

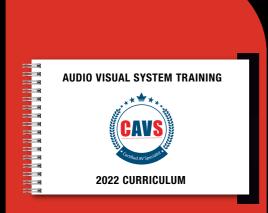
PRO AUDIO | STAGE | STUDIO | AV INTEGRATED SYSTEMS | BROADCAST | DISPLAY | LIGHTING

### **ISSUE HIGHLIGHTS**

- Remote Lighting Production at 8th Hum Awards by Fireflies
- **Are Lamp Projectors Becoming Obselete?**
- PALM + AV-ICN Conference Series
- An Avant Garde AV Installation at Maze & Miyawaki by Rhino Engineers

Vardhaman Megatech Reinforces the Indian **Touring Industry with Martin Audio** 

Tricolor India **Illuminates ASSAM'S FIRST 3D PROJECTION MAPPING** 



### INDIAN

**AV SPECIALIST CERTIFICATION COURSE** 



### 11 Questions:

**CHRISTIE'S** MICHAEL BOSWORTH **Notes That Government Procurement Projects** Have Not Been Impacted By The Pandemic







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Get in touch with Jeff Mandot, National Sales Manager

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### MARTIN AUDIO WPL - DUAL 12" THREE-WAY, BI-AMP LINE ARRAY

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3-WAY CONSISTENCY ADVANTAGE HYBRID LOW FREQUENCY CONFIGURATION ACCURATE MAPPING WITH DISPLAY V2.3

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Vardhaman Megatech helps PXL Media acquire India's first WPL Line Array
System - getting the company one step closer to elevating the touring scene
in Kerala

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Lamp projectors are slowly being replaced by LED/laser projectors. But will they really go extinct or evolve for the tech-savvy crowd?



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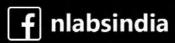


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### VARDHAMAN MEGATECH FACILITATES SALE OF INDIA'S FIRST MARTIN AUDIO WPL LINE ARRAY TO PXL MEDIA KERALA

PXL Media – one of the leaders in large format LED screen rentals, recently forayed into the Professional Touring Audio domain by adding Martin Audio's Wavefront Precision (WPL) **Line Array System** to their inventory and thereby becoming India's first WPL users. A production house known across South India for their prowess in LED screens, PXL Media launched SXL - a division centered around providing exceptional touring audio systems to audiences. "Together with VXL (Video) & LXL (Lights) we can provide a complete solution to our customers." says Pratheesh Micheal, Partner, PXL Media. This purchase also helps Pixel Media make its mark as a significant player in the touring industry in Kerala, one of the fastest growing events and touring markets in India. "We will quickly expand into all of South India soon." adds Pratheesh.

"PXL Media believes in investing in top-level gear to match international standards. Martin Audio's reputation in

the market is exemplary. We are proud to be associated as their first WPL users. We wanted to invest into a system that delivers top-notch performance, is rider friendly, ensures efficiency and functionality, while being flexible and scalable - Martin Audio was perfect for this," says **Sachin**, Engineer, PXL Media.

The system inventory with Pixel Media includes the WPL - 3-way bi-amp, 2 x 12" large format line-array elements with the globally renowned dual 18" horn-loaded SXH 218 subwoofers. The system is run by two racks consisting of Martin Audio's iKON iK42 Amplifiers, network switches, signal and power distros.

Tony Sawyer, Applications Manager at Generation AV, Martin Audio's APAC sales representative, conducted the initial software and rigging training at the PXL Warehouse in Kochi. "Martin Audio has always prioritized training & support. We ensure that our touring partners are taken care of and that their purchase is protected. The teams at PXL are exceptional learners and will soon be a force to reckon with." says Tony Sawyer. "The teams at Pixel Media has big plans and have taken a bold first step by launching with the WPL. We are excited by the possibilities that this opens up for PXL Media and all of us at Martin Audio and Generation AV are here to support and help them with their growth." adds Prashant Govindan, Director, Generation AV India. "The team at VMT are very approachable and supportive. They go out of their way to help us with their inputs, whether industry related or not. Their pricing structure is business friendly and allows us to plan our growth systematically." adds Pratheesh. "It was great working with the



PXL Media with WPL Line Array System - sourced from VMT, the Indian distributor for Martin Audio

PXL Team across the sale, and we continue to back them with all the support. Pratheesh, Biju, Sachin, Kiran and team have a long way to go and team VMT wishes them all the luck with their current system and the many more systems to come!" says **Jeff Mandot**, National Sales Manager, VMT. "We are very happy to have team PXL on-board with us. With VMT, we are building a strong sales and support network for Martin Audio in India, that will offer the best in the touring and install sound markets." says **David McKinney**, Managing Director, **Generation AV**.



PXL Media aims to take the south Indian touring industry to the next level with Martin Audio

### GLOBAL PRODUCTION SERVICES ACQUIRES INDIA'S FIRST MARTIN AUDIO WPC LINE ARRAY SYSTEM FROM VMT

One of India's fastest growing ace technical service providers for live events – Global Production Services – recently added a brand-new WPC line array system from Martin Audio – thereby establishing its mark as a true industry trendsetter by becoming the first company in all of India to acquire the WPC line array system. The system was supplied and will be supported by Vardhaman Megatech Pvt Ltd. The rental production company has steadily built a formidable legacy of providing superlative comprehensive technical reinforcement for live events across the state of Maharashtra for many years; with their portfolio of work featuring some of the most prominent gigs in Bollywood music, award ceremonies, political rallies, corporate functions, and more.

"Global Production Services has consistently provided top-notch technical reinforcement for the widest variety of live events ranging from music concerts to corporate conferences; and we have always put great pride into our work and the quality of technical equipment and expertise that we provide for our shows. We'd been wanting to expand our inventory for quite some time now, and when I found the opportunity to experience the latest WPC line array system; we knew right then that this system would be the perfect addition to our existing inventory. We were extremely impressed with quality of sound and SPL that the system is capable of delivering, despite its compact form factor. This experience really helped us double-down on our decision to go ahead with our purchase of the WPC system." Comments **Saurabh Ayare**, Director of Global Production Services.

As the first phase of the total system procurement, Global Production Services has acquired 8 units of the WPC line array modules, along with 4 units of SX218 matching pair subwoofers and 3 units of the iK42 power amplifiers. Global Production Services wasted no time in deploying their newly acquired WPC system on the field, as it commissioned the new system for the prestigious 37th Foundation Day Celebrations of Kotak Mahindra Bank – one of India's leading corporate banking and finance institution – that took place in Mumbai.

"The team at GPS is extremely qualified and was able to set-up & deploy the system quickly and correctly. Their Deployment of the new WPC system on-field makes it clear that the synergy of GPS and the WPC system is definitely head-and-shoulders above the rest in its class" adds **Kekul Sheth**, Head of Distribution, **VMT**.

"It was great training Saurabh's team at the VMT office in Mumbai. The WPC system is supremely compact and light weight, making it an absolute dream to work with from the logistical point of view. The GPS team is now ready to tackle any challenges put in front of them from a system deployment perspective," says **Tony Sawyer**, Applications Manager, Generation AV.

"Following their positive on-field experience with deploying their newly acquired the Martin Audio WPC system, Saurabh affirms that Global Production Services is poised to acquire a similar configuration system by March 2023. This means that by April 2023, Global Production Services would have a total of 16 units of the WPC line array modules, 8 units of the SX218 subwoofers; allowing Global Production Services to deploy the expanded WPC system for mid-scale music concerts and similar premium live events," says **Jeff Mandot**, National Sales Manager, VMT.

According to Saurabh, the decision to expand the Martin Audio WPC system in 2023 comes with the objective to allow Global Production Services to create a niche for itself in the industry, while perfectly positioning the company to provide unmatched quality and technical expertise for a larger pool of events and a more diverse portfolio of clients. "Global Production Services is a premier sound rental company and have one of the best teams of technicians and engineers in India; and now with the inclusion of the new Martin Audio WPC system, they've equipped themselves with the capacity to really flaunt their technical prowess. There's an evident buzz in the market now about the WPC system. We hope to do more to bring small form factor line arrays like the WPC into the Indian touring market through building awareness and education" says **Prashant Govindan**, Director, Generation AV India.

"I'd also like to acknowledge VMT's support throughout the decision-making process and in deployment support. It definitely was an added advantage when deciding the system," adds Saurabh.

"Saurabh and the team at GPS will join a growing network of global WPC users. Martin Audio has become one of the fastest growing brands globally, and along with our rental partners and VMT – we are sure to create a strong touring network in India" concludes **David McKinney**, Managing Director, Generation AV.



Global Production Services' team strike a pose with the newly-acquired WPC Line Array System from Martin Audio

### **ELECTRO-VOICE LAUNCHES EVERSE 8 WEATHERIZED BATTERY-POWERED LOUDSPEAKER**

Electro-Voice announced the global introduction of the EVERSE 8 weatherized battery-powered loudspeaker with Bluetooth® audio and control, the first battery-powered loudspeaker from Electro-Voice and the first weatherized model of its type.

Whether used for live music, vocal reinforcement and/or audio playback, musicians, DJs, production/rental companies, fitness/activity instructors and other professional, amateur and recreational users can all benefit from EVERSE 8's superior sound quality, user-friendliness and all-in-one PA system design

– a concept that opens-up real pro-audio performance for a wider range of users than ever before. EVERSE 8 comes in a black or white finish, adding an aesthetic angle to its versatility.

With a maximum SPL rating of 121 dB and wide, even 100° x 100° coverage, EVERSE 8's capabilities defy its compact form factor and set uncompromising new benchmarks for its product segment. Core components include an 8" woofer mounted using

EV's patented SST (Signal Synchronized Transducers) port design, and a high-output titanium tweeter mounted onto a custom constant-directivity waveguide. EVERSE 8 is driven by a high-efficiency Class-D amplifier and DSP module developed in collaboration with the world-class audio electronics engineering team at EV's sibling brand Dynacord. Pro features include a built



Electro-Voice EVERSE 8 Weatherized Battery-Powered Loudspeaker

in four-channel digital mixer with studio-quality effects and processing, 48 V phantom power, feedback suppression and audio ducking. And, as with all Electro-Voice portable loudspeakers, EVERSE 8's system reliability is verified with extensive music abuse and endurance testing.

EVERSE 8 is powered by a custom-designed high-capacity Li-ion battery

pack, fully optimized for audio use and providing plentiful power for up to 12 hours of run time. Protection circuitry reduces the risk of the battery discharging to such a low voltage that it can no longer be recharged – for example, after long periods in storage. Tool-free screws make removing the battery pack effortless.

EVERSE 8's flexible features ensure a truly self-contained setup, input to output. Wireless control and monitoring is easy with the EV QuickSmart Mobile app, which can be used to adjust all audio, effects and mix functions via phone or tablet. An intuitive user interface makes it simple to shape the

sound to the space, so users can focus on their performance instead of the hardware. An integrated 12 V DC port provides convenient power from the EVERSE 8 battery, making it perfect for powering a wireless microphone system such as the Electro-Voice RE3 or R300 (see user manual for details) simply attach the optional accessory tray to the top of an EVERSE 8 to secure receiver hardware in place. For stereo setups, EVERSE 8 is equipped for Bluetooth® true wireless stereo streaming. A charging port is also included for mobile devices if a top-up is needed when streaming.

Every detail of EVERSE 8 is designed to maximize easy lifting and transportation – all while reinforcing EV's reputation for real-world durability. An ergonomically designed soft-touch handle and premium lightweight construction make it a breeze to move and mount EVERSE 8, whether on a tripod for a longer throw, set long-side-down as a stage wedge using the 55° monitor angle, or used upright with the 30° kick-back

(Continued on page 10)

### DJ NUCLEYA MAKES INDIA GROOVE WITH D&B AUDIOTECHNIK

DJ Nucleya, also known as Udyan Sagar, made India groove on his multi-city tour, which included his performance at the Dance United **XCLUSIVES Concert** in Bangalore on 13th August, 2022, his gig at the **Dunes Music Festival** in Rajasthan on 17th September, 2022, and his concert at **Uplift The Vibe** in Nagpur on 18th September, 2022. Elevating the 'live' experience for his audience were loudspeakers and subwoofers from d&b audiotechnik, proving once again, just how important are good sound and acoustics for a successful live event.

During DJ Nucleya's Bangalore concert, on the stage, six d&b audiotechnik KSL speakers were deployed in array processing on the left and right. Eight d&b audiotechnik SL-Subs were placed in line. Four d&b audiotechnik KSL and two d&b audiotechnik SL-Subs were used as DJ fills. Reynold's Sound and Lighting managed the concert's acoustics, and Sohel Alexander Dan-

**tes**, Reynold's Sound and Lighting's chief engineer, was the FOH engineer for the concert.

At DJ Nucleya's Rajasthan concert, Rajan Amplifiers provided equipment and sound support for the set. **Naresh Bhati**, FOH Engineer, Rajan Amplifiers, placed sixteen d&b audiotechnik **KSL**  **subwoofers**, six d&b audiotechnik **AL60 array loudspeakers**, and eight d&b audiotechnik **SL-GSUB subwoofers** on the stage to further power the artist's performance.

.....

In his concert at Nagpur, **Vinay Daswani** and **Karuna Rani Sahu** from **Mukund Radio** played the part of the

ing to use d&b audiotechnik. Most Indian FOH engineers have Avid consoles in their tech riders, due to their user-friendly nature and vast availability all over the country. We provided an **Avid Venue SC48** for this show."

After a recce of the venue, the two engineers decided to cover the main dome area with seven d&b audiotechnik

FOH engineer and system engineer

respectively. Commenting further

on the equipment used during the

Nagpur concert, Karuna Rani Sahu

good taste generally are most will-

said, "FOH engineers who have

After a recce of the venue, the two engineers decided to cover the main dome area with seven d&b audiotechnik J-Series boxes on each side and stacked two subwoofers in five varied positions to get a heftier low-end response throughout the venue. When it comes to the subwoofers, Karuna Rani Sahu, FOH engineer, Mukund Radio, designed the system in d&b audiotechnik ArrayCalc after consulting d&b audiotechnik's Indian distributor – Ansata Pro Audio.



DJ Nucleya enthralls the crowd during his concert at Uplift The Vibe, Nagpur

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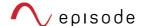


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### **JBL PROFESSIONAL INTRODUCES PRX900 SERIES PROFESSIONAL PORTABLE PA SYSTEMS**

### Powered Loudspeakers and Subwoofers take category performance to new level with Next-gen Acoustics, Pro DSP, BLE functionality and app control

#### HARMAN Professional Solu-

tions, one of the global leaders in audio, video, lighting and control, introduced the JBL PRX900 Series of loudspeakers and subwoofers, which feature advanced acoustics, comprehensive DSP, unrivalled power performance and complete BLE control via the JBL Pro Connect app.

The line, which includes three powered two-way loudspeakers and two powered subwoofers, is built from the ground up to leverage JBL's most advanced acoustic innovations. All-new proprietary driver systems—powered by ultra-efficient Class D amplifiers—deliver clarity and definition even at maximum volume, with improved dispersion and beam width and smooth low-frequency extension.

The PRX900 Series' class-leading DSP package, accessible via onboard LCDs and the JBL Pro Connect app, includes 12-band parametric EQ for system tuning and nuanced tonal control, and integrated dbx Drive Rack technology, featuring live and fixed Automatic Feedback Suppression, soft system limiter with Soundcraft Overeasy option and speaker delay settings and presets.

Use the JBL Pro Connect app to control up to 10 speakers, integrate with JBL EON ONE MK2, PRX ONE, and EON700 systems, and access app-only functions including speaker snapshots and grouping.

The PRX900 Series is designed to withstand the rigors of the road. Rigid composite loudspeaker cabinets feature computer-modelled ribbing for optimal acoustic performance and durability, while subwoofers are housed in 18 mm birch cabinets with optimized

bracing for smooth, accurate low-frequency response. Like with every JBL product, everything is reinforced by industry-leading test and validation protocols and the series is backed by an unprecedented seven-year warranty.

"For years, our PRX800 Series loudspeakers have been first-call systems for bands, DJs, installers and houses of worship in large part thanks to their acoustic profile, their low end extension, and their volume," said **Brandon Knudsen**, HARMAN Professional Product Manager, Portable PA Loudspeakers. "With the PRX900 Series, we're taking things to response; innovative new horns with updated JBL Image Control Waveguides deliver consistent beamwidth and frequency dispersion. Next-generation woofers with ferrite magnets deliver smooth, natural bass response, and an FEA flared port design reduces air noise and distortion.

### **Superior Power Performance**

Driven by highly efficient Class D power amps, the PRX900 Series provides acoustic clarity and definition with minimal power compression, even at maximum volume. A bridged woofer amp keeps current spikes out of the cludes 12-band parametric EQ, plus optimized presets and snapshots. Onboard dbx DriveRack technology features live and fixed Automatic Feedback Suppression, hard and soft system limiters and 180 ms of speaker delay in 100-microsecond intervals for full time-aligned systems.



Combine PRX900 Series loudspeakers and subwoofers in a range of configurations to meet the requirements of both mobile scenarios and fixed installs. Speak-

ers feature dual 36 mm pole sockets and six M10 suspension points; subwoofers feature M20 pole cups. Full-range speakers feature a built-in gyrosensor that automatically optimizes system tuning depending on monitor or mains placement.

#### The Pro Connect Ecosystem

JBL's Pro Connect app offers BLE functionality for system control of up to 10 speakers and line integration with JBL EON ONE MK2, PRX ONE, and EON700 loudspeakers. Access full DSP functions right from the app, including app-only features like speaker snapshots and speaker groupings.

### **Rugged and Road-Worthy**

PRX900 components are housed in strong, lightweight cabinets that maximize both acoustic performance and durability. Loudspeaker cabinets are constructed from a polypropylene/talc blend that's optimized for rigidity, with computer-modelled internal ribbing designed for maximum structural integrity and minimal cabinet noise. Subwoofer enclosures feature optimized bracing that smooths out low-frequency response.



the next level with next-gen acoustic innovations and an even brawnier power package to deliver clean, clear sound at any volume. Systems take advantage of the latest BLE technology and the JBL Pro Connect app ecosystem, for unrivalled control."

The PRX900 Series is a versatile solution for DJs and bands, music venues, rental houses, corporate A/V providers, or anyone who seeks durable professional systems that deliver powerful, room-filling sound in any portable or installed scenario. Key innovations include:

### **All-New Acoustic Designs**

From cones to cabinets, the PRX900 Series is designed for advanced acoustic performance. Patented JBL 2408H-2 1.5" compression drivers with poly-annular diaphragms and neodymium magnets provide clear, detailed high-frequency

ground and lowers crosstalk harmonics to the tweeter. High-linearity inductors deliver superior power efficiency and low total harmonic distortion, and lownoise, low-distortion input gain staging optimizes range and headroom for diverse gain requirements. High-quality DAC and ADC provides near-lossless audio conversion. Producing up to 134 dB output down to 30 Hz, systems effortlessly support large performance spaces with high power and performance requirements. And with a full-bandwidth CMRR (Common Mode Rejection Ratio) greater than 55 dB and THD (total harmonic distortion) rating of <32 dB, noise is virtually non-existent.

#### Class-Leading DSP

The PRX900 Series is fully loaded with comprehensive DSP, all accessible via the JBL Pro Connect app or onboard full-colour LCD. Processing in-

### **ELECTRO-VOICE LAUNCHES EVERSE 8...** (Continued from page 08)

angle to project up off the performance area. Built-in feet with no-skid rubber pads ensure the system stays put. In combination with the rugged polypropylene enclosure, use of the

included weatherized input cover allows EVERSE 8 to meet the IP43 rating (water resistant for splashes and light rain) when running on battery power and while Bluetooth® streaming –

bring EVERSE 8 outside for busking, marching band practice, or the backyard BBQ, or wherever a PA is needed, whatever the forecast. An optional tote bag is also available, designed to fit everything the user might need in addition to their EVERSE 8: accessory tray and weather cover, wireless mic and receiver, extra battery, XLR and power cables, and mobile devices.







### Wide range of Pro-grade Cabinet Loudspeakers & Transducers available





### **BHARAT MUSIC ELEVATES SEVERAL LIVE SHOWS WITH DIGICO SD10**

Another landmark achievement of Hi-Tech Audio & Image with DiGiCo by supplying Udaipur-based rental company Bharat Music their first DiGiCo SD10. "From small conferences to the complex open-air concerts, DiGiCo has been industry's preferred choice for many years now. Looking at technical features and market demand, we felt that DiGiCo definitely fits our work profile", shares Vicky Sahu, Director, Bharat Music.

Right after the purchase, Bharat Music has rented the SD10 console for various eminent Bollywood artist live shows including Papon, Guru Randhawa, Mika Singh and Stebin Ben. As an emerging audio-video rental company of Rajasthan, India, Vicky Sahu and his team were known for providing specialized services for big corporate events as well as grand wedding events.

"DiGiCo SD10's flexible layout and intuitive operation is greatly appreciated by users. SD10 is a rider- friendly console and are very much in demand among production managers", says

Satyam Rajvanshi, DiGiCo Application
Engineer from Hi-Tech Audio & Image.
He continues, "For anyone who have purchased DiGiCo as their first console, I would say that is a very good decision to invest. All DiGiCo consoles are user friendly with fully functional user interface that allows the engineer to mix with ease. Moreover we are always

there to train and support anyone who owns a DiGiCo console."

Akshay Rajput, Sales & Marketing Manager from Hi-Tech Audio & Image, who has been working dedicatedly in the Rajasthan territory to promote DiGiCo among clients and prospects, shares, "As a young entrepreneur, Vicky Sahu is ambitious to upgrade his audio inventory to reach more business prospects. He understood that owning a DiGiCo console would open up new avenues in live entertainment shows across Rajasthan. Thus we are glad to support and provide Bharat Music their first DiGiCo console."

### DiGiCo SD10 displayed in its full prowess

Across Rajasthan at present, there are

11 DiGiCo SD consoles and it's counting on with the growing demand among rental companies. "There is a healthy competition among mixing console brands in Indian market. As Digico's India distributor, we have to come up with effective sales strategies that could turn our prospects to patrons. Regular demos and trainings are major tools in pre-sales stage for us. We discussed Vicky Sahu's requirements in order to suggest them which DiGiCo console would be best suited for his inventory. To ensure the right products are provided, it is very important to work together with clients. We welcome Bharat Music on-board with their newly purchased DiGiCo SD10 and join us in our venture", shares Nirdosh Aggarwal, Managing Director of Hi-Tech Audio

Rajan Gupta, CEO & Founder of Hi-Tech Audio & Image, is now leading the company with a progressive business vision for DiGiCo. He says, "I am delighted that Bharat Music has chosen to go with DiGiCo as their first mixing console. The SD10 has just about everything a mixing engineer needs onboard to make artist's stage sound good. We have been distributing DiGiCo to Indian market for almost a decade now with professionalism and proficiency. For us it's a responsibility to establish DiGiCo as the go to mixing solution for audio rental market and we are able to achieve that with DiGiCo HQ's support."



The team at Bharat Music and Hi-Tech Audio & Image pose with DiGiCo SD10 as the focal point

### AVID INTRODUCES AVID VENUE | STAGE 48 REMOTE I/O STAGE RACK

Demonstrating its continued commitment to providing live sound engineers with the highest performing, best sounding stage boxes for big venue performances, Avid has introduced the new fixed-format Avid VENUE | Stage 48 remote I/O stage rack for live sound production. Designed to ensure 100% reuse of the renowned Avid VENUE | Stage 64 rack, the Stage 48 high-density, compact stage rack can connect with any Avid VENUE | S6L live

Stage 48

Stage

budgets. Stage 48 is equipped with the exact same high-performance preamp design of the Avid VENUE | Stage 64, Stage 32, Local 16, and all S6L consoles, so users enjoy the same quality of per-

formance at a competitive price.

Like all other Avid | VENUE I/O devices, Stage 48 is compatible with the entire VENUE | S6L product line-up, allowing sound teams to easily add inventory to expand their current systems. The Stage 48 rack is a fixed-configuration analog in and analog out device. By removing the configurability, Avid has created a budget-conscious rack that delivers the same pristine sound as the Stage 64.

Key features of the new Avid VENUE | Stage 48 Remote I/O rack include:

- 48 mic-preamps
- 24 analog outputs
- 2 Ethernet AVB ports
- 2 fiber AVB ports

 MADI coaxial output split directly from the preamps with 48 channels at 96K, redundant 48 channels at 48K

"Avid continues to drive innovation for the live sound market, challenging our team to create a new stage box that was more cost effective and uses the same components and celebrated sound of Stage 64," said **Robb Allan**, Senior Principal Product Manager, Live Sound at Avid. "VENUE | Stage 48 is the result and whether it's broadcast, large concerts, Broadway shows, corporate AV or houses of worship, the VENUE | Stage 48 Rack is perfect anywhere that exceptional audio quality is needed."

The Avid VENUE | Stage 48 rack is now available.

sound mixing and recording system,

and is ideal for mid- to large-scale

productions operating with limited



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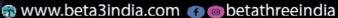
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# Dialing it up: Ashish Saksena on how Monitor Mixing can Elevate a Performance

What does it take to create a technically accurate monitor mix and put the stage performance on a pedestal? **Ashish Saksena**, Live Sound Engineer for Shankar Ehsaan Loy & Late KK, spills the beans on crafting a good monitor mix in **PALM** + **AV-ICN conference** session titled, 'How Good Monitor Mixing Can Boost A Performance.'

Ith an undiluted passion and an ever-evolving mastery in the field of sound engineering, **Ashish Saksena** has been the backbone of major stage shows involving the greatest singers of this generation, including the famed trio of Shankar Ehsaan Loy and the evergreen late KK. As a live sound engineer for the top artists in India, Ashish Saksena has had the front seat with regards to the nuances that go into the profession, and how, even the minutest change in monitor mixing can amp up a performance beyond imagination. In his conference session titled, 'How Good Monitor Mixing Can Boost A Performance', Ashish Saksena takes his audience through the nitty gritty of creating a worthwhile monitor mix, the tips and tricks to achieving a great mix, and dealing with the challenges that present themselves while attempting a jaw-dropping monitor mix. Read the excerpt here.

