



Stax SR-L500 and SRM-353X



The high-end headphone market may be experiencing something of a resurgence at present, attracting an ever increasing number of new brands and models. But some marques have been in the high-end headphone game for decades – and one of the more intriguing ones is Japanese manufacturer Stax.

Stax calls its headphones ‘earspeakers’ and if you look at the images accompanying this review, you’ll understand why. While most conventional headphones have rounded earcups, the Stax earspeakers look like small, rectangular ... well, speakers, suspended from an innovative, two-piece headband.

But the appearance of these earspeakers is not their only distinguishing feature. Far more pertinent than cosmetics is the technology underpinning them. Stax produces true electrostatic headphones.

Like electrostatic speakers, they use an

ultra-thin film suspended between two electrodes – one negative, one positive. When an audio signal is introduced, the changes in charge between the electrodes induce movement of the diaphragm, which creates the audible music signal we hear.

Because of the diaphragm’s relatively large surface area, and both the accuracy and the uniformity of its movement, the sound is typically smooth and distortion-free – which is the reason why electrostatic speakers sound so accessible and engaging.

However, there is a downside: electrostatic earspeakers aren’t as easy to drive as conventional dynamic headphones, which means you can’t plug them into a normal headphone jack.

Instead, they need a dedicated step-up amp (or energiser) that produces bias voltage of around 580V. The energiser applies a high signal voltage with almost

zero current to the electrodes.

Typically, the energiser will accept a line-level or balanced signal from a source component, and then step up the signal to the required voltage in order to drive the earspeakers.

The Stax SRS-5100 earspeaker system comprises the new SRM-353X driver unit, and the equally new SR-L500 earspeakers.

While more affordable than the high-end SRM-007st Mk II, the 353X doesn’t skimp on finishes and features. The all-metal casework looks and feels classy, with a thick alloy fascia, perforated top panel, and sturdy isolating feet.

The front features an on/off switch, a large rotary volume controller with the kind of silky, precise action usually associated with high-end gear, and a pair of DIN-style outputs. These are proprietary sockets, designed specifically to accommodate the Stax earspeakers.

Two sockets means the SRM-353X will drive two Stax ear speakers simultaneously, if you're lucky enough to own two pairs. At least that way, two people can share the music at the same time.

Under the covers, the SRM-353X features a low-noise, dual FET input stage, combined with a direct-coupled Class A DC amplifier with no coupling capacitors in the signal path — a configuration that benefits a natural tonal timbre and superior signal integrity, Stax claims.

The output stage is fitted with an improved emitter follower, which boosts high-frequency dynamic range. The provision of balanced XLR inputs in addition to single-ended RCAs adds further versatility, and allows the 353X to benefit from XLR's superior noise rejection properties.

That silky-actioned volume control employs a custom-made dual-axis, four-gang design in the interests of precision and signal integrity, while all internal components have been carefully selected for both sonic quality and longevity.

The SL-500 is a new addition to the Stax ear speaker range, bringing true electrostatic headphone performance to a wider audience via more accessible pricing. That doesn't make it any less sophisticated, though.

Indeed, compared to the SR-407 I reviewed some years ago, this SR-L500 has a lighter, more minimalist construction, with rear-tapering resin earcups that seem to showcase the actual electrostatic drive units more succinctly.

You can clearly see the stainless steel electrodes that partner the thin-film diaphragm suspended between them, while the headband features a new, stepped adjustment system that remains in the chosen position once selected. As before the wide headband provides on-head support, while the arced resin band above it provides the lateral tension.

The ear cups are suspended from the headband via resin yokes that offer a measure of swivel to allow for a snug fit, regardless of head size or shape. Each earcup gets its own, flat-ribboned cable, with the two runs joined at the DIN connector.

The cable, Stax says, is a new low-capacitance design with enhanced

conductors. The wide, parallel construction further reduces the capacitance of the individual conductors, which benefits clarity.

