

JBL Synthesis and JBL Home Cinema Products
Designed and Engineered as Systems
Why it Matters!

For those of you attending CEDIA EXPO next month, make sure you set aside enough time in our booth to experience the four systems that we have installed and calibrated for optimum performance. For years, our booth has been a destination for attendees to experience our JBL Synthesis demonstration.

This year we have redesigned our theater room to accommodate two JBL Synthesis systems and we have two additional demo rooms to introduce our new line of JBL Modern Audio AV Receivers and our Stage 2 loudspeakers. We are confident that anyone who sits through these demos will realize why JBL & JBL Synthesis home cinema systems should be part of your company's product offerings.

As an integrator myself in the past, I carefully chose brands and products that would enhance my company's reputation. I curated brands that made it easier for me to close a deal and easier for my installers to work with. We only had room for a couple of active systems on display in our design centers and we chose to install a complete JBL Synthesis system in one of those spaces because it not only sounded better than anything else, but the system also allowed our salespeople to tell evocative stories about the JBL brand and its influence in the motion picture industry.

So, what are some of the evocative stories that should be told about JBL and the influence it has had on the entertainment industry?

JBL was a pioneer in the movie and music industry. James B. Lansing, born with the given name James Martini, and his engineering partner Ken Decker moved from the Midwest and settled in Southern California back in 1927. The Lansing Manufacturing company focused their efforts on creating loudspeakers for the Motion Picture industry, which had recently released the Jazz Singer which was the first feature length film with sound. Lansing promoted his shearer loudspeakers to Warner Brothers and MGM Studios which later one him an Academy Award for technical excellence.

During the 2nd World War, Ken Decker served our country and perished in during maneuvers in a plane crash which was a major blow to the Lansing Manufacturing Company. It forced Lansing Manufacturing to merge with the Altec Service Corporation in 1941. Later that year, Lansing agreed to sell the assets and goodwill of the brand to Altec and signed an agreement to not compete with them for five years.

JBL has storied history not only in the US, but every where music is appreciated. In Japan, JBL played an integral role after the war when the first jazz kissa (jazz listening bar) was established in Tokyo. These bars often had a diverse collection of jazz albums for patrons to come in and listen to on JBL loudspeakers. The owner (masutâ) of the jazz kissa is often a jazz expert and will choose the albums for the guests. These bars were intended to provide a space for dedicated listening versus just background music.

Five years later, Lansing founded the James B. Lansing Sound Corporation which was later changed to JBL in 1955. The company continued working with motion picture companies and developed studio monitors for Capitol Records and EMI.

Today, JBL is the brand of choice for more commercial cinemas than any other brand globally. On top of that, the JBL Synthesis brand is the epitome of luxury home theater sound. It has been the preferred choice of Hollywood producers and Cinema-Royalty alike. For decades, many of the homes in Belair and Beverly Hills have had JBL Synthesis systems installed to allow for private screening of future blockbusters.

With the recent introduction of our new line of AV receivers and loudspeakers that were designed and engineered to be installed and calibrated together as a system, you know more stories to share with your client and have a better alternative for those home cinema projects that you under \$10,000.

JBL is one of the most recognizable brands for today's consumers. With over 200 million headphones and 100 million loudspeakers sold, the brand is trusted and aspired by people from across the globe. The JBL Premium brand is offered in

some of the most popular Toyota automobiles. With a reputation like that, why would you not want to propose JBL branded solutions to your customers?

JBL Synthesis and now JBL MA AV Receivers and Stage 2 Loudspeaker product is designed to work together in a system.

The product team and the engineering teams sit beside each other in Northridge, our Center of Acoustics Excellence during they product ideation and final testing to optimize the performance of our products. In the case of the MA AV Receiver range and Stage 2 loudspeaker range, the team also had a synergistic approach to the industrial design elements of the products. We knew that these products would be on display next to each other in some of our retail partner showrooms, so we made sure that products looked as good as they sound.

We look forward to seeing you at CEDIA next month. We are confident that there will be more stories to be shared with your customers upon your return from Denver.