### The Difference Between Monitor Mixing & Front of House Mixing

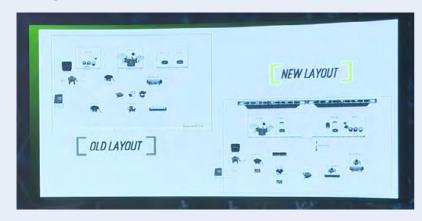
Amateur sound engineers sometimes find it hard to distinguish between monitor mixing and Front if House mixing. Ashish Saksena has an apt response to explain the difference. He shares, "The difference between monitor mixing and

FOH mixing is the creative aspect of the mixing. Monitor mixing is more technical, while FOH mixing is more creative, where the engineer is just catering to the audience, and to some extent, for himself or herself. But, in monitor mixing, you are not mixing for yourself, but for all the musicians and the singers on the stage. Depending on the number of musicians and singers, you are creating that many mixers. For instance, if there are five musicians and two singers, you have to create seven mixers. So it becomes more technical."

### **Going Back To The Basics**

IEMS and setup in making a performance-boosting monitor mix, Ashish Saksena shares, "The IEMS and the setup are very important. The correct antenna placement, the correct placement of the bulk packs – all of this also very, very important."

He continues, "We use fish antennas, since these are more prevalent in the industry. I recommend all sound vendors to buy the fish antennas to replace the stick antennas. Because with fish antennas, you can combine four to eight units and have them run off one antenna instead of having eight different stick antennas, which could



When it comes to churning up a memorable monitor mix, Ashish Saksena talks about how essential it is start from square one, with the basics. He comments, "The first step to success when it comes to creating a good monitor mix is to position the musicians a little better. A very basic rule of thumb is to not place the sitar player next to the drum player. For instance, in the old layout for SEL (Shankar Ehsaan Loy), the percussion and drums are at the back, the melody section is at the front, which includes the bass, guitar, and keyboards. It's nice, but feels a little messy too. So, we tried a new layout, where the drums and the dhols are placed together, the dholaks and percussions together, and the melody players are placed with the saxophone player at the front of the stage."

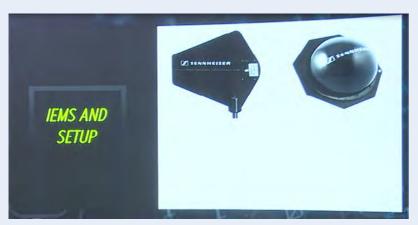
### How To Create The Perfect IEM Setup

Stressing on the importance of

interfere with one another as well."

Saksena cautions against placing the IEM and microphone systems together, because, according to him, One is transmitting the signal and the other is receiving the signal, and they are bound to cancel each other."

He also further amplifies his point with an apt example. "If you have an IEM and a microphone, never place the IEM antenna behind the microphone antenna, because the latter is usually more stronger. Always put the IEM antenna in front of the microphone antenna." He adds, "Normally, there should be a distance of six feet between the transmitting signal and the receiving signal. I think a distance of two to three feet is also ideal. If you're using short antennas, keep them at a distance of at least 6 inch between the two units. Do not stack up the antennas on top of one another. People usually do this because of lack of space, but this actually interferes a lot with sound."



### The Correct Way To Angle Monitor Wedges

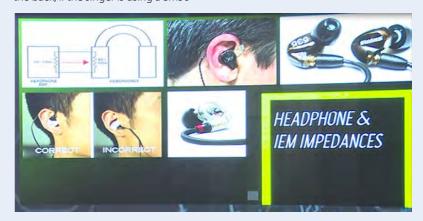


To maximize the role of monitor wedges in the creation of a perfect monitor mix, Ashish Saksena has a simple tip up his sleevs. He shares, "If you want to get more efficiency out of monitor wedges, observe what kind of microphone the singer is using, and accordingly, angle the wedges. If your wedges are placed in a straight line, and there is a 60-degree dispersion while the microphone is in the middle, then it's going to leak into the microphone. Instead, what you need to do is angle them correctly in a way that if the singer stands in the middle, the angle becomes like a null point and the possibility of feedback reduces. This, I would say, is only true for certain patterns of microphone, like a super cardioid microphone."

He drives the point home and states, "For a cardioid microphone, because the null point of microphone is right at the back, if the singer is using a SM58

important to ensure that the moment before the sound check is also properly monitored. Ashish Saksena is a firm believer of the aforementioned statement and shares tips on the right way to approach a sound check. He comments, "Before you begin the sound check, you can put up a RTA microphone, run some pink through the monitor wedges, and on the graphic or on the parametric, you can flatten out the peaks. The moment you flatten the wedge, it will automatically give you a little more volume. So, if you had a wedge with nice high mid punch to it, the moment you play a high mid instrument such as a guitar or there is a singer who sings in the upper registers, it automatically starts peaking and ringing like a bell."

### Investing In Headphones That Don't Turn Into Mush



microphone, or even a wireless cardioid microphone with a SM58 capsule, it is okay to put a monitor in a flat position. But if the singer is using a Beta58, which is a super cardioid microphone or a cordless microphone with a Beta58 capsule, then it is better to angle the monitors so that they again go into the null point."

### Before The Sound Check...

Sound check is crucial to crafting a sound monitor mix. But it is even more

Cheap headphones might be good to go with our phones, but for an aspiring sound engineer, these are a bane. Ashish Saksena, while talking about the perils of going for cheaper headphones, shares, "Most of the time, musicians buy the cheapest headphones that they can find. It may have low impedance, but unfortunately, it is so low that the headphones can just give up when it is connected to a pro system which is outputting at a line level. These headphones also start saturating so much

(Continued on page 68)

### SOUND IS IN THE AIR: BETA3 CREATES AN EXCEPTIONAL ACOUSTIC EXPERIENCE AT JAIPUR'S THE BURJ & MIZORAM'S BAPTIST CHURCH

The Burj, Jaipur is one of largest open air club venue located in the heart of Jaipur, Rajasthan. Both food and drinks are inspired by the world's tallest building, Burj Khalifa, in Dubai. With comfortable furniture and a relaxed yet sophisticated ambiance, the club is a fantastic spot for partying in style. The well-known establishment also hosts nightly live music performances by renowned artist.

To deliver world-class sound throughout the entire venue to the next level and offer an even greater partying experience, The Burj wanted to upgrade the audio systems that can offer pristine sound and complete control.

To meet the open-air club requirements, the audio integrator equipped The Burj with cutting-edge **Beta3** professional audio solution. Filling the lounge environment with crystal-clear sound, the integrator installed Beta3 TLa121- II 12" high power two-way Line Array Speakers. It was a challenging situation for the integrator to deploy the line array as the place is covered by lighting truss. To get optimum performance, the integrator hung the TLA121 on truss while keeping the speaker's weight in mind. Adding accurate authoritative bass, the system features  $\Sigma J218$ dual 18" subwoofers.

For the DJ monitor, the inte-



The Burj, Jaipur comes alive with exceptional acoustic equipment from

grator deployed a TW15 15" two way full-range passive speaker. The system is powered by Beta3 DT Series- D Class Amplifiers - professional touring amplifiers which are designed with the ultimate goal of achieving unmatched performance and outstanding reliability. It comprises of temperature control, functional limiter designed for low distortion, and complemented by precise detection and protection control. Built based on proven technology and comprehensive protection circuits, it allows for more efficient use, especially under harsh working conditions. Σ C2600U was installed for digital speaker management processor. This series of electronics are of premium quality, and perfectly suited to be configured in any sound reinforcement system in a wide range of applications.

"There are a lot of artists who will



Beta3 powers the Baptist Church with an excellent audio setup

come on the stage with a lot of dynamic and unique sounds. We requested such solution that everyone in the audience could experience the true depth of the performances," said **Prateek**, founder of The Burj. "The drivers on the TLA Line Array speakers have a lot of clarity, precision and intelligibility. We were keen on finding a partner who could not only provide the perfect audio solutions, but also back up the solution with great customer service post-installation—that's why we decided to go with Beta3 Pro Audio."

This year, the Baptist Church built a new temple in the Lungrang village, located in Mizoram's Lunglei district. To bolster its facility and offer the guests an enhanced experience during services and events, Church required an audio system.

The team at Beta3 installed N12-12" Two- Way full range speakers and N10-10" Two-Way full range speakers at the church. The N series is specially designed with professional speakers perfectly suited for a wide range of portable and installed applications. To bring superb sound to the church's lobby and other spaces, the integrator team installed BS4002 - Public address speakers. BS series is meticulously engineered and manufactured to offer sophisticated solutions for speech, music, and distributed sound reinforcement in an extremely compact and versatile enclosure in various public address applications. The entire audio system is powered by **DT series Class D** Amplifier with the standardized design and a complete product line.

### PINK NOISE PROFESSIONALS DELIVER AN 'INVISIBLE' SOUND SYSTEM AT NEUMA

Neuma, an ultra-posh European/ Mediterranean themed restaurant by Karan Johar, based out of Colaba, Mumbai, is designed by architect **Ashiesh Shah** in the style of a luxurious villa or a bungalow to add an unparalleled aesthetic vibe to its interiors. To create a synergy between texture and technology, **Pink Noise Professionals** was assigned with the task of installing an audio system that befits the architectural persona at Neuma.

**Vijay Sinha**, Director, Sales & Marketing, Pink Noise Professionals, commented: "Right from the start, the principal architect, Ashiesh Shah, were very clear about the aesthetics of the place. Every article, furniture, and décor was carefully chosen. Therefore, client's requirement was that the loudspeakers shouldn't be

visible to the naked eye."

Stepping up to the challenge, the team at Pink Noise Professionals chose the right equipment for various nooks



Pink Noise Professionals install a powerful sound solution at Neuma while keeping its aesthetic intact

and corners at Neuma. Vijay Sinha shares, "This was a real challenge, because if we reduced the size of the speaker, it would lose power. If we

increased the size of the speaker, it would disrupt the interiors. After multiple rounds of R&D and brainstorming along with looking at several samples and demonstrations, we settled on in-wall speakers with sufficient power."

Pink Noise Professionals installed a pair of EAW VRF129i loudspeakers with EAW VFS250i subwoofer in the main courtyard/DJ area, Elipson Prestige 14LCR In-Wall Loudspeaker and a pair of Elipson Sub10 subwoofer in the Rose Bar, a pair of Elipson IW8 In-Wall Loudspeakers in the Sun Porch and four Elipson IW8 In-Wall Loudspeakers in the dining area,

four Elipson IW8 In-Wall Loudspeakers with Elipson Sub10 Subwoofer in the nautical-themed dining area, ten Work Pro NGS80L Garden Speakers in the ground floor and terrace deck, QSC PLD 4.3 Quad Channel Amplifiers with builtin DSP for amplification.

Vijay Sinha is pleased that Pink Noise Professionals were able to install a discreet sound system at Neuma. He concludes, "The project at Neuma was very different from others that we've worked on because to maintain discreetness with powerful sound is a difficult challenge in a commercial installation. We were fortunate that brands like Elipson & EAW have such projects which can solve the requirements. Overall, we are overwhelmed and proud that we were given a chance to take part in such high-prestige projects."

### **INDIA'S SUN TEMPLE SHINES BRIGHTLY WITH PIXERA**

Modern Stage Services realises projection mapping show at the Modhera Sun Temple with PIXERA

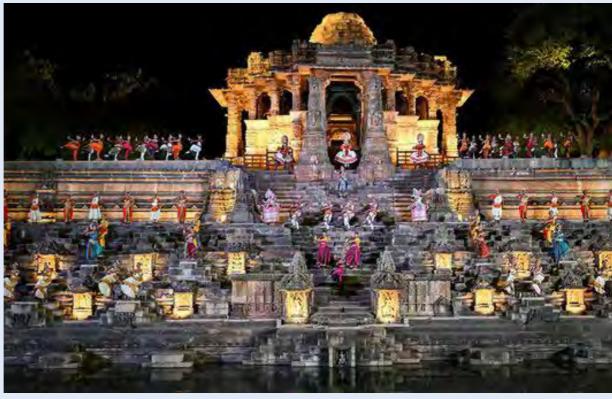
The village of Modhera in Gujarat, India, has been hailed as the country's first village with round-the-clock solar power, delivering sustainable energy to more than 1,300 homes and government buildings. In celebration of this momentous step forward for the region's sustainability efforts, a new 3D projection show – run entirely by solar power – has been created at the village's holy epicentre: **the Sun Temple**.

Dedicated to the Hindu solar deity, Surya, the Sun Temple of Modhera has recently come to the attention of many people in the region, by forming the backdrop to a beautiful 20-minute projection show, which tells the story of the village's rich history dating back to 1617.

"The brief we received from the client, Tourism Corporation of Gujarat Limited, was to produce a multimedia 3D projection mapping show about the past, present and future of Modhera's Sun Temple," says **Pratik Wadhwa**, CEO of **Modern Stage Services (Projects)**. "The structure of the temple is completely unique and working on a heritage site comes with many of its own challenges, so we needed to ensure the best kit was chosen

To breathe new light into this unique building, five Christie D20WU-HS projectors were installed with weatherproof, outdoor architectural lights from HARMAN Pro, to illuminate the temple's façade and create a mirror effect in the body of water

for the project "



The 3D projection mapping at Sun Temple, Modhera, runs entirely on solar power, a testimony to Modhera running 100% on solar energy, 24 hours a day, 7 days a week, 365 days a year

in front of the monument.

All content was delivered using AV Stumpfl's PIXERA media server software, a powerful 64-bit system capable of 8K real-time rendering, with intuitive 2D and 3D projection mapping workflows. Based on the core theme of usability, the interface allows for a fast and intuitive learning process, whether working in 2D or 3D.

Due to its having integrated **VIOSO auto-calibration technology**, PIXERA offers users a variety of calibration modes depending on the intended surface: flat or curved screens, 3D models and irregular surfaces such as rocks, or in this instance, an entire building façade.

Wadhwa opted for PIXERA in this

unique installation, stating that the software's capabilities are "world class" in comparison to anything else on the market: "The pre-visualisation feature helps us deliver our ideas to the clients," he says. "With this tool, clients are able to fully envisage the end result before we start working on-site which is an invaluable tool for us."

Working on the centuries-old heritage monument, the team at Modern Stage Services overcame many challenges and restrictions: "The Sun Temple was built hundreds of years ago so of course there were no AutoCAD drawings to work with," continues Wadhwa. "That's why we needed the very best software for compositing,

mapping, and media processing to help us realise the client's brief. We are so pleased with how the PIXERA software handled the intricacies of this project in such a user-friendly way."

To mark such a prestigious occasion, India's prime minster inaugurated the Sun Temple's debut show in October which now runs daily from 6–10pm. "The prime minister of India, Narendra Modi, tweeted about the show on his personal account," concludes Wadhwa. "That was truly remarkable and the biggest compliment for our team and everybody else involved in the project."





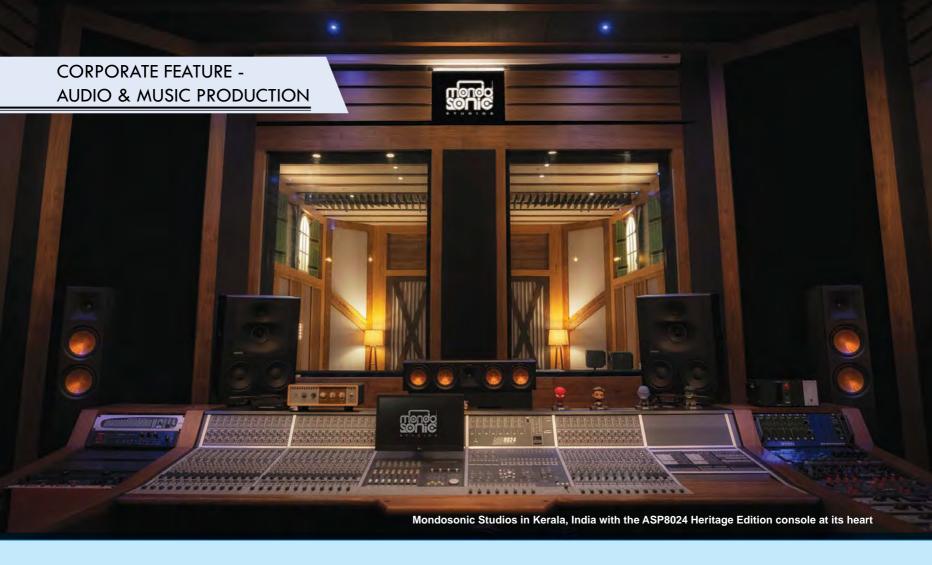
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# **Mondosonic Studios' Varun Krrishna** on **Preferring Analog-Over-Digital Setup**

(And Why He's Still Building a Spatial Studio)

**Varun Krrishna** is not just a mixing engineer and music producer out of profession, but also out of passion. With an ardent love for music, Varun Krrishna is also the founder and owner of Mondosonic Studios in Kerala, a space he has built for music to breathe free. So, it isn't a surprise that the man of music is always in a quest to stay abreast with the latest trends in the world of acoustics, and knows just how big the spatial audio boom is. To encapsulate the essence of spatial sound, Varun Krrishna is upgrading Mondosonic Studios with an extension for spatial audio. In this article, Varun Krrishna talks about why he prefers an analog setup over a digital one, and why, even then, a spatial studio upgrade, for him, is the mandate of the moment.

roducer, mix/master engineer and owner of Mondosonic Studios, Varun Krrishna is on a constant mission to break records and set new benchmarks in the world of music. To accomplish this in a bigger, better, and faster manner, Varun is currently considering upgrading Mondosonic Studios with Spatial Audio.

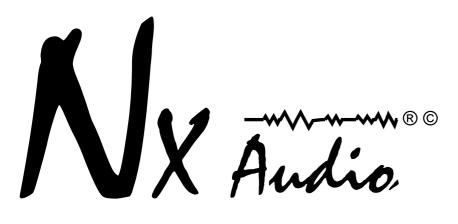
Regarding the newest development undertaken at Mondosonic Studios, he shares, "I am already working on the pre-plans for a Spatial Audio mixing setup. I don't want to rework the existing space, because that is designed specifically for a stereo production. I am not a huge fan of overly clinical-sounding and dry room treatments. I need the room to be on a balance of dry and live conditions."

Talking about his current studio, he explains, "What I care about predominantly is the low-end response of the room. 50% of my overall investment of my control room has been put into

controlling the sub-low frequencies. To me, bass frequencies are the soul of the music, and it's the most difficult frequency to control inside a room, so I have ensured I have the best bass response in my room. My studio is almost 8,500 cubic feet, and hence, I have a great amount of headroom to play around with most of the frequencies without much trouble."

### Analog or Digital: Varun Krrishna Shares His Pick

For Mondosonic Studios, Varun Krrishna leans slightly towards analog gear than digital plugins. Even then, to him, it is all about treading that fine line of balance between the old-school and nouveau: But, what role does an analog setup play in an era where digital reigns supreme? Responding to the scepticism surrounding the viability of a huge, traditional studio, Krrishna says, "Many of my industry peers ask me why



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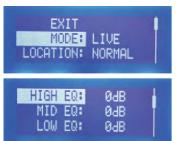
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**MASSIVE HEATSINK** 

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### **MONITOR VIEW**

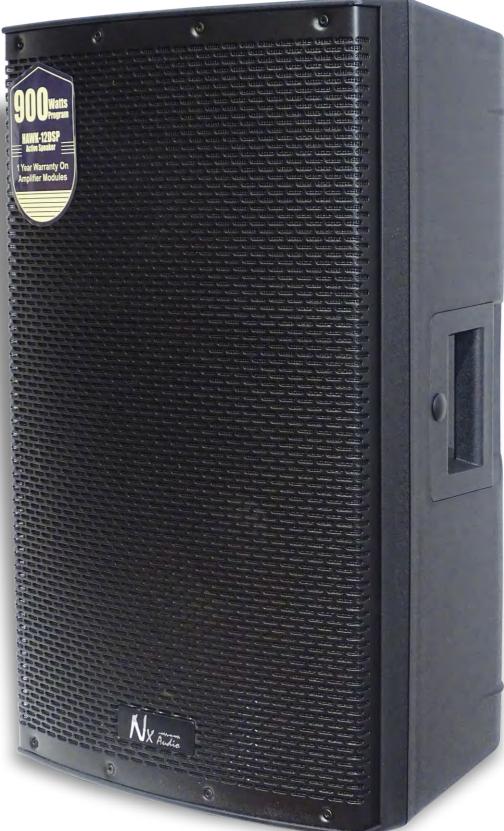












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Varun Krrishna prefers a hybrid way of producing music

I need such a traditional, analog setup, especially in this digital age. I say, it's all subjective, and I am sure you can get great results in any of these mediums. My studio is designed to withstand any future modifications."

He adds, "At the end of the day, I don't think that digital plugins are inferior to analog, particularly when technology is at its peak. But, for my specific workflow, I always prefer analog and I am quite happy with the results. None of my analog gear has been faulty for at least the last six years, except for some tube swaps, which is easy to work on. So for me, I like the predictable nature of it! That being said, I have a couple of plugins that always stay in DAW, and I like the transparent nature of plugins. With a very minimal set of plugins and a few outboard analog gears, I have limited myself to old-school techniques that create a balanced environment for more creativity. Analog and digital. The best of both worlds. That's what I prefer. A hybrid way of producing music."

Even as he prioritizes analog over digital whenever he can, Varun Krrishna plans on building a spatial audio setup. Clarifying his reason for considering a development of an immersive studio, he says, "Regarding immersive audio in music, the industry is still unsure how this will evolve the hearing pattern of the listeners. To be frank, I'm still not convinced by the immersive music heard on a pair of headphones. Apart from a few EDM tracks specifically designed for immersive perspective, not many songs have the soul of stereo or mono music. The coherence of a stereo mix is not there in an immersive mix. I can understand the requirement of immersive audio for a specifically designed song, and simply placing the instruments all over the speakers randomly just for the sake of spatial audio does not make it feel good, but distracts the overall behaviour of the music. I am a huge fan of Dolby Atmos on movies. The movie needs such spatial aspects, especially the sound design works. For

music, the spatial audio feels like a gimmick, at least for now. Even though it is okay to be heard on a physical speaker configuration, it doesn't feel great to be heard on a binaural augmented headphones."

So, what pushes Krrishna in the direction of building a spatial setup for music production? He responds, "If one client has an immersive release, the others are forced to follow the trend. I have been talking to many clients on this topic, and as of now, none of those clients are really fond of spatial songs, but wish to mix them in that format. It's the nature of this industry, whether we like it or not, we have to follow suit. That's why I am now thinking more about my studio extensions for spatial audio. Sometimes, even though we disagree with what is happening, we should be prepared and follow the trend, and hence I have already started designing a room especially for immersive audio."

### On The Right Equipment For The Perfect Immersive Setup

Talking about the equipment that will be housed within his immersive setup, Varun Krrishna shares, "I have still not decided. But for spatial audio, considering a 7.1.4 setup, I have to make sure each speaker's response is well-balanced inside the room. Even though I am more into lively rooms when it comes to surround sound speaker setups, too much liveliness inside the room might interfere with the spatial localisations of the speakers. I am designing the spatial room with my room principles, but I will make sure that it meets all the requirements of a spatial audio mixing environment"

In his current studio's stereo setup, Krrishna uses a wide gamut of equipment, "In my stereo room, I am using Genelec 1238 DF along with its 7380 subwoofer. I have tried more than 12 monitor speakers from different companies before settling on Genelec. In my space, none of the other speakers were able to fill in the space with such energy, and the translation was extremely good. I am also using a Neumann KH 310 as a complimentary monitoring, and I love them too. Its midrange detailing is unique, and I use it a lot to shape up the vocals. Even though it is underpowered for my studio area, it feels and sounds amazing. When your music sounds good on them, it sounds good everywhere."

### The Heart of Mondosonic Studios: Varun Krrishna Talks About The Audient ASP9024-HE Console

Krrishna's attention to detail stretches to visual as well as aural aesthetics. Mondosonic Studios is being designed in a way that the outboard furniture in his studio now matches the wood of the Audient ASP8024-HE console, the hero equipment, the centrepiece of his studios, the channel through which his labour of love comes to fruition. "When I get any improvements in the room, it is designed in a way that compliments my console. Ever since Audient ASP8024-HE reached my mixing room, it adds a powerful workflow and looks amazing. Everything looks more integrated and appealing," Krrishna comments.

Describing his Audient desk's features, routing and workflows as "nothing short of spectacular," Krrishna continues to appreciate his ASP8024-HE. "Its mixbus amplifiers are astonishing and I like its unique midrange crunch whenever the mix bus is driven hard and it particularly suits the rock/country genres. I use the on-board EQ a lot during the recording phase itself and I have been very confident with it while confirming the sound I need, even before the final mix."

At the end of the day, I don't think that digital plugins are inferior to analog, particularly when technology is at its peak. But, for my specific workflow, I always prefer analog and I am quite happy with the results.

Varun Krrishna continues his praise for the famed Audient console, along the brand's timely and efficient customer support, "I always have a lot of parallel processing and routings going on, right from the start of the mix, and it stays on my patch bay all the time. With the Audient ASP8024-HE, the routing options are endless. Apart from that, Audient's customer support has always been great and it's important, especially when you are investing a fortune on a gear. What I have in my studio is what I have always dreamt of. Let it be gear, workflow, or design - I like it to be hybrid, always. Audient offers just that."

Most recently, Varun produced Indian thrash metal band, Amorphia's third studio album, Lethal Dose which was very well received, as well as a regional song named Vaazhvin Neeve by the artist Remin Jose, released on his in-house record label. "I'm currently producing a song composed by my brother Pranav Das and I'm very excited about it," he adds. There are at least another six songs in the queue for 2023 already, so he is expecting to be busy.



According to Mondosonic Studios' owner, Varun Krrishna, the desk's features, routing and workflows are "nothing short of spectacular"





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### MACKIE INTRODUCES NEW PRODUCTS FOR LIVE-STREAMING, PODCASTING, AND

**CONTENT CREATION** 

Mackie announced the release of the M-Caster Studio, the new flagship of the acclaimed M-Caster Series of Live Streaming Mixers. Designed to be the heart and hub of any live streaming setup, M-Caster Studio was created to be the ultimate professional audio solution for YouTube Live creators, podcasters, and live streaming professionals.

Mackie's M•Caster Studio has been designed to meet the demands of today's streaming pro, with powerful performance, user-friendly control, and professional features like a built-in sampler and full color MixViewer display, making it easier than ever to deliver content and sound, allowing users to just plug in, choose the profile and effects, and start streaming.

With the release of the new M•Caster Series comes the introduction of the new EM-99B Broadcast Dynamic Microphone. The EM-99B's high-sensitivity cardioid capsule is specially tuned for



......

capturing just the right amount of detail and warmth to elevate any content to

the next level. Rounding off the kit is the DB-200 Premium Desktop Boom Arm, a

professional addition to any setup.

