

STAX

Interview and Factory Tour December 12, 2012

By Scott M. Rifkin, Arnaud Charpentier and Amos Barnett.

Scott writes...

I have been a big fan of The Stax Earspeaker Ltd company of Japan for many years. My addiction to their electrostatic products started when I attended Headfi.org's Canjam 2007 in San Jose, California. At that event, I walked into the Stax Earspeaker salon and met Tats Yamanashi of Yama's Enterprises Inc.. Mr Yamanashi was the Stax Earspeaker representative for the United States. As to be expected, he was very informative and helpful in regard to explaining the features of the Stax products. What was also nice about Canjam 2007 was that all the high end headphone companies were located in a special wing of the Radisson Airport Hotel; thus making it very easy to do AB , ABC or ABCD comparisons. I took full advantage of this procedure many times over the three days of this event. In all respects, it became clear to me that the Stax products were of excellent sound quality and of a great price point. Upon my return to my home in NYC, I started ordering and collecting Stax Headphones.

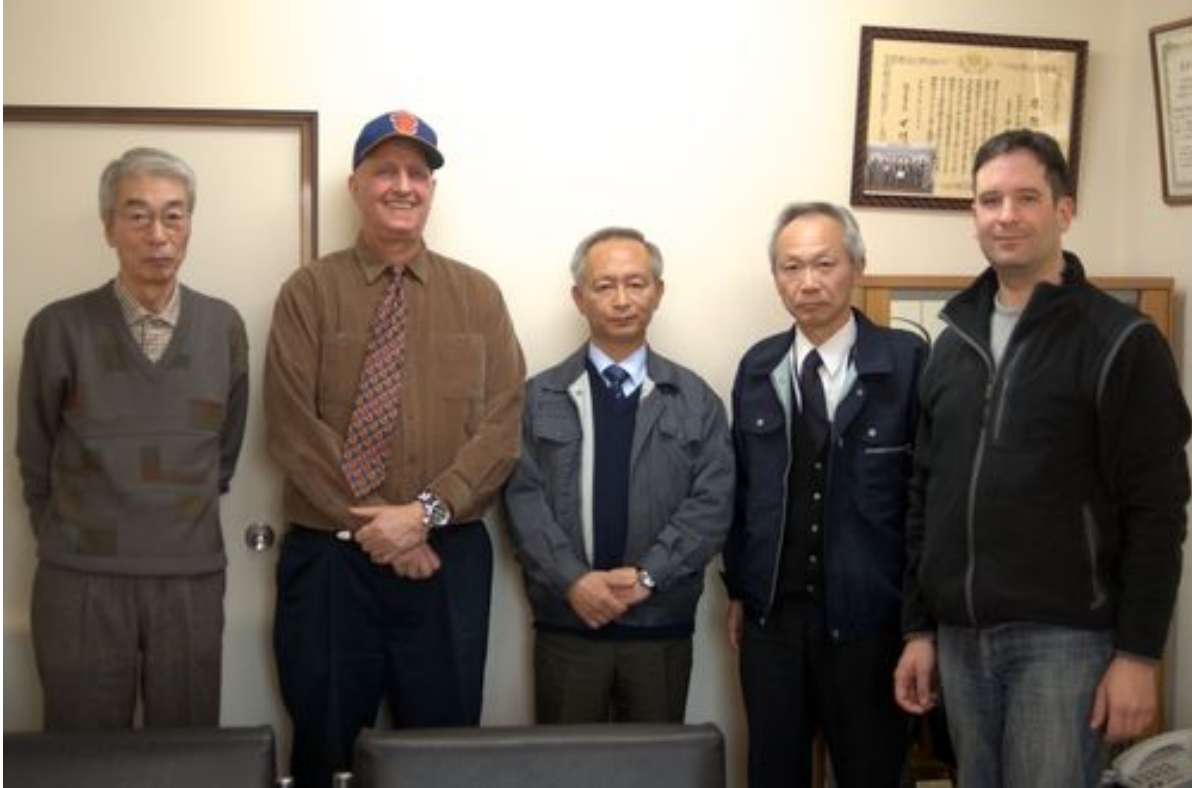
I was lucky enough to return to the Stax Earspeaker salon during the Headfi Canjams of 2008 and 2009 held in Los Angeles and Ft. Lauderdale respectively. There again I met Mr Yamanashi, who was displaying a couple of new Stax products; including the Stax 4070s and SRM 007ta. So there again, I spent a good amount of time "jacked in" as I like to say with the new headphones and headphone amplifier. I was particularly impressed with the 4070s as I am a New York City apartment dweller and need a pair of monitor-closed headphones to block out the street sounds of my neighborhood. Needless to say that I now have three pair of the Stax 4070s.