Meet The Harman Luxury Audio Team Interview Form

Name: Colby Buddelmeyer

Position/Job Title: Director, Engineering, Mark Levinson

With Harman Since: April 2024

How would you describe what you do in your current role?

I lead the Mark Levinson team in the development of new high-end consumer audio products. In this role, I work to make sure that the products meet the stringent requirements established by the Brand's heritage of technology. I lead a multi-disciplinary team of electrical, software and mechanical engineers with the help of an excellent project manager.

What did you study in school? Did you always imagine yourself doing something like what you're doing now or did the fates just take you in that direction?

I have degrees in both Mechanical Engineering (Bachelor of Science) and Electrical Engineering (Masters of Science). When I was a child, I had always planned to work in aerospace and started my career developing rocket engines at Rocketdyne when it was owned by Boeing. When I came for my interview, my boss took me into the Santa Susana mountains to their field laboratory to witness an Atlas booster test fire from a quarter mile. It literally blew me away and soon after I was on my way from Ohio to sunny southern California. I enjoyed working in aerospace but felt that I wanted to be more hands-on with the products I developed. I knew that I wanted to make consumer products and was lucky to find someone at HARMAN willing to take a chance on me. I found that my love of music had called me to make audio products which united my personal and professional interests.

How did your career path lead you to HARMAN?

My audio career began at HARMAN in 2004 when I was hired as Mechanical Engineer for Revel Speakers. I started on the Concerta series and then moved on to designing the Ultima 2 product line. I learned a lot about making speakers, acoustics and the audio business during my time working for Revel. I left Harman in 2010 for a role as Senior Mechanical Engineer at Apogee Electronics.

Apogee is well known in the pro-audio world for their analog-to-digital converters. At that time, they wanted to move into the prosumer market with products that could work with iOS. I worked to build a line of products for that need including the Duet 2, Jam, Mic and Quartet while I fixed issues with existing products and rebuilt their BOM system.

In 2012 I saw that Beats by Dre was ending their partnership with Monster Cable. I knew that they had a very small team of engineers as the first employees were all people I had known from HARMAN. I decided that if I didn't hear from them within a few weeks, I would reach out. As luck would have it, I got the call the next week and joined Beats to start the Mechanical Engineering team. During my Beats tenure, I was promoted to Director of Mechanical Engineering and was responsible for all mechanical activities, but also had to wear a lot of other hats due to the small size of the team. I grew the mechanical team to 12 engineers and one industrial designer and helped to deliver the Pill, Studio 2, Solo 2, PowerBeats 2 and other products. Working at Beats was a very wild ride that required a lot of travel and yes, I did meet Dr. Dre.

In fall of 2013, I was contacted by a former Harman colleague who had been tapped to start an acoustic research lab for Samsung. At the time there was not even a building, and we weren't sure where the lab would be located. Still, I decided to take the risk as I saw the opportunity to make sound for TVs as a very exciting and challenging role. As one of the founders of the Valencia, CA Samsung Research America Acoustic Research lab, I first worked on designing and building the lab including the 4Pi chamber, 2pi chamber, listening rooms, transducer lab, and even the office space. After couple of years, it became evident that we needed a full-time transducer engineer and so I held that role while we worked to bring on engineers with that specialization. After that, I was promoted to Director of Audio R&D where I continued to build out the lab by adding a model shop complete with CNC and laser cutter, a Reference Listening room for testing of surround codecs, and design of the mobile audio test systems for our research. All of this was in parallel with leading the Mechanical Engineering team in the design of new test equipment, lab upgrades, and prototype audio devices.

In February of this year, I saw the opening for the Mark Levinson Director of Engineering position at HARMAN. I really missed working on product as it felt like I had moved further and further into research. I knew that I wanted to pursue this opportunity and have been very excited to lead the team since April.

What is the most important thing you have learned over your career?