M•Caster Studio also features dedicated headset and media player inputs, along with USB connectivity to function as an audio interface on Mac or PC, and an integrated RGB LED strip with seven user-selectable colors. M•Caster Studio packs a ton of features into a small yet powerful package that meets the needs of today's content creator without making things complicated.

"Mackie has long been a leader in world-class audio products for artists, engineers, and producers," remarked **Matt Redmon**, Director of Product Marketing. "Now we're bringing our decades of expertise to the creator sphere. M-Caster Studio delivers Mackie's legendary audio quality, along with a host of features that turn your desktop streaming setup into a hub of creativity. M-Caster Studio gives you the sound, the performance, and the features you need for serious livestreamed content creation."

### **SOLID STATE LOGIC LAUNCHES 16-CHANNEL ORIGIN MIXING CONSOLE**

Solid State Logic (SSL) has expanded its ORIGIN range with a new 16-channel variant. Ideal for project studios, music technology schools and colleges, as well as producer rooms or smaller record/mix facilities, ORIGIN 16 brings the dream of an SSL studio closer to a broader range of users who crave the legendary sound and advanced workflow of SSL.

With its legendary sound and powerful features, ORIGIN 16 is the most comprehensive analogue console in its class and the ultimate solution for a hybrid, DAW-based workflows where console automation is not required. Sharing the same centre section as the bigger 32 channel variant, ORIGIN 16 draws on traditional in-line consoles for inspiration, while leveraging SSL's latest cutting-edge analogue design.

"We are thrilled to extend the OR-IGIN range, offering no-compromise SSL quality to an even broader range of professionals. For its size and footprint, we are confident there is no other analogue console on the market today that offers superior performance or value." comments **Nigel Beaumont**, Managing Director

of Solid State Logic.

ORIGIN 16's simple signal flow and layout make it easy to understand and use, while powerful features such as channel direct outputs, a fully balanced

Similar to its larger sibling, an innovative modular centre section allow ORI-GIN 16 to adapt to different applications—for instance a tracking console with additional boutique analogue process-



electronic architecture and precision bargraph meters make it an ideal companion for even the highest quality converters and the most demanding professional production applications. ing to its 19" rack centre section, or a more digital/analogue hybrid approach with screens and controllers such as the SSL UF8 Advanced DAW Controller — all of which are easily reached from the listening position. ORIGIN 16's ultra-low power consumption and innovative power saving features equal lower operational costs for smaller rooms and musician-based project studios.

ORIGIN 16's PureDrive microphone preamplifier provides a wide range of sonic options, bringing unparalleled flexibility whether using it for tracking or mixing. Users can attain ultra-clean to driven sounds present in previous SSL mic pre designs, but also engage a warmer, more harmonically rich tone by activating the "Drive" function.

ORIGIN 16 also uses a classic SSL EQ design made famous on its previous generations of consoles. The E-Series '242' EQ was probably the most popular EQ from the SL 4000 Series console range, and this design was also present in several SSL console designs that followed,

including the G-Series. A built-in classic SSL Bus Compressor, with sidechain access and HP filter, make ORIGIN 16 an ideal solution for mixing and summing.



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### **AUDIO-TECHNICA OFFERS AT8700 ADJUSTABLE BOOM ARM FOR CONTENT CREATION**

**Audio-Technica**, one of the leading innovators in transducer technology for over 60 years, expands its offerings for content creation with the **AT8700 Adjustable Microphone Boom Arm**. Although engineered generally for A-T's 20 Series microphones and their use in podcasting, streaming and other modes of content creation, the AT8700 is just

as useful for all other microphones and applications requiring a boom arm.

This table-mount boom arm securely attaches to the edge of a desk and features 5/8"-27 thread and heavy-duty suspension allowing full 360-degree rotation, while providing users the ability to place the microphone in the exact position they need when recording, podcasting, streaming, etc. Users

can attach their favourite microphone to this professional-quality boom arm to add versatility to their recording or streaming setup and free up space. The unit comes standard with six USB cable clips, six XLR cable clips and a table clamp. Additionally, the AT8700 folds for easy transportation.

"As our 20 Series line of microphones continues to expand and improve, it is

important for us to have a boom arm that matches the quality of each of our products, and the AT8700 acts as a premium boom arm solution for content creators and beyond," stated **Gary Boss**, Audio-Technica U.S.

Marketing Director.

### **MOTU SHIPS M6 USB AUDIO INTERFACE**

MOTU is now shipping the M6, a new USB-C bus-powered audio interface for Mac, Windows and iOS offering best-in-class audio quality, best-in-class speed (ultra-low latency) and best-inclass metering with a full-colour LCD. With more I/O than the M2 and M4, the 6-input/4-output M6 features four mic/ line/hi-Z guitar inputs with individual preamp gain and 48V phantom power, two additional 1/4-inch analog inputs, one-touch hardware (direct) monitoring of all inputs (in mono or stereo), four 1/4-inch balanced analog outputs, two headphone outputs with independent volume, MIDI I/O, and "loopback" driver channels for live-streaming and podcasting.

The M6 also features an A/B monitor switch, unique to its class, to compare mix output on two sets of studio monitors. Driven by ESS Sabre32 Ultra™ DAC Technology, both headphone outputs mirror the signal on Monitor Outs 1-2 and feature independent volume control. The second headphone output includes a 3-4 switch that allows it to independently monitor Line Outs 3-4, which can provide a completely separate mix from the computer.

With bus-powered operation for USB-C computer hosts, the M6 includes a multi-blade international DC power adapter that allows the M6 to provide stand-alone monitoring, without a computer. The power adapter also provides power when the M6 is connected to a USB-A computer host.

"Similar to the M2 and M4, the M6 delivers unmatched audio performance and features in a four mic input interface at this price," said **Jim Cooper**, Director of Marketing at MOTU.

#### M6 feature highlights include:

- 6-in / 4-out USB audio interface with studio-quality sound
- Best-in-class audio quality driven by ESS Sabre32 Ultra™ DAC Technology
- Best-in-class speed (ultra-low latency) for host software processing
- Best-in-class metering for all inputs/ outputs with a full-color LCD
- 4 x mic/line/hi-Z guitar inputs on combo XLR/TRS
- Individual preamp gain and 48V phantom power for each mic input
- 2 x balanced 1/4-inch line inputs
- Hardware (direct) monitoring for all inputs (in mono or stereo)
- · Monitor mix knob to balance live



inputs and computer playback

- A/B switch to compare mix output on two sets of studio monitors
- Measured -129 dB EIN on mic inputs
- 4 x balanced, DC-coupled 1/4-inch TRS outputs
- Measured 120 dB dynamic range on the 1/4-inch balanced TRS outputs
- 2 x headphone out (driven by ESS converters) with independent volume control
- 1 x 3-4 switch for optional headphone monitoring of Line Out 3-4
- MIDI in/out (16 channels to/from USB host)
- Support for 44.1 to 192 kHz sample rates
- USB audio class compliant for plug-and-play operation on Mac (no driver required)
- Windows driver with 2.5 ms Round Trip Latency (32 sample buffer at 96 kHz)
- Mac driver (optional, for 2.5 ms

RTL@32/96 kHz and loopback feature)

- iOS compatible (USB audio class compliant)
- Driver loopback for capturing host output, live streaming and podcasting
- Bus-powered USB-C (compatible with USB Type A) with power switch (USB cables included)
- Multi-blade international DC power adapter for stand-alone operation without a computer
- Rugged metal construction (extruded case, faceplates and knobs)
- Workstation software included (MOTU Performer Lite and Ableton Live Lite 11)
- 100+ instruments (in Performer Lite)
- Over 6 GB of included free loops, samples and one-shots from industry leading libraries
- · Kensington security slot
- Two-year warranty

### **SOUND PARTICLES RELEASES A FREE PLUGIN TO ADD DEPTH TO MUSIC**

**Sound Particles**, the software company that has been changing the paradigm of 3D audio software, is releasing a new free plugin – **Air | Music Edition**, the perfect plugin to simulate the



distance and depth of musical elements quickly and realistically in any mix.

'Air | Music Edition' is a free plugin that is a modernized and light take on the original Air plugin, with a UI and features that are tailored to anyone working in the music industry – from the beginner to the pro.

**Nuno Fonseca**, founder, and CEO of Sound Particles says: "We wanted to gift and thank our audience for their support, so we decided to offer a free version of Air for the music production industry. With a new design and just

one button, now it's easier to achieve natural performance results in the studio."

#### **Key features:**

- Brand new look with this new version of the plugin, get an updated and spectacular new design and UI.
- Distance Attenuation control the amount of additional attenuation you would get with different distances by controlling the variation of the audio gain.
- Natural results Air is much more accurate than a simple low-pass

filter, using scientifically measured frequency response values of air dampening.

- Frequency response With Air |
   Music Edition, you can see the actual
   frequency response that is being
   applied to the music.
- World Units do you prefer "meters" or "feet"? Full integration with Imperial and Metric units, for an easy and more welcoming workflow for

Air | Music Edition is free on the official website starting November 9th.

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### NEUMANN.BERLIN TLM 102 DIAPHRAGM MICROPHONE NOW AVAILABLE IN WHITE

**COLOUR VARIANT** 

German studio specialist Neumann.Berlin made the Neumann TLM 102 diaphragm microphone available in white colour variant in the Indian market. The White Edition comes as a studio set including an EA 4 shock mount that matches the microphone's glossy white finish. The TLM 102 White Edition is a limited run of 1000 – with its timeless elegance, it is the ideal microphone for all those who love a clean, purist look.

The TLM 102 White edition brings Neumann quality to even the smallest studio. The TLM 102 white combines technical excellence with a beautifully balanced sound for silky vocals, crisp guitars, and powerful drums. With its cardioid pattern and an integrated pop screen the TLM 102 is a joy to use, even for novices.

### The Perfect Introduction To The Neumann Sound

The TLM 102 White is Neumann's most affordable large diaphragm condenser microphone. Compared to more expensive Neumann microphones, the TLM 102 is reduced in size and features, but Neumann would never compromise on sound quality. Despite its affordable price, the TLM 102 has a very attractive look with a gleaming chrome ring



The TLM 102, now available in white colour variant, is ideal for even the smallest studios

between a classic tapered headgrille and the famous Neumann diamond.

#### Smart Looks - Smart Engineering

The TLM 102 sounds as smart as it looks. Its newly developed large diaphragm condenser capsule has all the qualities that made Neumann microphones the first choice in recording studios all over the world: a clear and focused sound with superb definition. Due to its remarkably linear response across the entire midrange, the TLM 102 is able to capture the authentic character of any voice or instrument, enhanced by a slight lift around 10 kHz for silky highs. The TLM 102 has

gorgeous bottom end, too, enriched by the well-controlled proximity effect of a large diaphragm cardioid capsule.

The TLM 102's self-noise of only 12 dB-A is much lower than the ambient noise in even a very quiet room. At the same time, the TLM 102 is capable of handling extreme sound pressure levels of up to 144 dB free from distortion. As a member of the TLM range, the TLM 102 is equipped with a transformer less output stage, which means: powerful bass, even at highest signal levels, and a very direct sound without transmission losses.

### **Big Sound For Small Studios**

Due to its enormous dynamic range

of 132 dB and a remarkably uniform cardioid pickup pattern, the TLM 102 is a very easy to use microphone for home and project studios, and also for demanding live applications. Its uncoloured sound and fast transient response make the TLM 102 an excellent choice for male and female vocals as well as a wide range of instruments, such as acoustic and electric guitar, bass guitar and double bass, drums, percussion, brass, saxophone. The TLM 102 is a true workhorse for any small studio.

#### Features:

- High-precision drivers, Mathematically Modelled Dispersion™
   (MMD™) waveguide
- Linear frequency response 39 Hz
   21 kHz (±3 dB)
- Linear phase response 105 Hz
   16 kHz (± 45°) with latency <</li>
   2,6 ms
- DSP engine allows for room adaptive calibration via Neumann's MA 1
- Razor-sharp imaging due to extremely low tolerances (± 0.8 dB)
- May be combined with other KH line speakers in immersive/ surround setups

The TLM 102 White edition is available at INR 64,900 across all authorized Neumann partners.

### KRK UNVEILS NEW GOAUX PORTABLE MONITOR SYSTEM

Borrowing from over 30 years of innovation, KRK has expanded its studio monitor offerings with the introduction of the new GoAux Portable Monitor **System**. Available in two compact sizes, the three-inch GoAux 3 and four-inch GoAux 4 are professional-quality monitors with a portable design, featuring Bluetooth technology. As a complete nearfield reference monitor solution, the GoAux delivers the same natural and balanced frequency response that has become synonymous with the KRK name in a new mobile-friendly size for engineers, producers, DJs, artists, and mixers of all genres. The KRK GoAux is available worldwide now at authorized KRK dealers and on the official website.

The launch of GoAux marks an industry first, with KRK offering a unique and complete portable monitor solution for traveling audio professionals on a bud-

get. Both the KRK GoAux 3 and GoAux 4 are all-in-one monitors that can't be found anywhere else. The KRK GoAux monitors feature Bluetooth capability, allowing users to connect wirelessly to their smartphone, computer, or other Bluetooth-capable audio devices, in addition to standard 1/8-inch Aux and RCA stereo inputs.

"With so many artists back into the swing of travel after COVID lockdowns, we realize that the ability for them to produce and collaborate on the move is critical," says **Sterling Doak**, Director of Marketing for Gibson Brands. "This addition to our line of studio monitors provides the solution: the perfect sized—three inches or four inches—monitors in a carrying case, with renowned KRK fidelity, and the freedom for anyone to take the studio anywhere. This is a paradigm shift for creating when creativity

strikes"

With KRK GoAux speakers, glass aramid woofers work alongside a one-inch soft textile dome tweeter in a bi-amplified two-way design, while durable rear-ported ABS cabinets supply an impressive bass

extension. Users can also adjust their monitors' response to the room and personal preference thanks to built-in LF and HF EQ. The added option of connecting headphones to the front panel 1/8-inch stereo output automatically mutes the GoAux speakers for a silent monitoring option.

Unique to the GoAux 4 are additional features, such as a measurement microphone and built-in Auto ARC (auto-





matic room correction). This allows for automatic optimization of the speakers' response to the acoustic environment. The GoAux 4 also exclusively offers additional USB and 1/4-inch TRS balanced stereo inputs.

The GoAux 3 and GoAux 4 each come as a set of monitors, along with power and speaker cables, adjustable isolating stands, and a carrying bag, and are now available globally for purchase.

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### **MOOG MUSIC RELAUNCHES MINIMOOG MODEL D**

Originally released in 1970, the **Minimoog Model D** changed the face of modern music and has served as the archetype for all synthesizers that followed. More than a half-century since its invention, Minimoog Model D is back in production at the Moog factory in Asheville, North Carolina.

Built to last a lifetime, each new Minimoog Model D delivers the revered quality, undefinable feel, and authentic sound of a pristine vintage Moog.

The coveted sound engine and audio signal path remain identical to the Model D that Bob Moog and his team engineered in the 1970s. This latest edition of the instrument also includes the series of popular functional modifications from the 2016 production run that expanded this storied synthesizer's capabilities. These modifications include a dedicated analog LFO with triangle and square waveshapes, a premium Fatar keybed with velocity and after pressure available via top panel CV jacks with onboard trimpots, MIDI integra-



tion, improved pitch wheel calibration, and a mixer feedback modification which allows the Minimoog Model D to overdrive and scream with the turn of a knob

The Minimoog Model D now features a spring-loaded pitch wheel that returns to centre upon release. This enhancement—a popular artist request—allows for improved playability and wild performance flourishes. This newest edition

also includes updates to the MIDI functionality, allowing for improved modern studio integration.

The three-oscillator, monophonic, analog synthesizer is housed in a locally sourced Appalachian cherry cabinet with a walnut stain and hand-finished aluminum chassis. Sounding as vibrant and deep as ever, its legendary low-pass ladder filter, powerful oscillators, and rich saturating mixer retain the exact

component placement and throughhole design of a 1970s-era Minimoog Model D.

At the Moog Factory in Asheville, North Carolina, every Minimoog Model D synthesizer is built by hand to its original factory specifications.

"This attention to detail in materials and build allows us to connect directly to the legacy and character of this legendary instrument. The Minimoog Model D is more than just a collection of circuits in a box—it's a true musical instrument that is a joy to program and play. Bob [Moog] always recognized the importance of an instrument's feel, and we've gone to great lengths to honour his practices through the re-introduction and manufacture of this beautiful synthesizer." **Steve Dunnington**, VP of Product Development at Moog Music.

The first production run of the latest Minimoog Model D reissue is now shipping to trusted Moog dealers and distributors within the US and internationally.

### RODE INTRODUCES THE NT-USB+ PROFESSIONAL USB MICROPHONE

**RØDE** announced a new addition to its range of USB microphones, the **NT-USB+**. Based on the legendary NT-USB, the NT-USB+ is a professional-grade USB microphone loaded with next-generation features. It is also compact, portable and versatile, making it the ideal microphone for musicians, podcasters, streamers and professionals who want to capture studio-quality sound with ease.

### Key Features of the NT-USB+:

- Studio-grade condenser capsule and tight cardioid polar pattern, delivering pristine audio ideal for recording vocals, speech, and instruments
- Ultra-low-noise, high-gain Revolution Preamp and high-resolution 24-bit/48kHz analog-to-digital conversion for professional sound quality with stunning clarity
- High-power headphone output for zero-latency monitoring, complete with level and mix controls
- USB-C output for plug-and-play connectivity with computers, smartphones, and tablets



- Internal DSP for advanced audio processing powered by APHEX – including a compressor, noise gate and legendary Aural Exciter and Big Bottom effects
- Includes high-quality pop filter and desktop mount – an all-in-one solution for recording professional sound at home or on the go

 Designed and made in RØDE's state-of-the-art facilities in Sydney, Australia

The NT-USB+ is based on the original NT-USB, which was released in 2014 and has long been an industry-standard professional USB microphone for musicians, podcasters, streamers and other creators. Featuring the same

iconic form factor and studio-quality sound as the original, the NT-USB+ builds on this legacy with a number of next-generation enhancements.

"The original NT-USB was an instant success when it launched almost a decade ago, setting a lofty standard for studio-quality USB microphones," said RØDE CEO **Damien Wilson**. "With the NT-USB+, we are setting a new standard. We have kept the form factor and functionality that made the original such a success and introduced several new features, integrating cutting-edge technology for the next wave of creators. Plug-and-play USB audio has never sounded this good."

The NT-USB+ features a class-compliant USB-C output that is plug-and-play compatible with Mac and Windows computers; it is also fully compatible with any Android or iOS smartphone or tablet, making it an excellent portable recording solution. It comes with a professional pop filter for minimising plosives, as well as a tripod mount for perfect positioning on a desktop.



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### FAMED SOUND ENGINEER DAMAN SOOD HONOURED WITH LIFETIME ACHIEVEMENT AWARD BY THE AUDIO GUYS INSTITUTE

Well-known technical consultant and seasoned sound engineer, **Daman Sood**, has been awarded the **Lifetime Achievement Award** by **The Audio Guys Institute** for his long-standing contribution in the world of pro sound and audio.

An alumni of the Film & Television Institute of India, Mr. Sood started his career at the Bombay Sound Services, where he assisted in recording for classic films such

as Mughal-e-Azam, Bandini, Talash, and more. As a Recording Director, Sood recorded and mixed more than 1000 radio and television commercials along with more than a 1000 CD titles for classical movies, film songs, ghazals for artists including, but not limited to, Jagjit Singh, Pankaj Udhas, Ghulam Ali, Mehndi Hassan, and more. He is a full member of Audio Engineering Society, New York and is responsible for starting AES Chapter in India. He is the jury member of IIRA 2021.



### RATIONAL ACOUSTICS AND AUDIENT TEAM UP TO OFFER INTEGRATED CONTROL FOR EVO DEVICES FROM WITHIN SMAART

Rational Acoustics LLC and Audient Ltd. announced the upcoming integration between Smaart v9 and the EVO line of audio interfaces.

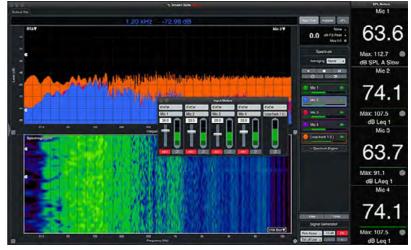
The Smaart 9.1 update, scheduled to be released in mid-December integrates the controls for phantom power and gain for Audient's EVO devices - EVO 4, 8, and 16 - directly from within the Smaart interface. Additionally, gain tracking may be enabled to allow for automatic decibel offset recalculation for calibrated inputs.

With gain tracking enabled, users can adjust the input gain of the EVO preamps without losing SPL calibration. Smaart will automatically adjust the calibration to reflect the new dB offset. In tandem with the EVO Control app, all

of the EVO's input and output settings can be adjusted, and recalled, digitally.

"This exciting partnership with Audient adds gain tracking functionality to a new and modern interface, readily available to the Smaart user base," notes **Chris Tsanjoures**, Rational Acoustics Director of Product Management. "With gain tracking, users who are involved in SPL measurement can calibrate their EVO interface and maintain that calibration as the preamp level is adjusted - something that is simply not possible with pure analogue interfaces."

"We are delighted to partner with Rational Acoustics in integrating our huge selling EVO 2, 4 and 8 channel audio interfaces into the Smaart v9 platform," says Audient Marketing **Director Andy** 



**Allen**. "With EVO's ability to digitally control the interface's gain, phantom power and polarity via our EVO Control app running on users' laptops and now

with Smaart's embedded integration, we're providing a new, intuitive workflow for Smaart users everywhere. Indeed, a Gain Changing solution."

### SE ELECTRONICS RELEASE THE DYNACASTER DCM3 AND DCM6 STUDIO MICROPHONES

sE Electronics announced the release of the DynaCaster DCM3 & DCM6 studio microphones. With an integrated DYNAMITE preamp for +30 dB of clean, transparent gain, the DynaCaster DCM6 is much louder than the typical dynamic microphone. At the push of a button, the DCM6 eliminates the need for a bulky inline preamp and lowers the noise floor to ensure clean and clear recording with the maximum amount of gain.

Both the DCM3 & DCM6 have a custom-developed cardioid capsule

with a tailored frequency response for a smooth, natural, and isolated sound on any voice. Thanks to an integrated pop filter, shockmount, and high-swivel mic stand mount, both microphones come complete with the proper equipment needed to ensure professional quality audio straight out of the box at no extra cost.

The DCM3 and DCM6's all-metal housing, integrated features, and elegant, modern finish – eliminate the need for an external shockmount or pop filter and allow for obstruc-

tion-free camera angles whether the user is recording in the studio, at a broadcast / radio station, or creating content at home.



### **G2 Series**

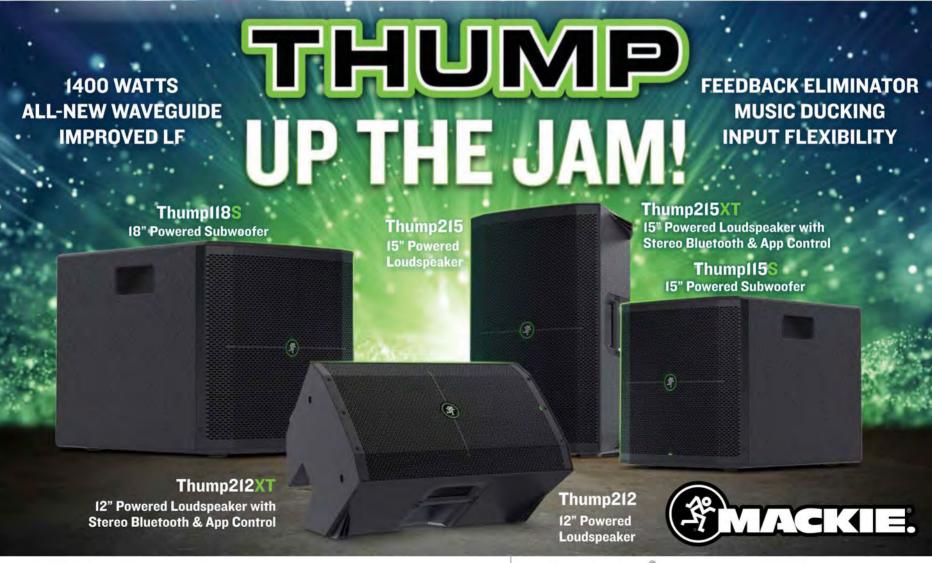
### Dyna/ec

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# An 'AV'ant-Garde Fusion of Nature & Technology

Gujarat's Maze Garden & Miyawaki Forest Come to Life with AV Installation by Rhino Engineers





ujarat has always been a home to the greatest minds who believe in the concept of 'simple living, high thinking'. Be it Mohandas Karamchand Gandhi, Sardar Vallabh Bhai Patel, and India's current Prime Minister, Narendra Modi – these individuals have been a testimony to how a human being can be seeped in modernity while still living in synergy with the nature around. This idea of treading the fine line between novelty and nature finds an apt reflection in Gujarat's **Maze Garden** and **Miyawaki Forest**, two structures created as major tourist attractions in addition to the Statue of Unity. These structures immersed in the elements of nature, standing tall amidst a modern landscape, are further brought to life with a spectrum of audiovisual aspects in a bid to attract more tourists to the picaresque atmosphere and at the same time, enlighten the visitors about figuring their true selves by getting a step closer to nature.

The Maze Garden and Miyawaki Forest were inaugurated in the presence of Prime Minister Narendra Modi, who himself cut the ribbon at the inaugural event and spoke at length, waxing poetic about the history, form, and function of nature in human life, and how the Maze Garden and Miyawaki Forest, two exemplary architectural marvels borne out of a blend of pro audio, video, light, and design, will lend a helping hand in raising awareness about the role of nature for the visitors.

Creating An Immersive Experience At The Orientation Centre, Maze Garden PALM + AV-ICN spoke to **Mr. Narendra Naidu**, Chairman and Managing Director, **Rhino Engineers**, about how the company enlivened the site at Maze Garden and Miyawaki Forest with a wide host of acoustical and visual equipment to create an immersive environment where visitors can rediscover the beauty of nature and realize that they too, are an extension of that beauty.



Rhino Engineers create an immersive experience for visitors at Maze Garden, Gujarat

There may be architectural constructions around the world that resemble the Maze Garden. But conceptually, the Maze Garden is unlike any other. Built upon the design of the Sri Yantra, the 3-acre wide monument is India's biggest maze garden. The Maze Garden embodies the mystical pattern of the cosmos, without a defined beginning or an end. The Maze Garden is designed to hand-hold the visitors through a journey of self-discovery, which is challenging yet rewarding, for in the end, the visitor reaches the destination called Nirbheek and Nischit – the fearless and the relieved self.

