

# Totally Wired

Music systems for the quality conscious

<https://totallywired.nz/loudspeakers/stax/stax-sr-l700mk2-ear-speakers/>



## Stax SR-L700Mk2 Earspeakers

*NZ\$2700 – Our personal review.*

As the means to the end of enjoying the highest levels of fidelity Stax SR-L700Mk2 Earspeakers are hard to beat. As the name suggests, the Stax are far more than headphones and their design overcomes many of the issues of both conventional loudspeakers and headphones. While the '700's may sit in the middle of the Stax range, they draw upon both elements in the flagship models and the long heritage of design that makes the brand unique to deliver remarkable value. The concept of personal listening is more relevant now than ever with the advent of high quality streaming giving you a whole new world of music to listen to. And at the same time analogue technology enjoys a renaissance driven by the competition. The Stax earspeakers allow you to enjoy the best of all worlds while being completely compatible with almost all existing systems.

**Many of us are spending a lot more time at home. And because we often share that home, a really good set of headphones can come into their own. You can listen without distraction, and with consideration for the other members of your household.**

As both systems and loudspeakers have improved, so have our expectations for headphone performance and if there is one brand that's about the ultimate sound quality for personal listening, it's **Stax**.

Given the longevity of the brand and extended model life of all the Stax options, just how well do they stand up in the modern environment? There has been an explosion of headphone models in both the greater market and the high end – with a daunting range of prices, technologies and accessory options.

*Yet when we take a little time to learn about Stax, the choices become much easier.*

There are presently **6 Stax Electrostatic Earspeaker models** (and one in-the-ear model). All are true **electrostatic designs** which immediately set them apart from almost all other headphones.

We follow Stax and use the term 'Earspeaker' because this is a more accurate description than conventional 'headphones'. The Stax are a pair of small full range electrostatic panel which are encased in a light and comfortable frame and held in place by the adjustable headband. The panels are well out from your ears and angled, just as you would do so with normal loudspeakers within a room. Being true electrostatics, the panels need a polarising voltage to work – in this case 580 volts. While it sounds potentially hair raising, there is very little current so there are no safety issues or in fact any noticeable effect other than great sound. The voltage is supplied by a 'Driver' (like a little amplifier) and you'll read more about these shortly.

The SR-L700Mk2's are in the middle of the range. Yet they are the most highly evolved of the Lambda series with the classic rectangular profile, and incorporate elements of the more costly SR-009S and SR-007Mk2 models.

As with all Stax models, the electrostatic design means they require an appropriate 'driver' to run them and there are a good choice of options. With any high quality headphones there is no argument that a high quality amplifier and/or DAC is well worthwhile. Stax just take the guesswork out of the equation and each of their models are more than competitive with the competition.

A series of developments outside the domain of headphones have led us back to Stax. The Lumin network players have opened up a whole new world, not just of digital sound quality, but also accessibility to a vast library of recordings beyond what we already own. The KLEI cables create as much of an improvement as actual components allowing us to hear even more. Finally there have been some remarkable new amplifiers from NuPrime (the AMG series) and loudspeaker systems from both Monitor Audio (Studios) and Sonus faber which have clearly defined characters.

*These components neatly illustrate the key factors in better audio design – resolution, transparency and timbre.*

We've simply been hearing things that weren't there before. This is why we make improvements to our audio systems (and listen to and buy new music) – it's exploration, it's the thrill of the new. Stax is another way of getting us there and the new SR-L700Mk2's provide some special insights.

Stax Earspeakers may be either a substitute for or an addition to a quality system. It doesn't have to be an either/or choice. And with the range of both earspeakers and drivers from Stax, you have plenty of options in terms of what level of quality best suits you. By understanding more about the 700's you'll be better able to make the right choice.

## ***The Stax Experience***

It doesn't take much searching to come up with Stax reviews and they are remarkably consistent. The attributes of electrostatic open back headphones are unarguable...

*'The first time that you hear a pair of Stax electrostatic headphones, regardless of model or manufacturing date, the primary impression they make, if distilled down to a single word, is speed. The transient response of a Stax electrostatic design, when compared to a more conventional dynamic driver design, seems "faster," with less additive distortion stemming from the mechanical action of the driver itself. With its lower mass, an electrostatic diaphragm moves with less physical impedance and once in motion can stop with less electronic damping needed because it has lower mass than a comparable dynamic driver.'*

## **The Absolute Sound.**

**What I'm going to do for you is to put this performance in context using examples of conventional loudspeaker systems. Then examine the improvements made by the SR-L700Mk2 over the entry level Stax SRS-3100 system –**

As you'll be well aware, one of the key differences between Stax and conventional headphones is that they are electrostatic. This mirrors the gulf in performance between electrostatic panel loud speakers and box speakers. The electrostatic speaker has no cabinet resonance, far less driver distortion and a much more natural sound because they are open and radiate music both from the front and rear.

That said there are some downsides with full sized panel speakers; cost, the physical size and need for careful placement. And some compromises in both efficiency and bass extension relative to box speakers.

