

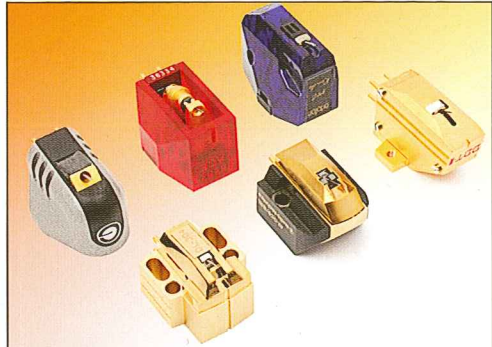
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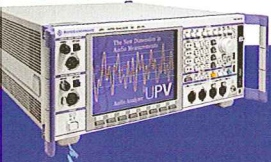
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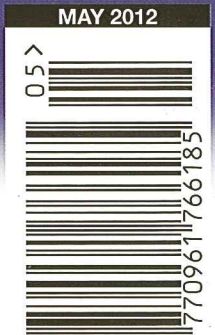
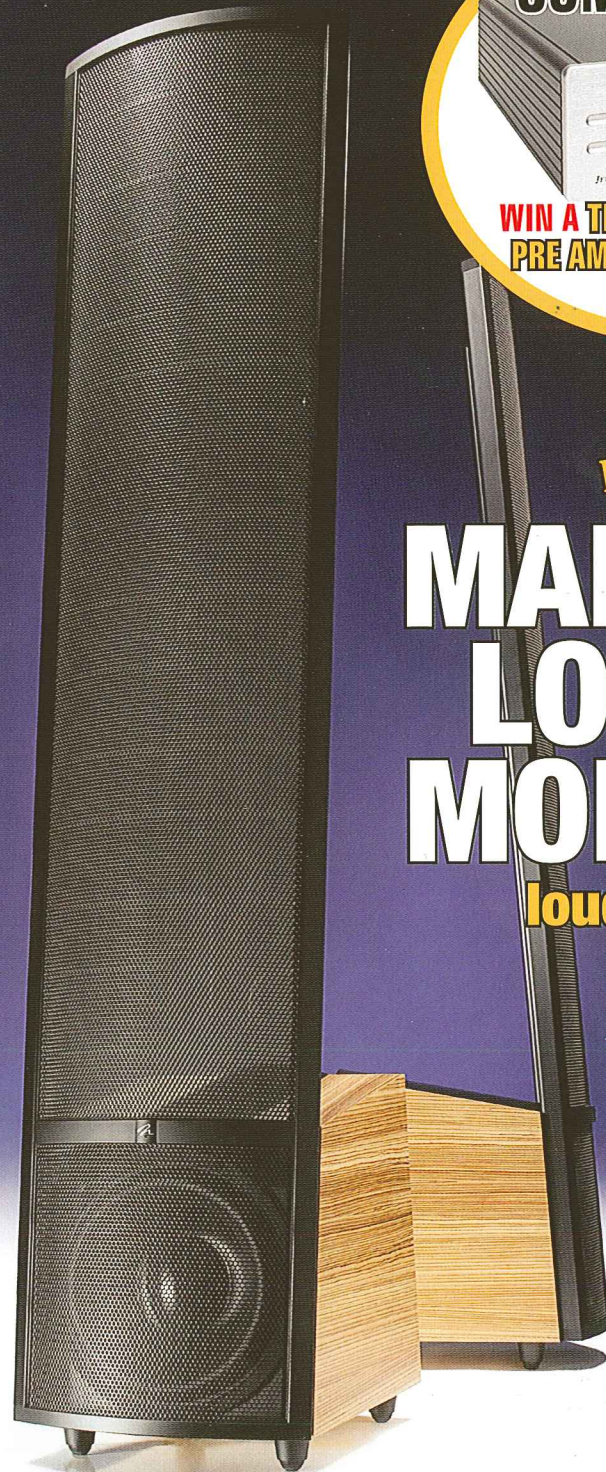


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MARTIN LOGAN MONTIS

loudspeakers



Tall order

Martin Logan's new Montis hybrid electrostatic loudspeaker stands tall, is expensive and demanding, finds Noel Keywood. But it is amazing ...