The journey, so unique in itself, requires an audiovisual experience in a similar measure. The Orientation Centre at Maze Garden is well-equipped with state-of-the-art digital screens, projections, as well as surround sound installations to further drive home the philosophy embedded within the structure.

The team at Rhino Engineers installed **LED Modules** for LED screens from **OSEL, Multimedia Projection Systems** from **Christie, Audio Systems** from **Bose, LED Strip Light** from ADS, and **Servers** from PIXERA Two.

The Maze Garden and Miyawaki Forest were inaugurated in the presence of Prime Minister Narendra Modi, who himself cut the ribbon at the inaugural event and spoke at length, waxing poetic about the history, form, and function of nature in human life, and how the Maze Garden and Miyawaki Forest, two exemplary architectural marvels borne out of a blend of pro audio, video, light, and design, will lend a helping hand in raising awareness about the role of

nature for the visitors.

### Elevating The Mesmerizing Environment At The Orientation Centre, Miyawaki Forest



Miyawaki Forest springs to life with an exceptional AV install by Rhino Engineers

How can an individual build a sustainable forest in a short span of time? The answer lies within the Miyawaki Forest. The Japanese technique named Miyawaki is the key to building dense forests in closed off urban spaces, with plants' growth rate being ten times faster than usual. With the aim of building awareness around the Miyawaki method of preserving nature, the Miyawaki Forest takes the visitors on a trip down the route of rebuilding nature from scratch. To enhance the visitors' experience and to present the point of natural preservation more effective, a gamut of audiovisual elements have been installed within the confines of the

Rhino Engineers installed five 6,750-lumen 1DLP laser projectors (DWU630-GS)

from **Christie**, five **FreeSpace DS 40SE VA Loudspeakers** from **Bose**, and **Gobo Lights** from **MSS**.

Speaking about his experience of installing state-of-the-art AV equipment for the projects, Narendra Naidu shared, "I was very ecstatic when I was approached for these projects. The team at Rhino Engineers left no stone unturned in executing both projects with efficiency and finesse. Challenges presented in the due course, but we faced them head on to deliver an unparalleled audiovisual experience to every visitor who sets foot in the Maze Garden and Miyawaki Forest. At the end of it, I am proud of end product and I hope that this AV install will put both the projects on the world map."



### **Illuminating The Way Forward**

How Fireflies successfully executed India's first remote lighting production at 8th HUM Awards

A remote lighting production is still looked at as a futuristic idea, a thought that invokes hesitation, uncertainty, and reluctancy. But innovation is always the intent in the world of technology. This is exactly what **Becket Tundatil**, Lighting Designer at **Fireflies**, had in mind when his company, based out of Mumbai, India, was tasked with handling the light design at the 8th Hum Awards, at Ontario, Canada, making Fireflies the first Indian company to execute India's first remote lighting production for a mega event. In this article, PALM Technology explores how Fireflies employed bespoke technology to remotely illuminate the stage at the 8th Hum Awards

hen Fireflies was entrusted with conceptualizing, designing, and executing the lighting for the 8th Hum Awards, the company's plan was to perform the task in-venue at Ontario. "But my visa wasn't issued on time," says Becket Tundatil, Lighting Designer at Fireflies, "and as a result, we had to think of a reliable alternative to execute the lighting for the award show recorded live. My immediate thought was, 'let us accomplish this lighting production remotely'."

### **Overcoming Obstacles**

Becket was quick to present this idea to **Tariq Sheikh**, the production head at Hum TV. Tariq immediately discussed the idea with the

production team and executives at Hum TV. But, as most innovative, pathbreaking ideas do, this idea was initially met with instant reluctance. "They were not entirely convinced with the concept of a remote lighting production as they were naive about it. I informed them I was not a naïveté in this domain as I had, in the past, handled several remote lighting situations. Of course, once the team headed by **Maimona Siddiqui**, the Chief Content Officer studied the references I sent them, they were on board."

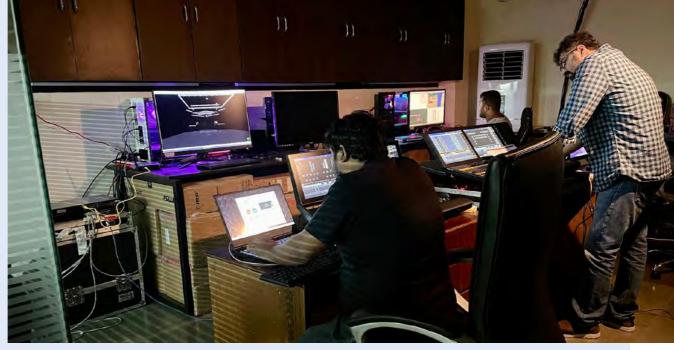
With just one week left to bring this mega-scale remote lighting production to fruition and a team of four people, including **Kranti Aradhi, Kakkaroda Ajay Teja** & **Dinesh Betwala** from Fireflies, India, the team embarked on a mission to achieve a feat never before performed in India – illuminate a live award show in Ontario while sitting in a studio in Mumbai. Definitely, the team would encounter obstacles on the way.

"The difference in the time zones between Mumbai and Ontario proved to be one of the biggest challenges for us. When the sun would rise in Ontario, Mumbai would be witnessing a sunset. This impacted the flow of coordination between the two teams. Thankfully, our International Partner in North America, Timmy Abraham, helped us to bridge the gap to ensure the whole remote lighting process went as smoothly as possible." comments Tundatil.

#### Team Work makes the Dream Work

"The remote lighting production wouldn't have been possible without the immaculate execution by **Brett Davidson**, the Accounts Executive at **Solotech**," shares Tundatil. "He supported us by getting all of us together on this remote-control plan, sharing the idea with the company's IT team, even in terms of networking setup from their back end. Brett played a crucial role in making this one-of-a-kind technology come to life as he provided a smooth workflow and communication with the OB truck as well."

**Amna Ahmed** at **Elation Avenue** who was the choreographer for the show, was instrumental in putting



Executing a remote lighting production - Behind the scenes at Fireflies, Mumbai

together a detailed plan for every act which helped Fireflies program the lights smoothly. Ahmed said, "It's incredible how courage and belief lead you to turn your negatives into positives. And with this event, Fireflies team's resilience led them to just that. With executing the production against all odds, they did not just execute India's first remote lighting production but delivered the project with creativity and success. I was quite grateful to be a part of such an incredible team".

**Waqas Hafeez**, the post-production head at Hum TV, along his team also contributed with regards to the LED/ video wall graphics and animations they had designed for each act so that Tundatil's team could program and timecode the lights as per the content on the video walls.

Becket Tundatil also praised the lighting operators in Canada, without whom, this would otherwise turn out to be a monumental task. He shares, "Special thanks to Chris Newkirk and Louise Simpson, the lighting operators in Canada who helped us setting up the lighting rig, checking show files, and checking the flow of the DMX data to all the fixtures through the network. This helped us in setting up networking in MA lighting consoles to communicate to the lighting desk set up in Canada. They were also a backup for us to take control of the entire live show to avoid uncertain situations. We planned and prepared with the necessary equipment at the studio and programmed the entire show on a timecode, so that there shouldn't be

any delay in terms of response with the fixtures."

To pull of this entire mega event remotely via live streaming and lighting network control, Fireflies used a special internet line provided by Rogers at the First Ontario Center.

He adds, "What makes this even more interesting is that, for the first time, our light operators experienced an event where two countries coordinated for a light production via talk back systems, focused the lights on the special markings for the celebrity(s) on the stage, and monitored and programmed them live simultaneously while they rehearsed."

The team at Fireflies used **Capture Visualization** for preprogramming and live sync check.

The equipment was supplied by **Solotech – Toronto**.

MA consoles and NPUs in Fireflies Studio, India was provided by **Ulhas Sahasrabuddhe** of **SLS**.



- GrandMA3 Compact XT x 1 no's
- GrandMA3 Light x 1 no's
- GMA2 NPU's x 2 nos'

#### Canada Inventory:

- GrandMA2 Full Size x 2 no's
- GMA2 NPU's x 2 no's

#### Fixture's Used:

- Robe BMFL Wash Beam x 25 no's
- VL3500 Wash x 40 no's
- Clay Paky Unico Scenius x 40 no's
- Clay Paky Aleda B-Eye k20 x 80 no's
- Robe Robin Pointe x 34 no's
- GLP Impression x 40 no's
- TMB Solaris Flare Q+ x 32 no's
- Chauvet Strike4 x 64 no's
- Elation Chorus x 24 no's



The team at Fireflies offer a sneak peak at the equipment used for the remote lighting production

#### **KV2 ENHANCES SL SERIES WITH NEW SL6.10 SUBWOOFER**

**KV2** enhanced the **SL** series with the addition of **SL6.10** subwoofer which replaces the SL2.15.

Measuring just 350mm (13.78") deep and designed to integrate aesthetically with the SL412, the SL6.10 produces powerful, accurate bass from its ultra-slim cabinet design. Bass response is further enhanced by doubling, or even tripling the cabinets, particularly when the SL6.10 is used against or within a wall, providing optimum output for its compact footprint. It also

combines acoustically with the ultra-low frequency VHD1.21 and 2.21 subwoofers as part of an active five-way system if required.

The 6 x 10-inch front loaded bass drivers, with a 2-inch voice coil assembly and a ferrite magnetic motor structure, deliver very high dynamic range and a quality of articulation not normally achievable through larger mass conventionally sized subwoofer cones. Up to three SL6.10 subwoofers can be powered from just one channel of a VHD3200 / 3200D amplifier, which rep-

resents considerable savings compared to its predecessor which required an amp channel to power two units.

SL6.10 offers a range of simple wall-mounting, suspension and ground stacking options, or it can be installed directly into walls and surfaces where space or visual aesthetics are at a premium. The units may also

be designed and supplied with custom colours, grille templates and logo,



offering a flexible and truly designer integrated solution.

# LUMENS ANNOUNCES DUAL CHANNEL RECORDER AND STREAMING MEDIA PROCESSOR WITH NDI | HX SUPPORT

#### The NDI-ready capture and streaming system with any in and every out

Lumens Digital Optics Inc., launched the LC100N Media Processor with NDI® HX protocol support. The LC100N is an all-in-one recording, streaming device, designed for use in education, worship, meetings, and events. It enables users to record, mix and live stream 2 channels of HD video for output direct to screen, via content management systems, or over popular streaming platforms.

Steven Liang, Lumens' VP of Product Development commented: "This is a very powerful media processor with a range of inputs that few AV and broadcast products can match. The unit can connect to HDMI, SDI, RTSP, NDI\* HX, USB, and XLR sources which gives users incredible flexibility."

Compatible with popular content management systems including Panopto, Kaltura, and Opencast, Lumens LC100N can be integrated into an enterprise-wide media solution. Its support for NDI® | HX means that the device can be installed on existing IP networks, sharing resources and video over the LAN. The system can also be controlled and managed over the same Ethernet network. LC100N is compatible with the Lumens Deployment Tool software which enables centralized control, management, and administration of multiple

LC100N units on the network. Administrators can remotely monitor device status and automate production schedules, saving time and reducing costs.

Users have multiple local control options: the on-board GUI Director turns the device into a live production switcher by simply plugging in a monitor, mouse, and keyboard. The LC100N also supports quick control using the fascia buttons and Lumens' LC-RC01 Remote Control Panel

Recordings can be captured internally to an internal 2TB hard drive for secure local storage, with support for automated transfer of data to USB drives, NAS, and FTP servers.



#### PPDS UNVEILS NEW 32:9 PHILIPS S-LINE DIGITAL SIGNAGE 'STRETCH' SERIES

**PPDS** announced the debut of **Philips S-Line** – a series of stretched digital signage displays, bringing new creative possibilities for high-impact installations in space-limited environments.

First teased on the Philips stand during ISE 2022 and available now for order, the brand new 37" Philips S-Line series (37BDL3050S) adds a new dimension to PPDS' ever-evolving and expanding digital signage and dvLED portfolio, with this latest evolution featuring a highly unique and eye-catching, ultra-wide 32:9 aspect ratio (928.5 x 282.3 x 48.7 mm).

Built for 24/7 operation, offering uncompromising reliability, and equipped with a powerful 700cd/m<sup>2</sup> high-brightness (1920x540), Philips S-Line is the ideal solution for a variety of industries

and uses, including public venues, transportation, restaurants and retail.



Complimenting PPDS' existing digital signage range, the S-Line's stretched design and narrow bezel frame (12.4mm T/B, 10.5mm R/L) opens a multitude of opportunities, with customers able to be deliver crystal clear, high-impact content in spaces where traditional digital signage may not be suitable due to size constraints.

Portrait or landscape mountable, Philips S-Line can transform almost any surface – including over shelving, above busy order points, in transport hubs and in other narrow spaces. At just 7.76 kg, the displays can also be mounted in a broader range of spaces, including on temporary walls, such as those used on

(Continued on page 38)

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#### **NUREVA ANNOUNCES HDL410 TO REVOLUTIONIZE AUDIO IN LARGE SPACES**

Nureva Inc announces the HDL410 system, the first of a new generation of Nureva® audio conferencing systems designed to further simplify the task of getting great audio in larger hybrid spaces without the cost and complexity of traditional solutions.

unified coverage map to deliver pro audio performance in extra-large working and learning spaces up to 35' x 55' (10. 7 x 16.8 m). The unified coverage map enables the two microphone and speaker bars to act is if they were a single device with a single coverage map that spans

Nureva HDL410 system

The system combines two Nureva microphone and speaker bars with a new connect module, powered by next-generation Microphone Mist™ technology and a new groundbreaking

the entire space. This greatly improves audio performance and sound location data accuracy for camera switching and steering, while avoiding the complications and performance challenges of systems that require manual setup and complex processing to stitch together overlapping coverage areas from multiple ceiling microphones.

A new Console Direct feature provides a secure and continuous connection between the HDL410 and Nureva Console, allowing IT managers to manage the HDL410 remotely without having to rely on an in-room computer running client software. Users get access to remotely install firmware updates, check device status, view analytics and historical data, change settings, access APIs from the Nureva Developer Toolkit and more. Also new to the HDL410 is an audience mute feature within Nureva's Voice Amplification Mode, which can focus microphone pickup on the presenter or instructor's voice while reducing all other microphone pickup in the space.

The HDL410 connects easily by USB and can be installed and operational in

about an hour, with no DSP required, simple bar mounting on the wall via 2-screws and continuous autocalibration. Microphone Mist technology handles echo cancellation, noise reduction, position-based gain control and the challenges of multiple in-room participants speaking at once. Nureva audio systems integrate with leading UC&C platforms including Microsoft® Teams and Zoom, and the HDL410 is currently in the certification process for Microsoft Teams, which would make it the first microphone and speaker bar certified for extra-large Microsoft Teams Rooms.

"Today's IT leaders are asking for intelligent solutions that deliver the collaboration experience their users demand without putting a strain on IT resources," said **Nancy Knowlton**, Nureva's CEO. "The Nureva HDL410 system is our latest and most dramatic example of using our IT-first approach to innovation to deliver great audio in large spaces."

PURE RESONANCE AUDIO INTRODUCES BTR1 — A BLUETOOTH WIRELESS AUDIO

**RECEIVER WITH 100FT RANGE** 

**Pure Resonance Audio** introduced its first Bluetooth audio receiver– the **BTR1**, a Hi-Fi Bluetooth wireless audio receiver with an impressive extended wireless range of up to 100 feet. The BTR1 streams superior, high-resolution audio to your commercial sound system from any Bluetooth-enabled device.

Not only is it simple to set up and quick to pair, but it also remembers up to 8 devices and automatically reconnects to the last paired device. Enhanced by the latest Bluetooth technology and high-end audio streaming codecs, the device consistently delivers crystal clear, rich sound up to 100 feet with no dropouts, ensuring the highest-quality listening experience.

#### **Key Features of the BTR1**

**Extended Range:** Our BTR1 delivers consistent performance for up to 100 feet (30 meters) with no dropouts.

**Quality Performance:** Experience superior high-resolution audio streaming for a clear, rich sound and full dynamic range with low background noise, distortion, and reduced audio delay.

**High-End Technology:** This true high-fidelity audio component applies the latest Bluetooth Version 5.0 technology and high-end audio streaming codecs.

**Discreet Design:** Both compact and lightweight at less than 1 lb and under 1" high, the BTR1 sits on a rack shelf or any flat surface, and the bumpers keep it in place.

Flexible Streaming: Stream any audio

format directly from any smartphone, tablet, computer, or other Bluetooth-enabled devices.

Easy Setup and Pairing: The device supports both RCA and optical digital inputs, pairs in seconds, and plays instantly without configuration, custom software, apps, or passwords.

The BTR1 offers a simple and affordable solution for adding Bluetooth audio streaming capabilities to sound systems in a variety of applications, including fitness gyms, schools, classrooms, gymnasiums, houses of worship, restaurants, retail stores, medical facilities, warehouses, hospitality spaces, and any business background music systems. This Bluetooth stereo

receiver can also be used with an existing Pure Resonance Audio

(1)

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Pure Resonance Audio BTR1 - Bluetooth Wireless Audio Receiver

MA or RMA Series mixer amplifier for an extended Bluetooth range or with an RZMA Series 4-zone amplifier for multiple Bluetooth sources in more than one zone.

#### PPDS UNVEILS NEW 32:9 PHILIPS S-LINE... (Continued from page 36)

kiosks and in concessions and pop ups within shopping malls.

Built with flexibility in mind, and to remove current marketplace limitations, Philips S-Line displays can be installed as a standalone solution or seamlessly daisy chained using PPDS' versatile HMDI linking technology, as part of a multi-display setup for more creative yet compact designs. For tiled setups, simply connect two or more displays using a single external player.

Running on Android 8, Philips S-Line is optimised for native Android apps, with users able to install their desired apps directly to the display. And featuring an integrated media player, content can be created and easily scheduled via a USB and internal memory, helping to ensure displays remain active at all times, even in the event of a network outage. Philips S-Line displays wake from standby to play the content you want, and then return to standby once playback is done.

Philips S-Line will also soon be compatible with PPDS' evolutionary cloud platform PPDS Wave, adding even more advanced remote management capabilities, whether the displays are in single or multiple locations across the world.

Martijn van der Woude, Head of Global Business Development and Marketing at PPDS, commented: "We are delighted to introduce our brand new Philips S-line series, adding new opportunities for our partners and their customers to bring their digital content and creative ambitions to life. With a unique and unmissable 32:9 aspect ratio design, a high brightness screen for the clearest and most vibrant content, coupled with effortless control and management capabilities, Philips S-Line, literally stretches out the opportunities for retailers, public venues and transportation hubs to deliver innovative ways of communicating with their customers and standing out in the crowd."

**JETPACK** 

JPK-1300

# AMX BY HARMAN INTRODUCES JETPACK 3X1 SWITCHING, TRANSPORT, AND CONTROL SOLUTION

HARMAN Professional Solutions, one of the global leaders in audio, video, lighting and control systems, introduced AMX Jetpack, a new 3x1 switching, transport, and control solution that's highly affordable for K12 classrooms and meeting spaces. The kit features simple to operate room controls, multiple 4K60 video inputs, and enables voice lift for clear communication with everyone in the space.

Jetpack combines 4K60 4:2:0 HDMI and USB-C video switching and distance transport, room control, wallplate accessibility, and audio amplification in a kit that requires zero programming and provides the security and reliability that AMX is well known to provide. The kit is fully loaded to support a wide range of classroom and meeting space applications and can be controlled through panel buttons, IR, RS-232, TCP/IP, a REST API, a Web GUI, and the Jetpack Management PC tool

"We are really excited to finally

be able to bring Jetpack to the market," said **Jeff Burch**, HARMAN Professional Solutions, Director of Video and Control. "There has been an incredible need in K12 and small meeting spaces for a kit that is both truly cost effective and that bundles all the features that these spaces can typically benefit from and will actually use. We designed Jetpack to present all kinds of possibilities for spaces and users and we built it to be really versatile to serve a wide range of needs."

#### **Product Highlights:**

 Highly Cost-Effective and Affordable

AMX Jetpack was purpose-built for K12 classrooms and small-to-medium meeting spaces requiring an affordable and cost-effective solution that combines HDMI and USB-C video switching and distance transport, room control, and audio amplification for voice lift – all in a convenient kit.

USB-C and HDMI 4K60 Video Support

To ensure beautifully crisp video

resolution, AMX Jetpack supports up to 4K60 4:2:0 HDCP2.2 and can transmit uncompressed video and audio up to 40m/131ft at 4K or 70m/230ft at 1080P over a single shielded Cat 6/6A/7 cable.

AMX

USB Pass-through for Smart Boards
 USB pass-through is included to
 simplify smart board connections in
 K12 classrooms and meeting spaces.

 Built-in USB-C and USB-B Host 2x1
 USB Hub.

 Simplified Installation and Campuswide Management

AMX

Features like onboard Web GUI configuration; CEC, RS232, Relay control, IR Receiver with IR learning and one power supply to power the whole kit simplify the install. Included Jetpack Management Tool software makes it easy to discover and manage all your AMX Jetpack kits on the same network.

#### CLEARONE LAUNCHES UNITE 60 4K EPTZ CAMERA WITH AI-POWERED SPEAKER TRACK-ING AND 120-DEGREE FIELD OF VIEW

ClearOne, one of the leading full line providers of professional communications, conferencing, and collaboration solutions, announced the introduction of a new wide angle 4K USB camera featuring Al-powered smart face and voice tracking, along with electronic PTZ (pan/tilt/zoom) capabilities, the ClearOne UNITE 60 4K camera. This new camera will be sold through ClearOne's commercial channels.

With a 120-degree field of view, and a plug-and-play USB 3.0 connection for video, control, and power, the new UNITE 60 camera is ideally suited for rooms such as executive offices, huddle rooms or smaller conference rooms.

"ClearOne is consistently advancing what's possible for virtual collaboration

to help companies, knowledge workers and educators communicate clearly and efficiently across the globe," said ClearOne Interim CEO **Derek Graham**. "With ultra-easy setup, support for all leading virtual meeting platforms, 4K video quality and Al-based tracking

of speakers or framing of groups, the UNITE 60 camera fits perfectly in small meeting spaces and home offices while also providing an affordable entry point for classrooms where educators move around and need a tracking camera," Graham added.



Whether a meeting is held on Microsoft Teams, Zoom, Google Meet, WebEx or other leading services, the camera's automatic or remote-controlled digital PTZ ensures remote attendees always have a clear view of local participants.

The UNITE 60 camera leverages a wide dynamic range and super-high SNR with advanced 2D and 3D noise reduction to deliver excellent visuals across varied lighting conditions. In addition to the Al auto-tracking feature, the camera can also be controlled via IR remote or UVC protocol. The camera can be paired with a wide variety of microphones and speakers.

The UNITE 60 camera can be mounted to any monitor using its standard damping rotary shaft support.

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23 ANNER



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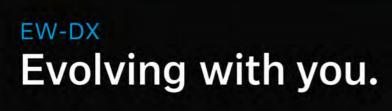






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#### **SENNHEISER EXHIBITS PREMIUM AUDIO SOLUTIONS AT THE BIS 2022**

#### Expands its range of Neumann studio monitors with the launch of KH 150

Sennheiser participated at the Broadcast India Show 2022 and showcased its broad range of product offerings for content creation and production needs. Neumann also expanded its range of monitors

with the launch of **KH 150** - a powerful bi-amplified studio monitor.

Following the same philosophy as all Neumann studio monitors, the recently launched KH 150 is a powerful bi-amplified studio monitor with reference-class



Sennheiser/Neumann launches KH150, a bi-amplified studio monitor

performance. Its 6.5" woofer in a bass reflex cabinet provides stunning low end and high SPL capability with undiminished clarity. KH 150 is DSP-powered, bi-amplified studio monitor with deep bass response and outstanding resolution. With highest linearity, lowest distortion, no coloration, and perfect adaptability to any acoustic environment, the KH 150 makes mixing so much faster, easier and creative. It is available for sale in India.

Sennheiser also showcased the latest audio solutions for all levels of media production needs-from content creation, mobile journalism, to documentary, ENG and TV, film and live broadcast like WSM demo, Digital 6000, EK 6042 Kit, EW G4 500 series, XSW-D and EW 500P, HMD 300 PRO, HMD 26,HMD 301 PRO, HD 300 PRO, HD 400 PRO, HD 25, Mobile Kits, MKE 600, MKH416 and MKH8060, 8050, MKE 2 PC, ME 104, ME 2, ME 4, HM 200 HEADSET, M 49V, NDH 30, NDH 20, KH 750, MA 1, BCM 705 and many more.

**Vipin Pungalia**, Country Manager & Director- Sales Pro Audio at Sennheiser India said "As one of the most reputed and premium platforms for

the broadcasting and cinema industry, the Broadcast India Show has always provided us with an arena to demonstrate our expertise and turn our ideas into value. The overwhelming response received during the previous years, motivated us to participate yet again and provide the broadcast industry with innovative and premium audio solutions that further enable them to push the boundaries of creative expression. The BI Show 2022 was a great success as we witnessed a massive footfall at our stall and connected with industry innovators under one roof to experience the unrivalled energy of the broadcast, media and infotainment domains after 2 years"

Sticking true to its commitment, Sennheiser showcased the best of audio products at Broadcast India Show 2022 which are designed to provide an immersive experience and connect audiophiles, musicians, DJ's, content creators, broadcasters and other professionals to the future of audio.

#### **SOUND DEVICES EXPANDS ASTRAL SERIES WIRELESS RANGE WITH A20-NEXUS**

Sound Devices announced A20-Nexus, the latest in their Astral Series wireless transmitters and receivers with SpectraBand technology. A20-Nexus is a compact, expandable digital wireless receiver that is designed to serve as the hub of the Astral wireless range which

also includes the A20-Mini and A20-RX. A20-Nexus offers an industry-leading tuning range as well as NexLink integrated long distance remote control. The true diversity digital wireless receiver ships with 8-Channels and can be expanded via software to 12 or 16



channels for larger productions.

"The Astral Series is the culmination of years of research and development in wireless technology to design robust, versatile solutions for mobile RF professionals that can be used around the world," said Sound Devices CEO Matt Anderson. "With A20-Nexus, we sought to not only provide the ultimate portable receiver for our customers in film and television production, but also the Astral Series to meet the rapidly growing needs for wireless in live event production, musical theater, corporate AV, houses of worship, and more."

