Harman Luxury Update - October

The Definition of Luxury Has Changed

By Dave Tovissi, VP & GM - Luxury Audio

The definition of LUXURY has changed and so must we.

Historically when someone mentioned the word "luxury" it almost always was associated with craftsmanship and high price points. Today, the same word means many different things to many different people. In 2019, luxury is highly subjective to the consumer. Akin to art, luxury can be approached from many different angles.

The notion of luxury is no longer limited to a small sector of the public. In many ways luxury has almost become a fruitful commodity. We see the term used to describe everything from toilet paper to million-dollar automobiles.

Even with this paradigm shift occurring, there are some things that remain the same. Trend forecasters are still predicting that today's luxury shoppers are looking for exclusivity, high quality, but they are also looking for their purchase to make them part of a community. This passion for social and environmental causes has reached critical mass in some countries and we all must come to terms with this new phenomenon. It's now just as important to have the craftsmanship and limited reach as it is to appeal to the moral consciousness. There was a recent survey done with 12,000 affluent consumers across the US, Europe, China, Mexico and the United Arab Emirates to get the pulse of cultural attitudes and inclinations. No matter what country the surveys were conducted in, more than two thirds of the consumers associated the desire to purchase Luxury Goods and Services with differentiating themselves from others. This desire to differentiate included a social cause that other brands do not associate with.

Today, the word luxury is associated with the means of travel rather than the destination. In our industry, the means of travel takes consumers to our branded websites. We need to make our websites more inspirational for today's luxury consumer who is beginning his/her journey towards purchasing a luxury audio experience. We need to introduce them to the people who design, manufacture and sell our products. Our customers are seeking out reasons for them to be differentiated from others.

With all these new realities occurring, Harman Luxury Audio will soon begin a major transformation of our branded websites. We will be focusing our websites on the brands more than our products. We intend to capture the hearts and minds of today's luxury audio consumer. We will give them more stories, more videos and more experiences that they can associate with. We will also share our social and environmental causes we support.

This shift in our branded websites doesn't stop with our consumers. We also plan to launch the most comprehensive site for our dealers and distributors. We stand committed to deliver one site where you can find everything you need to help you sell Harman Luxury products to your consumers. Whether it's a white paper from one of our engineers, a CAD drawing or a hi-res lifestyle image of one of our products, this new site will be a one stop resource for our valued resellers.

In another article in this newsletter, you will learn more about our new e-Learning platform from our Global Training Manager, Chris Robinson. His new Learning Management Systems (LMS) will be linked directly from this new dealer site. We plan to host all our Points for Products programs and other incentives on this dealer site to help you become raving fans of Harman Luxury Audio.

All these changes are because of you and your customers. We look forward to delivering our new LUXURY EXPERIENCE early in 2020.

What's New

JBL's New HDI Series Premium Speakers

By Torsten Sporn, Marketing Coordinator

I In January of 2020, lovers of high-end loudspeakers will have a new premium line to consider for their home audio desires. JBL's new HDI Series featuring patented High-Definition Imaging waveguides and revolutionary JBL compression driver technology showcases a wealth of JBL acoustic technologies and captivating performance to go with a contemporary and beautifully versatile style.

Led by the flagship triple 8-inch, 2.5-way HDI-3800 floorstanding loudspeaker, the range includes the triple 6.5-inch, 2.5-way HDI-3600 floorstanding loudspeaker, the 6.5-inch, 2-way HDI-1600 bookshelf loudspeaker, the quad 5.25-inch, 2.5-way HDI-4500 center channel loudspeaker, and the 12-inch, 1000Wrms HDI-1200P powered subwoofer.

The four full-range models of the HDI Series are based upon JBL's patented 2410H-2 compression driver, benefiting from advanced research and applications from JBL

Professional's D2 range of transducers. At the core of the 2410H-2 device is a lightweight, polymer, annular diaphragm that improves high-frequency extension by reducing diaphragm mass. The V-shaped geometry of the annular diaphragm reduces breakup modes, and reduces distortion. This remarkable design is mated to JBL's patented High-Definition Imaging (HDI™) waveguide geometry resulting in high frequencies with incredible dynamics, accurate reproduction, and a lack of power compression.