Just sitting in front of the new Montis loudspeaker from Martin Logan made their design rationale obvious: they are big, very big. Not Tannoy Prestige series huge, but mightily imposing all the same. This loudspeaker is for the larger home, meaning a room at least 20ft long I'd suggest. It's also for the larger wallet, coming in at £9800 per pair. But the Montis gives a vast soundstage, beneath which you listen in awe. Martin Logan hybrid electrostatics are always a great listening experience and the new Montis is no exception.

The Montis stands 1.5 metres (5ft) tall to be precise, compared to 1 metre for most floorstanders, and 1.2 metres for big floorstanders, so this truly is a tall loudspeaker. It fires down at listeners, giving a celestial presentation of electrostatic clarity and purity – and that is the biggest difference between the Montis and its slightly shorter stablemates, many of which I have reviewed and know well. I noticed this difference immediately when listening to the Montis and it is the loudspeaker's primary distinguishing feature I feel.

Like all Martin Logans though, the Montis is fairly slim, measuring 32cms wide, and it isn't especially deep at 46cms. Even though each loudspeaker is fitted with a 200 Watt amplifier to power the bass unit, weight is a very movable 26kgs (58lbs), making the Montis quite easy to manoeuvre into position, or out of the way for Hoovering even. The bass cabinet is available in Black Ash, Dark Cherry or Zebrawood hand-rubbed wood veneers and a clear Alloy Frame costs £10,998 per pair.



But let me take you through a quick sweep of what this most unusual, see-through loudspeaker is, technology wise. Being an electrostatic means it produces sound from a sheet of clear film, a bit like Clingfilm. Being gossamer light it does not store energy, meaning there is no overhang, or coloration. It is also driven over its entire surface, and damped by the air load too, for more even and controlled behaviour. There is no box to absorb rear energy, another great benefit, although what goes on behind an electrostatic dipole is worth giving some consideration, I have found from living with Quad electrostatics.

Being big means Martin Logan's XStat electrostatic panel reaches down lower, covering more of the audio band than their smaller panels. It reaches from 20kHz all the way down to 370Hz they say, meaning much of the audio band, but not the lower tones of the human voice, or larger instruments like cellos, nor any of the power in Rock percussion of course, and bass guitar plays through the bass bin alone. On the Montis this is configured in the company's preferred manner, the audio signal being converted to digital through an ADC, fed to a Digital Signal Processor (DSP) for processing and then through a digital-to-analogue convertor (DAC) and into a 200 Watt Class D power amplifier that drives a 10in bass unit fitted with an aluminium cone.

There is only one pair of input terminals, and the external amplifier used to drive the Montis only drives the electrostatic panel directly; it does not drive the bass unit. This gives the Montis very high sensitivity, so even when I played them thunderously loud our 100 Watt Icon Audio MB845 MkII monoblock power amplifier swung just 6V a meter said, or 9 Watts! So here is a loudspeaker for the Single-Ended Triode brigade, providing they can cope with the idea of Class D solid-state bass – a cruel dichotomy to be faced with! I will say more about this later, because the Montis does throw up some conceptual contradictions, ones that not all listeners will be happy with.

Everything Martin Logan claim about their fabulous XStat panel is true. It has a smooth frequency response our measurements show, it has wide lateral dispersion and it works over a huge swathe of the audio band. It brings a sense of liquid pure clarity to vocals that any listener, even the most apparently cloth eared, will hear immediately. To sit in front of this panel is a revelation and a great listening experience. Its vestigial

construction is a particular strength, since the intervening protective layers of a Quad electrostatic do detract a little from their potential, I have found from stripping Quads down progressively in the past. Martin Logan's XStat panel comes fully sorted, as it were – and it can even be Hoovered to remove dust they say. It is fed by a passive high pass crossover.