I connected the line-level RCA inputs of the SRM-353X to a Musical Fidelity VDAC II, which in turn received its digital music fare from my 13-inch MacBook Pro running Audirvana 2.6.6 playback software. The actual music files resided on a Synology NAS.

The 353X was then used to drive the Stax SR-L500s. Despite their somewhat unconventional appearance, the ear speakers

were very comfortable to wear, and easy to adjust.

The new click system for the supporting, lower section of the headband works a treat, allowing fine adjustment for a perfect fit.

I found the SR-L500s engaging and music-friendly from the word go. They went about their business with a poise and grace that made for a seamless, involving listening experience. They recreated the presence and stature of the recorded

VITAL STATS

Stax SR-L500

Type.....	Open-back, circumaural
Transducer type	Push-pull electrostatic
Impedance.....	145 kOhms
Frequency response	7 Hz – 41 kHz
Sensitivity	101 dB/100V RMS @ 1 kHz
Mass.....	339 grams (excluding cable)

SRM-353X

Frequency response	DC – 90 kHz
Gain	60 dB
Inputs.....	1x XLR, 1x RCA
Outputs.....	2x DIN headphone outputs
Rated input level.....	100 mV
Maximum input level	30V RMS
Maximum output voltage	400V RMS
Outputs.....	2x DIN (proprietary)
Dimensions (WxHxD)	150 x 100 x 360 mm
Weight.....	3,0 kg

Prices

SR-L500	R9 500
SR-L700	R18 500
SRM-353X	R14 000

Verdict

Legendary electrostatic headphone system becomes more affordable, yet still offers seamless, effortless musicality.

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OUR RATING: 89 / 100





performances with almost startling realism, while enveloping the listener in the music's smooth embrace.

And that's really the operative word here: the Stax earspeakers managed to deliver a full, rich and persuasive sound that always made the most of the recording. Staging was open and generous, with a potent sense of scale and dimension, while the sonic image was always finely focussed.

Tonally, one could accuse the SR-L500s of lacking real bottom-end grunt and balls, but that wouldn't be fair. It's true that they can't match the sheer pace and drive of dynamic headphones like the Sennheiser HD800s. But they don't sound at all anaemic or thin in the lower registers, either.

The bass did have good presence and foundation, and was seamlessly integrated with a full-bodied, finely textured and appealing midrange. Indeed, the midrange treatment was a highlight, offering real depth and insight, but never becoming too rich or overbearing.

The trebles were clear and revealing, allowing the music to reveal its finest nuances. Indeed, the attention to detail was exemplary, contributing significantly

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to the musical appeal and realism of the Stax's performance.

Listening to Beethoven's *Piano Concerto No. 2* (96/24 FLAC), performed by Maria Joao Pires and the London Symphony Orchestra under Bernard Haitink's direction was both engaging and entertaining.

The SR-L500s effortlessly expressed the orchestra's weight and presence. They made the most of the open, airy production, and always delivered the music with impetus and intent. The sound was liquid and effortless, with an inherent agility that added to the overall accessibility of the music.

Dynamic variances were faithfully tracked, closely following the delicate intonation of Pires' piano, and always protecting the piano's centre-stage position. The balance between piano and orchestra was perfectly maintained, expressing both the lyricism and polish of Pires' playing, and the expansive rise and fall of the orchestra. The result was an absorbing and stirring listening experience.

Macy Gray's powerfully performed *Stripped* (Chesky 96/24 FLAC) made for quite astonishing listening. The sense of space and staging was uncanny, completely transcending the in-the-head, left/right imaging typical of headphone listening.

On 'Annabelle', the sound was totally immersive, with Gray's vocals projected forward and in the centre, with the guitar higher and to the left, and the double bass placed full-right. The percussion occupied the full width of the rear stage, adding to the completely immersive, three-dimensional sound image.

The Stax earspeakers placed the listener right in the middle of the musical action. And any fears that the earspeakers would shirk their bass responsibilities were quickly dispelled: the sheer force and presence of that double bass proved that the Stax isn't shy to deliver low-frequency notes.

