

Pure Magic!

Noel Keywood finds Martin Logan's new Impression 11A electrostatics an amazing listening experience.

What you get in Martin Logan's new Impression 11A loudspeaker is a big version of their fabulous see-through XStat electrostatic panel that delivers unmatched clarity of sound. Based in Kansas, USA, they use latest technologies to hone a loudspeaker right outside the mainstream. Here, a light-weight, see-through Mylar film moves air instead of the relatively heavy cone drive units in conventional loudspeakers – avoiding their inconsistencies, mismatches, colourations and distortion. But electrostatics struggle to produce strong bass so for this the Impression 11A uses a cleverly matched but compact cabinet at the base of the speaker. It's a large loudspeaker for large rooms – and at £12,999 you need a large wallet too!

A key feature of the new Impression is its big XStat electrostatic panel. Measuring 44in (112cm) high and 11in (28cm) wide it delivers more acoustic punch than the company's smaller panels, whilst being only subtly larger in visual terms. Martin Logan work hard to produce a room friendly design. In keeping with this approach the bass cabinet – like that of the Classic ESL9 – is no wider than the panel but houses two 8in woofers, each in its own chamber, individually powered by 275 Watt Class D amplifiers hidden underneath.

The Impression's powered bass cabinet is deep at 28in (71cm) – not



just to get cabinet volume needed for deep bass, but to space the woofers apart to lessen cancellation. Martin Logan note that some distance to a rear wall is needed in any case with an open dipole electrostatic panel that fires sound backwards as well as forwards, justifying their use of this space for cabinetwork – fair enough. It's still necessary to keep the rear away from a wall though, because there's a bass level control, as well as status lights here – and of course a mains input through a standard IEC socket.

As you might hope at the price build quality is excellent, with a very strong, rigid support frame for the XStat panel, a well finished wooden cabinet and neat woofer grilles that can be removed, although there's no need. Martin Logan have fully sorted all the practical problems of electrostatics including dust entry, arcing in humid conditions, panel cancellations, safety and even power consumption: the 'speakers signal-sense and automatically enter and exit power saving mode (<1W). Their website has FAQs about all the funnies.

Maximum power draw is quoted as 500 Watts but in practice with efficient Class D amplifiers I'd expect little more than 50 Watts in normal domestic use, keeping in mind demand upon a mains re-generated power supply.

The Impression ESL 11A is sort-of large, meaning it stands high at 61 in (1.55 metres), exact height depending upon adjustment of the floor spikes. That's 5ft in old measure (this is a US product so I'm using Imperial) where most floor standers are 3ft (1 metre). The XStat panel is both see-through and shallow however, and this makes it less visually intrusive than the wooden cabinet of a conventional loudspeaker: you hardly notice the

The XStat panel is supported by a sturdy alloy frame to prevent flexure.



The forward firing 8in (20cm) aluminium cone bass unit, its clip-on cover removed.

Impression's towering height. The XStat is held by a strong alloy frame.

A weight of 90lbs (41kg) for each loudspeaker means they sit firm and need two people to manoeuvre them since the panel should not be used as a lever, although I suspect it has been strengthened partly to withstand this.

A big issue with a hybrid electrostatic such as this is to get the panel to subjectively integrate with the bass cabinet and here the Impression 11A gets complex. There's a front firing 8in aluminium cone bass unit and a rear-firing one. Martin Logan aren't specific about the rear, saying it acts to cancel bass from rear walls. I was expecting it to provide rear out-of-phase sound to make the bass cabinet a dipole at crossover, to match the XStat panel. But no, it appears not. Measurement showed it works below 100Hz only, having no influence at the crossover frequency of 350Hz. There's lots of jiggery-

pokery in all this I found when matching my Quad ESL-63 electrostatics to Celestion SL-6000 dipole subwoofers and you have to trust to Martin Logan's judgement on the subjective effectiveness of bass-to-XStat matching – always difficult with a hybrid.

The Impressions use a Digital Signal Processor (DSP) in the bass section so all sound below 350Hz is converted to digital then back to analogue. The XStat panels are fed direct by an external amplifier, via the crossover high-pass section, but the crossover low-pass feeds an Analogue-to-Digital convertor (ADC), because digital is needed to tailor bass response for Anthem Room Correction (ARC), as well as compensate for the acoustic response of the small bass chambers. A DAC then converts digital back to analogue to feed Class D amplifiers connected direct to the bass units. It's a complex system, making the Impression a lot different to the Classic ESL 9 that lacks all this.

The rear panel dispenses with the peculiar 4mm terminals used in previous models, using sturdy WBT terminals instead that accept bare wires, 4mm plugs and spades. There's a rotary bass level control with very large (approx +/-10dB) adjustment range, but it has a central zero position with detent. In addition there's a small three-way 'mid-bass' toggle switch to fine tune subjective matching between bass cabinet and electrostatic panel. These controls and LED status lights need to be visible, which is why some distance to a rear wall is needed.