Complementing the outstanding performance of the high frequency components, each HDI full-range model benefits from equally impressive woofers including cast aluminum frames, cutting-edge motor structures, and Advanced Aluminum Matrix cones. Taking advantage of core JBL engineering techniques, the HDI woofers ensure very high output with low distortion. A 1.5-inch long-throw voice coil in conjunction with the symmetrical field motor design, flux stabilization ring, and copper shorting ring guarantee maximum output with significantly reduced distortion. Advanced Aluminum Matrix cones provide a lightweight, rigid diaphragm and eliminate breakup modes ensuring proper pistonic motion throughout the operating band. The HDI powered subwoofer model benefits from the same engineering prowess and features a high-density Poly-Plas™ cone and a 3-inch voice coil.

All HDI Series enclosures are constructed from 0.75-inch MDF with substantial internal window pane bracing that forms a rigid platform for the transducers. Enclosure tuning is a bass-reflex design via rear-firing, computer optimized tuned ports. Premium crossover components render crystalline sound while dual sets of gold-plated binding posts offer secure connections to companion amplifiers.
"The HDI Series leverages some of our most advanced JBL technologies and acoustic performance capabilities to deliver a premium music and home theater experience," stated Jim Garrett, Senior Director, Product Strategy and Planning, HARMAN Luxury Audio. "The professional-grade compression drivers and HDI waveguides deliver incredibly realistic dynamics and lifelike imaging that makes music and movies come alive."

While the acoustic performance of the HDI Series is outstanding, the appearance and design is equally compelling. The elegant cabinetry features a subtle radius on all side panels that blends into a larger radius to soften the corners. Flush-mount woofer trim rings, a lack of visible fasteners, and magnetically attached grilles are some of the attention to detail that results in a clean, contemporary design. The bookshelf and floorstanding models feature a gloss black plinth integrated into the base of the cabinet. The HDI-FS accessory floor stand is available for the HDI-1600 bookshelf model and includes a matching gloss black base to complement the appearance of the loudspeaker. A choice of three beautiful finishes are available on all models: painted high-gloss black, satin walnut wood veneer, and satin gray oak wood veneer.

Dealer Profile

ADEO Group

Lavis, Italy

Executive Team
Sasha Defranceschi
Paolo Gadotti
Luca Moresco

Key Statistics and Information
Founded: 1989
Harman Brands Supported: Arcam, JBL Synthesis, Lexicon, Mark Levinson, Revel

The Harman Luxury Audio Group is proud of the strong professional relationships we share with our dealer partners all over the world. This month, we interviewed Sasha Defranceschi, owner and CTO of ADEO Group in Lavis, Italy.

How did ADEO start-up?
ADEO started up in 1989 initially as a screen manufacturer and distributor for video projectors.

In the early 2000's we started shifting our focus to residential channels recognising the value we could offer in this market.

ADEO specialises in three divisions: Pro AV to provide dedicated experience to professional projects and installation; Home AV specialising in home theatre systems, multi-room audio-video, advanced home automation, networking and high-end stereo; and Screen – we manufacture high-end video projection screens.

We have strong know-how for complex integrations and can provide innovative solutions as a specialist distributor for audio, video and networking, offering complete solutions to system integrators.

What is ADEO's Mission?
ADEO's mission goes beyond simply being the leader in the residential market. We want to lead far ahead of our competition and offer the most value to our customers in the residential market. We do this by creating experiences and instilling into our dealers that offering value is the most important element of our strategy and future survival of this industry.

How many people are in the team? And, what facilities do you have?
We have 25 people in our Italy office and a further 35 across our other 2 companies, ADEO Screen and Screen Research.

In 2018, we invested into a large showroom with multiple systems and custom solutions on display that allows our dealers to experience how good the products we offer look and sound. We also encourage our dealers to bring in their customers to experience this too!''

Thoughts on the importance of training?
Training is essential to ADEO group. In the future dealers will not sell products they will need to be able to create experiences for their customers. We help our dealers to become more specialised in what they do; the more specialist and the more knowledgeable they are, the more valuable they become.