The most important thing I have learned in my career is to value and respect the people with whom you work. The audio business is very small, and your reputation is crucial to your success. I have always strived to be kind to those around me and to lead by example. Showing integrity and giving care to my peers and my employees has helped me to grow both as a leader and a person.

Any other advice you would share with people just starting out in this industry?

Audio is a field of mentorship, so I would say find some very smart people and learn from them. Challenge yourself and don't be afraid to fail.

What are you most proud of in your life?

My greatest achievement is being a good dad to my daughter. In terms of my career, I'm very proud of starting two world-class engineering teams at Beats and Samsung, and to have co-designed (both mechanical and industrial design) the Revel Ultima 2 line. The flagship speaker, the Salon 2, won the *Absolute Sound's* "Cost-no-object Loudspeaker" in 2007.

When did you realize you had a passion for music or audio? Was there any one band, song or movie that did it for you?

I knew I had a passion for music from about 12 years old. I had been beating on a guitar since I was very young and decided to play saxophone in my school band. Soon after, I started taking guitar lessons and never stopped playing. When I moved to Los Angeles I became friends with a guy who had a band and started playing music with him. Now, 25 years later, we still play together in his band called The Tyde.

It's a group influenced by the Byrds, Beach Boys, and an 80's band from England called Felt. I've grown over the years and graduated to lead guitar in 2017. The Tyde released a new album this year called Season 5. I also play bass in a country band with my friends from Taos, New Mexico. Their band is called, the Trummors. We finished a new record this year simply titled "5" and it sounds fantastic!

What current technology impresses you the most?

I recently was gifted a free month of Full Self Driving for my Tesla Model Y. I used it to drive from my home in Los Angeles to San Diego and was very impressed by how it was able to control the car. It was amazing and I was blown away at how advanced the technology felt.

Favorite music genre?

I have eclectic taste in music so that is a very difficult question. I guess if I had to choose, I would probably say indie rock and specifically the music put out on Creation Records and 4AD in the 1980s-90s.

The desert island question, of course. If you were marooned for eternity and could listen to only three albums, what would they be?

Again, this is a very hard question and I'm thankful that I will likely never face such a choice. If I had to choose then I would select:

Felt – Absolute Classic Masterpieces
Red House Painters – Songs for A Blue Guitar
The Beach Boys – Pet Sounds

You have the floor. In closing, tell us anything else you want us to know about yourself.

I've been playing and recording music in Los Angeles for around 25 years. I have a home recording studio where I produce music for myself and others. I started surfing in my 30's and enjoy checking out the classic surf spots of California where I primarily ride a longboard. I love to go camping with my 6-year-old daughter. I have over two thousand LPs. Long Live Vinyl!!!

HARMAN Luxury Audio – CEDIA Expo 2024

Jim Garrett | Senior Director, Product Strategy and Planning

CEDIA Expo 2024 is happening in Denver, Colorado from September 5-7 and our HARMAN Luxury Audio team will be there as the Home Cinema Experts. As Dave Tovissi outlined in his article this month (JBL Synthesis and JBL Home Cinema Products Designed and Engineered as Systems – Why It Matters!), no other audio brand has the history and connection to the entertainment industry and the creation of music and movie content the way our JBL and JBL Synthesis brands do. We've designed our booth this year (#2512) to showcase the breadth of solutions we can provide to support integrators looking for high-performance multi-channel sound.

This year, we're bringing an all-new 17-seat JBL Synthesis cinema demo room to the show floor. In this newly created room, attendees will experience two different immersive audio systems showcasing the power and detail of our patented loudspeaker technologies and the scalability of our JBL Synthesis solutions. Our partners from Digital Projection and Screen Innovations have joined us to deliver a massive image on a 222-inch screen to complete the immersive experience.