But when the electrostatic design is applied to headphones these issues simply go away. The Stax are no larger than many conventional headphones but also lighter and more comfortable. The way in which the Stax Lambda series subtly angle the panels produces an exceptional sound stage relative to both speakers and other headphones. And the Stax have remarkable bass and no problems whatsoever going as loud as anyone could wish for.

As any enthusiastic headphone listener knows, when you remove room acoustics from the equation you get much closer to the music and with Stax this is even more obvious – normal headphones mimic the operation of conventional speakers and so suffer many of the same issues. Stax solve these AND are independent of the room you listen in.

When we listen at a pair of loudspeakers in our room, it's really hard to find something that does everything well. Two of my favourite speakers systems; the Monitor Audio Studios and Sonus faber Lumina III floor standers illustrate this nicely and both are at a similar price level to the Stax.

The ribbon tweeters in the Studios deliver a blindingly fast response, detail to die for and an almost holographic soundstage. But they are also a quite critical of source material, require precise positioning and have a tight vertical listening window. The Sonus fabers ooze character and have an exceptional midrange quality made all the richer by great bass and do amazing things with guitar. But they can't quite match the precision of the Monitor Audios. If we could just combine the best of both...

This is what the Stax do – and more. The electrostatic panel employed within the Stax allows a top end response that's vastly better than the Sonus fabers and while on paper a little short of the Studio's ribbon, it more than makes up for this with less colouration and a more relaxed presentation. Yet if we get analytical and look at actual detail, I'm hearing more through the Stax than the Studios. So, less of an edge of the seat experience but much better for extended listening to a wide variety of music.

It's often been suggested that the midrange qualities of Sonus faber – 'the voice' – are a match for the best panel and electrostatic speakers. So it's not surprising that there is a lot of common ground between what we hear in the vocal range with the Stax. Yet again, there is more going on with the ear speakers.

Bass from speakers in a room and bass from the Stax are two quite different things. The specification for the Stax is far lower – 7 Hertz – and you get to hear textures and definition that are quite remarkable – but it's a cerebral event rather than the visceral. The Sonus fabers extend lower than the smaller Monitor Audios but also soften some of the impact – so there are factors relating

to both quality and quantity in play, and to some extent Stax navigate the middle ground, but with important differences.

For both loudspeakers, the materials used in the cones makes a major contribution to the end sound. Metal vs paper pulp. And it's the same for the Stax which employ a very thin flexible membrane to move the air. The relative tightness to which this membrane is stretched has a lot to do with what you hear. So there is a balance to be struck between detail and 'snap', and rich deep bass. The design brief for the new Stax 700II's is specific;

Stax have employed the hand selected thin-film diaphragm of the much more costly SR-009 model, as well as fixed electrodes machined through three-layer stainless etching for the SR-L700 sound element. *Thus, rich deep bass response, delicate high frequency and soothing mid-range has been achieved in a balanced sound.*

Almost all loudspeakers (and some headphones) have cross over networks to split the sound between the operating frequencies of the various drivers. While both Sonus faber and Monitor Audio pay particular attention to these, the transition between drivers inevitably results in subtle distortions, discontinuity and loss. With the Stax it's a single element that produces all the music so there is no cross over point.

So by way of direct comparison with our best similarly priced in room loudspeaker systems the Stax SR-L700Mk2's are better in almost every way – the resolution is better than both, there is less of an imprint stamped over the music and the tonal qualities take from the best aspects of both designs.

**The deeper you dig, the more there is to appreciate in the Stax approach.**



So the next question is – what do you get from the 700MKIIs over the rather similar looking and more affordable SR-L300s? The actual specification is near on identical so you really have to have the hands on to work this out. Luckily we have new sets of both on hand (and the intermediate 500Mk2s).

All Stax models are remarkably light and comfortable but the difference between the SR-L300 and SR-L700Mk2 is immediately obvious – the pads are much thicker, (natural rather than synthetic) and the headband easier to adjust. The 300's sit lightly, the '700's enfold you.

The detachable cable used in the new SR-700Mk2 is of considerably higher specification than the fixed cable in the 300's. We don't have to tell you how much of a difference cables make for you to appreciate this.

The overall construction is better – the yoke holding the earpieces to the headband is alloy and the closer you look the more little details become apparent. You can readily see that the actual panel that makes the music is quite different between the models.

All these visible differences improve both performance and comfort for long term listening. And the already proven long term reliability is made even better. Stax have an unmatched history and have parts readily available – cables, headbands, pads. <https://staxaudio.com/parts>

The actual improvement in sound quality is just as obvious as that of comfort – it's immediate and compelling. The SR-L300s sound very much like the Quad ESL loudspeakers for first time listeners. There can be a bit of an 'is that all?' initial reaction to the absence of distortion and a relaxed presentation. But this quickly is replaced by the understanding that you are actually hearing an open and faithful reproduction which becomes ever more seductive.