For this reason, regular training and updates from the manufacturers we work with is very important. It allows us to remain specialised and pass our knowledge down to our dealer base. We also aggregate marketing communications and new product information from the brands we sell, and distribute this to our dealer base.

What events / training do you offer your dealers to keep them up to date?
''As well as offering regular trainings in our new showroom to our dealer base, for the last two years we have held an event which celebrates our top dealers in Italy. The three-day event comprises of 2 days of training and 1 day of fun activities.

The 1st day and for the first half of the 2nd day we carried out classic presentations to inform our dealers of all the latest product releases from CEDIA. The 2nd half of the day, to do things a little different, we split our dealers into 3 groups and carried out 3 workshops:

1. Multiroom audio-video and networking
2. How to design a home theatre
3. Dirac Live training

The dealers were so enthusiastic about training and the workshops that we ended up staying late on the first day to provide more information! And, we receive many requests for further training which we are committed to make happen.

For lunch on the 1st day we took our dealers to a unique location at a winery for wine-tasting. And, in the evening we took them to a restaurant where we awarded 6 prizes for various 'best projects', as an example, best multi-room project. And, to all of our dealers we gifted them a JBL GO2.

For the 3rd day, we took our dealers to a special place near Lake Garda, called Malcesine. From there we took the cable car to Monte Baldo where we did medium difficulty level trekking with a nice lunch at 1.800mt altitude. We also offered a range of other activities including paragliding!

This type of event emphasises our commitment to creating and delivering experiences – we create dealer loyalty with these luxury experiences.''

What do you like most about Harman and the luxury audio brands? And which ranges do you see as key products?
Harman's level of competence and research and development capabilities in Northridge and Cambridge are unmatched in the industry. JBL Synthesis products are the strongest performing products compared to anything in the market. And, we see JBL Synthesis and ARCAM as the most powerful brands behind the Harman Luxury Group.

The investment into these brands appears to be stepping up. And, we believe combining this with the high-performing product ranges will take the brands a long way.

How do you think the audio industry is currently doing?
The market is always changing and especially in an online world where it is easy to buy products at convenience. This is why it is so important to us to be value-added. We can't simply box-shift as seen in a commercial environment, there is no value in this as it's an overpopulated market. Our ethos is to keep specialised and offer value and experience in line with where the market is going.

Any final comments?
The current team at Harman are the best team at Harman Luxury Audio there ever has been. We now have the proper support we need. George and the team are always available to offer a solution to any problem that may arise. As a final note on our In-house manufactured products, our screens from Screen Research are perfectly matched to JBL Synthesis and ARCAM systems due to the high-end development and production of the screens. We can provide full turnkey high-end product solutions because of this.

You can learn more about ADEO Group at adeogroup.it.

Tech Talk

Mechanical Engineering for Mark Levinson

**By Matthew Waterman - Principal Mechanical Engineer**

The mechanical design process for a Mark Levinson product follows a typical pattern and strives for the common goal of un-questionable mechanical integrity and cabinet-grade fit and finish, regardless of product type.

The process is most extensive with a brand new, ground up design, such as the recent No5805 Integrated Amplifier. For a new product series, Harman's Industrial Design group is engaged and the result is a series of renderings, CMF (color/material/finish) documents and CAD models. The latter can be imported into Mechanical CAD software (we use SolidWorks), and the mechanical design proper can begin in earnest.

Input is also provided from the Electrical Engineering team, so that the number of circuit boards is known as well as their interconnects and physical relationship to each other. Front panel controls and real panel connections are also identified. The product design begins to take shape in CAD, with a rough chassis of known height and width, and approximate depth. PC boards shapes and sizes follow, plus any other electrical components such as transformers. If there are custom heat-sinks then the thermal requirements are worked out and these too begin to take shape.

