Harman Luxury Update - September

Tariff Update

By Dave Tovissi, VP & GM - Luxury Audio

After As most of you are aware, on September 1st, President Trump instituted the collection of an additional 15% tariff on finished goods and components coming from China to the United States. While this isn't ideal, we would like to share with you some GOOD news. Despite the increase in tariffs, we're not correspondingly raising our dealer cost and MSRP on architectural speakers and a couple of other products that we manufacture in China until January of 2020.

I always try to find a silver lining in everything that happens in life and wanted to share how you can leverage our existing inventory in the US to your future advantage. In anticipation of this tariff, we brought in additional inventory prior to September 1st on the affected products. That inventory is available to you at the current cost and we will only increase the costs to you whenever we bring in additional inventory. So, for a couple of months, the market will have a new MSRP and you will be able to still purchase inventory at the lower cost. If you are interested in leveraging this opportunity to buy low and sell high, call your regional sales manager or go to the dealer portal and stock up before the holidays.

Nobody knows when this current Trade War will subside, but at least you now know how to maximize our inventory to improve your financial situation for the near term.

Photo courtesy of *Sound+Vision*

What's New

CEDIA Wrapup

By Jim Garrett, Senior Director, Product Strategy & Planning

With so much time spent on preparation, CEDIA Expo seems like it is over in the blink of an eye. Now that we've had a little recovery from the show, it is time for some reflection.

As we head toward the fourth quarter of 2019, we remain on a strong growth trajectory fueled by new products, new opportunities, and our strong customer relationships. Those three factors we on display en force at CEDIA Expo. On the products front, we introduced 28 new models from our world class brands. Most of them we on active demonstration in one of our four main audition spaces including our JBL Synthesis 9.1.6 channel immersive theater, JBL HDI Series 7.1.4 channel audio room, Arcam / Revel 7.1.4 channel audio room, and JBL Conceal Series invisible loudspeakers demo wall. All of those demonstrations highlighted new opportunities for our customers including 16 channel surround platforms, in-ceiling compression driver loudspeakers, invisible loudspeakers, and more. The excitement was palpable in the booth as we spent time with our customer partners discussing how together we can drive new business thru the fourth quarter and carry that momentum in to the New Year.

While there was talk of lower show floor attendance, it was obvious that if you had something compelling to show, you had people in your booth. That certainly proved true for us as we enjoyed a full booth all day Friday and Saturday. And the show isn't just a US-focused event either. We saw customers from all around the world including Canada, Mexico, Central and South America, Europe, Africa, Asia, and Australia. Our new products generated buzz on the show floor – enough that several competitors dropped by specifically to get a look at what everyone was talking about!

Our theme this year was Empowering Your Possibilities. If you weren't at the show to see us firsthand, or you weren't able to catch one of our exciting demos, you will certainly want to follow up and check out all of the amazing new products we introduced. During the show, I hosted a number of video interviews providing brief overviews of the new wares. Click the video links below to watch them and learn a little about the fuel that will drive our shared growth in Q4 and into 2020.

As the sun set on Expo 2019, we learned that our JBL Synthesis SCL-5 in-ceiling compression driver loudspeaker was bestowed with a Residential Systems Best of Show award – continuing our streak of wins for every model in the SCL product range. And that brings us to the point of how do we continue to improve? On our end, we'll keep listening to you – our customers – and continue to develop the best products in the industry. We've already started to plan what we'll have for you next year. We'll be back – bigger and better than ever! And we couldn't do it without you. To those who shared time with us at the show – thank you. And for those who couldn't be there, check out the videos and connect with one of us for a conversation on how together we can deliver the best solutions for the most discriminating customers around the world.