The one to see and hear at the show this year is the main system in the JBL Synthesis cinema demo room which brings our flagship products to the show floor for the first time. We've created a 9.4.6-channel system based on the incredible SCL-1 LCRs supported by a pair of the massive SSW-1 subwoofers in the front and an additional pair of SSW-3 subwoofers in the rear. If you haven't yet experienced the SCL-1 and SSW-1, I invite you to hear what our patented acoustic technologies can bring to bear for the ultimate in cinema sound. SCL-2 in-walls and SCL-5 in-ceilings complete this impressive system highlighting how expert engineering and advanced system calibration with SoundField Management (SFM) bass optimization can combine for unmatched sound and a remarkable listening experience. This is the one for the customer who is looking for the best possible sound perfectly tailored to their room.

In the same room, attendees will experience a 7.4.4-channel system featuring SCL-6 LCRs driven by our powerful SDR-38 Class G AV receiver. SCL-7 in-wall and SCL-8 in-ceiling loudspeakers perfectly complement the SCL-6 LCRs for seamless surround while four SSW-3 subwoofers deliver a solid foundation of low frequencies optimized by SoundField Management (SFM) and calibration to the HARMAN target curve as used in all JBL Synthesis systems. This is a fantastic system package that fits into a variety of residential spaces and delivers incredible performance.

While we are confident that our guests will be impressed with the JBL Synthesis cinema, we expect them to be "blown away" by the performance they'll hear from our new JBL Modern Audio systems with MA Series AVRs and Stage 2 Series loudspeakers. As you've seen from coverage of their recent launch, the MA and Stage 2 products were created to bring new customers into the world of better sound with component audio by focusing on simplicity and reducing the intimidation factor that prevents many consumers from stepping up to better performance. The systems are made even more compelling by being a single-brand solution from a brand they know and trust: JBL.

Adjacent to the JBL Synthesis cinema, we've created a smaller environment typical of many residential spaces where we'll be demonstrating a 7.2.2-channel system including Stage 2 in-wall and in-ceiling loudspeakers supporting Stage 280F, Stage 245C, and Stage 200P in-room loudspeakers in the Espresso finish headed up by the awesome MA9100HP AVR in stealthy translucent black. While the MA models adhere to a mantra of simplicity, we didn't forget about the custom integrator when it came to the two HP models in the MA Series (MA7100HP and MA9100HP). These powerful AVRs feature 8K HDMI, Dolby and DTS immersive surround, high-resolution DACs, two-way Bluetooth, EZ Set EQ, Dirac Live Ready, Roon Ready, IP control including Works With Smart Things certification, and much more. Plus, the large front panel graphical display with stealth mode and unique front panel LED underglow take the appeal of these beauties to the next level!

Be sure not to miss the second room with another MA / Stage 2 system that highlights how easy it is to step your customers from a soundbar to the truly immersive sound of a component audio system. This one showcases true bang-for-the-buck with a 5.2.2 system using the MA710, Stage 260F, Stage 245C, Stage 240H, and Stage 220P. Showcased in the unique Latte finish on the loudspeakers and translucent white on the AVR, this system appeals to the younger customer who wants to show off a system that looks great in their room.

The full range of Modern Audio AVR models and Stage 2 loudspeakers will be on display throughout the booth. We look forward to showing you how these products can open a new customer channel for your business and how they perfectly scale up to the JBL Synthesis brand for a complete portfolio of immersive sound at any price point from the most trusted and authentic brand in audio.

In addition to these products, there will be so much more to see and hear in our booth this year. Here are some highlights to get you excited about stopping by to see us in booth 2512:

The complete range of JBL Synthesis electronics and loudspeakers including the new SMA Series multichannel amplifiers with powerful DSP, a CI-focused front-panel and web interface for custom configuration, and a feature set optimized for residential installations.

JBL Conceal invisible loudspeakers powered by the ARCAM AVR31 and paired with a Samsung Frame TV for a truly invisible AV solution with incredible sound and picture.

JBL architectural audio solutions including the new DA Series amplifiers and a wide selection of in-wall, in-ceiling, on-wall, and landscape loudspeakers to address great sound and entertainment whether indoor or outdoor.

ARCAM Radia hi-fi products including the new SA45 and SA35 intelligent streaming audio integrated amplifiers and the ST25 streaming audio player. The SA35 will be demonstrated with Revel F226Be floorstanding loudspeakers.