The details of the design is really what makes these products recognizable as Mark Levinson. I joined the design team for Mark Levinson in 1994, at Madrigal Audio Labs, during the development of the No33 Reference Amplifier. My 25 year history with the brand has equipped me with the ability to carry design elements forward into new products while consistently adhering to established design philosophy and brand priorities. A few examples are: heavy gauge black powder-coated steel chassis as a stable platform, internal symmetry when possible, compartmentalization to separate power supply and audio circuits, minimized use of cables as internal interconnects, back-printed Lexan rear labels for indelible connector marking, no fasteners visible on the front or top surfaces, minimized and/or hidden fasteners on the side surfaces, solid aluminum front panels with either laser marking or back-printed glass inserts, and solid aluminum buttons and knobs. Special attention is also given to touch points such as buttons and knobs, to insure that the tactile experience is an equally luxurious experience. The overall goal is to provide an enclosure for the electronics which delivers luxury construction, fit and finish, and which is recognizable as Mark Levinson inside and out.
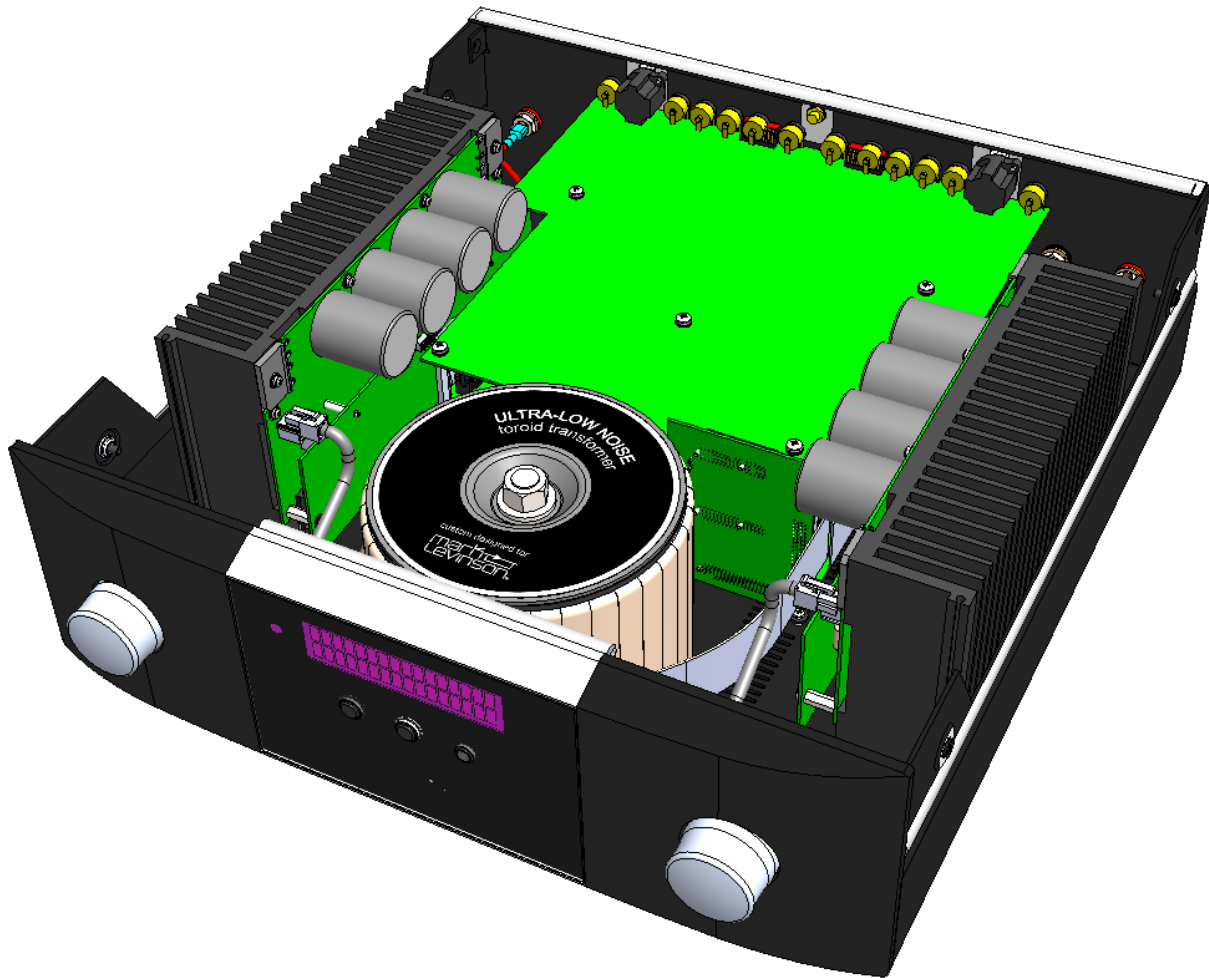
Our most recent challenge was to design the No5000 Series of integrated amplifiers and their companion products to fit in an unprecedented lower price range for Mark Levinson, but without sacrifice to Mark Levinson build quality. Rather than give up any mechanical integrity, the team workout out a design which allowed more efficient use of materials. For example, the left and right front panels are still solid extruded and machined aluminum, but with the knobs placed on the centerline and without markings the panels are able to be identical, which allows just one part to be purchased at twice the quantity. Fewer front panel buttons reduces parts count and complexity, enabling the buttons to remain solid machined aluminum. Knobs are also assembled with fewer parts and, like the buttons, are still machined from solid aluminum.

