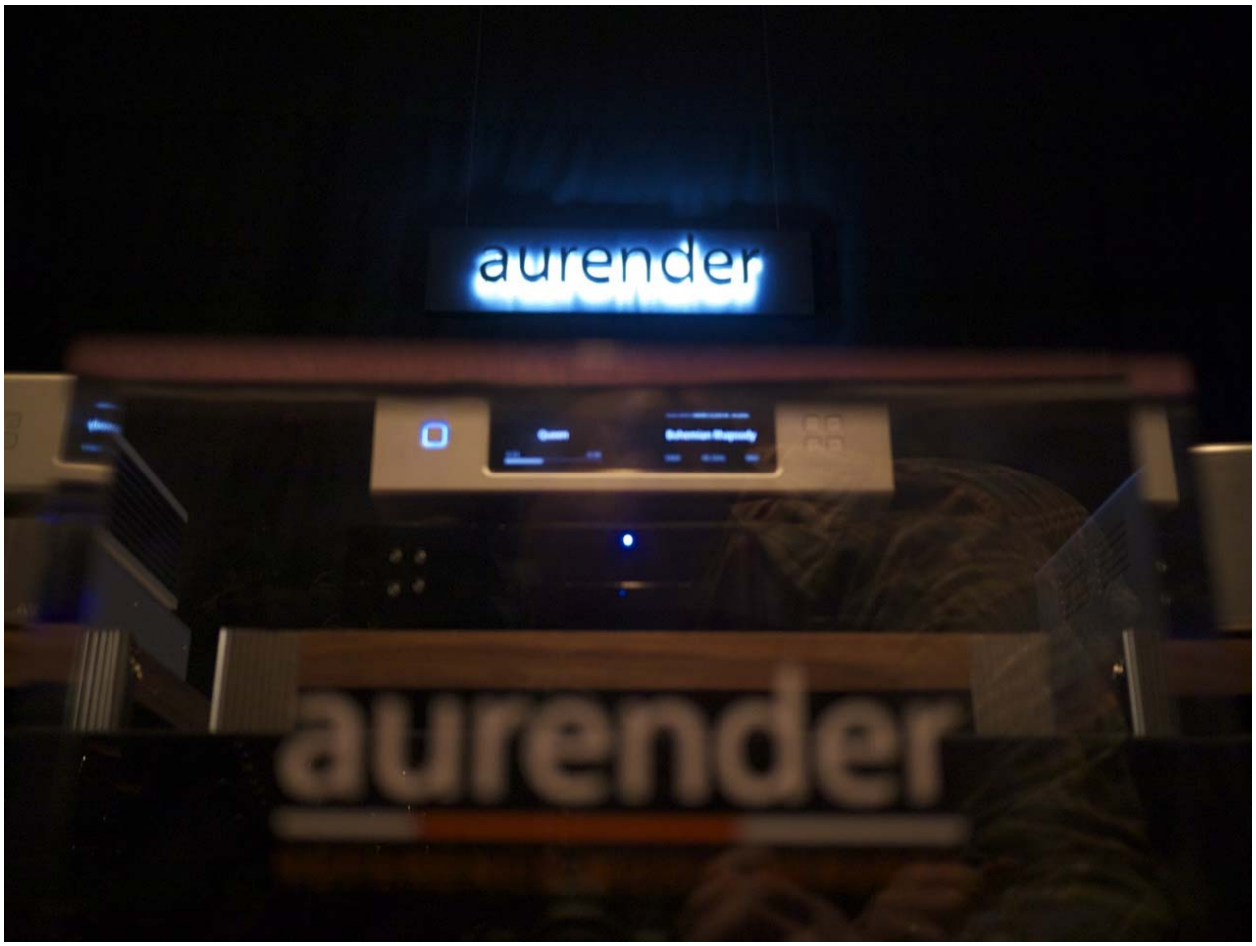
A Visit To Aurender Headquarters In Seoul Korea

by The Computer Audiophile Published on 04-18-2013 07:10 PM



This story starts in July 2011 at the California Audio Show. That's where I was introduced to the Aurender music server team and where I had my first opportunity to use the server. I was immediately impressed by the product and the people. Everyone in the room knew their stuff. I asked question after question about the server's capabilities and the team's design decisions. I received polite and comprehensive answers to all my questions. I also asked if I could shoot photos of all the internal server components and was given the simple answer, "Yes, we have nothing to hide." I walked out of that room feeling refreshed. The people I'd just met weren't jaded from decades in the industry yet they had more music server knowledge than 99% of the exhibitors at the show. Fast forward to the end of February 2013. Days after Korea elected its first female President I touched down at Icheon Airport on a trip to speak at the Seoul International Audio Show and visit the headquarters of the Aurender team. I enjoyed meeting computer audiophiles at the show despite the language barrier. Furthermore I gained additional respect for the Aurender team, the company, and its products.