There was an almost holographic dimensionality and presence to the music, while the tonal character remained sweet and accessible, but certainly not rolled off or over-saturated. Instead, the sound was organic, allowing instruments to sound

Software

Macy Gray — *Stripped* (Chesky 96/24 FLAC)

Beethoven — *Piano Concerto No. 2* — Maria Joao Pires

— Haitink///LSO (LSO Live 96/24 FLAC)

Emilie-Claire Barlow — *The Beat Goes On* (Empress 44/16 WAV)

Various — *Dr Chesky's Ultimate Headphone Demonstration Disc* (Chesky 96/24 FLAC)

Associated Equipment

Sennheiser HD-800 dynamic headphones

HiFi Man H400S dynamic headphones

ADL Stratos headphone amp/DAC

Musical Fidelity V-DAC II DAC

13-inch MacBook Pro/OSX Mavericks/Audirvana Plus 2.6.5

Synology 213+ NAS

Furutech GT

TelluriumQ Black interlinks



natural, believable and real.

Attention to detail was microscopic, extending to the finer textures and nuances of Gray's vocals, the finger-slides and explosive string plucks of the double bass, and the timbre and texture of the snare drum. Yes, this is a fine recording, but the SR-L500 made full use of the musical information on offer.

Electrostatic headphones enjoy an almost mythical reputation among audio-

philes and music lovers, and having spent considerable time in the company of these Stax SR-L500s, it's easy to understand why.

There is an essential authenticity, an approachability and a clarity to these ear speakers that simply cannot be matched by dynamic headphones. Their unrestrained soundstaging, close attention to detail, faithful dynamics and broad tonality are further plus points, while the SR-L500s are also more lightweight and

comfortable than I remember.

Yes, the investment remains considerable, mainly because this is a system comprising energiser and ear speakers. And the incompatibility with normal headphone amps and interfaces remains a further stumbling block.

But once you're heard the Stax electrostatic ear speakers, listening to headphones will never be the same again!

Deon Schoeman



STAX SR-L700 - A further step forward

The new Stax SR-L700 looks very much like the SR-L500; the same size and construction, the same new click-based headband adjustment system, and a similar wide, ribbon-like cable to connect it to an energiser such as the SRM-353X.

However, if you look closely, you'll see that the ear pads employ genuine leather instead of the SR-L500's simulated leather. The graphics on the primarily black earcups, yokes, headband and cable are gold.

Less apparent is the use of uprated electrostatic driver elements, similar in design and execution to the drivers used in the flagship SR-009. They feature carefully selected thin-film diaphragms and fixed electrodes manufactured using a heat diffusion-based three-layer

stainless etching process. The cable is an uprated version.

The SR-L700 and the SR-L500 share a very similar sonic character. Listening to the SR-L700, bass notes sounded a little more generous, and the staging benefited from more air.

The 700s also appeared to pay closer attention to finer nuances and subtleties. However, the differences were subtle at best, and the overall character of the two headphones was near identical.

Thus, both sounded wide open and tonally seamless, with an unrestrained delivery that improved on the distinct left/right character of lesser designs by offering a smoothly integrated, three-dimensional and thoroughly musical image.

Pace and dynamics were top class, with

an inherent pace that made the music sound light-footed and agile. On Macy Gray's 'She Ain't Right' (from *Stripped*), every element of the intricate percussion was brought to the fore with a vivid realism that made it easy to visualise each individual drum in the kit, while the double bass solo lent an almost physical stature to that instrument, too.

Gray's vocals remained centre-focussed and in command throughout, with the L700 ear speakers expressing every vocal texture, every expressive twist. Bottom line? The SR-L500s are fine, desirable headphones, and worth every cent, while the SR-L700s add further gains in refinement and tonal range, but at a recommended retail price of R18 500 they require a significant additional investment, too.