For multiple videos featuring notable products and technologies from various Harman Luxury brands, as well as an extensive look at the whole booth from the folks at Secrets of High Fidelity and Home Theater, please visit:

https://www.harmanluxuryaudionews.com/2019/09/24/cedia-wrapup/

Dealer Profile

Maxicon

Coral Gables/Pinecrest, FL
Miami, FL (Aventura Mall)
Panama City, Panama

Executive Team
Founder/CEO: Ilan Weinstein
Founder/Sales Manager: Andres Klein
Founder/Engineering Manager: Samuel Naierman

Key Statistics and Information
Founded: 2005
Harman Brands Supported: Arcam, JBL Synthesis, Lexicon, Revel

The Harman Luxury Audio Group is proud of the strong professional relationships we share with our dealer partners. This month, our US Southern Regional Sales Manager, Chris Trojnar, sat down with Maxicon's Andres Klein to learn more about the company and its business philosophies. Maxicon was founded in 2005 and specializes in the design and installation of residential and commercial automation and entertainment systems, custom audio/video, and shades and lighting control solutions.

Klein tells Trojnar that education is the key ingredient to making their clients' system dreams a reality. "Our approach to each customer is always a very personal one. We don't try to oversell. We try to educate, which is extremely important. It's why we've always invested in demos so our customers can learn what they don't know. When we can help them experience what a media room sounds like, they get it!"

"It's really amazing what a showroom, even in these days when everything is shopped online, can generate – especially in our industry."

In terms of Maxicon's relationship with Harman and other vendors, Klein tells us communication is the most important factor.

"We are looking continuously to make partnerships with vendors where we communicate with each other. We communicate with our customers constantly. We want vendors that listen to what we have to say. Our partners really take that to heart, and some even go the extra mile and help us out with great recommendations. Those are the relationships that generate revenue at the end of the day."

In terms of the future, Klein is excited about what it holds for the industry.

"I think we are in a great moment in time. We are in a moment where technology is not an expensive idea. We can pretty much on demand get an audio visual experience anywhere in your home. It's because the content delivery is so easy and it's becoming so high quality, this is where high quality equipment makes a real difference. And that's where we have a real opportunity to sell a high performance experience."

You can learn more about Maxicon at maxiconusa.com.

Tech Talk

MusicLife App: Designing a Great User Experience

By Paul Williamson – Principal Software Engineer

User experience design is the process of designing engaging and thoughtful interactions.

FIRST STEPS

When designing a new product, we first try and anticipate the users' needs and how they are most likely to interact with it. It is easy to slow product development by including many niche features that most users will never use or discover. The better approach is to focus on the fundamentals; what is the core feature set that every user needs to have an enjoyable experience? Once the initial feature set is implemented, it is important to iterate over the fundamentals many times to make the experience as seamless and streamlined as possible.

One of the most important stages of any new project is the research and outlining user expectations for the project. Research may be collected via many avenues; looking at competitor products, sales team focus groups, the dealer network, and most importantly, the end user feedback. Without this research it is incredibly hard to design a meaningful and relevant experience.

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CREATING MUSICLIFE

To give a concrete example, I'd like to talk about the various considerations we had when designing the MusicLife app. Planning for this app started in June 2014, and its initial brief was to replace an app that was licensed from a third-party developer. The initial feature set was fairly simple: facilitate playback from UPnP servers to compatible Arcam products.

We set about this task by trying to get a minimum viable product ready as quickly as possible. As a result, we used a 3rd party UPnP framework which meant we could spend more time focusing on user interaction and less time writing boilerplate code, which would be transparent to the end user.

By taking this approach, we were able to get a basic release ready within a few months which we could distribute internally, and then later to the public. This first release focused on the most common behaviour; play an album and create a playlist.

FIRST OF MANY REFINEMENTS

The initial reception was very positive, but we noted a number of crashes originating from the 3rd party UPnP framework. As a direct result, we decided the next most critical task was to write our own bespoke UPnP framework. While this was not as outwardly exciting as brand-new features, stability is one of the most important aspects of any app. There are few things as destructive to user experience as spending an hour creating your perfect playlist and then losing it in a crash.

Another advantage of our own UPnP framework was a threefold increase in the speed of fetching data from UPnP. This also allowed users to filter a list to quickly find what they were looking for, or even search for a particular album, artist or track.