The Company

In 2011 the Aurender S10 music server was introduced by Korean company WideaLab. The company was founded by Harry Lee, an entrepreneurial engineer and music aficionado. Harry was unsatisfied with existing music server options so he assembled a team of engineers to design a music server. The server had to meet both his high standards and the expectations of the high end audio market. The final product also had to be of such high quality that Harry himself would've purchased the server had it not been designed by his own company. This passion for the product and a team with an impeccable work ethic lead to several designs that never made it off the drawing board, or out of AutoCAD, but resulted in the Aurender S10. The S10 received accolades from press and users around the world. It was even the 2011 Computer Audiophile Product of the Year. The S10 was a great product but Harry Lee knew it wasn't the best product his team could design. Harry also understood designing and manufacturing even better products would require a substantial amount of money on top of the substantial amount already invested. While designing the follow-up to the S10 server, the W10, Harry Lee and another successful entrepreneurial engineer K.K Lee, Founder of TV Logic, struck a deal in which TV Logic acquired WideaLab. Harry became the Director of the Smart Audio Division of TV Logic and brought his entire team of 17 people with him. Harry and K.K both majored in Electronics Engineering at Seoul National University in Korea. K.K also received a Masters degree from KAIST (Korea Advanced Institute of Science and Technology). KAIST is one of the top two graduate schools for engineering in Korea. As sharp as Harry is he frequently consults K.K, four years his senior, because of his vast experience and knowledge in certain areas. The relationship between these two is all business, but in a different way than most

business relationships I've seen. Harry and K.K frequently talk about engineering ideas and technical details on a level that the Presidents and Directors of a publicly traded companies (TVLogic Co Ltd 121800:KS) rarely communicate. They are both businessmen and engineers with a passion for high quality products.

TV Logic designs and manufactures very high end television monitors in a technology centered area in Korea's capital city Seoul. TV Logic's monitors are used by television broadcasters and film production companies across the globe. Of note are the company's LUM series of 4K native displays with a 10-bit LCD driver designed for high-end 4K cinema post as well as high-resolution industrial, military, medical and CAD design applications. The LUM Series can be operated at quad 1920x1080 or native 3840x2160 full screen resolutions. These hand built monitors excel, arguably better than most, at accurate color reproduction, picture quality, and durability. One employee at TV Logic told me its monitors are used in the hottest and coldest places on the planet. The company's products must operate within specifications in the middle of the hot desert and the freezing Arctic. TV Logic's competition comes from huge companies like Sony who can afford to spend and lose billions of dollars. As successful as TV Logic is, the company can't afford costly mistakes. Thus, TV Logic must produce a better product to thrive in this industry.

Attention to detail and quality was evident while touring the production floor at TV Logic. The hot room, where all monitors must spend a number of days, is an area with temperatures high enough to cause failures in components that aren't up to spec or may fail early in the field. Monitors must survive this torture test to move on to the calibration phase. Following the monitor through each phase is a single employee. Rather than an assembly line where one person masters building a single part of each monitor, TV Logic monitors are built from start to finish by the same person.

The TV Logic acquisition of WideaLab was great for both the company and the consumer. A post-IPO TV Logic has resources of which WideaLab could only dream. What started as the W10 has become the W20. The W20 has several improvements over the W10 and is far more than an incremental update to the S10 server from 2011. Whereas the S10 used a standard Intel based computer motherboard, TV Logic built a custom motherboard around an AMD chip for the W20. The Smart Audio Division / Aurender team now designs servers around its own boards rather than being held hostage by the product life cycles of companies like Intel and the lowest cost design mentality of the consumer computer industry.