The compact bass cabinet of the Montis is not ported, unlike other Martin Logans, and I believe the aluminium cone bass unit is new too. I suspect the idea here is to 'speed up' bass a bit, because Martin Logan bass isn't the fastest around, but there is quite a lot to this subject. The company attempt to get powerful low bass from a very small cabinet and there are inevitable difficulties here that affect sound quality.

Mains power is needed for each cabinet, connection being made through the usual three pin IEC mains connector. A small red LED shows power is on, and a blue ML logo glows on the top of the cabinet, switchable bright, low or off. There is a bass level control too. It has a (weak) central detent and it can dial in strong boost or cut. I find only low settings of 2 or so on a scale

"if you want to hear a jaw dropping loudspeaker then this is it"

of 12 are needed. Martin Logan like to provide big bass from their loudspeakers, and also claim they go low. Trouble is, this puts a lot of energy into the small cabinet and it does come out through the bass cone – and you can hear this.

So to summarise, the Montis is a big hybrid electrostatic loudspeaker, with powered bass unit and very large XStat panel. It is very well made and nicely finished. I listened in suitable awe as it towered over me!

SOUND QUALITY

Measurement showed smooth off axis dispersion but electrostatics vary subtly according to where you sit. The Montis actually peak up in the treble off-axis and I heard this before measuring them, in quick preliminary listening tests. They sounded bright and a little hard in the treble when placed to fire straight down the room. They are not optimal on-axis either, but they measure perfectly flat and sound balanced just a very small amount – a few degrees – off axis. So the message is the Montis must be carefully toed in until they sound just



The rear panel carries a single pair of inputs: bi-wiring is not possible. They accept 4mm plugs, spades and bare wires. A bass level control and light switch sit above.

right. I was quite surprised at how bright they were off axis.

The sound stage of the Montis didn't sound realistic until I moved them 8ft apart, no less. By this I mean the sound stage was very high, but seemed too narrow for the height: the perspectives were wrong. As I pushed the Montis further apart the sound stage grew and grew,

reaching Cinemascope proportions. Yet image precision and solidity remained unaffected: no 'hole in the middle' appeared. I found this more important than all the other positional adjustments that are necessary with this loudspeaker; boy, do they need room. I ended up almost cowering beneath this vast sound stage, one that is much larger than that from most loudspeakers. It is a feature of the Montis, one that will not fail to impress listeners.

I always keep electrostatic dipoles well away from a rear wall, because they fire music back at it. I used my Quads with acoustic absorbent behind and the Montis had large absorbent sound panels placed 3ft behind to limit the amount of information being bounced off the rear wall. Toeing in did bring a sense of focus but this will be setup dependent. The subtext here is that big electrostatics do need to be positioned with thought and care, although the Montis are



reasonably room tolerant all the same. Their dispersion is so wide that when walking around them the sound balance does not alter greatly. This makes them enjoyable even to those not sitting in the 'sweet spot'.

And now to the subject of the amplifier... My strong advice here is to use a valve amplifier. The Montis is very revealing and its impedance drops to around 1 Ohm at 20kHz. An Audiolab 8200A refused to go much past third-volume before its protection circuits operated to protect the output transistors from excessive high frequency current. Valve amplifiers do not suffer this – and they also sound better. The hard, grainy quality of most transistor amplifiers is grimly revealed by these loudspeakers. Surprisingly, even our Icon Audio MB845 MkII 845 equipped monoblock amplifiers lost their easy treble quality through the Montis, because the loudspeaker has such strong treble. Bright sounding amplifiers do not suit – and that narrows choice. I would be tempted to audition with Single-Ended amplifiers using 6C33Cs or perhaps sweet 2A3s, or 300Bs. The Montis don't give a very good impression when used with transistor amplifiers; bear this in mind when auditioning them. I have heard very good loudspeakers sound awful with the many bad transistor amplifiers that torture us with their presence and the Montis is both very revealing of system limitations and not balanced to compensate for bright or harsh treble in system components. Loudspeakers like this are always difficult to match but the Montis especially so because it puts out so much high frequency energy.