Over time, my Stax collection grew by leaps and bounds. As I was craving for more and more, I came to discover vintage Stax equipment. Although no longer available from Stax Earspeakers Ltd, I was able to procure a number of vintage pieces including; Sigma Panoramic Pros, Sigma Panoramic Non Pros, Lambda, Lambda Pro, SRA-12S and SRDX Pro. I sure wish I could get my hands on more of these units. They have to last at least another thirty years so that I will have them until I check out of the planet. I hope that is not too morbid for our readers. I would like to think there are many other headphone audiophiles out there who have the same view.

With my retirement in 2008 and my increased desire to travel the world a bit, I set sail or set wings to many new places; including Madrid, Prague and Hong Kong. With Hong Kong being my first trip to Asia, I craved for more immersion into the cultures of Asia. At the same time I applied and was granted a Photo Journalist Credential and simultaneously began to write brief reviews of high end audio shows for The Audiophile Club Of Athens- as in Greece. I was the "at large American reporter". Subsequently, I reported to ACA about the California Audio Show 2011, The Rocky Mountain Audiofest 2011, The Monterey Jazz Festival 2012, The New York Audio & AV show 2011 and a number of private shows sponsored by exclusive high end audio salons in the great New York Area.

With my plan to take a vacation in Japan, I thought it might be interesting to see if I could get a factory tour of the Stax Earspeaker Company. I really never expected my request to be approved and was quite surprised when Mr Tats Yamanashi sent me my approval e-mail. The additional approval of interviews with the CEOs and Presidents of Stax Earspeakers Ltd was of even greater delight. I posted a short blog on the Headfi.org forum and got responses for Arnaud and Currawong about their interest to come along as a language interpreter and photographer. Thus was born our high end audio journalistic team. Soon after my arrival in Tokyo; Arnaud, Amos (Currawong) and myself, had a pre strategy meeting to reconcile our questions. Then it was off to Stax office in Saitama (just 1 hour north of Tokyo) for our wonderful day in the sun.

The Interview



L-R: Stax President Yozo Meguro, Scott M Rifkin, Technical Director Kazuo Suzuki, Sales Director Kiyoshi Sasaki, Amos Barnett.

Present for the interview were the President, Yozo Meguro and Sales Director Kiyoshi Sasaki. Questions were from Scott (member Scottsmrny on Head-Fi), Arnaud, as well as various members from the Head-Fi audio community. Translation was done by Arnaud as best as he could (that is more or less terrible ;)). Amos (member Currawong on Head-Fi) took care of audio recording, photography and formatting for this article. The majority of the interview was conducted in the meeting room. Two of the answers about manufacturing were expanded upon later during the tour by Mr. Sasaki and are indicated as such, but have been included with the related answers in the actual interview.

1. How large is the Stax corporation. For instance, what are the various departments and allocated staff?

[Mr. Sasaki] Stax Japan currently has 13 full time employees + some seasonal staff. Stax operates like a usual company with an engineering department, shipping and inventory department, repair department, sales and finance department.

2. How many years of experience, on average, have the Stax employees had on the job? Is there a transfer of experience to the junior staff?

[Mr. Sasaki] The actual average experience is over 10 years, some people with 20-30 years experiences, some less. The director of the company (Mr. Meguro), sales director (Mr. Sasaki) and engineering director (Mr. Suzuki) all have 20-30 years experience. Obviously, younger employees are being trained and technology transferred for them to eventually take over.