The People

One reason I traveled to Korea and wrote this article was because I wanted to introduce more computer audiophiles to the Aurender team. This team is unlike most other companies in high end audio. Notice I didn't say better than most other companies. It's just very different. Better is a subjective term that each reader can decide for himself. I approached the Aurender team with the idea to write the article.

The Smart Audio Division of TV Logic resides 15 minutes outside Seoul. The 17 employees work on two different floors of a large mixed use residential / office tower. The Smart Audio Division alone is one of the largest high end audio companies in Korea. Harry Lee's team is full of seasoned experts in specific areas rather than generalists working on every piece of the design. Harry, as Director, runs the division

and appears to be in the same role as he was when he owned the company. Granted he now has a boss, he hasn't lost the freedom to pursue and produce products in which he believes. Harry also has several contacts throughout the tech industry that are invaluable to the work of his division. Shortly after graduating engineering school he worked for LG in its Central R&D Center. To this day he maintains friendships and business associations with people still working for the company he left many years ago and those who've also moved on to other high tech companies. It's these relationships that provide Harry access to small quantities of components at great prices. Suppliers like LG and Samsung usually don't have time for orders of less than several thousands units, but this isn't an issue for the Aurender team. Harry is well connected in Korea's tech sector to say the least.

Harry's team is full of very bright people who are up to speed on technology. For example, the team used Google Wave extensively until the product's decommission in 2012. Google Wave has nothing to due with designing music servers, but it's one example of the sophistication of the people in the Smart Audio Division. Google Wave didn't make it as a product partly because people found it too difficult to use and couldn't understand the advantages of the product. As a fellow geek even I was surprised to see the Aurender team using Google Wave. Harry's team now uses Google Wave replacement Rizzoma extensively.

While talking to Harry about future product ideas I noticed something about his reliance on and belief in his employees. We were discussing the placement of a port on a possible future product. Harry said it couldn't be visible from the front because his industrial designer likes clean looking products. As the head of the division I assumed Harry would use the Steve Jobs approach and direct employees to place certain elements in specific places as needed. Based on this conversation it was clear Harry left the external product appearance up to his designer. I noticed this type of team camaraderie throughout my visit to the Smart Audio Division headquarters. There was a sense of "us against the world" in the Aurender team office, not in a bad way but in a good competitive way. The entire team seemed determined to design a better product than competitors and put forth whatever type of effort was necessary to accomplish that goal. Not a single person on the team had the "I just work here" mentality. Visiting the office was just as refreshing as visiting the Aurender suite back in 2011 at the California Audio Show.

The Products

I talked to Harry Lee extensively about the company's products, past, present, and future during my visit to Korea. Harry prefers to build high quality products for niche markets. One reason is that Harry likes to build products he would use. Another reason is that he understands he can't compete with companies like Samsung on high volume mass market products. Not many companies in the world can successfully compete in the mass market with huge conglomerates. I also asked Harry about the name Aurender and its origins. He said it's a simple combination of Audio Renderer.

The Aurender S10 was by most accounts a game changing product. One of, if not the, first music server built to high end audio standards inside and out. Its newest iPad interface may be the best iPad interface I've used to date. Most high end audio companies simply can't build an iPad interface as well as Harry's team. It's very expensive and takes extensive knowledge about user behavior to build the interface right. Many computer audiophiles have too much experience with user interfaces that discourage rather than

encourage one's browsing of his music collection. The Aurender iPad app smoothly encourages music selection without a hint of the annoying issues found elsewhere.

The Aurender W20, available May 2013, is the company's follow-up product to the S10. Its hallmarks are a battery powered audio board, extensive isolation, dual wire AES, word clock input, and vastly increased storage capability compared to the S10. The process of designing the W20 was a bit different from designing the S10. The S10 was built on measurements and by the book. Unfortunately the book doesn't provide the best design possible. For example the placement of critical oscillators on sample boards from manufacturers is very different from the ideal placement when seeking optimal performance. The Aurender team addressed this issue in the W20. In addition to technical details Harry and the team invested heavily in a state of the art listening room, with fresh oxygen pumped in, at the Smart Audio Division office and completed its audio system with state of the art components. With this new audio system in place all Aurender products are built using both objective and subjective listening tests. Based on my experience with the team I believe it still leans heavily on the objective and relies on the subjective when necessary.