MINIMISING FRICTION

Next, we focused on allowing the user to start playback in as few steps as possible after launching the app. Firstly, we reconnect to the last-used renderer as soon as it is discovered on the network. Secondly, we made the app play a whole album as soon as the first track was tapped. While this satisfied the majority of the user base, there were still users who preferred carefully curated playlists.

We didn't want to ignore this demographic, so the next release focused on presenting a dialog box the very first time you tap a track, allowing the user to choose the behaviour they preferred; whether it was the old behaviour of immediately playing the album, or adding single tracks to the current play queue. This behaviour is then chosen as default any time a user taps a single track in a list.

An important decision was to allow over-riding this behaviour on individual tracks, so we added a small button to each item in the list allowing a user to add the track to the next position in the play queue, or the end of the play queue.

AIMING FOR BEST-IN-CLASS

By now, we had an app that we could confidently declare was the best UPnP offering available on the iOS platform. At this point in time, we had a fairly sizable group of users that had lot of audio files present on the device itself, so the next key feature was obvious; support playback stored on the iPhone or iPad to the device itself, or any of our renderers. Unfortunately, due to some fairly tedious technical limitations from the iOS development kit, this took a lot of workarounds and trial-and-error to implement.

A nice side-effect of supporting this behaviour is it granted us the ability to play any supported file to any Bluetooth or AirPlay compatible device, and so we pushed out a new build shortly after.

STREAMING SERVICE SUPPORT

It was around this time we first got in contact with TIDAL to talk about how we could integrate their streaming service to our app. Discussions with TIDAL led us to meet with Airable who were offering a streamlined option to add support for several key streaming services in a fraction of the time of supporting each service individually. Most importantly for our customers, this added support for lossless streaming services via TIDAL and Qobuz, in additional to lossy services such as Deezer and Napster. Users also got the benefit of access to tens of thousands of Internet Radio streams around the world.

This has been a huge benefit for many users as they move away from the pressures of managing NAS drives containing tens of thousands of carefully ripped CDs to accessing online catalogues containing millions of lossless or high-resolution audio files.

CAST OF THOUSANDS

While the app supported almost any UPnP renderer or AirPlay / Bluetooth compatible device, there was still a key player missing from support. This brings us to the most recent milestone for MusicLife: GoogleCast support. Cast is supported in a huge number of devices, from first-party Chromecast products, to high-end receivers, to standalone speakers.

This update is now in the final stages of beta testing and approval, and is scheduled for release soon.

PARTING THOUGHTS

It is worth spending time and effort considering the user experience of any product; be it hardware or software. It is the interface users will become most familiar with, and often the only interaction they have with a product.

While a good experience is expected, a bad experience can negatively affect a user's impression of the company, reducing the likelihood that will consider purchasing additional products in the future.

Thank you for reading and I hope you've found this insight into our development process helpfully informative.

Training Tips

Why Is it So Hard to Turn on My Home Cinema?

By Tom Pfister – Field Support Engineer

As today's Custom Home Cinemas grow more complex, be prepared for the boot up requirements to increase as well.

The JBL Synthesis flagship SDP-75 Surround Sound Processor is often part of large whole home High Definition Multimedia Interface (HDMI) distribution systems that route audio and video from shared sources throughout the home. With the very long wire runs sometimes required to do this, installers will commonly use Baluns or HDMI signal converters to convert the HDMI signal to category 5/6 wire, which allow for extension of the HDMI signal over very long distances. One example of this is connecting the AV signal from the SSP to the display/projector, which is commonly quite far from the AV rack. With all this equipment interconnected through HDMI, they are required to maintain constant bidirectional communication with each other. In order for this to happen, each HDMI component needs to be powered up in the correct sequence so that it can properly communicate with the next HDMI product in the system chain.

The correct sequence for HDMI devices to be powered on is in the opposite direction of signal flow. A simple example would be: TV/ Projector first, SSP/ AVR second, source devices get powered up last. This communication hierarchy is built into the HDMI interface, and although it is always recommended it seems to be rarely followed. Since the television, display, or projector is the ultimate destination for the video signal, this device needs to be fully powered up in order to send and receive communication from the other HDMI devices. Once powered up it will actively communicate its capabilities over the HDMI network so that the next device in the chain receives the information and adjusts its output accordingly to provide a compatible AV signal. There is great variation in the way HDMI products are built and programmed, which means required power up delay times will vary from product to product. Yes, the devices can "time out" and stop listening or sending this information after a period of time. What a headache!