ARCAM home theater products including the AV41 surround processor and matching PA720 amplifier. These will be demonstrated with the Revel W226Be Beryllium Series in-wall loudspeakers.

Subwoofer Bracing

Erik Lundin, Sr. Mechanical Engineer

Introduction

From a mechanical perspective, speaker boxes are pretty lively things. With any box, we'll need to take natural vibrations, shock from shipping, and similar loads into account. But with a speaker, we're attaching a giant vibrating mass to one or more walls, on purpose. Usually, this means we have to brace some of the walls to make sure things stay stiff and strong. And then there's resonance.

Early Stages

Like with any speaker, the job of engineering an enclosure starts with a lists of requirements, and a list of what I like to call "desirements", or nice-to-haves. I knew the size of the transducer that needed to go in the box, and was given a fairly finished industrial design to follow. The acoustic engineer had provided some requirements for internal volume, and there was some guidance on what the apparent size of the front face should be. So I drew up a box with those dimensions and adjusted its depth to achieve the required volume. This gave me a starting point for doing some math!

Resonance in Boxes

So, all physical objects have frequencies at which they become resonant to some degree. But it is particularly noticeable in hollow objects with regular shapes, and also very easy to calculate. However, there are complicating factors, like material choices. But we won't be making an empty box, we'll be adding bracing, which sort of turns the box into multiple boxes.

From a mechanical bracing perspective, we can almost intuitively see that the best place to brace a big flat surface is right at the middle. I've simulated a straight beam to illustrate the obvious here, and we can see that the amount of bowing experienced by the beam goes down dramatically when we support it right at the middle. But what this also shows, is that the amount of flex on either side of the beam is identical.

From a resonance perspective, this means that while we've changed our big resonator into two resonators (and increased the resonance frequency), we've also now got two pieces that can resonate together at the same frequency. That's not what we want at all. Moving the brace off the center by just a bit gives us two very different sections. In a box, this is the equivalent of making two boxes which share an air volume, but whose walls have different (and preferably competing) resonant frequencies.

I've attached a cutaway of a very early mockup of the JBL Stage 220P subwoofer, the larger one of the two in the JBL Stage 2 lineup. The central supporting wall is offset towards the rear to a position which affords us a very stiff wall from a relatively thin piece of wood, while making sure the box doesn't ring like a bell in the frequency range it will be running at.

Additional Concerns

Obviously, it's very important to us that the enclosure of a subwoofer is rigid, strong, and free of disadvantageous resonances. But as the cutaway above shows, there are other things to be taken into account as well. In this instance, two rather long port tubes had to traverse almost the entire depth of the cabinet. In addition to that, this is an active subwoofer, which means there are amplifier parts inside. Perhaps even more importantly, according to the people who write rules about such things, there is AC current connected to your wall outlet flowing in that thing. The amplifier is mounted to a plate set into the back of the subwoofer, but it could easily be accessed by mistake through the thin cone of the transducer on the front.

In this case, the opportunity was there to make the enclosure bracing do triple duty as a brace, a support for the long port tubes, and a protective wall for the amplifier components. I think we all like solving several problems with a single solution. The final enclosure ended up hosting a very simple wood plate, which served all of our purposes. There is ample volume, the enclosure is strong and rigid, the ports are supported, and the amplifier is protected from prying fingers. And from the outside, the only sign of all that work is that it sounds great.

Training Tips August '24

James Todd, Senior Global Product Line Manager

New ARCAM Radia ST25, SA35 and SA45

In May of this year, at the Hi-End Show Munich, we announced new products as part of our award winning ARCAM Radia series. These products are:

- ARCAM ST25 streamer, the ideal music streaming source for the ARCAM A25, and other component audio systems.
- ARCAM SA35 streaming integrated amplifier, a modern audio system with streaming, HDMI eARC, Bluetooth Auracast, Phono inputs and powerful Dirac Live Room Correction for the best sound in any room.
- ARCAM SA45 streaming integrated amplifier, our most powerful, and best sounding integrated amplifier since the A49. It also includes the convenience of streaming, HDMI eARC, Bluetooth Auracast, Phono inputs and Dirac Live Room Correction.