I spent nearly one hour by myself in the new listening room. The W20 wasn't a finished product at the time so my impressions on sound quality are irrelevant. In fact shortly before I arrived in Korea the Aurender team received a redesigned audio board for the W20. Unfortunately I was unable to hear a W20 with the new board. The entire team was busy working on the Seoul HiFi Show and had no time to put the new board in a working unit before the end of my trip. I'm looking forward to receiving a review unit fairly soon.

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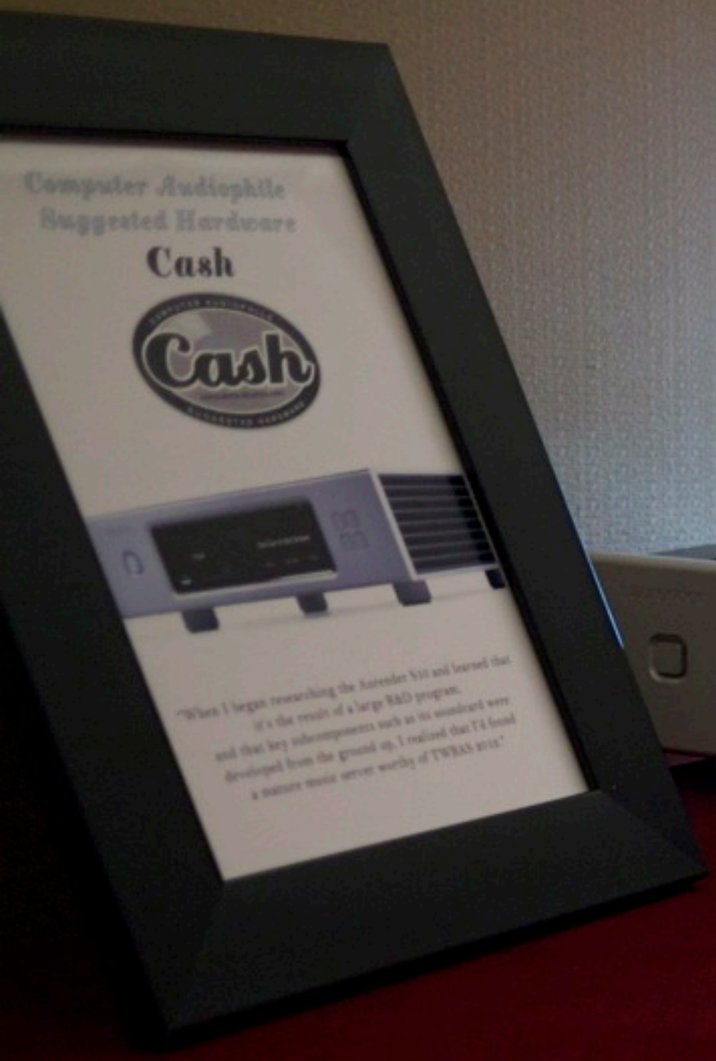
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시간 : 오후 2~3시 (토, 일)

강사 : Chris Connaker

(Computer Audiophile 창시자 및 운영자)

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10 (LDO) and 9 (AGND).

- All other decoupling capacitors must be located as close as possible to the IC.
- All of the components for the analog control circuitry should be located so that the connections

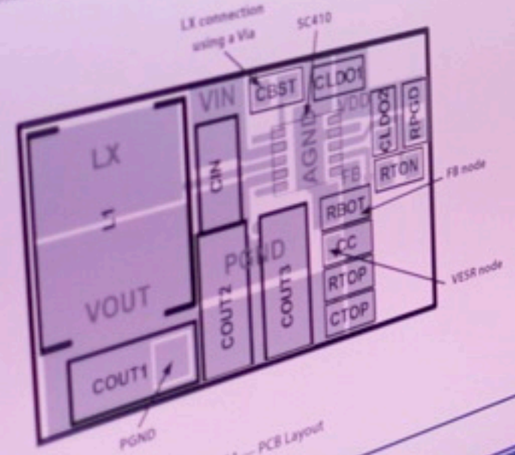

Figure 11 — PCB Layout

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Serial NO.

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출하검사 제품
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TEMP. & HUMID. TEST CHAMBER

EXIT FIX TOTAL 0017H27M 2013.03.05 10H16M

온도 (℃) 50.05
SP 50.00
MV 14.7 %

습도 (%RH) 16.3
SP 85.0
MV 100.0 %

정치 제어 Inner Sig 1 2 3 4

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