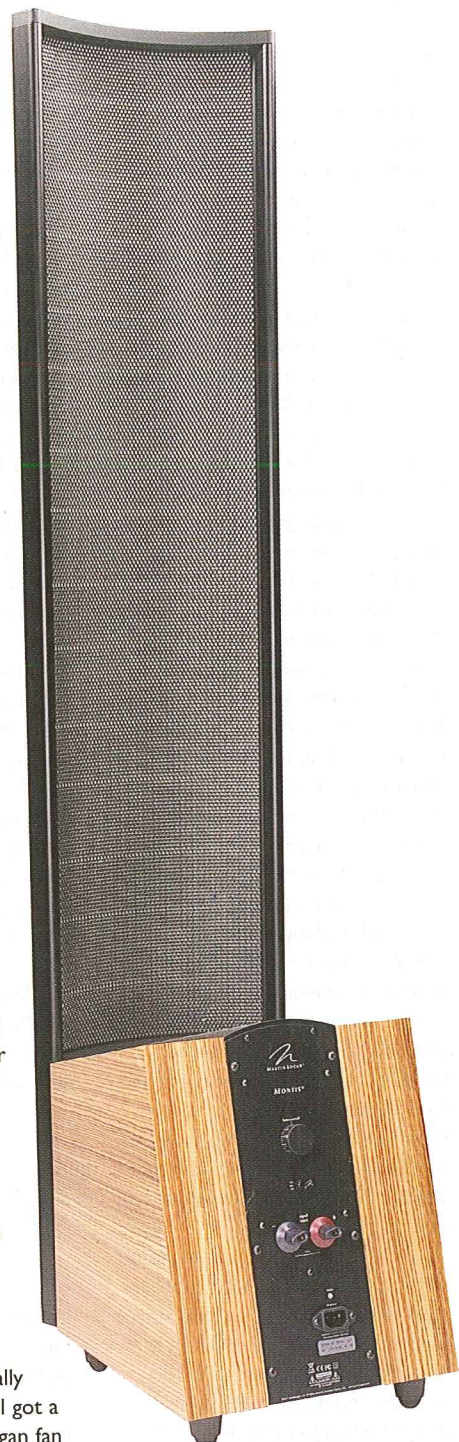
The Montis absolutely demanded a full 30 minutes warm up of our valve amplifiers and 1 hour or over was best; they are horribly revealing. But with Jackie Leven standing large over me singing about the Pentland Firth in his deep, rich but melancholy tones the Montis showed just what they could do. Martin Logan's XStat panel painted up a massive picture in front of me, one that hung together in a way multi-driver loudspeakers cannot manage. On this stage everything has a solid presence and a perfectly defined place, so Jackie loomed large and sounded powerful. There's no phasiness nor any doubt about position; vocals were alarmingly real and instruments had a firmness and were set in stark clarity.

A feature of the Montis that is different from other Martin Logan loudspeakers I have reviewed is that they run up to 20kHz without

flinching and treble comes across as strong. Even when carefully placed the Montis threw out a lot of treble energy and they can come across as bright in balance and a little hard, especially with transistor amplifiers. After hearing this I spent a lot of time re-measuring and attribute the effect to off-axis balance, even though we use absorber panels to absorb such energy. With CD all but the best recordings sounded a trifle challenging, even through our mild sounding Electrocompaniet ECD1 DAC.

I expected LP to sound warmer but it barely did. With an Ortofon Cadenza Bronze, SME 312S, Garrard 401 and Icon Audio PS3 phono stage, strong treble was still there, but the glassy quality and occasional spitch of CD had gone. The Montis gave LP a CD-like balance though. However, being an electrostatic you have to understand that the quality of brightness is different to that of the usual dome tweeter. Treble was clear and even in balance; there was no spikiness or peakiness. It was just powerfully projected. The Montis is not such an easy listen as other Martin Logans in this respect and it is very demanding of partnering equipment as a result. Bearing in mind that the XStat panel is surgically revealing, source components get sonically shredded by this loudspeaker. I got a thumbs down from Martin Logan fan Sharon Mehlhorn of Hi-Fi World on this point until a lot of component changing ameliorated the issue. Rafael Todes insisted we change our mains cable links, swop to a Cyrus CDt transport and much else and of course every change made a difference but the Montis gave fabulous results. Although challenging I still found this loudspeaker nothing other than massively impressive, but it remained starkly revealing rather than warm or cuddly.