Each of these products includes an all-new streaming and digital platform, more powerful than anything we have created before, with the latest ESS Hyperstream DAC technology and independent outputs for 2 subwoofers. The user experience is driven by large colour displays, optically bonded to the glass front for lush colour and clear visibility from a distance, and off axis. All three support Spotify Connect, Tidal Connect (Hi-res), Airplay and Google Cast.

As we look forward to shipping our first pieces, we have created an informative module to guide you all through the features and qualities of each model and consider how they can improve the music enjoyment of our end-user customers.

Your opportunity to learn about these products will be available at the end of this month, along with our existing informative modules on the ARCAM Radia series that we launched in October of last year.

You find all the information you'll ever need about Harman Luxury Audio products right here:

<https://harmanuniversity.talentlms.com/catalog>

DEALER PROFILE QUESTIONS

Name of the owners/principals of the company: CAVIN OSAKAYA (CAVIN 大阪屋)

<https://osakaya.com/>

Name of person completing this questionnaire: Hiroyuki Morita, President of CAVIN OSAKAYA

How long have you been in business?

Founded on March 1, 1928, this year marks our 96th anniversary.

How many locations do you have?

One store with seven floors in the center of Sapporo city, Hokkaido, Japan. (Six floors are store and one floor is office.)

How did *(insert dealer name)* get its start?

The founder, Mr. Shinzo Morita, my great-grandfather, imported and sold a variety of products from overseas, the main product was radio at the time. Those activities led to the current business style of audio and home theater specialty store. "CAVIN" stands for **C**omputer, **A**udio, **V**isual and **I**Nterface. When the company was first established, a store was located in Osaka city. That's why the store name includes "Osakaya". Three years later, it moved to Sapporo city.

How many people are on the *(insert Dealer name)* team?

Seventeen.

Thoughts on the importance of training?

It is very important to recommend products to customers by their own words and knowledge. Each sales staff needs to learn about a wider range of related genres and gain sufficient experience. Customers also get a lot of information from the internet, so it will be most important in the future to convey real and actual information that can only be experienced on-site and hands-on.

What do you like most about Harman Luxury Audio products and which lines do you feature?

The Studio Monitor Series (43xx) is a long-loved series of products not only by customers but also sales staff. The Studio Monitor Series is our main focus, and several models are displayed in-store. JBL Classic Component series and L100MK2, S4700 and S3900 are also very popular products to our customers. Project K2 S9900 is also on display to promote JBL's superb technology.

How do you think the luxury audio industry is currently doing?

High-end items are doing well.

On the other hand, entry to middle range items not selling as well.

What is *(insert dealer name)* mission?

Proposing the right products that suit the customer's tastes and wants.

Developing and delivering products that offer experience and value to customers as quickly as possible.

We want to expand the further immersive audio and home theater culture and experience to as many people as possible in the Hokkaido area.

You have the floor. Anything else you want to share with us about *(insert dealer name)* that you would like the world to know?

We offer a total solution of audio and visual experience to a lot of customers. This is why we have a wider range of audio and visual items on display on the six floors of our store. On the basement, an audio rack and furniture are displayed. Vinyl, CD and Blu-ray media are available on the first floor, including headphones, entry class audio products, the latest network products and active speakers to appeal to a lot of visitors from the entrance. The second floor is designed for home theater products including TV, Projector, AVR and multi-channel audio system for latest immersive audio and visual experience. Middle class audio products, including accessories and second hands are exhibited on the third floor. Hi-end audio products and room acoustic conditioner are placed and demonstrated on the fourth floor with acoustically a well-conditioned listening room. The sixth floor is designed for the event space where new model listening events and highlighted products experience event are executed frequently. (The fifth floor is stock room.)

Our sales approach is covering the entire Hokkaido area by holding audio and visual products fairs and exhibitions in various locations several times a year in the area.