3. Is all Stax equipment manufactured in house?

[Mr. Sasaki] Headphone parts are manufactured and partly assembled by suppliers and other companies we work with. If external assembly is involved, individual components are checked prior to shipment to the assembling facility and after reception of the assembled product. Typical quality assurance consists of checks prior to parts shipment to the assembly warehouse and inspection of the assembled product returned to Stax. Shipment to the customer or sales office is always performed by Stax after extensive QA.

[Mr. Sasaki (later)] Drivers are run in with pink noise over one week prior to shipment to the assembly facility. When the assembled headphone comes back, it goes through another one week phase of run in with music and performance checks. In any case the assembled product QC is done at Stax and shipment done by the Stax office. During the run in of the drivers, there are sometimes early failures so this is how we ensure the shipped product will perform in a stable manner.

4. Can you describe the design process for your Stax earspeakers? For example, do you start from a concept or needs from the market?

[Mr. Sasaki] This is a difficult question...

[Mr. Meguro] We are a specialty product manufacturer. We don't base the design on some interpretation of the market needs or potential. On the other hand, we start from some potential advance in technology such as material properties that could lead to a better sound.



The current range of Stax Earspeakers on display.

5. Do you receive and pay attention to feedback from the market upon a new product release? For instance, do you alter your designs and voice your products based on public reception of your previous products?

[Mr. Sasaki] This is a difficult question... We exclusively manufacture electrostatic transducers. Our audience is thus somewhat different from the more typical headphone user. Our market is a little bit different than other headphone manufacturers.

[Mr. Meguro] We get feedback from the users about their needs and wishes through audio specialist retailers. Stax sells direct to these audio shops in Japan. Then, how much of this feedback can be taken into consideration is a different topic and really depends on the situation. An additional method for gathering feedback is attendance to a number of audio shows during the year such as high end audio shows or the Fujiya Avic headphone festivals. In that case, we can converse directly with users and listen to their requests.

6. How have new technologies helped to improved the Stax earspeaker sound?

[Mr. Meguro] We get offers from material suppliers whenever some advances are made or we search for new materials by ourselves when necessary. In terms of target, in any case, the objective is improvement of the fidelity of the transducer. We strive for increasing the resolution of our transducers. The single most benefit of our electrostatic transducers over competing headphone products is the resolution and this is the one area where we aim to keep our competitive edge. In order to achieve this increase in resolution, we rely on different technological advances. The thinness of the diaphragm is one of the aspects that clearly has a strong influence so it is one key ingredient. However, the diaphragm becomes weaker as it gets thin so every design aspect may have pluses and minuses to balance out. Basically, we do this all year long! While technology is used to improve the sound of the products, there are typically not radical changes between versions and the design approach is overall very consistent.



**Awards given to Stax and three of their most famous models:
The SR-4070, SR-007 "Omega II" and the Omega I.**

7. What has been the response of the market to your SR-009 flagship headphone?

[Mr. Meguro] As discussed above, our main target has always been to increase the resolution of our transducers. The SR-009 is our highest achievement to date in that regard. The SR-009 was introduced at audio showrooms and the feedback from the audio enthusiasts was that we had indeed raised the bar for headphone resolution. In that sense, the feedback was just as hoped. Within the 60 year history of Stax earspeakers, we feel this is the highest achievement in terms of resolution.

Of course, no matter what we produce, it is inevitable that there will be customers who appreciate it and others who don't. But for us, our goal remains to attain the most transparent, high resolution sound achievable.

[Mr. Sasaki] The main point is high resolution. We feel this is our largest achievement to date and the feedback we received from the field is that the SR-009 is perceived as such. The main goal for the SR009 is to reproduce the sound of the source with the least amount of alteration.

8. Still today, some people consider the SR-Sigma as one of their favorite Stax earspeakers, in particular for their imaging capabilities. Is there a plan to reintroduce such a type of headphone? Similarly, do you still have an interest in products aimed at improving headphone imaging, such as the Smyth Research Realiser? This particular DSP based product converts stereo or multichannel soundtrack into binaural signal using personalized data and is sold with Stax gear because of its speed and resolution.