A20-Nexus utilizes Sound Devices' SpectraBand technology to offer an unprecedented global tuning range of 470-1525 MHz and exceptional RF filtering capabilities which allow it to utilize legal RF frequencies everywhere. The receiver also features NexLink long distance remote control of transmitters and integrated RTSA (Real Time Spectrum Analysis). A20-Nexus can also be controlled with a mobile phone or tablet via web app, plus with Power via PoE and audio via Dante, the A20-Nexus is perfect for productions requiring full remote operation. The combination of features allows it to replace multiple devices in any RF professional's wireless toolkit, and its svelte form factor makes it equally at home in a bag, on a sound cart, or taking up minimal space in a fixed install.

To feature your **editorial** in **PALM** + **AV-ICN** magazine contact: **Pooja Shah** - **pooja.shah@hyve.group** 

#### CHRISTIE LAUNCHES GRIFFYN 4K35-RGB PURE LASER 3DLP PROJECTOR

New Christie Griffyn Series projector delivers 36,500 lumens in an industry-leading package

Christie announced the launch of a new Griffyn Series projector – the Christie Griffyn 4K35-RGB pure laser 3DLP® projector. The Griffyn 4K35-RGB is one of the smallest and lightest high-brightness RGB pure laser projectors available, delivering 36,500 lumens in an all-in-one compact design, weighing only 179 lbs (81 kg).

Designed for demanding largescale venues and applications including live events, projection mapping, and theme parks, the Griffyn 4K35-RGB pure laser projector can operate as low as 44dBA in quiet mode. Coupled with RGB pure laser illumination, which produces greater than 98 percent of the Rec.2020 color space, colors are rich and true to life, and audiences are immersed in vivid, bright visuals, without distraction.

"The new Griffyn 4K35-RGB pure laser projector features our latest advancements including TruLife+ electronics, which eliminates the hassle of removable options cards with 'all-in' connectivity," says **Joel St-Denis**, director of product management, Christie. "And with electronic color convergence (ECC), convergence can be adjusted via the remote for perfect color alignment." Additionally, the Griffyn 4K35-RGB can operate on single-phase 200-240 VAC at full brightness, or 100-120 VAC at a reduced brightness, increasing the operational life of the projector.

Griffyn 4K35-RGB features integrated Christie Twist for warping and blend-



ing and is compatible with Christie Mystique, Christie's automated camera-based alignment and recalibration solution to quickly install, align, calibrate and maintain multi-projection systems, removing hours of painstaking work.

For applications that require higher

frame rates, including themed attractions, optional Mirage and Mirage Pro upgrades offer 120Hz at 4K resolution or up to 480Hz at 2K resolution, respectively.

The Christie Griffyn 4K35-RGB is available for order now.

#### BIAMP'S TWO NEW CONFERENCE ROOM AUDIO BUNDLES NOW CERTIFIED FOR ZOOM ROOMS

**Biamp**, a leading supplier of professional audiovisual solutions, today announced that two new conference room audio bundles have been certified for Zoom Rooms, enabling customers to enjoy a complete Biamp audio solution in medium and large spaces. Each solution includes everything required for an extraordinary conferencing experience and is conveniently packaged for purchase as a bundle.

"We are extremely pleased to now offer our customers certified Zoom Room bundles featuring our latest **TesiraFORTÉ** audio processors," said **Joe Andrulis**, Executive Vice President of Corporate Development, Biamp. "These certified Zoom Rooms devices feature Biamp Launch technology, an innovation that loads the Zoom profile and optimizes performance for any Zoom Room with the touch of a button, making it extraordinarily fast and easy to install."

Biamp's newest certified Zoom Rooms bundles contain a **TesiraFORTÉ**  X 400 processor, Parlé Beamtracking microphones - which track conversations from around the room, enabling remote participants to feel just as present as those in person - Desono C-IC6 ceiling loudspeakers, Biamp's PoE-powered amplifiers, and mounting accessories and category cabling to complete the installation in medium or large rooms.

With each bundle, installers benefit from automated system deployment and configuration made possible by Biamp Launch, which identifies and configures each Biamp device in the system, performs a tuning cycle, measures acoustic characteristics of the room, applies recommended signal processing, echo cancellation, speaker tuning, noise reduction, and Zoom Rooms settings, then generates a dashboard highlighting performance settings before-and-after optimization.

These bundles offer customers and installers the advantages of a complete Biamp solution that extend far beyond superior audio, including minimal cable requirements with zero termination, zero network setup, automated EQ, and more. Biamp bundles are thoughtfully designed for plug-and-play installation, resulting in significant time savings for integrators.





#### HALL DEBUTS MERCURY - AN ALL-IN-ONE MEETING COLLABORATION PRODUCT

Hall Technologies recently debuted Mercury, its all-in-one conferencing and collaboration tool. The video bar offers wireless screen presentation capabilities, camera auto tracking, speaker tracking, and presenter tracking for better meeting inclusivity and equity.

"Think of Mercury as your smart video conferencing companion," says Hall Technologies Vice President of Technology **Ken Eagle**. "This plug-and-play product has built-on features that enable tracking for not only the audio, but for visuals too. It's compatible with

both OS and UC applications. Mercury is a dynamic bundled solution for creating better meeting equity in small to mid-sized meeting rooms and huddle spaces. It's unique in that it can track and capture meeting attendees when they are presenting, while utilizing AEC (Acoustic Echo Cancellation), AGC (Automatic Gain Control), ANS (Automatic Noise Suppression) and full duplex mode communication to make all participants feel like they are in the same room."

The HT-MERCURY is a video bar with an ultra-wide angle 4K Al camera, microphone and speaker featuring wireless screen presentation capabilities. It includes a built-in Wi-Fi module and offers multiple connection options, including AirPlay, Miracast, Smart View, HT-Voyager and physical HDMI and USB-C ports. Connecting to the HT-MERCURY using any of these methods can project the video from the connected device to the connected display.



# MARANTZ AUDIO'S NEW FLAGSHIP AV 10 PREAMP & AMP 10 POWER AMPLIFIER TO BE AVAILABLE FROM JANUARY, 2023 WITH MZ AUDIO, MUMBAI

Marantz Audio unveiled its flagship AV 10 Preamp/Processor and AMP 10 Power Amplifier at CEDIA 2022 in September. A part of Marantz CINEMA Series, the AV 10 and AMP 10 are categorized as AV Separates that are ideal for a home theatre experience unlike any other.

Arshad Ladkawala, VP, Sales & Marketing, MZ Audio Distributions (India) shares, "Marantz Audio Flagship AV 10 and AMP 10 provides a more well-rounded music listening experience with better accuracy, larger sweet spot, more precise voice intelligibility, as well as deeper, but less boomy bass and matches exterior designs and looks great together."

#### Marantz Audio AV 10 Preamp/ Processor

The AV 10 is a reference
15.4-channel balanced processor
with Dolby Atmos which delivers
IMAX enhanced and 8K ultra
HD surround sound with seven
HDMI inputs and HEOS built-in
streaming. The pre-amplifier/
processor also features the latest
Sound Field Correction technologies, room optimization and
streaming, voice control, and

smartphone app control along with the signature Marantz porthole and subtle yet sublime front-panel illuminating sidelights.

AV 10's rear panel comes with 7 x 8k HDMl, 3 x HDMl out with 300mA for active cables, 4x independent subwoofer output, 17ch RCA and XLR pre-outs for full flexibility, phono input, CD input RCA/XLR, Hi-Fi grade RCA jack, and control and trigger. Powered by

Griffin Lite XP DSP Processing for high precision processing with tremendous amount of calculation power and the best-in-class room-corrections such as Audyssey MultEQ XT32 and upgraded Dirac Live, the AV 10 aims at lifting the benchmark a little higher in the world of preamplifiers.

#### Marantz Audio AMP 10 Power Amplifier

The AMP 10 is a reference 16-chan-

nel, 200-watt-per-channel, class D amplifier. Sold as an AV separate, the AMP 10, when paired with AV 10, creates the perfect theatre ambience. The AMP 10 has a high output power of 200 watts + 200 watts at 8 ohm and 400 watts + 400 watts at 4 ohm to deliver a very stable power supply. The power amplifier's balanced design means that the differential input

improves noise immunity.

With a copper plated chassis, gold-plated RCA input connector and black finish, the AMP 10 has an exterior styling just the same as the AV 10, and the power amplifier is also a part of Marantz CINEMA Series, with the porthole front panel display appearing in the form of a level meter. The AMP 10 also features biamp support and 16 non-magnetic speaker terminals that offer low impedance connection for high currrent.

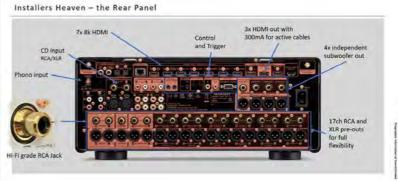
To source the new Marantz Audio AV 10 Preamp/Processor and AMP 10 Power Amplifier, which will be available for purchase from January 2023, contact **Arshad Lakdawala** on al@mzaudiodistribution.co.in







The AV 10 Preamp/Processor features a sleek facade



AV 10's refined rear panel is the backbone of the finely balanced processor



#### **VIEWSONIC LAUNCHES NEW X1 & X2 LED HOME PROJECTORS**

#### Simple Yet Powerful Home Cinema Solutions with Immersive Audiovisuals

Bringing a new realm to the X series projector segment, View-Sonic Corp., a leading global visual solutions provider, unveiled Full HD Smart LED Home Projectors - X1 and X2 to elevate home entertainment for cinema enthusiasts. Experience an unmatched entertainment with flexible options for installation, these projectors are ViewSonic's first lamp-free high brightness smart projector for home.

The new addition to the X-series, X1 and X2 LED projectors are designed for all home entertainment spaces. Incorporating 3rd generation LED technology, these projectors provide brighter visuals and vibrant colours with a lifespan of 30,000-hour. Adapting enhanced audio experience, the projectors are embedded with a built-in Harman

Kardon speaker, giving perfect home screenings of movies, live sports, and for playing video games. With its upgraded features and technology, both projectors substitute frequent lamp replacement and hazardous mercury projecting high-resolution with its 3,100 LED Lumens of brightness. In addition, with its 125% Rec. 709 colours wide colour gamut, both projectors deliver bright and true-to-life visuals in Full HD resolution unaffected by ambient light.

**Muneer Ahmad**, Vice President Sales and Marketing ViewSonic India, said, "Significant breakthroughs have brought the movie experience home, and our new additions, X1 and X2, are a perfect testimony of the same. The projectors aim at delivering the best home entertainment experience in the Indian projector market. We are striving to improve the home entertainment

segment with our new LED projector solutions. As a pioneer and leader in LED technology, we aim to bring an exclusive and immersive viewing experience for all movie enthusiasts. We also aim to further develop and empower the sector with our 3rd generation of LED projectors. One of the core USPs of these projectors is that they provide immersive audio-visuals on a big screen anytime without significant installation and setup necessary."

#### Building an Entertainment Hub Effortlessly

For living rooms or recreational spaces, ViewSonic's X1- Smart LED home projector model can be mounted on the ceiling to utilise the area better. For smaller rooms, ViewSonic's X2 Short Throw Smart LED Home Projector can be set on a tabletop, projecting a 100" large screen from just 1.53m away. These visual solutions are combined with quality audio from dual Harman Kardon speakers, genuinely turning the room into an immersive entertainment space at home.

The X1 is loaded with exceptional features like a lens shift control knob that can vertically modify the image. Additionally, it offers versatility when placing the projector on the ceiling

thanks to its 1.3x optical zoom lens. Users can choose a setup location within a range to get a large image that doesn't interfere with existing interior designs, such as hanging lights or support beams.

### Instant Enjoyment for Immersive Cinema Experience

Turning the space into a mini cinema hall, both X1 and X2 projectors provide a simple and intuitive setup in the comfort of one's home. Both projectors provide perfectly-shaped images from the top and side views, featuring a H/V keystone, four corner adjustments, and an auto keystone.

Furthermore, the screen mirroring features allow easy streaming from smart devices to the big screen. The projector also allows connecting a gaming console via a USB-C port, offering an extensive array of options for entertainment.

Additionally, the projector is loaded with features like easy Bluetooth connectivity and Wi-Fi connection to attach Bluetooth headphones for private enjoyment for movie evenings or music streamed directly from your smartphone, making video streaming simpler than ever.



#### ZEBRONICS LAUNCHES PREMIUM SOUNDBAR WITH DOLBY ATMOS — ZEB-JUKE BAR 9750

With an aim to provide the best audio experience, **Zebronics** launched a premium **Sound-bar**, **ZEB-Juke Bar 9750**, first Indian brand to launch Dolby Atmos soundbar with wireless rear satellite speakers.

The ZEB-Juke Bar 9750 is a powerful combination consisting of soundbar with 5 drivers, 3-front & 2-top firing, a powerful 15.5cm sub-woofer and dual wirelessly connected rear satellite speakers to create immersive experience with Dolby Atmos and 525Watts output. It delivers 5.1.2 Channel immersive sound that elevates the experience of watching content or listening music to a whole new level, transforming the home into a theatre.

The ZEB-Juke bar 9750 elevates the aesthetics of the room with its slim & minimalistic design that is designed to complement any space. The soundbar as well as the rear wireless satellites can be wall mounted to have a more envel-

oping experience and it can be set-up quite easily out-ofthe-box.

With Zeb Juke
Bar 9750, the user
gets a variety of
connectivity options
viz., Bluetooth v5.0,
HDMI (with e-ARC),
Optical-In, USB and
AUX in a gorgeous
enclosure. This gives
the user a seamless
experience whether
they are stationary
or mobile.

Commenting on the launch of the product,

Director, **Pradeep Doshi**, said – "The love of movies has been forever and with advent of technology, the content



for entertainment has diversified magnificently & now more than ever, Home Entertainment Systems have been increasingly popular. After the successful launches in this segment like Audio systems, Projectors, Smart TVs, We have launched the ZEB-Juke Bar 9750 with wireless satellites – being India's first brand to have Dolby Atmos in this configuration. We believe in constant innovation & to provide our consumers with extraordinary Audio Products that deliver immersive sound experience with cutting-edge technology,

its been always our goal to make home entertainment products for everyone bringing "Premium to masses".

# Revisiting Guwahati's Glorious Delivers Assam's First 3D Gandhi Mandap



# Past: Tricolor India Schauspiel Projection Mapping at Memorial Museum



uwahati, Assam has been imprinted with multiple historical and cultural milestones. The most influential of these milestones, perhaps, is Mahatma Gandhi's visit to the Sarania Hills – the first one in 1921 and the last one in 1946. The Father of the Nation ignited the spark of freedom in the minds of Assamese citizens between the aforementioned years, and thus, in his fond memory, on top of the Sarania Hills, stands tall his namesake monument – aptly named the Gandhi

Mandap Memorial Museum. Created to preserve and exhibit the history and heritage of Assam in all its glory, the Gandhi Mandap Memorial Museum is touted to be one of the north-eastern state's most popular tourist spots.

On 2nd October, 2022, Gandhi Mandap's façade was visually transformed. It glowed bright – with colour and life, thanks to jaw-dropping 3D projection mapping – the first of its kind, not just in Assam, but in the entire Northeast India. Envisaged by the Government of

Assam and brought to life by audiovisual integration by Tricolor India Schauspiel, the 3D projection mapping and holographic projection at Purva Prabha or The Ray of the East at the Gandhi Mandap is truly a sight to behold. PALM + AV-ICN spoke to Himanshu Singh Sabharwal, Creative Director, Tricolor India Schauspiel, to explore how the company illuminated The Ray of the East at Gandhi Mandap Memorial Museum to celebrate Assam's history, heritage, and culture at its finest.



Shining the light on Mahatma Gandhi's influence in Assam's with 3D projection mapping at Purva Prabha, Gandhi Mandap Memorial Museum

#### **Delivering Jaw-Drop**ping Sight & Sound With **Aplomb**

It was after a rigorous selection process that Guwahati Smart City Limited entrusted the Purva Prabha project over to Tricolor India Schauspiel, a creative audiovisual integration company that breathes life into visionary projects with 3D projection mapping, holographic mapping, augmented reality, water installations, and more.

"The brief that we received from the client for the Light and Sound Show on the Gandhi Mandap was that the building façade was to be theme based and was intended to showcase the heritage of Assam and the life story of Mahatma Gandhi," shares Himanshu Singh Sabharwal. He further adds, "The idea was to convert the Gandhi Mandap into a vibrant urban space that would provide the visitor a comprehensive introduction to the heritage of Assam, inclusive of its chronological history, historical monuments in the city, focusing on Mahatma Gandhi's life, and his message to the nation. The idea behind the implementation of the project was to add value to the already enhanced environment in the Gandhi Mandap premises resulting in more visits by the tourists.'

But before Tricolor India Schauspiel embarked on the strict time-bound project, the team decided to perform a recce of the premise to explore the terrain at hand and the elements it could deliver in order to give rise to something unique in terms of sight and sound. Needless to say, the road to glory wasn't all sunshine and roses. Challenges were yet to present themselves....



Bringing Assam's history and heritage to life with holographic projection mapping

#### **Turning Obstacles Into Opportunities**

Projection mapping is easier said than done. No one knows this better than Himanshu Singh Sabharwal. He recalls the challenges the terrain produced for the team at Tricolor India Schauspiel while working on embedding it with 3D projection mapping, "Projection mapping isn't just throwing images on a surface, one needs to use the given features of the building to better explain the emotion behind the show and further enhance the experience of the visitor."

Explaining the challenges in detail, Sabharwal adds, "One major issue we faced here was the 'L' shaped facade of the Gandhi Mandap. From the seating area, the visibility of the right side would be distorted and create a parallax effect. This would have wasted the function of two projectors on the

side. The Mandap also had large glass windows and empty spaces on the first floor between the pillars, resulting in hollow spaces and dead zones for projectors and lighting."

But these challenges were not insurmountable. A smart team with a proven experience in projection mapping and audiovisual integration is all it takes to turn the obstacles into opportunities to give rise to excellence. Sabharwal shares how he and his team put their minds together to come up with a solution for the aforementioned problems, "To overcome the L shaped façade, we proposed to have two projectors on the front façade and further extend the vista by utilizing holographic projections on the terrace of the mandap. The innovation gave us more surface to project on and create a larger-than-life experience."

He continues, "For the glass windows, we used two-way films which allowed sunlight to pass through during the day, but acted as light blockers at night, providing a surface to be projected on. As for the first floor, retractable screens were used to cover the hollow spaces between the pillars which acted as surfaces for projection and lighting."

With the challenges now overcome, the task for Tricolor India Schauspiel team was to translate the brief by the client into a thematically enriched audiovisual projection that existed in synergy with Assam's cultural and spiritual history and allow the site to mirror it effectively.

#### The Key To Successful AV **Integration: Using The Right Equipment**

Good design cannot happen without

#### **Inventory:**

- Four Christie DWU20 HS **Projectors**
- Four JBL in-audio support system for a 5.1 surround sound experience
- Two hydraulically-operated holographic meshes to elevate the façade and the vista
- · One Cisco 24 Gigabit Port Network Switch
- Four Lightware AV Switchers
- Three Media Servers
- Two WatchOut Dongles
- LPS Lasers
- Intelligent Lighting: Moving heads and dynamic architectural lighting

good equipment. When it came to the

Singh Sabharwal comments, "As part of

the guidelines laid down by the client, a

technical bits and pieces, Himanshu

weatherproof enclosures for various equipment by Warrior, and a combination of architectural façade lighting in

experience."

sync with the show for a dramatic visual

BOQ was already in place which was to be complied with. We worked alongside the client, meeting their requirements at every step in terms of the hardware to be installed. Premium quality equipment was used for the install for durability and longevity. To name a few, four high-end projectors each of 20,000 lumens from Christie, lasers from LPS, all-weather sound systems from JBL,

(Continued on page 51)



Tricolor India Schauspiel's 3D projection mapping at Gandhi Mandap shines the light on Assam's rich history & culture



25 - 27.05.2023 BOMBAY EXHIBITION CENTRE, GOREGAON (E), MUMBAI, INDIA



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Gone are the days of worrying about the lamp projector fizzling out, requiring bi-annual lamp replacement. With lamp-free projectors, LED projectors, and laser projectors, the time has come for uninterrupted projection to crystallize. But, does that mean no one needs a lamp projectors anymore? In this article, Pooja Shah, Editorial Assistant, PALM + AV-ICN, reports on the viability of a lamp projector.

f today, someone was to ask you would you rather change a projector bulb once every few months or have a projector bulb that rarely requires changing – what would your response be? In this digital era that moves ahead at a neck-breaking speed, no one has the time to stop and smell the roses, let alone change a bulb from time to time (and that too, after dishing out some hundreds or thousands of rupees from the wallet). Plus, when a better, much more hassle-free option in the form of LED projectors or laser projectors already exists in the market, despite several reasons to opt for old school, reliable lamp projectors, this piece of technology is slowly becoming obsolete

Of course, lamp projectors still have a significant presence in the market. But imagine a yesteryear artist being overshadowed by a fresh face, and this is exactly what is happening with lamp projectors today. The fresh face making all the right noise then, is the LED/laser projector. This article explores if lamp projectors, even when they are still in sight, albeit against the revolutionary technology delivery by LED/laser projectors, gradually fading into an oblivion.

## Lamp projectors last longer

There is no denying the fact that lamp projectors last longer than LED or laser projectors. Even though initially, projectors that came with an incandescent lamp, offered only a couple of hundred lumens, things took a turn for the good in the 21st century, when better lamps (with halide, mercury,

and xenon) delivered better lumen output and lamp life of 1000+ lumens and 1,000 hours respectively. With the advent of dual lamp projectors, the deliverables multiplied manifold. Now, use a lamp projector in an 'eco mode', and you can enjoy an increased lamp lifespan of up to 5,000 to 10,000 hours. This is good, but...

## Lamp projectors are good, but...

The lamps lose brightness over time, and need to be replaced time and again. Imagine if a lamp projector is installed at a high altitude inside a house of worship, the efforts and cost invested in replacing the lamp time after time just piles up, and in the end, it all seems futile. Not just that, most lamp projectors require air filter maintenance and replacement every two years or so. Even in an indoor setting like a classroom, the constant need to replace the bulb/lamp

If lamp projectors indeed offer more drawbacks than benefits, with the arrival of LED/ laser projectors, are the former turning into an outdated technology? Well, yes and no. along with the air filters can disrupt the flow of teaching and learning. Plus, with LED/laser projector becoming more compact and portable than ever before, it is no surprise that the lamp-free versions of the projector are currently the talk of the tech-savvy crowd.

Truth be told, lamp projectors are reputed for their longevity. So, if you want to benefit from that feature. make sure your projector's lamp don't burn out that quickly. The best way to ensure that is to limit the use of lamp projector in your day-to-day life. The most ideal use-case for lamp projectors is in a space where lamp projectors are needed, but they don't need to be run throughout the day. Say, for instance, a small church, where the scene is calm and quiet throughout the weekend, and the lamp projector is required only for weekends and festive days - here, the lamp isn't in constant use, so it burns out slowly, and the user can hold off on the replacement for a longer time, eventually saving up on costs that go in the replacement.

# Lamp projectors are more affordable than LED/laser projectors

Or are they? Yes, lamp projectors used to be more affordable than LED/ laser projectors. But that was a thing of the past. Of course, even today, lamp projectors help you save your spend as against LED/laser projectors that are

priced a bit higher than the former. But the margin of difference in the price between the three kinds of projectors is now diminishing, thanks to more and more companies launching their own versions of LED/laser projectors and eliminating the monopoly of any one company over the radical technology.

Another major factor in determining the value offered by lamp projectors as against LED/laser projectors also depends on the use-case scenario. In larger venues where projectors are placed in difficult-to-access positions and are switched on throughout the day, LED/laser projectors are a more apt investment than lamp projectors, despite their higher costs. LED/laser projectors' light source doesn't require constant surveillance and replacement, the user doesn't have to spend time, energy and money in lamp replacement and projector maintenance every once in a while, and in the end, this results in a profitable expenditure.

## Are lamp projectors outdated?

If lamp projectors indeed offer more drawbacks than benefits, with the arrival of LED/laser projectors, are the former turning into an outdated technology?



Well, yes and no. If the user doesn't have a budget constraint and wishes to introduce the best-in-class technology in a particular space, LED/laser projectors, with their continuously increasing lumen output, vivid brightness levels, and gradually improving affordability, might be the preferred choice, and rightly so.

However, when faced with a budget constraint, the user's search for a reli-

able yet affordable piece of technology for a particular venue may end up at lamp projectors. Also, who says lamp projectors aren't evolving in their own right? Several brands are upgrading their lamp projector series to demand less and deliver more. Of course, the lamp replacement every two years or so can be an inconvenience, but in the end, it all boils down to user priorities.

Are lamp projectors becoming obso-

lete? With LED/laser projectors entering the AV scene, it might look like the days of the lamp projector are numbered. But, in the world of technology, change is the only constant. Only the equipment that can evolve can evade extinction. As mentioned earlier, lamp projectors, too, are evolving. Whether they will stand tall in a price agnostic age that seeks ease of use, only time will tall

#### Revisiting Guwahati's Glorious Past: Tricolor India Schauspiel... (Continued from page 48)

.......

Bringing The Vision To Life: Creating A Texturally & Thematically Larger-Than-Life 3D Projection Mapping

Adding substance to the symbol

isn't an easy task. While a mundane 3D projection mapping, done for the sake of it, would not be any less eye-grabbing, the idea behind installing a 3D projection mapping at Gandhi Mandap was to invite footfall and result in thought-provoking dialogue. This is where Tricolor India Schauspiel team's

creativity comes into play. Himanshu Singh Sabharwal decided to turn the river Brahmaputra into a narrator for the Purva Prabha show. But what story did the river narrate?

Himanshu Singh Sabharwal answers: "With respect to the story, we picked up instances from the history of Assam, talking about its various

empires and prominent rulers, while touching upon cultural developments that took place down the ages – leading up to the freedom struggle and how Mahatma Gandhi mobilized the people of Assam to fight against the British rule. Also, the Mandap sits next to the third highest tricolour in the country, which instills a sense of pride in the minds of the visitors, adding to awe of the show."

#### Going Beyond The 3D Projection Mapping At Gandhi Mandap

Needless to say, the completion of a project that demand-

ed more than technical mastery would have resulted in an emotionally-fulfilling moment. Himanshu Singh Sabharwal affirms the same, "We are extremely ecstatic to present Assam their first 3D projection mapping show and it has been well received since its inauguration on 1st October, 2022 by Shri Ashok Singhal, Honourable Minister of Housing & Urban Affairs and Irrigation, Government of Assam. It was a great experience working in tandem with the clients and the understated talent pool from Assam, learning new things about the heritage and culture of this beautiful state. We aim to share this show with more people, a show that is gradually becoming the talk of the town in the infotainment space, providing insight into the story of Assam in a largerthan-life AV experience."