When I spun a 12in, 45rpm single of Alison Goldfrapp's 'Ride a White Horse', its driving beat and enormous dynamics thundered out from the Montis; they can deliver enormous levels – with a speed and precision that borders on brutal. The Montis is a 'take no prisoners' listen, one that is academically correct; it is nothing other than a superb iteration of the Martin Logan XStat panel that they



continue to develop.

Working through a wide variety of well recorded albums the Montis maintained its forensic demeanour. Which brings me to source matching again. With LP the Montis needs an Ortofon Cadenza Black or A90 moving coil cartridge, both of which have a smooth, easy balance and are a good quality match. I would steer clear of, for example, a Lyra Titan i, which although impressive in its own way would not suit the Montis. This fussiness is what you might expect from a demanding £9800 electrostatic loudspeaker perhaps, but it is worth bearing in mind, especially with regard to an unsatisfactory dealer demo. Choice of partnering equipment is crucial with such a loudspeaker.

Open electrostatic panels lack the chestiness of box loudspeakers

and give an airier but arguably less substantial sounding lower midrange. In truth what electrostatics lack is boxiness and the thrum that it produces. We exploited this by using an open-backed midrange enclosure in Hi-Fi World's KLS-6 loudspeaker (Aug 1995 DIY Supplement 16 - drive units now unavailable). Because the Montis XStat panel is almost ruler flat in frequency response vocals and instruments are reproduced with perfect equanimity: there are no crossover dips to soften the sound and no treble peaks to falsely emphasise detail. Yet like all Martin Logans the Montis are intensely detailed in a way that shades cone loudspeakers. It's just that, with the Montis, Martin Logan have gone with a sound balance where frequency extremes are very strongly reproduced. A big room, with high ceilings and heavy curtains and carpets would best suit. Even our use of rear acoustic damping panels, as well as side wall acoustic damping panels to lessen the main side wall reflection were not sufficient to curtail the Montis treble power in our set up.

With the rear level control set to 0 bass came across as fulsome and powerful. Our frequency response graph suggests massive bass lift but because of the acoustic power output of the electrostatic dipole it matches the bass unit subjectively better than the graph suggests. Bass quality is good, at least with resonant drum strikes such as the lone strike I use as a guide at the start of Angelique Kidjo's 'Agolo'. There was plenty of power, a good sense of control and obvious subsonic bass. The Montis has a generously large sound in this area, matching its massive sound stage. Turning bass down to -2 or so removed the fulsome quality and dried bass out. The level control is very coarse, as well as loose in its action and could well be improved; it doesn't feel very serious.

Bass lines were heavy on the lower notes but faded out as they rose in frequency. Martin Logan still have not eliminated the discontinuity between the bass and electrostatic and this remains an area that needs improvement. Measurements show the small bass cabinet does a lot of work and much of the drive unit's rear radiation isn't absorbed, but makes its way back out through the cone, a decay analysis shows. Forcing the bass unit to work hard by using equalisation allied to close coupled power amplifiers makes this problem worse, not better; a high pass filter at 40Hz would clean things up a bit by eliminating subsonics, and speed

bass up, but the simple truth is such a small cabinet can never produce really good bass.