Behind the front panel, another efficiency was gained by looking at requirements of future products to ensure that the top cover can be used for multiple products within the series, thereby boosting purchase volume to control cost without sacrificing quality. A few more examples include the reduction of internal hardware types, focus on design-for-manufacturing (DFM) and design for assembly, and creating of 3D printed assembly fixtures such as to aid in part alignment during assembly (DFA).

After 25 years, I'm still proud to be a part of the Mark Levinson engineering team, and even prouder of what we are able to accomplish.

Tech Talk

Mechanical Engineering for Mark Levinson

By Sam Burkin – Field Support Engineer

(Written regarding ARCAM SR250, AVR390, AVR550, AVR850, AV860 and LEXICON RV6, RV9 and MC10)

So when my boss said, "Sam! Write an article about networking our current range of AV products!" I thought to myself, "Well, that's going to be a short article, as there's not much to say about the networking of our units, we're going to need a considerable amount of filler here." It turns out though that I was just displaying a lack of imagination. Once I started thinking about the subject it extended out and out and out, and in the end it turns out that a Pulitzer is not going to be that much hard work to win after all.

Our current range of AVR's/processors (from here on both types of product are referred to under the umbrella of "AVR") are not bristling with a hoard of network related bells and whistles. They are primarily designed to have source components connected to them, and then deliver outstanding sonic quality from those source devices that is a cut above the competition. In my opinion the AVRs we make deliver on that in spades. When networking these products there is only a cabled option and we find leaving DHCP to sort things out is often the best way. This was why my initial thought was that the sum total of the article would be:

- Remove the AVR from its box
- Plug the AVR in to the mains
- Connect the AVR to a router with a network cable
- Turn on the AVR
- Enjoy how clever you have been in successfully connecting the AVR to the network.

Thinking about the installation process as a whole though, there are more facets that can be explored.

So where to start? Well, the primary functions of the networking on this range are to allow IP commands and calibration of the system using Dirac room correction software. The network module used in the units is also capable of being a UPnP rendering point, allowing internet radio and Spotify Connect so those functions are available. However the real golden…no scratch that…, platinum, über function that networking our AVR's delivers is Dirac, and so a good place to start is right there.

Dirac room correction software that we would run on a laptop when calibrating one of the AVR's units interacts with the unit using IP commands. That is an important thing to remember because in many installs there will be a home automation processor present that also

communicates with the AVR via IP. The AVR's can only have a single socket open at once which means they can only talk to one device over IP at a time.

If your AVR is connected to your home automation processor by IP and you then connect with Dirac, this will sever the connection with your home automation processor. Quite understandably, the home automation processor will be designed to be relatively aggressive in trying to re-establish a connection; after all who wants a flaky home automation system which gives up at the first whisper of a dropped packet? This means that the automation processor will almost certainly be successful in re-establishing a connection with the AVR. In turn though, that will mean that the IP connection to Dirac will be severed. Dirac is almost certainly going to be considerably more passive in its attempts to reconnect compared to the automation processor, so that will be that. The battle for the attentions of the AVR will have been fought. The home automation processor will have won, and the room correction programme will give you an error message and not work.