[Mr. Meguro] Indeed, besides voicing and resolution of the transducer, we have always been concerned about imaging. The Sigma was a result of such consideration. One way to increase the perceived distance to the source is to increase the distance from the driver to the ears, which is more or less manageable. It is then difficult to combine a target of increased transparency and an increase in spaciousness, since the latter actually alters the source sound somewhat. This is what we aimed for, increasing the distance to the ears to improve the imaging, with the SR-Sigma, but it was actually not well received by the market.

[Mr. Sasaki] In other words, it did not sell so well as a product. It turned out that people who liked it were absolute fans but a large portion of our user base actually did not care so much for the Sigma.

[Mr. Meguro] As far as improving or modifying the soundstaging, it is far easier to achieve at the signal level, by using a DSP for example, but, Stax's policy is to leave the source signal untouched and act purely as the role of transducer.

At some point in time we did touch this a little but we came back to our roots: transparent transducers, that is, the output equals the input. Our focus on sound characteristics is exclusively the ability to reproduce the source signal accurately.

9. Which Stax headphones and amplifiers do you have in your home? Which do you use the most on regular basis?

[Mr. Sasaki] There's not like one best or favorite model but, basically I use an SR-404 and SRM-T1S at home.

[Mr. Meguro] 25 years ago, I had JBL power amps and horn speakers. I was coming from a vinyl rig with large and deep 3D imaging. When I heard the CD player, I got so disappointed by the flat image it rendered.

At that time, I personally lost interest but realized the commercial potential of the digital revolution. This is when I moved to the business of selling audio equipment and got involved with Stax. So well, today I am running Stax as a business more than anything else.

If I was still involved with Stax as an audiophile, certainly my personal vision or preference of what sounds right would influence the product design. But contrary to this, we have objective performance targets we aim to reach with the transducer. Of course, it is impossible to achieve perfection but at least we strive for the most realistic reproduction of the sound of the instrument. The ideal is to reproduce the both the tone and ambiance / soundstaging. At least, we aim to be able to clearly discern each instrument. In that mindset, we feel the 009 is our biggest achievement to date.

In summary, our design philosophy is inclined toward objective evaluation of the transducer performance and a accurate sound reproduction rather than using a voicing biased by personal preferences.

10. This brings me to the following question. Is Stax relying on objective headphone performance target or else basing the design on subjective listening impressions?

[Mr. Meguro] Of course, we can't design a product solely based on perceived sound quality. We must start from a technical aspect, for example a technological advance that could lead to improved transduction. At that stage, we leave individual preferences out of the picture, and the first judgment is through an objective quantification of performance through measurement on a prototype. This is a natural course of action and probably similar to other makers.

However, there is no way we can perform the final judgment without listening tests. In the sense it is difficult to interpret fully the measurements as how it will sound and for this we rely on a panel of auditors. At the end, the decision to proceed with the design or abandon is based on our collective listening impressions. Of course, there are instances where the prototype does not turn out to sound good and is abandoned; it happens many times actually (laughs).



Stax products over the years, including D/A converters such as Talent DAC and the SRM-T2 amplifier on display for visitors.

11. What amplifier does Stax uses to design your earspeakers? For instance do you use high power amps like the T2 or production amps for the design and / or final voicing?

[Mr. Meguro] Until recently, we used the SRM-T1 as the base. It is a product with a long history. It started as the T1, then the T1S and the 006t. Currently, we are using 2 production models as references, the SRM-727A solid-state and SRM-007tA tube amps.

12. Stax is practically the only manufacturer of electrostatic headphones in the world. Do you think this is because designing a robust and good sounding electrostatic headphone requires experience that few people have? Or is it due to manufacturing issues (such as the need for a very tight tolerance in electrode design)?

[Mr. Sasaki] Yes, indeed the market is rather small and I believe the competition has a challenging time finding a sustainable place there. Then, of course, experience also plays a role. If you look at the past, at some point, several Japanese manufacturers such as Sony, Pioneer, Audio-Technica designed and manufactured electrostatic products. Maybe not exactly like nowadays but a technology that basically relied on the electrostatic conduction principle. Multiple makers entered the market but most left simply because there was no business to make there. Stax succeeded there in the mindset of a small business with intention of a low volume of sales. Also, indeed the manufacture of electrostatic transducers is not simple. It does take some experience to do properly.