Tricolor India Schauspiel will not stop at just that. The techno-creative company has several other projects in the pipeline for the near future, which includes, but is not limited to: SEL Cellular Jail, Andaman & Nicobar Islands; SEL Gwalior Fort, and SEL Agra Fort.



Retelling Assam's story vis-à-vis audiovisual integration with high-end projectors, surround sound speakers, and moving headlights

# Indian Contification Course

# **AV Specialist Certification Course**

The AV Industry participated in **CAVS** first two course editions in Mumbai. Third CAVS course is scheduled to be held in Ahmedabad in March 2023. PALM AV-ICN magazine interviewed the promoter and founder of CAVS in India, **Anil Chopra** to understand the credibility, validity and legitimacy of AV-ICN's CAVS certification.

## s the CAVS certification a clone of InfoComm's CTS Education programme?

CAVS is not a clone. It is independent and a standalone initiative by the AV-ICN platform.

#### What comprises the AV-ICN platform?

AV-ICN is an independent, neutral AV technology expo. The platform comprises a full fledged three-day conference on AV industry attracting the leading intelligensia of the AV industry. AV-ICN platform also includes a magazine dedicated to AV technology. AV-ICN also publishes a newsletter every fortnight circulating digitally to the entire database of the AV industry to 62,000 recipients including the pro audio industry. Apart from the expo and magazine and newsletter, the AV-ICN website is a cornerstone which is updated daily with news on the AV industry. The CAVS is an important edition to the AV-ICN platform. AV-ICN also actively communicates with the AV industry on FB, Instagram and Twitter. AV-ICN is a comprehensive platform evidently dedicated to AV technology, AV



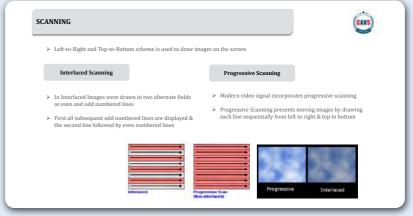
(L to R): The team behind CAVS – Smita Rai, Deputy Project Director, Hyve India; Arif Patil, Principal Consultant, Eyte Technologies; Abdul Waheed, Managing Director, Eyte Technologies; Harshen Naidu, Director, Rhino Engineers; Narendra Naidu, Chairman & Managing Director, Rhino Engineers; Anil Chopra, Founder, CAVS; Deep Patel, Rhino Engineers



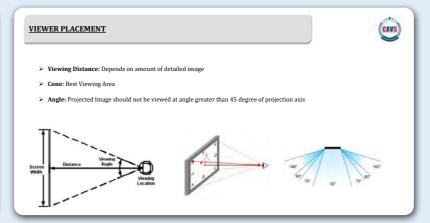
Used in a multitude of applications, from home theatres to pro audio mixing boards, audio connectors are essential to the concept of sound

Sr. No.	Parameters	Conventional AV	Av over IP
1		Distance: 5m to 10Km	Distance: 5m to 10Km
2	<b>Ы</b> ,	Max 160 x 160 limited scalability	Virtual unlimited good scalability
3	4	Flexibility: Fixed signal direction	Flexibility: Selectable I/P or O/P or bidirectiona with TX
4	Ð	High latency with switching	High latency with compression
5		Direct connection	IP conversion is always required
6	*	8 port I/O boards	Through end point
7	<b>2</b>	Always available	Shared
8	$\rightarrow$	Non blocking	Possible BW limitation

A brief comparative table offers a glimpse into the key differences between the parameters for conventional AV and AV-over-IP



The vital differences between interlaced scanning and progressive scanning is what redefines the modern era of video signalling

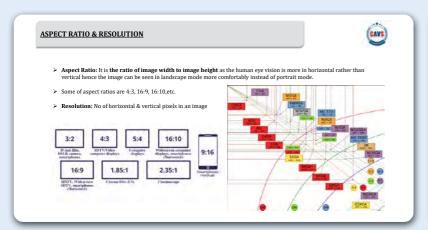


The viewing cone, which informs the viewer's viewing angle, is central to determining an acceptable visual performance

professionals and AV solutions for India where next gen AV innovation is being absorbed and used at par with global trends.

#### Expo, magazine, newsletter, website, social media is the norm. However, offering education with certification requires a certain level of authorization. How do you justify CAVS certification course?

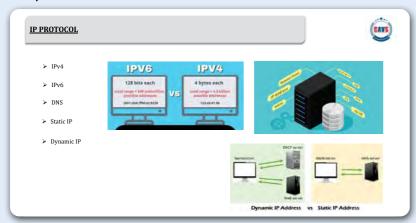
AV-ICN platform possesses a certain level of knowledge quotient of AV technology. Professionals in AV technology have been involved in preparing the curriculum, the course faculty is also credible and includes active professionals from the industry. However, I feel that this is a given for any education course, providing certification is totally justified as the AV-ICN platform is clearly deeply involved with AV technology



The aspect ratio of an image defines the relationship of the image height with the image width in order to enhance the viewer's viewing experience



To enable the swap of information and data back and forth on the internet, the computer's software is hardwired to follow a list of built-in network standards



While the IPv4 isn't designed to handle the sheer number of IP addresses, the IPv6 supports an infinite number of IP addresses

and possesses the required knowledge quotient to deliver a three-day course with an examination and I feel justified in issuing a certificate.

## How legitimate is the curriculum and can you give us a brief outline of the curriculum?

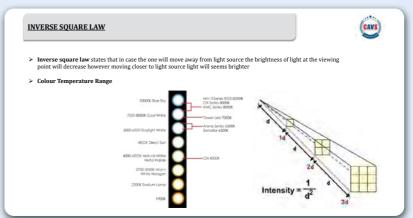
Naturally, the curriculum is 100% legitimate as the cost includes technical content. The cost is a matter of choice. The technology remains the same for every cost from every institution. As I said, hardcore professionals have prepared the curriculum.

CAVS curriculum is infact the best researched content applicable as a primer for AV specialists imparting important information on key information specially for AV integration networking and communication.

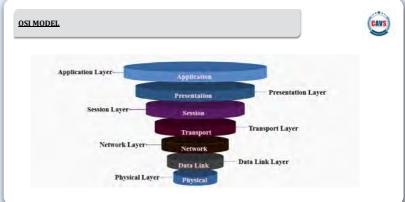
## Can you elaborate on the curriculum fulfilling the AV specialist classification?

Right! Point specific first three sections are naturally - 1. Audio 2. Video 3. IT – Information Technology. Each section explains the basic structure of: a) Standards b) Protocol c) Connectors d) Cables e) Best practices in networking, integration and communication.

Over three days in the CAVS classroom, AV is introduced with a primer on subjects like acoustics, signal-to-noise ratio, frequency, impedance in audio and features of products like headphones, amplifiers and microphones are explained.



The Inverse Square Law, the key to understanding how brightness works, suggests that the more the viewer moves away from the source of light, the light at the viewing point decreases and the vice versa



A universal language for computer networking, the OSI model splits up the communication system into seven separate layers, stacked onto one another

In video, students are introduced to concepts of resolution, aspect ratio, screen size, display technology and inverse square law, and products on digital signage, conferencing, lighting control and integration of spaces like auditoria.

In the IT section, different types of networks, types of signals, lighting control concepts and other concepts relating to AV integration are introduced.

At the end of three days and the examination, the student is far ahead in understanding AV and entering the AV industry as an employee has the credibility to be considered an AV specialist.

## How will the creation of an AV specialist course impact the AV industry in India?

The Certified AV Specialist course is an absolute necessity. I want to reiterate, it was absolutely necessary to create an Indian AV specialist course. I want to emphasize that CAVS is an imperative catalyst to develop and attract talent and human resource to the AV industry as a career.

Anyone with CAVS certification will stand apart from the normal technician. Clearly, integration and networking projects executed by CAVS teams are ensured to adopt best practices and proper standards and protocols.

CAVS is affordable to the point where the actual course is below cost at this point. Education is the key factor in CAVS initiative. AV-ICN platform is committed to impart knowledge, information and education on AV technology. CAVS is a very meaningful contribution where the entire effort in creating a purposeful curriculum and then subsidizing the classroom and course attracts talented human resource to AV industry.

# NEC CORPORATION INDIA ENTERS INTO AN ALLIANCE WITH UFO MOVIEZ TO DEPLOY LASER PROJECTORS ACROSS INDIA

NEC Corporation India (NEC India), a wholly-owned subsidiary of NEC Corporation, Japan, announced that it has entered into a strategic alliance with UFO Moviez, India's largest digital cinema network and in-cinema advertising platform to deploy the next generation of laser projectors.

As a global display market leader, NEC has become a partner of choice owing to the superb quality and reliability of products, backed by trustworthy performance for the past 123 years. Through this strategic deal, NEC has introduced its projector solution offerings for the Indian entertainment sector to enhance the cinematic experience for movie-goers. NEC's product offerings with DCI-compliant 2K and 4K image

displays combined with natural colours resulting from a cinema DLP light engine and 3D projection capabilities ensure a unique movie experience with exceptional image quality. This superior range of projectors benefits users from a future-proof investment providing both low initial costs as well as low operational costs with user-friendly accessibility and minimal maintenance. Furthermore, these solutions are precisely-tailored to the users' requirements and backed by a robust warranty and support service. NEC has an extensive series of laser projectors available in India with brightness ranging from 5K to 35K lumens.

**Krishna Tripathi**, General Manager, Display Business & Enterprise Key Ac-

count Management, NEC Corporation India, said, "We are thrilled to announce this alliance and are grateful to UFO Moviez for bestowing trust in NEC. I am sure that through our customizable cutting-edge laser projection solutions powered by advanced technological improvements, UFO Moviez will be able to deliver a blockbuster experience satisfying the highest expectations of today's digital first cinema-goers."

He further added, "This is the perfect timing for us to enter India's digital cinema business, which is relatively buoyant owing to accelerating digitalization and increasing consumer preference towards high-end theatrical experience. We look forward to emerging as a key player in the Indian display market."

Orchestrating a brighter world



Commenting on this partnership **Rajesh Mishra**, Executive Director and Group CEO, UFO Moviez said, "NEC is a leading name in the digital cinema projection market worldwide and their innovative portfolio will play a crucial role in creating a breath-taking experience for cinema goers. At UFO, we operate India's largest D-Cinema network, and this alliance will ultimately enable us to add value to all our stakeholders in the movie value chain."

#### Q-SYS EXPANDS REGIONAL OFFICE IN BENGALURU, INDIA

# Accommodates substantial growth in the region with expanded training, development, and support capabilities

.......

Q-SYS announced the opening of its new office in Bengaluru, India. This 23,620 sq. ft. facility will be the new hub for the SAARC region with sales and marketing, training, support, logistics, operations, as well as software development. In addition, it will house three state-of-the-art testing labs, two software quality assurance (SQA) labs, and a first-class training space for integrators, consultants, and end users to learn more about Q-SYS technologies.

"The adoption of Q-SYS in India has grown tremendously over the

past few years, thanks to the increased awareness and business potential in the region," says **Rajesh Mittal**, Managing Director, Q-SYS India. "We are pleased to move into this new facility which will accommodate our substantial growth, increase support capabilities to better serve our customers, as well as continue to proliferate Q-SYS with best-in-class training."

"The Bengaluru office is an integral part of development for the software-based Q-SYS audio, video, and control Platform," says **John White**, Senior Vice President, Research &



Development, Q-SYS. "This new facility gives our team the space to expand R&D capabilities, add software development,

and, in turn, continually grow Q-SYS with the innovative capabilities our customers require."

#### **MACKIE ACQUIRES BABLESON AUDIO PLUGINS**

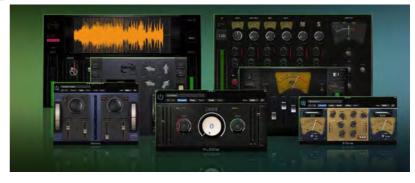
Mackie announced that Babelson Audio's catalog of highly acclaimed dynamics and FX processing plug-ins for Digital Audio Workstations will join its product offerings.

With an innovative range of products including vintage tube EQ and saturation, multiband compression, reverbs, harmonizers, analog delay, and dozens more, Babelson has established a well-deserved reputation among audio professionals for its power, performance, versatility, and sonic signature. With strikingly accurate emulations of

vintage tube circuitry, Babelson's plugins are compatible with all major DAW softwares.

From mixers, monitors, and headphones to software and interfaces, Mackie has always been a central part of the creative musician's toolkit. With the addition of Babelson plug-ins to the Mackie family, the company will be able to offer the users some of the most powerful, versatile, and best-sounding tools for their music production.

Also joining the Mackie family will be Babelson Founder **Thomas Ceyhan**,



who will continue to update and produce new plug-ins as Mackie continues to further its software offerings.

All Babelson plug-ins will continue

to be active as the company begins the migration and integration over to Mackie.com, ensuring a seamless transition for existing Babelson plug-in users.



#### **Book Your seat for CAVS 2023, Ahmedabad**

The CAVS course curriculum designed by AV-ICN is aimed at imparting basic principles of AV and provide the candidate an understanding of AV related standards, protocols and best practice.

Opening Session by Narendra Naidu on **Incorporating Latest technology in AV projects** 



#### **Venue: Ahmedabad Management Association (AMA)**

1, Dr Vikram Sarabhai Marg, University Area, Ahmedabad, Gujarat 380009

2<sup>nd</sup> CAVS: 26<sup>th</sup> May - 28<sup>th</sup> May 2022



**COURSE FEES: INR 6,000/-**

#### SHURE EXPANDING SUSTAINABILITY EFFORTS WITH NEW, GREENER PACKAGING

As part of its overall sustainability initiatives, Shure is improving its packaging to be even more environmentally friendly. Packaging for new Shure products prioritizes the use of recyclable and renewable materials

New products will be packaged using 75 percent recyclable and/ or renewable materials in 2023. In addition, the Company is also improving packaging sustainability by:

- Committing to source a greater portion of our paper and fiber-based packaging from suppliers that are certified by sustainable forestry organizations such as FSC, SFI and/or PEFC, with the intention to eliminate noncertified packaging by 2030.
- · Optimizing packaging for efficient distribution and logistics (creating packaging that better fits onto pallets and shipping containers to maximize space,

which reduces transportation fuel and emissions produced by excess shipments).

· Ensuring that existing product packaging is using greener methods. For example, we are working to replace plastic inserts with moulded pulp wherever possible.

Shure has continued to take several steps to increase its focus on sustainability in packaging, balancing the need to protect sensitive, high-performance electronic equipment being shipped worldwide with being more environmentally responsible.

The Company recently joined the Sustainable Packaging Coalition and conducted an audit to assess sustainability of more than 1500 different packaging components. Shure has also



implemented software solutions to help improve packaging design and distribution efficiency. Environmental impact assessments have been added to other environmental requirements as part of Shure's standard process. But even before this, Shure was

implementing greener packaging. In the 1980s, Shure changed the packaging for mixers by eliminating the use of Styrofoam, switched from white (bleached) cardboard to a natural brown colour, and used a soy-based ink for the printing on the cardboard box. All the packaging could be recycled, except for the plastic bag that covered the mixer inside the cardboard container.

Shure continues its commitment to improving the sustainability of its packaging as it works to exceed targets set by current regulations and prepare for those that will come in the future



#### **HIKVISION LAUNCHES GLOBAL STAR PROGRAM FOR SOCIAL GOOD**

**Hikvision** announced the launch of the Global STAR (Sustainability through Technology, Actions for Responsibility) Program for Social Good. The program aims to partner with non-profit organizations exploring innovative ways to protect valuable nature and culture and benefit communities through Hikvision's cutting-edge technologies.

The scope of the STAR Program will focus on three areas: biodiversity monitoring and conservation, environmental monitoring and protection, and cultural heritage preservation. Through this program, Hikvision is looking for partners such as NGOs, social enterprises, research



institutions, and other organizations to make a difference in these three

"In two decades, we have transformed Hikvision from a small startup to a global enterprise. We are so glad to see that our products are making a positive societal impact every day around the world not only by safeguarding communities, but also improving commercial efficiency. protecting biodiversity and advancing environmental conservation. In the future, we will keep on technology innovation and provide more value for communities and our planet," said **Huang Fanghong**, Senior Vice President of Hikvision.

#### **HEWSHOTT CELEBRATES 20 YEARS OF OPERATION**

Hewshott celebrated 20 years of helping clients make technology their greatest opportunity and not their biggest threat. Led by original founder Peter Hunt, Hewshott has grown to become one of the industry's leading independent acoustics, AV, IT and theatre consultancy practices.

"As I think back, it strikes me that our mission today is no different from our vision when I opened the door of

our Farnham office for the first time in 2002. I wanted to make consulting about delivering long-term solutions, not just projects. Today, 'Believe in Better' reflects the continued aspiration to embrace the bigger picture - better consulting, better design, better execution, better engagement, better experience, better value, better client experience. The biggest key to our success has been in avoiding



2002 - 2022

complacency and looking at how we can be better, because today's successes are quickly forgotten about when there is a new challenge. I'm surrounded by the very best people who work hard to maintain our grounded approach, and we drive a culture of learning and accountability across all our offices" stated

(Continued on page 57)

# KRAMER OPENS RESEARCH & DEVELOPMENT CENTER IN NOIDA, INDIA SUPPORTS GLOBAL GROWTH AND EXPANSION OF SOFTWARE SOLUTIONS

Kramer, the leading audio-visual experience company, announced the opening of a new R&D (research and development) center in Noida, India. This is another step in its global expansion and strategic investment in new software products and solutions.

The new R&D center is an extension to its global R&D organization with offices in Israel and Canada. Kramer has invested in state-of-the-art 1,000 m2 offices including an R&D lab, sales center and advanced meeting and collaboration spaces.

The center will be driving the development of applications and software solutions in the UCC space, a sector where Kramer is seeing huge growth and interest from its global customer base. This is being driven by the hybrid models of working now commonplace worldwide, and the need for high quality, secure

audio and visual collaboration solutions. The company will be recruiting locally for a number of software development positions.

An audio-visual pioneer with over 40 years of experience and more than



Gilad Yron, CEO, Kramer, strikes a pose with Dorit Bitter (VP R&D), Kriti Shetti (Country Manager, Kramer Electronics India), Jai Tripathi (Noida R&D Director Operation), Itzik Arbesfeld (VP HR), and Priyanka Bhagat (APAC HR Director)

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20 offices worldwide, Kramer wants to create immersive experiences that transform the way people engage. Based on an open design, Kramer's solutions work with most technology brands, with a specific focus on the

education, government, defence, and enterprise sectors.

**Gilad Yron**, CEO at Kramer, said: "We invest a double-digit percentage of revenue every year in innovation. As part of our goal to build strong R&D

capabilities around the world, India offers a huge opportunity in terms of talent and extending our geographical reach. We're excited about the potential our Noida R&D center brings to expand our offering in the UCC space as well as other software centric products. Reducing the distance between our customers and the product development is an important pillar of our strategy which can be seen in every R&D center we have. The Noida R&D center follows the same direction."

**Dorit Bitter**, VP of R&D at Kramer, added: "The 'physi-digi' world we live in requires innovative solutions that drive productivity and collaboration, both virtually and in person. Kramer's vision is to meet this demand by creating technology that powers the world's most intuitive end-to-end

audio-visual experiences. Developing software applications, particularly to support the UCC sector, is a top priority, and we're confident that our new R&D center in Noida, India will help us to remain a leader in this field."

#### **WESCO INTERNATIONAL FINALIZES PURCHASE OF RAHI SYSTEMS**

Wesco International (NYSE: WCC) announced it has completed the purchase of Rahi Systems Holdings, Inc., a leading provider of global hyperscale data center solutions. Wesco previously announced its plan to acquire Rahi on September 7, 2022.

The final purchase price of \$217 million represents approximately 7.5x Rahi's projected trailing twelve months adjusted earnings before interest, taxes, depreciation, and amortization (EBITDA)

as of September 30. Rahi Systems serves the full lifecycle of data center solutions by helping their customers manage and simplify technology. With this acquisition, Wesco will combine Rahi with its Communication and Security Solutions (CSS) strategic business unit.

"Rahi's extensive services portfolio strengthens our leading data center solution offerings for our global customers," said **John Engel**, Chairman, President and CEO of Wesco. "This acquisition, the first since the transformational combination of Wesco and Anixter, highlights our continued investment in the high growth data center segment and further expands cross-sell opportunities across our company."

"With over 900 employees in 25 countries and trailing 12-month sales of approximately \$400 million, Rahi provides complementary global coverage and enhances our full suite of data cen-

ter solutions for contractors, integrators and end-user customers," said **Bill Geary**, Executive Vice President and General Manager, Wesco Communications and Security Solutions. "This significant investment fuels growth for our technology focused customers, who can now leverage the combined global footprint, infrastructure and IT expertise of Wesco."



(Continued from page 56)

Peter Hunt, who also dons the hats of Group CEO and Managing Director of the Australia and Singapore opera-

Today Hewshott has five global offices that are home to a 30-strong team of specialists across all four disciplines of Acoustics, AV, IT, and Theatre. The company plans on celebrating 20 years in business by highlighting 20 keystone projects completed over the past two decades in their '20 years, 20 projects' campaign. The campaign will serve to honour Hewshott's past and inspire the company's future.

"The past 20 years have been exciting and rewarding on so many fronts. With that said, I am even more excited about our future and where we are going. The acceleration of technology convergence is allowing us to innovate and think beyond the obvious every day" added Peter.



# JBL AND MARTIN GARRIX ANNOUNCE EXCLUSIVE MUSIC ACADEMY FOR UP-AND-COMING TALENT

The Martin Garrix & JBL Music Academy (powered by STMPD RCRDS & Studios) launched a 3-day programme that has been set up by JBL and Martin Garrix to offer up-and-coming talent a stage and support on their way to success.

JBL and STMPD RCRDS presents the Martin Garrix & JBL Music Academy to a unique opportunity for 40 talented musicians, songwriters, vocalists and producers from across the globe to learn from music industry experts. Designed to take aspiring artists to the next stage in their career, the global initiative will teach participants about music, branding and business: from writing, mixing and mastering the best records, to building your PR, socials and visual identity. The Academy will also provide insights into business aspects of the industry, such as managing bookings, distribution and legal affairs.

"I am very excited to take this

next step as a JBL ambassador. The focus for us at STMPD RCRDS is already on emerging talent, but thanks to this collaboration with JBL we can provide a platform to a large group of new talent from all over the world", says **Martin Garrix**.

Inspiring industry speakers – including Martin Garrix himself – will present talks and training to encourage artists to bring out the best of their talents. The Academy will be hosted in the prestigious STMPD Studios in Amsterdam.

"Martin Garrix has been a JBL ambassador for over a year and a half and this programme is a natural next step in our collaboration. It's important to us that we give talent a voice and this is also where Martin Garrix and STMPD RCRDS invest a lot of time. I think it would be amazing if a future JBL ambassador is amongst the participants" says **Robert-Jan van Dormael**, Vice President Integrated Marketing EMEA HARMAN.

The Martin Garrix & JBL Music Academy is open to all kinds of musicians



regardless of experience. Emerging artists, producers, singers and songwriters can apply by submitting a motivational video and a maximum of three tracks, that they feel represent them.

Registrations will open from December 1, 2022 to January 27, 2023, with successful applicants announced

in February 2023. The Academy will take place from March 28 to March 31, 2023 in Amsterdam, and welcomes applicants from Europe, Australia, New Zealand, Singapore, Malaysia, Philippines, Indonesia, Thailand, Korea, India, Brazil, Mexico and the United States.

#### **MEYER SOUND EXPANDS GLOBAL EDUCATION PROGRAM**

Meyer Sound announced an aggressive rebooting of its industry-leading education program, with a full program of workshops and training sessions scheduled at the Berkeley headquarters as well as at other locations in the US and overseas, and the formation of partnerships with leading educational institutions. Many of the sessions will be led by two long-time fixtures in the company's education program, Director of System Optimization Bob McCarthy,

and Senior Technical Seminar Instructor **Mauricio 'Magu' Ramirez**, with this duo now joined by another of the pro sound industry's leading educators, Senior Technical Support and Education Specialist **Merlijn Van Veen**.

Meyer Sound also has announced new and extended renewal partnerships, most notably with Full Sail University in Florida, The University of California, Irvine (UCI) in California, and the University of Derby in England. "We were forced to shift most of our focus to online platforms during the peak Covid months," says Meyer Sound Training and Education Manager **Robyn Bykofsky**, "but in 2023 we will be back with a greatly expanded program of in-person training sessions, with most organized and presented by Meyer Sound but with others presented in collaboration with our partner schools or through industry and professional associations."

The in-person program for 2023 kicks off January 17-19 with System Design and Optimization training in Berkeley, with 'Magu' presiding, and continues February 14–16 with Bob McCarthy leading the same training in Florida at Full Sail University. Also in February, 'Magu' heads

across the Atlantic with trainings to date planned for Spain, Lithuania, Germany, and Switzerland.

Bykofsky stresses the importance of forming institutional partnerships to extend both the reach and the depth of the program's offerings. "The exact structure of the partnerships will differ from school to school," she notes, "but in all cases, the goal is to ensure that the coming generation of sound professionals, as well as those already working in the industry, have the skills and knowledge they need to give audiences the best possible sonic experience, regardless of the products used."

Meyer Sound also will continue to sponsor educational offerings in partnership with professional and industry associations, including USITT and AVIXA.

The expanded in-person offerings and institutional partnerships are supplemented by a wealth of online educational resources, including both short tutorials on specific products and applications as well as archived full-length seminars, many in Spanish, on acoustics, loudspeakers, audio networking, spatial sound, audio fundamentals and more.



# The Bright Spark

#### **DEMOCRACY**

emocracy is, of the people, by the people, or the people of India

At the last PALM expo, I congratulated Mr Chopra on the sheer scale of the exhibition. He generously replied 'Don't congratulate me. Congratulate India

It made me think. I accepted that I am part of the fading aristocracy. We are being run over by this incredible rush of democracy.

Its moving so fast that if it hasn't already swallowed you - It will.

Fortunately, I don't have to fear losing my head in this revolution. All I must do is - join it.

You are probably wondering – What has Democracy got to do with Stage Lighting & Entertainment Electronics. Let me explain.