The solution to this is simply turning the control processor off during calibration, and turning it back on after. This will prevent the battle mentioned above.

On a related note, if there is a control processor in play that is connected to the AVR by RS232, you have to go into the menu and change the control method to IP whilst calibrating. By default the unit comes out of the box set for IP control but if being connected via RS232 the option for control will have been changed to RS232. If you are using Dirac version 2.X then the device discovery will still work and you will see the unit in the programme. Try and connect though, and you'll get an error message. Using Dirac version 1.X the unit just won't show up at all. To avoid this make sure that the unit is set to MENU > GENERAL SETUP > CONTROL > IP.

That segues neatly into that the fact that there are 2 versions of Dirac, and that this can be exploited to an installer's benefit.

Relatively recently, Dirac rewrote their front end software from scratch for a couple of reasons. The result is a programme that looks a lot glossier, and has some new practical controls and features. One thing that has changed behind the scenes is how the application uses Internet connection. Dirac 2.X requires a connection to the outside world at all times when running.

When you turn up to install a unit you may have little or no idea what the network is like on site. You can ask some questions of the end user to get a vague idea but it is only once you get hands on that you can really understand. This means that the network could be rock solid and operate at warp speed or it could be dial up distributed from a router that should have been taken behind the barn and shot in the late nineties. Every 6 months or so I even still receive a calls from installers exploring their options for installing a unit in a property with no internet connection at all. Apparently there are still some people that are not interested in seeing dogs riding skateboards, cats playing the keyboard, and Australian people dropping things off a massive tower.

If you turn up to a site and the network is disgraceful or non-existent, here is trick to have up your sleeve. Download both versions!

Dirac 2.X requires a connection to the outside world at all times. However, Dirac 1.X only requires an internet connection when you open up a fresh install for the first time, and when you optimize your project filters. In instances where networking is problematic, you can break out Dirac version 1.X which will allow you to perform all of the measurement side offline, do the optimization on a mobile hotspot, and then upload the project to the AVR offline. By doing this, many hours trying to wrangle the network into submission can be saved.

For the above workaround it is possible to connect a computer directly to one of the AVR's to carry out calibration, however it is easier to take a cheap and pre-tested router with you. It's a useful thing to carry in an install kit for many purposes so I generally recommend carrying one anyway.

"That's rubbish! Networked equipment should just work!" one gentleman said to me once. Well in theory there are networking standards and you would hope that devices that conform to them will work with each other. As with anything humans produce though, networking standards are created with tolerances. This unfortunately means that sometimes the planets align against you and things don't work that you expect should.

The principle is aptly demonstrated with Parachuting. When you are thousands of feet up and heading towards the ground at around 120mph, it is pretty important that when you pull your rip cord that something happens to slow you down. Your primary parachute should work, it should be carefully packed each time with great care to ensure this. Still, at the risk of speaking out of turn for parachuting experts, most would likely tell you a well-packed reserve chute is still required fare in the event the primary one fails.

Redundancy. "The inclusion of extra components which are not strictly necessary to functioning, in case of failure in other components." Employ this for parachuting and it could one day save your life. Employ it for installing an AVR and it might save you hours or days of needlessly wasted time. Fail to employ it for parachuting and the good news is you don't have long to wait before it isn't a problem anymore. Fail to employ it when installing and you might end up having the less grisly but more expensive result of wasted hours or days. As we all know, time is money.

As we have touched on, the other main function of the AVR when networked is control via IP, either for control by an automation processor or the free control app available for iOS and Android for both ARCAM and Lexicon.

The free apps can be a useful diagnostic tool even if they are not going to be used all the time, so it is worth being aware of their existence. A number of times I have fielded calls where an installer was looking for ideas because a unit was not responding to a control processor. The app is potentially useful with that because it uses the same commands that a control processor would over IP. Some control processors have a front end that doesn't present the installer with these commands directly, but by the time the commands get spewed out the back end to the AVR they are exactly the same as the commands the app would send.