Well, we're fans of making it easier. One easy way to do that is eliminating the need for a ton of remote controls (some systems have as many as half a dozen, most required for operation) by opting for a home automation/control system to simplify power and control.

It is also important to be aware of and adhere to any product-specific connectivity requirements. The aforementioned SDP-75 for example, comes out of the box with

HDMI inputs 1-3 configured for HDMI v1.4 to provide legacy device support. HDMI inputs 4-7 are configured for HDMI 2.0/ HDCP 2.2, allowing full support of the latest UHD/HDR devices. This is not uncommon and absolutely should be checked prior to installation. Also, ensure that the firmware is current for the equipment you are installing.

Another way to simplify the use of your intricate system is to avoid the use of HDMI adapters, baluns, or signal manipulation boxes whenever possible. These additional conversions generally lengthen the power up sequence and add more delay to the overall communication time in the system. This can lead to communication errors which can result in "no A/V" conditions that can prove difficult and time-consuming to troubleshoot. Instead, we recommend the use of a 18gbps UHD/HDR HDMI cables whenever possible, and 18gbps fiber optic HDMI cables in cases where really long runs are required. Please contact Field Support Engineering (csupport@harman.com) for HDMI cable recommendations.

It is also best practice to ensure that no commands or queries are being sent by the control system to the HDMI connected devices before they are fully powered up and ready. If the device is not ready to receive commands from the control system it will likely not respond correctly, slowing down the boot up process and triggering repeat requests from the control system. This type of "bogging down" is not only a waste of time, but also resources like memory or CPU power. Best practice for power will come from utilizing a power trigger to turn on & off the SSP, versus external commands that can also bog down the SSP with unnecessary in/out communication requests.

A few other things to keep in mind:

- Synchronization is KEY in HDMI connected systems
- Make sure you're properly configured and your settings are applied correctly
- This article assumes all products are working as designed and not suffering from hardware or software failure

Simplicity is usually best and we're here to help you with it!

Training Tips

Harman Internship Experience

By Champ Darabundit – Harman Luxury Summer Intern

Over the course of three months during the summer I had the great opportunity of working with the Luxury Audio engineering team as a Summer Intern in Northridge, California. Having been an audiophile since high school, I always wanted to work in the audio industry and chose to go to the University of Southern California to study Electrical Engineering with a specific emphasis in audio.

While I was familiar with some of Harman's brands such as JBL, Harman Kardon, and AKG from their consumer products, many of Harman's luxury audio brands were completely foreign to me because I wasn't even aware of the luxury audio market. In my first week as an intern I had the pleasure of getting demos of JBL Synthesis and Revel loudspeaker systems along with JBL Synthesis and Mark Levinson amplifiers and receivers. Hearing these systems was my first step in learning what Harman Luxury Audio engineering is all about because it taught me what audio is supposed to sound like. I was completely blown away by these demonstrations because as a college student I had never had the opportunity to hear products designed to such high standards. And being able to hear these systems one on one allowed me to listen to them without any distractions which was a completely different experience from hearing product demos at trade shows.

My next step was to become more critical in listening to our product by undergoing Harman's "How to Listen" program and becoming a trained listener. Combined with more listening demos, this helped me understand the nuances of the speakers I was hearing and begin to dissect the differences and characters between different systems, replacing my initial sheer awe with the beginnings of cognizance. I also started to get a sense of what the different luxury audio brands sonic characters are and the of systems within each brand. I came to understand how minute resonances in a speaker's frequency response can affect the character of the sound that is reproduced.