Time was when live shows that needed sophisticated electronic equipment were the preserve of the privileged. For leading theatres, prestigious concerts, international conferences. You did have nautanki's, Ganpati mandaps, Durga pooja pandals that were intricately decorated but light and sound played a very basic role.

For decades, most stages in India were lit by cut open oil tins and big bulbs. This went on for decades until it changed abruptly.

What triggered this shift? My guess. Wedding planner meets event manager meets equipment provider and we all took off into a brilliant future.

Like Indian Democracy – It was messy. There was acrimony. On the ground nothing seemed to work. But in the big picture – everything

International equipment manufacturers started noticing us. Initially a ragged guy appeared in their well-appointed offices looking for 'deals'. (Saying that with a huge smile.)

All the big brands looked at us with wonder. They had never done business in their existing markets the way they were asked to do in India. Supply lines were huge. Service centres non-existent. A huge amount of equipment was hand carried into the country as personal luggage.

I know for a fact that the only reason why a number of these well-established companies with entrenched systems were willing to make allowances for us was our sheer enthusiasm and hunger to stage the kind of shows we were fortunate enough to watch around the world.

Initially a lot of established brands diverted us to their dealers in Singapore or Hong Kong. Thinking they could club us into the Asia Pacific market. But we were having none of it. We wanted to deal with head office in England or Europe or in the US.

They responded because they saw that their Far East or Middle East offices could not cope with our demands / requirements

Shows back in India started achieving scale. We were soon on football fields and sometimes into cricket stadiums.

I would say that this was still a time for the privileged aristocrats. The number of shows had multiplied considerably. But still a miniscule number for our billion population.

Equipment was expensive and so out

room / hall / stadium was hearing and seeing exactly what the front row VIP's were experiencing. Some say it was better at the back. Front row Invitees could not feel the punch and power of a PA, the way the guys towards the middle were experiencing. You need to be some distance away from a large LED to get the complete detail without pixilating.

**Viraf Pocha** 

To my mind this was when the last bastions of aristocracy fell. Equipment was available across the length and breath of the country.

Sure, the purist with exact specifications could source the top end in a very few companies, usually clustered around the four large metro cities.

But LED screens, decent PA systems, moving lights were available in most towns across India. Gleefully the mandaps, pandals and social platforms rushed to install equipment into their stages and performances.

great PA's and video into their arenas. Seeing their success other sports quickly followed. Gigantic screens stated being seen across football stadiums.

That model was replicated in India. LED screens take up almost 20 % of visibility in most stadiums today. Scoreboards, boundary lines, live action replay screens cover every corner of the circular field.

Wonder how many cricket fans sat in a stadium in Indore and demanded an LED screen installed at his/her wedding the next day.

Meanwhile, his rich relative in India covered the edges of an indoor stadium with a 12 feet high wall. 300 running feet. How's that for an immersive wedding experience? And the wedding planner sold the idea of a basketball type box led suspended over the mandap so everybody at the back of the arena had a ring side view of the saat pheras taking place 150 feet away.

Corporate clients and marketing professionals were not going to miss out on this action to blast their product to their users.

Bigger, brighter, louder seems to be the standard.

So now what next. My sincere hope is content. It has been my personal experience that today Technology takes front and centre. That's great. But Please remember – in the end we are in the story telling business

Musicians, politicians, marketing professionals, event professionals, even wedding planners - Please don't loose sight of the idea that in the end, we are in the story-telling business. Use these tools to tell a story. The technology gives you an opportunity to reach very large audiences. But you must tug an emotion

(Continued on page 72)

For Decades most stages in India were lit by cut open Oil tins and big ft bulbs. This went on for decades - until it changed abruptly... Like Indian Democracy – It was messy. There was acrimony. On the ground nothing seemed to work. But in the Big Picture - Everything Boomed.

of reach of all but the producers with the biggest budgets and richest sponsors.

Great equipment had crept into wedding mandaps, pooja pandals and amateur stage shows. But still on a small scale.

The came the flood. To my mind for TWO main reasons. China and LED walls. Some see that as interchangeable. They may be right. But remember the technology originated in Europe.

So for a short while we had lights and sound from China but projectors and LED walls still made in Europe.

Our desis fell in love with LED walls. Coupled with loud amplification and flying speakers.

Bright colours and loud sound. The hallmark of every festival in India. Truly a match made in heaven.

Suddenly the guy at the back of the

Political rallies ballooned in scale. Religious gatherings started attracting lakhs of devotees. Equipment from the 'devil worshiping' rock concerts was shipped to be installed in Ashrams the next day.

So it continues.

This blossoming excites me. The west had a similar boom in the 1980's. When the touring music business attracted crowds larger than their natural habitats of the civic hall or dance hall could accommodate. First into Indoor arenas and then into stadiums. Sports management companies looked on as fans were willing to pay up to 10 times for a ticket to a rock concert as they were to a football game.

In the West, indoor arenas re modelled and rebuilt to accommodate this technology. To my mind basketball venues were amongst the first to adopt CAMEO LAUNCHES P-SERIES — LED PROFILE SPOTLIGHTS FOR THEATRE, TV AND EVENT APPLICATIONS

Cameo launches the new P-Series, LED profile spotlights that are aimed at professional users from the theatre, TV and event sectors and are available in Tungsten, Daylight and Full-Colour versions. In addition to its light output and flexible handling, the P-series also convinces with its extremely high CRI and TLCI values as well as a lifelike white light and colour rendering.

The P series includes the P2 T (Tungsten, 3,200 K), P2 D (Daylight, 5,900 K) and P2 FC (Full-Color, RGBAL) models. With a light output of up to 17,000 lm

(P2 FC), the P2 profilers are the perfect replacement for conventional 1kW profiled spotlights. The units can be flexibly adapted to different stage requirements via a variety of optional interchangeable lenses. There is a choice of interchangeable lenses with fixed beam angles (19°, 26°, 36° and 50°) as well as zoom lenses for the ranges 15°-30° and 25°-50°.

Even more versatile is the use in combination with the optionally available Cameo iDMX Stick to control the LED profile spotlights not only via DMX and RDM, but also wirelessly via W-DMX.

In the development of the P-series, Cameo has consciously orientated itself on the extremely successful theatre and TV spotlights of the F-series. Thus, the F and P series harmonise with each other both visually and in terms of their photometric properties, forming a perfectly matched lighting duo for theatres, TV, congresses and corporate events.

The Cameo P-Series expected to be available in December.



Cameo the P Series – LED lights for theatre. TV, and event applications

#### MARTIN BY HARMAN DEBUTS ELP PAR IP STATIC RGBW LED WASH FIXTURE

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HARMAN Professional Solutions,

one of the global leader in audio, video, lighting and control, introduced the **Martin ELP PAR IP** static LED wash fixture with IP65-rated outdoor protection.

Joining its sibling, the ELP PAR, this fixture features class-leading lumen output with high-intensity zoom, full-gamut colour calibration and smart rigging and control functions, and is ideal for indoor or outdoor applications with an IP65 rating for protection against dust and water ingress. Its sealed design supports fewer maintenance cycles. The ELP PAR IP is a versatile workhorse lighting solutions for rentals, installs and touring.

#### **Product Highlights**

**Brightness That Goes the Distance** - The ELP PAR IP delivers a class-leading 3,350 lumens of output thanks to its

newly designed 7 x 40W RGBW light engine. It's perfect for covering larger stages that require long throw distances.

**Smart Setup Features -** Streamline setup with smart rigging and control

features, including omega-bracket-connectivity and bright angle of projection indicator marks for quick and repeatable installation. With the push of a button, the fixture temporarily switches to full-power/open-white/adjustable-zoom settings to instantly confirm projection and focus

#### **High-Intensity Zoom**

- ELP PAR IP's next-generation zoom system excels at creating both broad washes and high-intensity mid-air effects, bringing new flexibility to the lighting designer's toolbox.

All-Weather IP65-Rated Protec-

**tion** - The ELP PAR IP is perfect for outdoor applications. It's IP65 rated for protection from water and dust. And the ELP PAR IP's robust, sealed design supports fewer maintenance cycles.

**Ultra-Quiet Operation -** Both lights feature a low-noise Theatre mode, which operates at a whisper-quiet 33 dB.

"The ELP PAR significantly raised the brightness bar in the compact class, producing up to twice the lumen output of its predecessors," says **Mark Mercer-Buss**, Martin Product Manager, Entertainment Lighting. "The ELP PAR IP takes this versatility to the next level with integrated IP65-rated outdoor weather protection that makes it ideal for lighting outdoor or indoor theatre productions, festival, exhibitions or corporate events."

#### **A-PRO LIGHTING INTRODUCES THE NEW 15R SHARPY - REVOLVE PLUS**

**A-Pro Lighting**, in a bid to keep improvising on its positive momentum, recently announced the launch of **15R Sharpy** named **Revolve Plus**.

The Revolve Plus is 15R Sharpy with the original Osram Sirius 311 Watt Lamp. It features a total input power of 350 watts. With 4 glass gobo and a powerful beam, the Revolve Plus is the perfect combination of power and performance. The 15R Sharpy has a robust body with superior design and comes with heavy-duty flight case.

The Revolve Plus is perfect for use as stage lights, dance lights, concert lights, club lights as well as wedding lights.

A-Pro Lighting also deals with sharpy, LED par light, LED batten, moving head wash, blinder, washer, laser light, profile light, controller, splitter, and many more products.

"A-Pro Lighting actively takes initiative to participate in multiple exhi-

bitions, road shows, and live demos in different states to connect their customer directly and to understand their needs", shares **Nawal Agarwal**, CEO, Sound Emporium. He adds, "The company's aim is to grow with customer satisfaction by catering to increased product demand, and our current focus is to deliver quality products in the field of lighting, have an active customer service, and expand our network on a pan-India level."



#### **ADJ INTRODUCES ITS MOST VERSATILE FOCUS SERIES MOVING HEAD: THE FOCUS HYBRID**

The latest addition to ADJ's popular focus series of LED-powered moving head luminaires, the new Focus Hybrid, is a flexible fixture that functions interchangeably as a piercing beam, sharp spot, or soft-edge wash. Packed with features and affordably priced, it is the perfect choice both for production and rental companies looking for maximum versatility and permanent installation projects that require one fixture to serve multiple purposes.

Sitting at the heart of the Focus Hybrid is a powerful 200W cool white (7500K) LED light engine, which offers an average life expectancy of 50.000 hours. This efficient light source is focused through a precision-engineered optical system and out of a large front glass lens to generate a potent output of up to 4,100 lumens. A variety of beam-shaping tools then allow this output to be textured, coloured, and refined to generate a wide variety of effects.

The Focus Hybrid offers a variable beam angle of between 2° and 24°, which can be altered remotely

thanks to a smooth and precise motorized zoom function. At its narrowest setting, the fixture outputs a razor-sharp beam that is ideal for generating aerial effects, while its wider beam angles are ideal for surface GOBO projections. A motorized focus function allows these projected patterns to be kept crisp at varying projection distances or to be deliberately blurred to create more subtle effects. In addition, the fixture features a replaceable frost filter, which can be applied to further widen the beam angle and soften the beam edge to generate a wash output. A Heavy Frost filter is provided as standard, while an alternate Medium Frost filter is also supplied in the box with the fixture.

An 11 position (plus open white) colour wheel features a selection on dichroic filters, incorporating a good variety of vibrant colour options. The collection of dichroic filters also includes a 3200K CTO colour correction filter, which can be used to achieve a warm white output that is ideal for when the fixture is utilized as a stage wash. Multi-coloured effects can be created through the colour wheel scrolling function, which can be activated in either direction and at variable speed.

In addition, the fixture offers two independent GOBO wheels, providing a wide variety of options both for aerial beam effects and textured surface projections.

Digital dimming, with 16-bit fine control, allows for precise adjustments of the output as well as smooth fades in and out. The unit offers a choice of six different dimming modes (Standard, Stage, TV, Architectural, Theater and Stage 2), four different dimming curves (Square, Linear, Inv. Squa and S. Curve) and variable dimming speed (from 0.1 to 10.0s), allowing for customization of the fixture for various applications or a lighting designer's personal preference. The LED light source also supports standard, pulse, and random strobe effects, at variable speeds of between 1 and 20 Hz

A large, full colour, 180° reversible LCD screen on the front panel of the unit provides quick and easy DMX addressing and selection between the fixture's various customizable param-

"The Focus Hybrid is a great new addition to our Focus Series," comments ADJ USA's National Sales Manager, Alfred Gonzales, "sitting between the



Focus Spot 5Z and 6Z. Its 200W LED engine packs a real punch, while its impressive zoom range and additional frost filter allow it to interchangeably perform beam, spot, or wash duties. With the same aesthetic finish and compact size as the other fixtures in the range, it is the ideal companion piece for existing Focus Series users. However, thanks to its extensive feature-set and impressive versatility, I'm sure this new luminaire will also appeal to those looking for a single moving head capable of fulfilling multiple roles."

#### **CLAYPAKY DEBUTS VOLERO WAVE**

Clavpaky launched Volero Wave, an original and innovative LED bar made of a system of 8 independent moving bodies. Each independent head is capable of moving on a 220° tilt and giving rise to

three-dimensional and volumetric projections that have never been seen before.

Each of these heads contains a brand-new mirror-based optical system combined with 40W RGBW LEDs, which of the LED bars currently on the market. The innovative concept behind Volero light source on its axis, thus preserving

express a higher light intensity than any Wave was to be able to move the entire the same intensity of the light flux in any position of the tilt range.

The beams always appear extremely sharp and collimated, parallel to each other due to the 2.9° projection angle. The synchronized movement produces an impressive wave of light, as Volero Wave fixtures are seamlessly connected to each other

Claypaky has designed a system that would allow the Volero Waves to be aligned with each other with extreme precision. They are easily set up and mounted on the truss to create the 'wave effect'. Mounted on the Claypaky Panify, they even add an endless pan rotation at variable speed, making Volero Wave one of the most dynamic light effect fixtures on the market. Volero Wave also features pixel mapping for the control of each parameter for each single LED pixel and the exclusive Advanced Layers Management, which allows the operator to use simultaneously three levels of effects.



#### **ETC INTRODUCES HIGH END SYSTEMS HALCYON**

ETC introduced High End Systems Halcyon, the next generation of automated framing luminaires from ETC. Created to meet the needs of rental operations, theatres, and opera houses, Halcyon is a family of framing fixtures designed for the exacting demands of lighting production. Offering reduced cost, reduced weight, and increased output, Halcyon fixtures are each best in class and engineered to fit into every spec for every design.

Offering matching feature sets and performance across all fixtures, the Halcyon range consists of Gold, Titanium, and Platinum. Halcyon Gold outputs 31,000 lumens and is ideal for short to medium throw applications. Designed for medium to long throws, Titanium outputs 40,000 lumens. And for the most extreme light at the farthest distances, Platinum offers unprecedented light output at 55,000 lumens, with an incredible 75,000 lumens in boost mode. With a new industrial design, each Halcyon fixture blends into any rig.

Halcyon has two LED engine options for maximum versatility. The e Halcyon's colour mixing system uses tighter, nextgen gradient dichroics and a linear mixing curve supported by ETC's renowned colour science for smooth and even colours, both in and out of focus.

With full curtain framing on four focus planes and extended framing rotation, Halcyon provides all the tools to perfectly shape every show. A new, custom selected package of patterns brings a full library of aerials, rotational effects, breakups, diffusion, and prisms. ETC's Trifusion system brings a wide range of

diffusion with a single control channel, maintaining maximum output and even frost distribution across the field, and a smooth transition from a sharp edge all the way to a heavy wash. A continuously variable rotating animation wheel with linear insertion allows programmers to now control the animation's angular position. Patented Whisper Home technology employs a dual sensor system, allowing Halcyon fixtures to home with little movement, while also being quiet, fast, and precise. Halcyon is backed by ETC's industry leading customer service, and is competitively priced without sac-

rificing on features or performance.

Automated Lighting Product Manager **Matt Stoner** comments, "The High End Systems SolaFrame changed how people do things in our industry, and we are excited to continue the revolutionary product line in our new Halcyon products. Over years of customer feedback and fixture usage we have learned so much and the Halcyon family is the culmination of that feedback, and a leap forward in smaller, less expensive, lighter, and better performance."

Market Manager **Tania Lesage** adds, "There are thousands of venues around the world looking for lights with sharp projection, a versatile gobo package, and lush colour mixing; that is exactly what we bring with this new framing family. High End Systems Halcyon was created by our award-winning automated design team with three decades of experience. If Halcyon piques your interest, come see us live at LDI, JTSE or MEET, or get in touch with your local dealer or rep for a demo."



MAGMA FOG 1500 IP HIGH-OUTPUT FOGGER FROM MAGMATIC ATMOSPHERIC EFFECTS NOW SHIPPING

Magmatic atmospheric effects offers the first dedicated fog generator in its Magma series of dependable haze and fog machines. Now in stock and shipping is the Magma Fog 1500 IP, a durable, water-based fog machine with advanced technology and IP65 rating that provides an exceptionally high output fog for professional applications of all types.

The Magma Fog 1500 IP is a tough, all-purpose fogger whose powerful output can be used to add atmosphere to stages in busy venues and demanding rental projects alike, indoors or out. A thermally-protected 1500W heat exchanger produces an impressive output of 60,000 CFM (cu ft/min) and when operating at 100%, the unit can shoot a 40-second burst of all-envelop-

ing dense fog.

The unit is hard to break but easy to use with an onboard LCD touchscreen control panel with manual and timer control options, intuitive DMX-512 and RDM control, and optional wired and wireless remote control options. The Magma Fog 1500 IP comes with IP65 locking power in and IP65 locking 5pin XLR connectors (DMX In/Out) for safe and reliable operation outdoors.

Built to withstand travel and repeated use, the Magma Fog 1500 IP features a durable aluminum housing and robust design for powerful performance that delivers on time, every time. Relatively compact for such a powerful fogger, Magma Fog 1500 IP is easy to set in a corner, position side stage, or hide in a venue. Two convenient carrying han-



dles make handling easy and a hanging bracket for truss mounting is included.

Housing a 5-liter (1.32 gallon) tank, the Magma Fog 1500 IP has a fluid consumption rate of 200 ml/min (6.76 oz). Recommended fluid is Magmatic's Atmosity Extreme Filtered Fog Fluid for a high-quality dense fog with other Atmosity fluids compatible depending on application.

#### **LIGHTING - HALL 3**

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he ever changing video market is reaching new heights with active LED video walls.

From projection to plasma displays; LCD to LED, the continuous journey for large size display wall is always challenging. The indirect light of projection system, to the thick breaking lines of Bezel in LCD and LED is always disturbing the impact of the high resolution content. The cost of Micro LED panels and the alignment issues didn't allow it to be a success.

The evolution journey of direct LED video wall panel increased tremendously post pandemic. The most popular P10 is no more in tender specs now after the pixel sizes have gone down as low as 0.8 mm. (It is now lesser than earlier days LCD panel resolution).

Features like this, along with the seamless large size and flexibility to design it in any shape is making it a popular mode of display not only in OOH, but for indoor applications too.

The other factor is the contrast and brightness-10K lumens brightness is making the OOH possible to fight the day light brightness.

The projectors were slowly diminishing the indoor market with increasing market size of IFP panels. With introduction of 98", the projection systems in meeting rooms started losing its space. And now with the reducing gaps between the pixels, it has started losing space in auditoriums, large training and meeting rooms too.

The Indian market is getting flooded with numerous manufacturers, some of them are actual manufacturers, while many are just into white labelling of the products of China factories.

The right pick for the application is still a mystery for many integrators. The selection of the right product is a challenge in the absence of proper understanding of the technology and the components inside the panels. It is high time for the solution providers in AV industry to understand the important key factors of a video wall as the

by **Abdul Waheed,**CTS, Managing Director,

EYTE Technologies Pvt. Ltd.



## Why Are Active LED Video Walls Becoming More Popular?

According to businessire.com, the Indian Indoor LED Display Market is projected to grow at a staggering CAGR of 19% during the forecast period 2020 - 2025.

This increase in business is due to the application right from shopping malls, retail business to NOC centres, board rooms, auditoriums, railway and airport to the outdoor advertisement segment.

LED display promotions can be favourable to pretty much every sort of business. All you need is the correct blend of inventiveness and incentive to grab the attention of all your prospective business customers.

Three key reasons active LED video walls are becoming more popular:

• No seams: In spite of thin bezels

of flat panel displays when paired together to create video walls, and with LED installed properly, there isn't a single line, making it completely seamless.

**Design flexibility:** The designer gets a free hand to make his/her own resolution, shapes and positions. The LED video walls can be flat, hollow, curve or oval shaped. Also, It can be transparent to be displayed on glass windows as well. The choice of various pixel sizes, brightness and weather proof options, makes it useful for a wider range of applications. The slim sizes along with addition of interactive overlay makes it useful for workplaces with a boundless pixel area. The hardware-based IP solution displays PCs and video sources in freely scalable windows on monitors and videowalls makes it useful for wider applications. All sources can

be freely and individually placed, scaled and moved – even on a single monitor – for the simultaneous display of x-different sources. Thanks to the modular architecture, the solution can be extended to a virtually unlimited number of sources and screens.

• Physical performance: Can have enough light pixels to deliver 8K or more depending on the sizes LEDs are much brighter to operate in a bright sunny day in an outdoor application with IP68 making it weather proof, and can last in the field for 10 years (100000 hrs life) or longer. They also don't require much maintenance, they can do their own colour calibration (if at all required) and can be designed for a 24/7 application.



# Amp Up The Sound:

#### The Six Best Power Amplifiers to look out for in 2022

Simply put, a power amplifier increases the magnitude of power emanating from a particular input signal. This is a process vital to increase to power of the input signal to make it high enough to directly drive the load of output devices, be it headphones, speakers, RF transmitters, and more. In layman terms, a power amplifier amplifies the power of the waveform that turns into sound, thereby elevating the quality of audio that reaches the listener's ear. This article talks about the six best power amplifiers to check out in 2022.

#### d&b audiotechnik 5D Amplifier

A Class D, four-channel amplifier, the 5D offers a flexible power distribution using Digital Signal Processing (DSP), which in turn allows configurations, equalizations, and delay functions specific to smaller loudspeakers.

#### Main Features include:

- · Integrated audio networking
- · Flexible output power sharing
- 1 RU x 9.5" ultra-compact design
- Two Ethernet ports (1 Gbits/100 Mbits) on RJ 45 connectors with Dante audio streaming and OCA/AES70 protocol
- d&bArrayCalc Simulation software and R1 Remote control software
- Four GPI pins
- · Additional FAULT contact

#### **Technical Specifications::**

- Latency analog / Dante input: 1.1 ms / <</li>
   3 ms
- Configurations: Selected loudspeakers from E-Series, xS-Series, xC Series, T-Series; Linear setup
- Frequency generator: Pink noise or Sine wave 10 Hz – 20 kHz
- Display: LED indicators
- Ethernet, Dante Input: 2 x RJ 45, 1 Gbit / 100 Mbit
- GPI: 1 x 6-pin Euroblock 3.5 mm male
- Input / Link ANALOG (A1-A4): 2 x 6-pin Euroblock male, 3.5 mm
- Speaker outputs A/B/C/D: 2 x 4-pin Euroblock 5.08 mm female
- · Mains connector: IEC
- FAULT: 1 x 3-pin Euroblock 3.5 mm male
- Maximum output power per channel (THD+N < 0.5%, all channels driven)</li>
   CF = 12 dB at 4 / 8 ohms: 4 x 600 W
- Type: Wide range switched mode power supply with active Power Factor Correction (PFC)
- Rated mains voltage: 100 240 V, 50 60
- Dimensions (H x W x D): 1 RU x 9.5" x 435 mm/17.1"
- Weight: 4.6 kg/10 lb

# A 9600W, 4-channel flexible amplifier with Dante and DSP, the Quattronali 8804 DSP+ is the key to incredible sound quality. What makes this amplifier a standout is the

Powersoft Quattrocanali 8804

patented Smart Rails Managamen (SRM) Technology that allows the user to maximize the system efficiency and minimize power consumption in all kinds of usage and load conditions. The 8804 DSP+ also comes with the lowest thermal dissipation in the world of power amplifiers.

#### Main Features include:

DSP+

- Operates with Lo-Z and 70V/100V distributed lines
- Offers in-depth and remote control and monitoring with ArmoniaPlus
- Integrated with AES67 digital audio networking architecture
- Reliable in mission-critical applications
- Comes with MyPowersoft services

#### **Technical Specifications:**

- Output power per Channel: 1800 W @ 2  $\Omega,$  2400 W @ 4  $\Omega,$  1600 W @ 8  $\Omega$
- Bridge mode: 3600 W @ 4 Ω, 4800 W @
- Max unclipped voltage @8  $\Omega$ : 175 Vpeak
- · Current: 55 Apeak
- Power supply: Universal, regulated switch mode with PFC (Power Factor Correction)
- Nominal power requirement: 100-240 V ±10%, 50-60 Hz
- Operating voltage: 90 V 264 V
- Idle: 115 V: 34 W 0.56 A, 230 V: 34 W 0.37 A
- 1/8 of max output power @ 4  $\Omega$ : 115 V: 1702 W 15.6 A, 230 V: 1676 W 8.2 A

#### **AtlastIED HPA2408**

An eight-channel, 2400-watt commercial high power amplifier, the HPA2408 comes with Generation II Class D Output Topology that delivers a vital combination of high efficiency amplification coupled with the supreme sound quality of Class AB amplifier. Designed with wide range voltage power supply in conjunction with power factor correction, the HPA2408 offers sustained

stability even in the worst power fluctuation scenarios. Moreover, the power amplifier comes with a security cover, a remote turn on, fault reporting, a card slot for optional Dante eight-channel digital audio interface, and balanced line inputs paired with sensitivity settings.

#### Main Features Include:

- $4\Omega$ ,  $8\Omega$ , 25V, 70V, & 100V Operation
- Each channel load can be independent of the others
- Only requires a 15A AC mains source for 120V operation
- · Remote turn on
- Accessory card slots for optional Dante<sup>™</sup> digital network audio cards
- · Fault Reporting
- Detented attenuators with security covers
- Stereo or parallel operating modes
- Selectable input sensitivity
- BUSS input with individual channel assignments
- Multistage fan cooling
- Removable air filters
- Wide range AC Mains power supply 100V
- 240V with PFC
- Meets Energy Star standards for 1W Standby Mode

#### **Technical Specifications:**

- Power Output: 2400W
- 100V: 8 x 300W
- 70.7V: 8 x 300W
- 25V: 8 x 300W
- 8Ω: 8 x 300W
- 4Ω: 8 x 300W
- 2Ω: NA
- Frequency Response: 20Hz 20kHz (+0/-1.5dB)
- THD: <0.15%
- · Channels: Eight
- Signal To Noise Ratio: >70dB
- Connector Type: Terminal Block & Phoenix
- Number Of Fans: 1 Variable Speed
- Rack Units: 2 RU
- Height: 3.5" (89mm)
- Width: 19" (483mm)
- Depth: 15" (381mm)
- Voltage Compatibility: Universal
- Weight: 21.4 lbs. (9.7kg)
- Finish: Black





Sound, amplified in just the right manner, is the key that sets apart an exceptional audio performance from a marginally average one. From d&b audiotechnik to Studiomaster, these six power amplifiers are all set to the change the way sound sounds.