If you turn off your control processor, fire up the app instead and check whether you get a response. If the AVR is responding fine to the app, you know that:

- The AVR is configured correctly
- The AVR is talking to the router
- The AVR will respond to the commands if it receives them

You can then look elsewhere for an issue.

If the AVR does not respond, narrowing down possibilities as to why commands are not resulting in response is quick and easy.

The command protocols are detailed in a document simply called RS232 for ARCAM and RS232 Protocol Documentation for Lexicon. This document can be downloaded from the products' respective web pages:

Arcam PDF
Lexicon PDF

The commands themselves are identical via RS232 and IP but there are also other useful things in there like the port used for IP commands, the RS232 pinout, the command and response formats, and at the very back, all the IR commands are listed including discrete commands not emitted by the supplied remote.

To try and keep things simple, most of the commands are simulated IR commands. This means that you have a byte in the command format that tells the unit the string you are sending relates to an IR command, and 2 bytes that dictate what the command actually is. This means if your chosen automation processor is programmed by manually entering the entire hexadecimal string, you can largely copy and paste, changing only 2 bytes each time. There are some commands that are not in this format but they are the much more obscure ones, usually to do with fetching the status of the unit.

I think the final thing to mention then is that when you use networking equipment (like switches, power line adapters, wireless to Ethernet bridges etc. etc.) between the router and the AVR, this equipment is not going to be a completely transparent part of the network. Even unmanaged switches are not transparent, so if you are installing an AVR (or any piece of equipment) using a network extension device and issues arise, I would suggest as a first port of call, bypassing the network extension device and seeing if matters improve. Because of the tolerances in the networking standards mentioned earlier, some network extension devices just won't get along with some equipment. Sometimes you will stumble across those combinations and often the network extension device seems to slip under the "suspicion radar."

In summation, all networks are different, and becoming more and more complicated as we are finding new ways to integrate more technology into our lives. Therefore, when you install, go prepared. Have some tricks up your sleeve for those days when you seem to have angered the HiFi gods.

I hope this has been helpful, at least vaguely informative, and if not then at very least a pleasant read

Training Tips

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

By Chris Robinson – Manager, Global Training

The first Harman Luxury University training modules are now available for Luxury Audio Dealers, and provide useful tools to help educate on Mark Levinson and JBL Synthesis. These and subsequent training modules are designed to be informative, fun to take, and are purposed to improve your ability to sell, design and install our products and systems from Mark Levinson, JBL Synthesis, Arcam, Lexicon and Revel.

*Access courses here:*
harmanuniversity.talentlms.com

The first two Mark Levinson modules are:

Mark Levinson Overview – This module gives you concise talking points on Mark Levinson as a brand. The history, value and core technologies that differentiate Mark Levinson over the competition are the focus. This module is a prerequisite before taking course number 2.

Mark Levinson 5000 Series – The new 5000 series was the inspiration behind the creation of our e-learning program! The new No5802 and No5805 integrated amplifiers pack groundbreaking innovation, and gaining a full understanding of their immense capability will give you the tools to supercharge your demonstrations of these amplifiers in live systems.

JBL Synthesis has set the standard for private home cinemas with engineered home cinema solutions that have evolved since 1992. The first three modules provide basic overview and detailed components information on the new JBL Synthesis Systems for 2020. These three modules are required for all dealers to take prior to attending our 2020 JBL Synthesis Theater workshops for certification training. We will provide more detailed JBL Synthesis information in next month's newsletter.