This training helped me when I began working with Revel's Principal Engineer Mark Glazer on the development of a new product, by helping test and evaluate the various parts of a speaker system. I helped to test individual drivers and crossovers as each speaker system undergoes extensive measurements and test to ensure we are receiving consistently reliable components from our remote engineering and manufacturing teams. These individual measurements culminated into evaluation of the complete system in our anechoic chambers. After the measurement activity we then listened to and evaluated the speakers, which helped me learn how to correlate what I

was seeing in measurements with what I would hear in a room. It was a marvel to watch how Mark would adjust and tinker with the crossovers and drivers based on our listening impressions to create a perfectly tuned system. I was able to see how a system with already well-designed components is improved and perfected through testing and evaluation leading to a finished product.

Besides learning about loudspeaker development, I also helped support the engineering team by helping to calibrate and validate our measurement systems and various anechoic chambers. Luxury audio product development relies on the feedback between our measurements and what our engineers hear, thus it is important to maintain our testing chambers and equipment to ensure all our measurements are accurate. Through this I was able to dive into the systems that form the backbone of our development process and learn about the processes that need to be taken to properly calibrate audio testing equipment. In addition to this the team provided me with my own project to help integrate a new turntable into our test chambers and update our equipment.

I also learned about measurements outside of the basic SPL measurement that are being carried out by our engineers including the Tone Burst Measurement and Intermodulation Distortion. Tone Burst Measurements send sine wave bursts through a speaker at ever increasing voltages until the speakers reach a distortion threshold and is used as a method of measuring the dynamic capabilities of the speaker. Intermodulation Distortion provides a better metric of distortion within a speaker system over the more common Total Harmonic Distortion. The measurements done in development exceed that of the normal SPL test that is seen in most audiophile reviews to account for factors in loudspeakers that cannot be perceived on by a SPL measurement. By improving measurement methods and upgrading our measurement equipment I was able to see that the engineering team at Harman is not only improving their products but also how they develop the products.

I was also given the opportunity to attend the Luxury Audio Academy, where I got to see the brands from the perspective of our global dealers. The Academy consisted mainly of system demonstrations, which were exciting, but the highlight for me was the opportunity to hear talks given by Dr. Floyd Toole and Dr. Sean Olive, both distinguished researchers in the field of acoustics, to learn how the research that they started and currently lead at Harman directly impacts all of our products to make them better and help maintain Harman as being on the cutting edge of acoustic research.

But what I learned the most from the Luxury Audio team was in the conversations I would have with the engineers. The team here was very patient with answering any of the questions that I had regarding acoustics, system design, electronics, and even life advice. I've learned more from talking to the team here than I have ever learned in a university class and each and every one of them is a wealth of knowledge. Working with such a small and experienced team of engineers I've been allowed to wear many different hats and shadow the many roles that help develop the amazing products that this team produces.

I am extremely thankful to the team for letting me spend my summer with them, learn from them, and tolerate my endless questions. My time here over the summer has been an invaluable experience that has cemented my desire to work in consumer audio and reinforced my love of loudspeakers and audio systems. My summer internship has been an amazing first step in my career in the audio engineering field and will hopefully lead me back to Harman in the near future.

From the Audio Files

JBL Synthesis SCL-5 Named "Best of Show" at CEDIA 2019

The Harman Luxury Audio group is delighted to announce that the JBL Synthesis SCL-5 high-output in-ceiling loudspeaker was named a CEDIA 2019 "Best of Show" winner by *Residential Systems/TWICE.* The SCL-5 is a new addition to the Custom Loudspeaker Range, joining the SCL-2, SCL-3, and SCL-4.

"We've expanded the SCL series with our most powerful in-ceiling model to date and unmatched by anything else available today," stated Jim Garrett, Senior Director, Product Strategy and Planning, HARMAN Luxury Audio. "The SCL-5 features patented compression driver technology from JBL Professional and patented HDI waveguide geometry which allows for premium high-frequency performance compared to standard tweeters. The SCL-5 delivers authentic cinema quality to the home theater experience."

The SCL-5 is a two-way in-ceiling loudspeaker system featuring the patented JBL 2409H 1-inch compression driver tweeter mated to a High-Definition (HDI™) waveguide assembly. The HDI waveguide is positioned at an angle and provides controlled directivity in combination with the 6.5-inch cast-frame, Advanced Aluminum Matrix cone woofer. This design allows the SCL-5 to be position far off-axis as is typically the case when used in overhead height channel applications. It also allows the SCL-5 to be used as an in-ceiling LCR or surround channel loudspeaker when traditional in-wall placement is not available.