The rear panel also has Anthem Room Correction (ARC) facilities, meaning a mini-USB computer input, an on/off switch so ARC can be switched in or out, and an LED status light. There's also an RJ45 ethernet socket for loudspeaker linking so both units can be tuned simultaneously but this is a convenience feature; the 'speakers can be tuned individually without this link.

An optional £300 'Perfect Bass Kit' (PBK) for room sensing enables ARC. In the box you get a microphone with unique Serial Number, stand and cables. Life gets a little complicated here. To use PBK you must have a PC (not a Mac) running Windows 7 to 10 to crunch the acoustic data and send it to the loudspeaker through a supplied USB A to mini-USB cable.

Software for this is available

on the Martin Logan website, needing the mic's Serial Number before download so a mic response correction file can be sent. The mic is then placed around the listening position (5 positions minimum recommended) to compensate for room acoustic variation. The tailored final correction response is loaded into the DSP and stored. It can be switched in or out for A/B listening tests, and does not affect the 'speakers own bass level and 'mid-bass' controls that remain effective. I used ARC without difficulty but I think it is best left to a dealer with a laptop PC.

The idea here is to lessen 'room boom' and similar effects, improving bass quality – effectiveness depends upon the room's acoustic behaviour. The bass level control will effectively reduce room-boom bass, but ARC theoretically offers a finer way of lessening its subjective impact, although I had reservations in listening tests and switched it out under some circumstances.

SOUND QUALITY

Driving an electrostatic for me has always meant using a good valve amplifier. Electrostatics are both a difficult load and desperately revealing of all that feeds them: I used our Icon Audio Stereo 30SE single-ended valve amplifier as always, with Chord cables. Solid-state amps can handle them but it's best to listen first, since they can behave quite differently when faced with the heavy capacitive load of an electrostatic.



Rear 8in aluminium cone woofer, WBT input terminals and rotary bass level control at right – plus much else.

Sources were an Oppo UDP-205 Universal player for CD and hi-res digital, the latter coming from an Astell&Kern AK120 player acting as a digital transport. LP came from our Timestep Evo modified Technics SL-1210 Mk2 turntable fitted with SME309 arm and Ortofon Cadenza Bronze moving coil cartridge, its output amplified by an Icon Audio PS3 all-valve phono stage with MC input transformers.

A clean mains supply is important for electrostatics. I ran the Impression 11As from an Isotek Evo3 Mosaic Genesis mains re-generator (less than 0.3% distortion) and although of 500W capacity it had no problem.

Right off the Impression 11As were as sparkingly clean, clear and massive in their presentation as I expected (knowing Martin Logans

"The 11A is a big 'speaker at a big price, and little else comes close to its unique delivery."

well). With 5ft high panels you get an equivalently high sound stage – and electrostatic imaging picks out singers and instruments in sharp relief against nothing. Yes, nothing. There's no time-domain rubbish from box echoes, the biggest issue that burdens every box loudspeaker, nor drive unit colourations. The XStat panel also has no front or rear obstruction to the sound it produces – and this contributes strongly to its sense of insight and pristine clarity. I did notice that the Impression 11A has a slightly brighter balance than the Classic ESL 9. Spinning James Campbell 'Down in the Hole' opening strikes against guitar strings were strong but clean – and there was fabulous insight. Detailing was dense and the bass line firm, easy and tuneful.

As I worked my way through high dynamic range CD tracks (uncompressed) these characteristics were maintained. Hans Theessink singing 'Mississippi' was delivered



Big crossover section at right, twin Class D power amps, Digital section and linear power supply all sit in the base tray.

with vivid clarity. With Josefine Cronholm's 'In Your Wild Garden' the bass line had solid lows and her voice was shimmeringly clear centre stage – unlike any loudspeaker I've heard. With digital I had ARC switched in

and it did give smooth bass lacking apparent character.

With Renee Fleming singing 'Un bel di vedremo' from Madame Butterfly I was made very aware of every small nuance in her delivery: it was like listening through an aural magnifying glass. Martin Logan's big XStat panel challenges all else to an extent that is frightening – this is a loudspeaker that had me riveted whilst listening.

Life with LP got interesting. Spinning 2L's lovely recording of The Trondheim Soloists fronted by Marianne Thorsen playing Mozart violin concertos I heard about the sweetest and most vivid performance ever from this LP. The big panels bounce violin out into the room with extraordinary ability; nothing else gets close. The sound wasn't just 'technical' but organic and sweet, a definition I have to use because digital is never that. But spinning this LP was an object lesson in what a fine electrostatic can do – and the

Impression IIAs are that. However, I do work hard to ensure all sources, cables and supplies are pristine perfect, because ML's big XStat panel can easily sound hard and unforgiving with inappropriate cables, amps and/or dodgy digital. Be very aware of this if you seek a shop demo: I object to even Martin Logan's choice of power amps in Stateside demos!

