20kHz, plus a bass unit operating below 400Hz.

The panel quite clearly produces a smooth response over a remarkably wide band, with an overall downtrend. Our frequency response plot shows output is highest from 500Hz to 1.2kHz and this region dominates: it will make vocalists and many instruments prominent. Upper treble is well maintained but not intrusive, as there is no peaking. Although our mic position shows some fall off above 15kHz in fact the panels were flat beyond 20kHz so their performance is beyond that of most other drive units, as none can cover such a wide band without serious blemish. There are no phase or amplitude crossover problems in the 3kHz-7kHz region either, where the ear is most sensitive. Cancellation occurs between forward and rear waves either side of the panel, so off axis there's little sound.

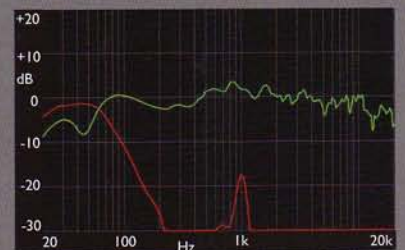
Output from the bass unit is a bit below the midband, producing a broad -3dB dip in the lower midband that will serve to lessen body and warmth in speech and vocals, at least for just-off-axis listeners (the mic position and the recommended listening position). The bass chamber peaks up +5dB at 90Hz in our steady-state pink noise analysis (not shown). The gated sine wave response shown captures output devoid of box and room contribution and confirms the box peaks and rolls down to -5dB at 55Hz, so it will not sound especially 'tight'. The broadly tuned rear port takes over below 55Hz, running down

to 20Hz.

The impedance characteristic shows a 4.4 Ohm minimum (its DCR) with a few reactive peaks. Overall impedance measured out at 5.6 Ohms, so the Source is a normal enough load, and reasonably sensitive too as electrostatics go, managing 86dB Sound Pressure Level (SPL) for one nominal watt of input (2.84V). Amplifiers of 40 Watts or more will give healthy volume.

In basic balance, the Source will sound midband forward, measurement shows, and have prominent lower bass – at least if you sit exactly on-axis. Perceived balance is very position dependent though. Bass is likely to be fairly obvious and an amplifier with a good damping factor is best used. NK

FREQUENCY RESPONSE



Green - driver output
 Red - port output

IMPEDANCE