For many, the entry level Stax SRS-3100 system comprising the compact SRM 252S driver and SR-L300 ear speakers will be the best sound they have ever heard and then settle in quite happily to years of enjoyable listening. This is a good thing. Find a level you are happy at and save the rest for new music or whatever else spins your wheels. If you have never heard Stax before, the '300 system will probably seem more impressive to you than the '700s do to me. But you may well decide that if this is the start, why not try to get even better?

The SR-L700Mk2's deliver more of everything- there's a real presence to the sound, far more clarity from top to bottom and a definite extension in bass.

If you have ever heard a pair of electrostatic speakers running in ideal conditions you'll understand how they effectively energise the sound in a room – conventional speakers sound empty and strained by comparison and this observation holds even more-so with the SR-L700Mk2's. The sound has real body and presence.

With both models there is a run in period that's been well documented – a new pair of Stax straight out of the box can sound slightly unbalanced yet I did find brand new SR-L700's to be appreciably better than well run 300's. But the improvement over the run in period was considerably greater – while not easy to quantify, it's on par with all our previous experiences with electronics, speakers and indeed cables. The Stax incorporate all of these elements so this is expected.

Once you complete this process the new SR-L700Mk2s are phenomenal. As someone who gets to hear to a lot of different components and has lifelong enthusiasm for listening to music, both live and recorded, the Stax are everything I'd hoped they would be and more. The sound quality is genuinely immersive. I want nothing more than to be able to comfortably sit down and listen to entire albums through them. Regardless of all the other amplifier and speaker combinations I have access to, it's the Stax that inform me of how the music actually sounds and provide the greater level of enjoyment.

While it is difficult to quantify differences in sound quality, my own experience suggests that the improvement between the two Stax models is greater than that between many components, cables and speakers of a similar and often higher dollar value. But more importantly if you do choose the better Stax model, every single aspect of the performance is improved.



As with speakers, the quality of electronics you use plays a large part in determining the end sound quality. Stax provide plenty of options in terms of their drivers – just as the SR-L700M2's are price comparable with the loudspeakers we have discussed, the Stax electronics compare favourably when sitting side by side with our NuPrime DACs and amplifiers. But unlike the matching of various brands of speakers and electronics, there is a much greater degree of certainty with the Stax.

To achieve this level of fidelity with conventional speakers and electronics can be dauntingly costly by comparison.

My listening system for this article has been the SRM-353X driver fed by the Lumin T2 network player connected with KLEI analogue interconnects and AC power cables.

It's been really nice to have such a simple system and not have to worry about endless connections and matching issues. I've been listening either to music on Tidal or our little server system. The Lumin App makes it easy and relaxing.

If you're looking at the Stax site you'll see that SRM-353X is being replaced so let's consider what you might select for yourself.



The Li-ion battery powered Stax SRM-D10 DAC and Driver is by far the easiest way to into the Stax experience. It's an impressively chunky and tactile device with both USB and analogue line inputs and full volume control. It holds nothing back in terms of sound quality and if anything this is enhanced by it's complete isolation from mains power. So you can plug this into almost any system and away you go.

The larger SRM-D50 is even better. It also deals with both analogue and digital with more inputs. The illuminated Vu meter on the front is a funky retro touch.

For serious analogue fans, or if you already have a capable DAC that you are happy with, the new tubed SRM-500T is only a little bit more. Above this level you are also likely to be considering the even better models of Stax Ear Speaker.

## **Conclusion**

As the means to the end of enjoying the highest levels of fidelity Stax SR-L700Mk2 Earspeakers are hard to beat. As the name suggests, the Stax are far more than headphones and their design overcomes many of the issues of both conventional loudspeakers and headphones. While the '700's may sit in the middle of the Stax range, they draw upon both elements in the flagship models and the long heritage of design that makes the brand unique to deliver remarkable value. The concept of personal listening is more relevant now than ever with the advent of high quality streaming giving you a whole new world of music to listen to. And at the same time analogue technology enjoys a renaissance driven by the competition. The Stax earspeakers allow you to enjoy the best of all worlds while being completely compatible with almost all existing systems.

**John Ransley totallywired.nz February 2022**

**photo credit: Carolijn Guytonbeck, background painting – Debra Coley**

## **SR-L700 MK2 SPECIFICATIONS:**

Type: Push-Pull Open Back Oval Electrostatic Earspeaker Headphone

Frequency Response: 7 – 41,000Hz

Electrostatic Capacitance: 110pF (including cable)

Impedance: 145k  $\Omega$  (including cable, at 10kHz)

Sound Pressure Sensitivity: 101dB / 100V r.m.s. 1 kHz

Maximum Sound Pressure: 118dB / 400Hz

Bias Voltage: 580V DC

Left & Right Identification: "L" and "R" indicated on the arc assembly Left channel cable is marked with a solid line. Right channel is marked with a dotted line.

Ear Pads: Genuine Lamb Leather (direct skin contact), high-quality synthetic leather (surrounding portion)

Cable: Silver-coated 6N (99.9999%) OFC parallel 6-strand, low-capacity special wide cable, 2.5m full length

Weight: 363 gm without cable / 499 gm with cable

Stax Website SR-L700 Mk2 page – <https://staxaudio.com/earspeaker/sr-l700>