Moving on to – er – a less delicate place, punching the 45rpm speed button to spin my 1980's 12in singles saw Alison Goldfrap singing 'Ride a White Horse'. Old disco singles like this are interesting in having metronomic synth timing and emphasised deep bass. Cranking volume up, the bass cabinets sounded a little coloured and strained, where they had not with CD. Switching out the acoustical forcement of ARC correction relaxed the bass – the speaker seemingly breathed more easily – and removed colouration. This done, I wound volume right up and the room shook with deep bass, emphasising the clout of Impression's four 275 Watt amplifiers. So much power within small cabinets made them shake too, I noticed when

JON MYLES SAYS

Yes, they are expensive and need to be matched to the right amplifier.

But get this correct and their delivery is sublime. I used them with the Icon Audio valve amplifier at first and the detail and soundstage was a joy to listen to. The only problem? The bass sounded a little boomy. Playing The Clash's 'London Calling' there seemed to be a disconnect between the mid-range and the bass.

However, switching to Quad's new Artera amplifier (see review this issue) brought out a rather smoother response. Bass was tamed while mid-range and treble took on a more even tone.

switching ARC in and out at high volume; it's a hard working system. Turning bass gain down to -4 removed disco emphasis, making the whole sound drier and more composed; I could take my flares off. There's plenty of adjustment available to tailor sound to source, room and taste – a feature of the powered Impressions.

Overall, with LP the 'speakers were stunning. Both classical and Rock came over beautifully, orchestras filling the room, whilst Rock shook the foundations (and the neighbours).

Finally, Quad's Artera Solus (reviewed in this issue) worked wonderfully, with less treble and more apparent balance than the

Stereo 30SE but I suspect was affected by the panel's heavy capacitive load to give a symbiotically balanced result.

CONCLUSION

Martin Logan's Impression IIA loudspeakers are suitably named – they make a big impression. Think huge soundstage and wickedly powerful bass that seemingly goes as deep as you wish – with no power limit. However, unlike big box speakers that offer similar scale, the XStat electrostatic panels offer a see-through clarity that matches their appearance. Nothing compares. The IIA is a big 'speaker at a big price, and little else comes close to its unique delivery.

MEASURED PERFORMANCE

Our frequency response analysis shows reasonably flat and smooth output across the audio band, a characteristic maintained from the centre of the XStat electrostatic panel to left and right 25degree off-axis positions, and vertically too; there is little sign of the panel cancellations that large flat panels suffer, due to the XStat's curvilinear shape. As a result, sound balance will remain consistent to listeners regardless of their position.

The Impression 11A has a brighter balance than the Classic ESL-9 since its has no overall response tilt and this will make treble from its big panel more obvious; it provides much more radiated power than a small dome tweeter and may well sound challenging with harsh CDs. High treble power is fine if the source is clean.

With the bass gain control set to 0 there is substantial bass lift in the system: our analysis shows a bass peak at 40Hz of +8dB. Unassisted loudspeakers rarely have such a characteristic so the Impression 11A will have strong bass against all else. Turning the bass gain control to -4dB gave a perfectly flat response to 30Hz however, so the 'speaker can be set accurate – or

anywhere in-between as there is wide adjustment range of +/-10dB.

The panel works from 350Hz up to 20kHz, the front subwoofer from 350Hz down to a very low 30Hz with a peak at 40Hz – and there is an obvious dip in-between. Since the rear bass unit cuts-off above 100Hz it appears not to make a contribution to the crossover region. A small lower 'mid-bass' toggle switch at rear has +2 / -2 positions and does lessen the dip when set to +2. Martin Logan appear to have lessened bass output in this region, possibly to de-emphasise the monopole / dipole transition.

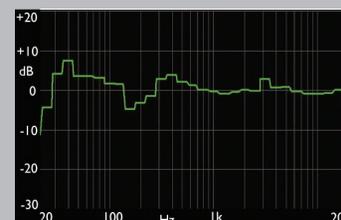
Sensitivity was high at 89dB sound pressure level from one nominal Watt (2.8V) of input so low power amplifiers of 20W-40W will give high volume.

The impedance curve sinks to 1 Ohm above 10kHz – almost a direct short (electrostatics are large capacitors). Some amplifiers may not like this; valve amplifiers cope without difficulty, but should be set to 4 Ohms as the Impressions measured 3.5 Ohms overall. Below 350Hz they draw little current as the on-board bass amps work in this region.

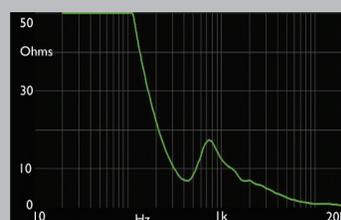
The Impression 11A has been given very strong bass by any standard but setting bass level to -4 makes the 'speaker accurate. Treble output (power) is also strong. In frequency response (sound pressure) terms though it is a very accurate loudspeaker. Like all electrostatics this one is a challenging load at high frequencies and needs careful amplifier matching. NK

FREQUENCY RESPONSE

Green - driver output



IMPEDANCE



MARTIN LOGAN IMPRESSIONS ESL 11A £12,998



OUTSTANDING - amongst the best

VERDICT

A hybrid electrostatic with masses of bass power, suitable for bigger rooms but tuneable to suit most. Impressive.

FOR

- clarity
- lack of colouration
- bass power

AGAINST

- bass quality at high volume
- mediocre integration
- needs better EQ

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