Luxury Audio features many great products across all of our brands, and future modules (coming soon!) will demonstrate that. While the early training session are fairly general in nature, subsequent modules will offer details in not just product specifics but design and installation. Stay tuned as Harman University continues to develop!
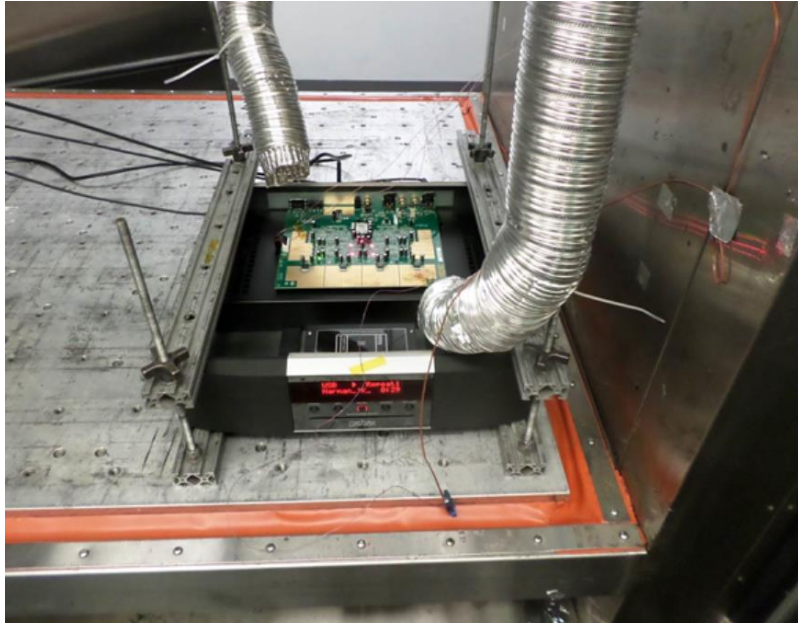
Solutions Center

Quality Assurance at Mark Levinson: A Way of Life

By Dale Seidlitz – Manager of Global Quality

With every product we design and introduce, we have the goal of providing our customer a product they'll get to enjoy for the rest of their lives. In chasing that lofty goal, we employ Highly Accelerated Life Testing (HALT) and HASS (Highly Accelerated Stress Screen) testing. The goal of these tests is to find the point of failure. Once found, we then must determine the acceptability of that point of failure or change the design. In doing this we have to sacrifice a fully operational unit!

Throughout a HALT process, the intent is to subject the product to stimuli well beyond the expected field environments it would reasonably encounter. In the execution of this process, any failure that would show up in the field at lower stress levels is quickly discovered while applying high stress condition, and subsequently eliminated.

HALT is primarily a margin discovery process. In order to ruggedize the product, the root cause of each failure needs to be determined and the problems corrected until the fundamental limit of the technology for the product can be reached. This process will yield the widest possible margin between product capabilities and the environment in which it will operate, thus increasing the product's reliability, reducing the number of field returns, and realizing long-term cost efficiency.

HALT will evaluate the design of the product, whereas HASS will monitor the manufacturing process. The HASS process can ensure that the reliability gains achieved through HALT will be maintained in future production.

The data gathered during the HALT will provide the starting point for a successful HASS screen. The general rule of thumb for determining a starting point for HASS is to use 80% of the Thermal Operating Limit and 50% of the Vibration Operating Limit from the HALT. These values will most likely be adjusted during the HASS development steps, which is necessary to provide the most comprehensive screen for the product.

Common profiles consist of both temperature and vibration (Combined Environment) and usually will be repeated two or more times. Vibration may be maintained at a constant level or varied during the profile, and this will depend on the results from the HALT and effectiveness in finding failure.
This testing allows Mark Levinson to have certainty that it is putting the very best designed products in the field for our customers.

The quality assurance of the Mark Levinson production process doesn't stop here. In fact, it continues with taking at random a product from the production line and put it through the same HALT/HASS tests. This ensures that as time passes, there has been no deviation from our manufacturing team or our suppliers with their products or processes, and guarantees the same level of production quality is being adhered to throughout the entire life cycle of every Mark Levinson product.

From the Audio Files

JBL L100 Classic Earns "Best of 2019 Blue Note Equipment Award"

The award-winning JBL L100 Classic has earned yet another to add to its list of prestigious recognitions: A Best of 2019 Blue Note Equipment Award from EnjoyTheMusic.com.

Reviewer Tom Lyle says, "The L100 Classic had a way of reproducing rock music better than many other speakers in its price range that I can remember, in that it was able to separate instruments such as electric guitar solos and lead vocals from the rest of the mix. I became nostalgic for my late nights in the studio mixing down tracks; the L100 Classic has the same way of being able to allow me to hear things deep in a mix that other speakers would sonically gloss over."