[Mr. Sasaki (later)] Film [for the earspeakers] comes from the supplier and we perform the assembly in house. The assembly is done in a clean room because with the small DS gap and static electricity involved, even small dust particles are a major issue. This is the difficult part of the process. The final inspection of the electrode is done by a technician meticulously inspecting the whole surface for defects and presence of small particles. In that context, you can imagine the difficulty to mass produce these devices and the barrier of entry for competitors. Basically, it's impossible for us to produce many [SR-009] drivers at a time. We produce 20-30 units a month and it's actually not sufficient to satisfy the demand, so there is waiting line for this product.

[Note: Later we passed through the shipping section where we were

shown the shelves where boxed SR-009s are normally stored. There weren't any there.]



The legendary SRM-T2 amplifier.

13. Is there a plan for a flagship amp to go along with the 009?

[Mr. Sasaki] Yes, we have a plan for this. But it will take some more time, as design is done one product at a time.

14. Can we expect a product reminiscent of the SRM-T2? If a product like the SRM-T2 is out of question, what are the typical barriers to produce again (weight, size, end price)?

[Mr. Meguro] The SRM-T2 was originally released as a partner amp for the SR-Omega. Both products had the same retail price of 180kJPY at the time (18 years ago). We're looking now at the SR-009 which retails for almost double the Omega. Also, if we are to bring a new flagship amp to the market, it would have to exceed the performance of the T2, no less. So, we are taking all these factors into consideration and are currently in the design phase.

The design has effectively started and we are at the stage of deciding on an enclosure size and such. The fundamental design is complete actually but there is a lot more left such as the casing because it certainly won't fit in the current enclosures.

15. What was the influence of the purchase by Edifier? Do you see Stax changing direction in terms of product designs (for instance to reduce manufacturing costs)?

[Mr. Sasaki] At this time, there is no influence.

[Mr. Meguro] We are operating in total autonomy just as before. The one request that Edifier has at the moment relates to a future plan to sell Stax products in China, keeping the manufacturing in Japan with the "made in Japan" label is actually an important part of the Stax brand value for the Chinese market. The goal for Edifier is thus not to intervene in the design or manufacturing but only sell products fully designed and manufactured by Stax Japan. The issue is that the product certification process in China is quite severe and difficult to go through.

[Mr. Sasaki] Particularly in the case of amplifiers, we must comply with the safety norms in China.

[Mr. Meguro] Basically, the safety regulations outside of China are quite weak in comparison.

[Mr. Sasaki] The regulations in China are unique (as compared to the rest of the world). In that context, Edifier is helping us with the certification process.

16. In Japan, Stax is selling direct to the audio stores, right? How about outside?

[Mr. Sasaki] In Japan, yes we sell direct to the retailers and we also go through wholesale dealers. We rely on distributors outside of Japan.

17. In that context, is there a plan to use Edifier's sales channel to distribute Stax products overseas?

[Mr. Sasaki] This is not in the plan at the present time. Edifier is selling its own products on the Chinese market exclusively anyhow.

[End of Interview]



L-R: Scott M Rifkin, Sales Director Kiyoshi Sasaki, President Yozo Meguro, Amos Barnett and Arnaud Charpentier in front of the Stax factory.

Closing Comments

Again, many thanks to Mr. Sasaki and Mr. Meguro for granting us an interview during one of the busiest seasons. As we visited the factory, there were shipment preparations for the latest product from Stax, the revised "baby" Stax SR-002/SRM-002 and SR-003 mk2/SRM-252S.

We also had the privilege to meet the Technical Director, Mr. Kazuo Suzuki, at the end of the interview. Some of you might recognize him in the picture below from the previous interviews conducted prior to and during the SR-009 release. He did not allow us to take a look inside his research laboratory, but rest assured he is working hard designing the next generation Stax products!

We are also indebted for the opportunity to see the factory and witness some of the manufacturing and quality check sequences for such prestigious product as the SR-009.

Overall, it was a fantastic day for the three of us and we hope this report will provide some of this excitement back to the readers.

Long live Stax!

-- Scott, Arnaud and Amos