So bass quality is compromised by the need to limit cabinet size, to match the XStat panel, and to produce a loudspeaker that is more domestically acceptable than full range electrostatic panels like Martin Logan's own CLX, or the Kingsound Prince II or the Quad 2905. Some listeners happily acclimatise to this marriage of box bass to electrostatic panel and others do not; it seems to be down to the individual. All I can say here is there are good technical reasons for the mismatch, Martin Logan have not solved them and only with personal audition can a listener decide whether the amazing XStat panel is helped or hindered by the Montis powered bass unit. It did not spoil the party for me, but it might for some.

CONCLUSION

For its vast sound stage, image precision and amazing electrostatic revelation the Montis

is a loudspeaker to hear. Few loudspeakers can match it in these areas. A downside is that its sonic balance and surgical rendition are very demanding of all other items in the system I found, almost horribly so. As electrostatics go I found it unusually challenging because it radiates so much treble energy.

And then there is the loudspeaker's love-it-or-leave-it bass, which is a compromise you must accept to get the 'speaker into the room. Bass quality has improved over earlier models and is very acceptable within the context of the loudspeaker I believe.

Placed into a suitable system, the Montis is an awesome experience few other loudspeakers can match. If you want to hear a jaw dropping loudspeaker then this is it, but only if driven by a superb valve amplifier, a top quality DAC or a select band of pickup cartridges in an appropriately smooth sounding arm like an SME312S. Then you'll be in heaven with loudspeakers of almost unmatched ability.

VERDICT

A fabulous sounding electrostatic loudspeaker, if with a challenging sound balance. A true great, however.

MARTIN LOGAN

MONTIS £9,800

Absolute Sounds

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www.martinlogan.com

FOR

- breathtaking clarity
- superlative smoothness
- lack of colouration

AGAINST

- mediocre bass quality
- strong treble balance
- weak vocal 'body'

MEASURED PERFORMANCE

Frequency response was smoothest 3 degrees or so off-axis and this is where our published response was measured. It means the Montis is best toed in toward listeners, but only by a small amount, because off axis the treble peaks a little. All the same the Montis has wide lateral dispersion and will sound much the same in basic balance from a broad range of listening positions.

The XStat panel works from 370Hz upward, Martin Logan say, and our graph shows it is very even right across the audio band, more even than most loudspeakers. It does not have raised treble and is very accurate, also colouration free. However, with broad lateral dispersion and dipole radiation it puts a lot of energy into a room. The dip at 180Hz is due to our room.

As always with Martin Logan, bass has been set on the generous side with the bass control at 0; it measured +3dB up as seen in our graph and will give 'obvious' bass. Flat response was available at -3 on the control. The bass gain range was huge, with a maximum of +12dB lift. Martin Logan work the bass bin hard, pushing it down to 20Hz, which is why our 28ft square room went off strongly at 24Hz, inserting a massive subsonic peak. So the loudspeaker goes low, but big LF excursions in the bass unit generate distortion.

In the Montis the XStat panel sees the amplifier direct and above 3kHz impedance drops steadily below 5 Ohms, reaching just 1 Ohm at 20kHz - almost a dead short! In some circumstances, such as compressed music played loud, this will trip the protection circuits of an amplifier driving the Montis. It did so with an Audiolab 8200A we used. Valve amps withstand this and are best used.

Sensitivity was high, measuring 90dB SPL for one nominal watt (2.8V) of input (bass at -3), although in truth this is a 4 Ohm loudspeaker so we actually put 2 Watts into it, meaning a true watt gives 87dB. However, we always quote voltage sensitivity to relate to volume control position and how a user 'sees' the situation. The Montis are

sensitive and do not need a lot of power, 40 Watts from a good valve amp being enough to play very loud. The bass bin draws no power of course as it has its own amplifier.

Our decay spectrum showed a sharp discontinuity between the XStat panel and the hard working bass bin, the latter emitting a lot of time delayed energy from within the cabinet, out through the bass cone. A high pass filter at 40Hz would lessen this and clean things up.

The Montis measures better than ever as Martin Logan refine their loudspeakers. It is super smooth and super accurate. However, the bass bin still works too hard, pushing out subsonic bass and its limitations appear under measurement. NK

FREQUENCY RESPONSE



IMPEDANCE