The system features a sealed/acoustic suspension design with an integrated metal back can, retractable fastener arms, and zero-bezel, magnetically attached round and square grilles. Gold-plated, spring-loaded binding post terminals make installation connections quick and reliable.

From the Audio Files

Revel Announces Three New Performa Beryllium Series Models

September 12, 2019

DENVER, Colorado — Revel today announced the addition of three new models to the award winning lineup of Performa Beryllium loudspeakers at CEDIA 2019, expanding the existing range into a family of five. The new additions to the series include two floorstanding loudspeakers and a new center channel.

Developed as a flagship for the Beryllium Series, the F328Be incorporates a newly developed 1-inch Beryllium tweeter with a vented pole piece and a much larger ferrite motor structure that delivers improved dynamics and increased overall output capability. This powerful tweeter is mated to a sixth-generation Acoustic Lens waveguide for controlled directivity and seamless integration with the midrange transducer. Cast from aluminum and coated in a ceramic finish, this new waveguide has revised geometry with an overall larger size and contouring at the outer edges that further eliminates diffraction at the transition point to the cabinet baffle. A dedicated 5.25-inch Deep Ceramic Composite (DCC) cone midrange driver and triple 8-inch DCC cone woofers complete the design. While similar in design to the 8-inch woofers used in the existing F228Be, the F328Be woofers have undergone additional refinement in the motor structure to offer improved performance for this flagship model. The refined woofers operate in a bass-reflex design with dual rear-firing tuned ports.

As the smallest of the Beryllium floorstanding models, the F226Be (shown above) offers phenomenal performance from a compact enclosure size. The slender cabinet design houses a pair of 6.5-inch cast-frame, DCC cone woofers, in addition to the same 1-inch Beryllium tweeter, cast-aluminum ceramic coated Acoustic Lens waveguide, and 5.25-inch DCC midrange driver as found in the larger F228Be. To complement the smaller design, the F226Be enclosure has additional internal window-pane bracing to eliminate cabinet-induced coloration. With its remarkable

acoustic performance, elegant appearance and choice of premium finishes, the F226Be sets a new standard for compact floorstanding loudspeakers.

To meet the demand for a high-performance home theater solution, the C426Be becomes the first dedicated center channel loudspeaker in the Performa Beryllium range. To match the Beryllium bookshelf and floorstanding models, the C426Be utilizes a 1-inch Beryllium tweeter and 5.25-inch cast frame DCC cone midrange driver for the critical midrange and high frequencies. The Acoustic Lens waveguide used in the C426Be features a revised geometry that optimizes integration and reduces the overall stack height of these two vertically-oriented transducers. Four 6.5-inch cast frame, DCC cone woofers operating in a dual rear-ported, bass-reflex design, deliver full range bass response even at the highest listening levels. Four adjustable legs allow the C426Be to be properly positioned when placed directly on a shelf, or it can be used with the optional C Stand floor stand accessory.

"When we introduced the first two Beryllium models – the M126Be and F228Be – we wanted to bring the magic of the beryllium tweeter used in the Ultima2 range down to much lower prices," said Jim Garrett, Senior Director, Product Strategy and Planning, HARMAN Luxury Audio. "Building upon the success of those first two models, we expect a very warm reception for these new additions to the Performa Beryllium series."

As with the two existing Performa Beryllium models, the new F328Be, F226Be, and C426Be feature a black cloth, magnetically attached grille, and come in a choice of four premium high-gloss wood veneer or automotive-grade painted finishes including Walnut, Black, White, and Metallic Silver. The F226Be floorstander has a retail price of $7,000.00/pair with availability beginning in late September, 2019. The C426Be center channel has a retail price of $4,500.00/each with availability beginning in January 2020. The flagship F328Be floorstander has a retail price of $16,000.00/pair with availability beginning in February 2020.