#### **NAD Electronics M23**

A cutting-edge stereo power amplifier, the M23 HybridDigital comes with Eigantakt design, Purifi Audio's innovative technology that eliminates intermodulation and harmonic distortions to deliver clutter-free sound. With rigid panels, magnetic isopoint and an elegant design, the M23 is as easy on the eyes as it is ecstatic to the ears.

#### Main Features include:

- HybridDigital Purifi Eigentakt<sup>™</sup> amplifier technology
- Balanced (XLR) and single-ended (RCA) auto-sensing inputs
- Three-position adjustable gain control
- 12V trigger input

#### **Technical Specifications:**

- Input impedance (R and C): Single-ended:
   56 kohms + 200 pF Balanced: 56 kohms
   +200 pF
- Frequency response (1W into 8 Ohms): ±0.06dB (20-20kHz)
- Rated output power into 8 Ohms and 4 ohms(Stereo mode) 80 W (ref. 20 Hz-20 kHz at rated THD, both channels driven): >200W into 8 Ohm, >380W into 4 Ohm
- Rated output power into 8 Ohms (Bridge mode, ref. 20 Hz-20 kHz at rated THD, both channels driven): >700W into 8 Ohm
- THD (20 Hz 20 kHz): <0.00069% (XLR), <0.0013% (RCA)
- Signal-to-Noise Ratio: >101.7 dB (1W into 8 Ohm), >127 dB (200W into 8 Ohm)
- Clipping power (Stereo mode, at 1 kHz 0.1 % THD): >210 W (0.1 % THD 1 kHz 8 ohms)
- Clipping power (Bridge mode, at 1 kHz 0.1 % THD): > 770W
- IHF dynamic power (Stereo mode, at 1 kHz): 8 ohms 260 W4 ohms: 520 W
- IHF dynamic power (Bridge mode, at 1 kHz): 1017W
- Peak output current: >25 A (in 1 ohm, 1 ms)
- Damping factor: >800 (ref. 8 ohms, 20 Hz to 6.5 kHz)
- Frequency response: ±0.06 dB (stereo),
   ±0.054 dB (bridged) 20 Hz -20 kHz -3 dB
- Channel separation: High gain RCA: >97dB, Low gain XLR: >115dB (1kHz), High gain RCA: >75dB, Low gain XLR: >96dB (10kHz)

- Stereo Mode input sensitivity (for 200 W in 8 ohms): Low gain: 4.5V (low gain),
   2.5V (Mid gain), 1.4V (High gain)
- Stereo Mode Gain: 19dB (low), 23.9dB (mid), 29.2 (high)
- Bridge Mode Gain: 25.1dB (low), 30dB (mid), 35.2 (high)
- Standby Power: <0.5W
- Gross dimensions (W x H x D): 435 x 133 x 396 mm (17 1/8 x 5 1/4 x 15 5/8 inches)
- Net Weight: 9.7 kgs / 21.4 lbs
- Shipping Weight: 17.5 kgs / 38.5 lbs

#### Studiomaster HX2 - 900

A compact, lightweight, yet highly durable digital power amplifier, the HX2 – 900 is available in 2 and 4 channel variants and offer from 2x450 watts at 80hms Stereo to 2030 watts at 40hm bridged. Ideal for conference, installation, entertainment, rental and touring applications, the power amplifier features power factor correction and operates from anywhere between 90 VAC to 250 VAC, even when the loads are down to 20hms..

#### Main features include:

- Power factor correction (PFC)
- Universal 90-250V power supply
- 2 and 4 channel models
- Variable speed fan cooling
- Stereo/parallel/bridge modes
- Multiple gain modes
- Balanced XLR inputsProfessional speaker connectors
- Thermal, overload, DC protection
- Thermal, fault and limiter indicators

#### **Technical Specifications:**

- Slope (1kHz, Bypass LPF): 50V/us
- Input Sensitivity 1kHz: 1Vrms
- THD+N (10% rated output power): 0.02%
- IMD-SMPTE (10% rated output power):
- DIM30 (10% rated output power): 0.05%
- Crosstalk rejection (less than rated power, 20Hz – 1kHz): >80Db
- Frequency Response (10% rated output power, 8ohm, 20Hz 20kHz): 0.2dB
- Input Impedance: 20k ohm (bal), 10k ohm (unbal)
- Damping Factor (8ohm, 20Hz 100Hz):
- S/N ratio (A weighted, 20Hz-20kHz): 105dB
- Power supply: 90-260VAC, 50/60Hz
- Protection: overoad/thermal/DC output

#### protection

- Dimensions (WxHxD) 483mm x 44mm x 323mm
- Net Weight: 2channel 5.0kg, 4channel 5.7kg

#### Audiolab 8300XP

It's not just because the 8300XP delivers 140W per channel into 80hms that this power amplifier finds itself on this list, but also because the 8300XP also features a minimalistic design to fit right into the world we live in today. With the power to drive even the toughest loudspeaker and deliver a clean, crisp sound to the listener, the 8300XP is the last, but not the least, of the six highly-ranked power amplifiers in the pro audio market today.

#### Main features include:

- Balanced XLR
- Single-ended RCA inputs
- Bi-wire speaker terminals
- A pair of 12v trigger inputs
- Ultra-pure OCC copper cast internal circuit components

#### **Technical Specifications:**

- Rate power output: 140W RMS (8 $\Omega$  <1% THD, 1kHZ stereo), 230W RMS (4 $\Omega$  <1% THD, 1kHZ stereo), 480W RMS (8 $\Omega$  <1% THD, 1kHZ bridge)
- Gain: 29dB @ 1kHz (stereo), 36dB @ 1kHz (bridge)
- Input sensitivity : 1100mV
- Input impedance: 15k (balanced) 10k (unbalanced)
- Frequency response -3dB: 20Hz 80kHz
- +/-1dB: 20Hz 30kHz
- Total harmonic distortion (THD): 0.004% (20W, ref. 1kHZ)
- Intermodulation distortion (IM): 0.004% (20W, ref. 7kHz + 60Hz)
- Transient inermodulation distortion (TID): 113dB (A Weighted, ref. 140W)
- Signal-to-noise ratio (S/N): 140W / 113dB
- Damping factor: 160
- Power Requirement: 240V  $\sim$  50-60Hz, 230V  $\sim$  50-60Hz, 115V  $\sim$  50-60Hz  $\sim$  50-60Hz
- Dimension (mm) (WxHxD): 444 x 149 x 367
- Carton Size (mm) (WxHxD): 550 x 260 x 580
- Weight: 16Kg (Net), 18.5Kg (Gross)



# On Delivering Quality Mega Scale AV Projects in India

The PALM + AV-ICN conference session witnessed a panel of AV experts, Prashanth Govindhan, Claron D'souza, Abdul Waheed, and Kapil Thirwani sit for a dialogue on the evolution of Indian AV industry, how it differs from AV industries in other countries, and how moral is the concept of jugaad in the Indian AV sphere. In this article, read the highlights of the talk.

# QUALITY PARADIGM OF MEGA SCALE AV PROJECTS 16:45 PM - 17:30 PM



SPEAKER: PRASHANT GOVINDAN Regional Consulto India, Generation



SPEAKER: CLARON D'SOUZA Independ Consulta



SPEAKER: KAPIL
THIRWANI
Principal Corporation
and Partner
Acoustics Inc.



Managi EYTE Tec Ltd

o address
the rising significance of

SA

AV in the field of technology in the country, PALM

+ AV-ICN organized a conference session titled, 'Quality Paradigm of Mega Scale AV Projects'. The session witnessed a panel of AV experts, **Prashant** 

**Govindan, Claron D'souza, Abdul Waheed**, and **Kapil Thirwani** sit for a dialogue on the evolution of Indian AV industry, how it differs from AV industries in other countries, and how moral is the concept of jugaad in the Indian AV sphere. In this article, read the highlights of the talk.

## Looking at AV as an Integrated, Multidisciplinary Field

**Prashant Govindan:** The whole concept of AV integration has changed in the

couple of decades. When I entered the industry

about 18 years ago, people knew what they wanted in

terms of functionality of an AV experience, and we would try and deliver a solution in one way or the other.

Things took a turn in the 90s with the arrival of the home theatre systems and Surround Sound became a buzzword. People wanted surround sound in every boardroom. Now, in the last decade or so, we're seeing global paradigms being applied to meeting rooms, corporate spaces, hospitality and pretty much every other application. As AV evolved, so did the technology. Things moved from analog to digital, from basic component-based designs to more hybrid, digital-based designs. That's where the convergence of AV takes place.

AV is now an integrated, multidisciplinary field rather than just audio, video, or



Anil Chopra, Founding Director, PALM + AV-ICN and Smita Rai, Deputy Project Director, PALM + AV-ICN felicitates the panel of AV experts

lighting. We have a very eminent panel here today having between us more than 60-70 years of experience in the field of AV. Would each one of you trace back on your beginnings of your AV journey and take the audience through a roadmap of the AV evolution in India?

#### The AV Evolution:

Kapil Thirwani: For me, AV started with all-in-one, then it turned into split, and then it became all-in-one again. Technology was defined by companies who brought the technology onto the floor. Whenever we thought about television earlier, the focus would be on the brand. You never knew the technology behind it. But now, we understand technology - what digital audio is, what analog audio is, etc.

Today, when we work on a multistorey residential or commercial structure, we would still start at the basics. Electrical components, the HVAC, which was broken up into multidimensional components, which also included AV, came into play. But today, we're going back to the companies who are sharing data between them and they are coming onto a common platform where they can now cross-reference products between home, studio and commercial devices.

Today, the job has become more difficult with reference to understanding the transfer of data, and how it is talking to the code of the multi-channel audio or video. The most challenging part is to understand the basics and bring it to every matrix. But once you get the basics right, it is a piece of cake from that moment.

The evolution that I can see today is that we're coming back to the all-in-one solution today, because these companies and technologies are help-

ing us arrive at a single global solution.

Claron D'Souza: We walked into this industry out of passion. There was a time where there weren't many 'brands' available in India, unlike today, where we're spoilt for choice. But back then, we had to make-do with what we had. With the arrival of foreign brands in India, we learnt what each piece of equipment would do. We had a rack full of stuff, and little by little, equipment racks became smaller. Equipment merged. They became very broad in terms of their capability. Different technologies began to emerge in the world of audio, like CobraNet and Dante. Today, every piece of technology is on IoT. What can we expect in the years to come? Frankly, it's a little difficult to predict, but it's going to be great.

**Abdul Waheed:** Just as Kapil mentioned, earlier, AV was all about box-selling. Now, I believe we've started

box-selling again. Today, a customer buys a display with in-built camera, in-built speaker, in-built microphone, in-built Wi-Fi, in-built wireless presentation as well! Technology is ever evolving, and change is the only constant here. The industry is continuously undergoing a transformation. Every day, new technologies are making their presence felt, but one thing is for sure, all of this is merging into a single solution on a single platform.

If I recall my earlier days, the bosses, the heads, the CEOs of the corporate world would see these devices in their offices, go home and wished to see and experience the same devices there as well. But now I see that their lifestyle is driving the trends. Now, they have a good iPhone, and they want a similar set-up in their corporate space. They have a good smart TV that is capable of wireless presentations, so

Things took a turn in the 90s with the arrival of the home theatre systems and Surround Sound became a buzzword. People wanted surround sound in every boardroom. Now, in the last decade or so, we're seeing global paradigms being applied to meeting rooms, corporate spaces, hospitality and pretty much every other application. As AV evolved, so did the technology. Things moved from analog to digital, from basic component-based designs to more hybrid, digital-based designs. That's where the convergence of AV takes place.

they want to see that in their offices.

## Handling The Complexity In AV-IT Convergence

**Prashant Govindan:** Over the years, we marked a trajectory, from selling devices to selling boxes. But, in all of this, the size of the project, in terms of value, in terms of number of rooms, number of facilities, or applications, has grown in complexity. The need of the hour is to integrate these platforms back to the IT network. It's about interoperability, the ability to handle AV traffic on the IT network while also keeping it secure and this is the challenge!

So, how do we handle complexity in the AV-IT world along with the cultural nuances one encounters, especially in the Indian context in handling the AV-IT convergence, and what are the tools that help us in doing the same with ease and efficiency? How do we delivery quality despite all the afore-mentioned challenges?

Kapil Thirwani: Before COVID, this was an easy job for us. We had designs on our tables, we looked at audio and video separately, we spent time figuring out how to matrix it together, we used to get an IT expert to look at how all of this is going to work together. You cannot think of the AV system or the IT system without thinking of the language of the handshake between the two. Today, everything is IoT.

# Following International Standards In Indian AV Projects

**Prashant Govindan:** Kapil,what do you see in terms of the diversity or the cultural differences when you engage with the customer in India versus somewhere else, like Lebanon?

Kapil Thirwani: They don't try to multitask the way we do. But in India, we try to do so much more than what we're assigned to do. I think that is not a downfall, but it is chopping your own leas.

You cannot have a question about IT when you are going to be talking about security later. I feel when I work with projects internationally, they are very clear in their requirements. So, even though we all make DDRs, it is just on a piece of paper. But there, the DDR is followed to a T, every perspective is taken into consideration, and no one is ashamed of asking for help. That mode of communication where you are on the receiving end and you get little more information, makes you smarter in the next project.

In India, with the advent of big OEMs, their partners, and their international clients, you get to learn a lot, but care has to be taken that the learning doesn't fizzle out in the quest to multitask. You will be more well-respected when you take a step back and say, 'No, let us just talk about the topic at hand right now'.

# Looking At Mega Scale AV Projects With A Trained Eye

Claron D'souza: Nowadays, when we turn towards large-scale projects, there is a lot of cut and paste that goes into across all the domains - the architectural design, the electrical design, the air conditioning design, and even the air conditioning effects – if you don't design your air conditioning system very well and you have rooms that are joined to one another, the people in the first room will possible hear the meeting happening in the third room. We have to point this out to the concerned teams. There is a lot of responsibility that we shoulder. What do you think, Kapil? You must face these issues while designing for acoustics, right?

Kapil Thirwani: There is some cut and paste. But every project has a different challenge. But if you have your basics right, then I don't think it will be an issue. I think all of us who are in the industry because of passion, we have our nuts and bolts in the right place.

Nowadays, when we turn towards large-scale projects, there is a lot of cut and paste that goes into across all the domains – the architectural design, the electrical design, the air conditioning design...We have to point this out to the concerned teams. There is a lot of responsibility that we shoulder.

Abdul Waheed: AV projects are very challenging at times. When you go onsite, the IT guy raises his hand and says, "I don't know what these people do." In the same way, the HVAC team doesn't know what you do, and on and on. So, when you go onsite, you are not just an AV professional. You also have to perform PMC and coordination to train and explain the architect what kind of acoustics, what kind of equipment, what kind finishes he requires. So it is both very interesting and challenging at the same time.

Abdul Waheed: One of the biggest challenges for the execution of large projects is the lack of skilled manpower. You don't have formal education for it. So, it is huge challenge to acquire professional, skilled manpower for large scale AV projects. But, at the end of the

day, you have to be on top of it all. The AV-ICN expo conducts the CAVS course, where formal education is given, and attendees are certified.

## Is Jugaad Possible In Large-Scale AV Projects?

Prashant Govindan: I think it's fair to say that every project starts with a good design. If that design is not done well, then you will have a lot of trouble with correction and cost correction to handle going forward. This is one of the key things that is ignored in projects in India, which brings me to an interesting topic – Jugaad. This is one thing that never works in AV. I just want to take the panel's point of view on where they have encountered jugaad, and why that is unacceptable, and if it is the vice-ver-

sa, then why should it be an innovative jugaad.

Claron D'souza: Jugaad was something we had to do back in the day. Now, thankfully, companies have global standards, and you have to follow them. It is very important for us, in this industry, to make sure that everything is connected well. I think when we make provisions in a project, we have to make ample provisions, because as technology progresses, we don't need to do a jugaad later.

Abdul Waheed: For jugaad, I would say, India is a cost-driven market. Many times, we have a proper solution in place, but here, the client's expectation is of a BMW, and the budget is of Maruti 800. This is a common scenario here. So many times, integrators are forced to do jugaad. Of course, it is not right and specially in large projects, you cannot afford to do this.

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#### Dialing it up: Ashish Saksena on how Monitor Mixing.... (Continued from page 15)

that they turn to mush. Because of this, the musician is not able to hear his mix correctly, and he'll keep asking you to increase the gain. My solution? Be a little more responsible, spend a little more money, and buy something that will last a little longer."

## Mastering The Art of Monitor Mixing

The first step to master the art of monitor mixing is switching to stereo. Why? Ashish Saksena responds, "When I did pure monitor mixing, we switched to stereo for all the musicians. The reason behind this was not because we were fascinated with stereo, it's because the placement of the instruments could be done in a better fashion. When you switch to stereo, you can pan the toms away, overheads even more away, therefore creating a little bit of space in the middle for the singer's voice or for the musician's instruments."

A vital element in ensuring a successful monitor mix is tactfully using the snapshot. Expanding on this, Ashish Saksena shares, "A snapshot is very

helpful, not just for changing levels, but also for creating mutes. If you have certain instruments which are not playing in a particular song, you can create snapshots of just the mutes and nothing else. After some time, mixer faders go out of alignment, you think you are at 0, but you are not. You could be at +4 and -6. But when you do it via a snapshot and internally when that fader comes up, the physical representation of the fader may be anywhere, but when you look at the software screen, you know you have reached its correct point."

# **Exploring The Nuances of Alternative Monitoring**

For Ashish Saksena, alternative monitoring is very helpful. But what is it, and who does it work best for? Saksena says, "It is ideal for a much bigger band that has a larger tech crew travelling with them. You now have systems where you can sub-group up to 24 channels to send up to 24 submixes to each musician's station and he/she can control their own mixes."

Smaller consoles also deliver agency to musicians, allowing them to control

their mixes. Speaking on smaller consoles as a great alternative monitoring option, Saksena concludes, "Some of the smaller consoles work on WiFi, where everything is app-controlled. If you run a small band or a small setup, and you want to give the musicians control over their own mixes, you can split your setup in a way where you have your console on Front of House and you have a WiFi enabled console on stage. That acts just like your monitor console, but it can remotely controlled. You can now mix Front of House and the musicians can control their own mixes from a monitor console which is remotely located."

Creating a good monitor mix isn't child's play. But till maestros like Ashish Saksena are here to enlighten emerging sound engineers about making a mark in the live sound industry, the journey is well worth it



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## Leading with LED

#### The Six Ground-Breaking Indoor LED Video Walls To Invest In 2022

Perhaps one of the biggest AV conferencing trends to emerge in 2022, indoor LED video walls are transforming the landscape of conferencing. With not just superior quality images, but also with fully-integrated components such as built-in speakers, remote controllers, and front serviceability modules, indoor LED video walls have transitioned from basic screens mounted on the walls to all-in-one video conferencing solutions that increase productivity levels, enhance the quality of the workforce, and make ease of business possible in its truest form. This article highlights the six ground-breaking indoor LED video walls that are worth an investment in 2022.

## Christie Core Series II (0.9 mm LED Tiles)

The Christie Core Series II is a price-conscious option for revolutionary LED video walls ideal for small-scale to large-scale installations. The 0.9 mm LED Tiles variant from Christie's Core Series II is ADA-compliant, direct-mount video wall that delivers ease-of-installation.

#### Main Features include:

- Available in a range of pixel pitches from 0.9mm to 2.5mm
- Full-front access for easy installation and service
- 16:9 aspect ratio scales to common resolutions including HD and UHD (4K)
- Powered by our E510 controller for simple system design
- Compatible with our E600 controller for enhanced processing that can deliver 4K at 60Hz, HDR10 and low brightness enhancements

#### Technical Specifications::

- Pixel pitch: 0.9mm
- Pixel configuration: 3-in-1 (1 red 1 green 1 blue)
- Pixel density: 1,137,777 pixels/sq m
- Brightness (maximum calibrated): 800 nits (cd/sq m)
- Aspect ratio: 16:9
- Contrast ratio (full field): 5000:1 @ 1Lux, 2000:1 @ 10Lux
- Viewing angle (degrees) horizontal / vertical: 160°H / 160°V
- Refresh rate: >3840Hz
- Scan rate: 1/36
- Colour temperature: 2700-9600K
- Display colours: 4.39 trillion (14-bit)
- Power input rating remote power supply\*: 100-240 VAC @ 50-60Hz
- Power consumption per tile/cabinet: 78W
   Typical | 235W Maximum
- Heat output per tile: 266 BTU/hr Typical | 802 BTU/hr Maximum



#### **Barco TruePix TP1.2**

Barco's TruePix TP1.2 is an indoor LED video wall that is designed to be installed in corporate, control room, and broadcast visualization applications, courtesy to its framework that delivers clear, crisp images in ambient and controlled light environments.

#### Main Features include:

- 24/7 smooth and efficient operations
- True colour accuracy under all lighting conditions
- Reduced ecological footprint with A+ Ecoscore rating
- 10+ years of guaranteed display uniformity

#### **Technical Specifications:**

- · Pixel pitch: 1.27
- Pixel per module: 480x270 (HxV)
- LED lifetime: 100,000h (video 50% brightness)
- Brightness: >800 nit
- Internal processing: 23 bit
- Colour depth: 16 bit (281 trillion colours)
- Hor. viewing angle: 160° +/-5°
- Vert. viewing angle:  $160^{\circ} + /-5^{\circ}$
- Brightness uniformity: >98%
- Contrast: >9,000:1
- Power consumption: 704.8 W/m² (max), 221.5 W/m² (typ), <10 W/m² (standby)</li>
- Operation power voltage: 100-240V 50/60Hz
- Operational temperature: -10°C to +40°C /  $14^{\circ}F$  to  $104^{\circ}F$
- Operational humidity: 10 80%
- IP rating: IP30
- Dimensions: (WxHxD) 609.92x343.08x71mm / 24.01"x13.5"x2.80"
- Weight: 8.2kg/tile (single PSU) 8.6 kg/tile (dual PSU)



#### NEC 108" E Series FHD LED Kit

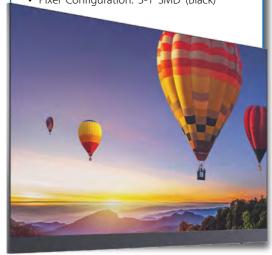
The NEC E Series is designed to be integrated large spaces such as boardrooms, retail, auditoriums, and educational venues. Delivering a seamless LED display while being cost effective, the NEC E Series is a stellar combination of form and function. With a front serviceable design, the LED video wall is easy to install, easy to access, and easy to maintain. With planning, design, installation, and post-installation support included in the LED video wall kit, the NEC E Series is set to help the user on the business at hand, while the rest is taken care of at the back-end.

#### Main Features Include:

- Full HD (1920x1080) resolution with a refresh rate of >= 3840 Hz
- Front serviceable modules allow installation in difficult-to-access areas
- Replaceable, hot-swappable pixel cards
- ADA compliant, thin, and lightweight design
- Standard installation included

#### Technical Specifications:

- Panel Technology: Direct View LED
- Aspect Ratio: 16:9
- Module Resolution: 480 x 270
- Pixel Pitch: 1.25 mm
- Brightness (maximum): 660 cd/m2
- Viewing Angle (typical): 85/85 horizontal / 80/80 vertical
- Active Screen Area: 94.4 x 53.2in. / 2400 x 1350mm
- Displayable Colours: 281 Trillion
- Colour Temperature (Typical) (°K): 6500
- Colour Processing: Up to 16 bit
- Colour Temperature (Max) (°K): 3000
- Colour Temperature (Min) (°K): 9500
- Viewable Image Size: 108 in.
- Native Resolution: 1920x1080Pixel Configuration: 3-1 SMD (Black)



PALM + AV-ICN reports on the latest popular, reliable, and cost-effective LED video walls available in the Indian pro AV industry today. From **Barco's TruePix** to **NEC E Series**, these indoor LED video walls are here to change the conferencing game in the long run.

- Brightness (typical): 600 cd/m2
- Contrast Ratio (typical): 5000:1
- Orientation: Landscape
- · Lifetime: 100,000 hours
- Power Consumption On: 944Watts
- Power Consumption (max): 2000 Watts
- Power Consumption (min): 480 Watts
- Dimensions (WxHxD): Without stand: 94.4
   x 53.2 x 1.1 in. / 2400 x 1350 x 29 mm
- Net Weight (without stand): 166.4 lbs. / 75.2 kg.
- Serviceability: Front Service
- IP Level: IP20
- Operating Temperature: -4° to 104°F /  $-20^{\circ}$  to 40°C
- Operating Humidity: 10% to 80%
- Limited Warranty (parts & labour): 2 years

#### Planar MGP1.2

Available in 1.2 mm pixel pitch, the Planar MGP1.2 delivers Full HD and 4K resolutions for a seamless LED display and hi-resolution visual experience. With front serviceability, 27" LED cabinets, and budget-conscious price tag, the Planar MGP1.2 offers all the benefits of a LED video wall at the price of a tiled LCD video wall.

### Main Features include:

- 1.2 mm pixel pitch
- Features 16:9 aspect ratio for video
- Mounted profile less than 4"
- Front installation & serviceability available

### **Technical Specifications:**

- Planar Model: MGP1.2
- Pixel Pitch: 1.25
- Cabinet Resolution: 480 x 270
- Pixel Density:  $640,000/m^2 \mid 59,451/ft^2$
- Cabinet Size: 600 x 337.5 x 53mm | 23.62 x 13.29 x 2.09in
- Cabinet Diagonal: 688.4mm | 27.1in
- Cabinet Area: 0.2025m² | 2.18ft²
- Modules/Cabinet (W x H): 4 x 1
- Module Size: 150x337.5mm | 5.91x13.29in
- Power Consumption, Maximum (watts): 110/Cabinet | 543/m²
- Cabinet Weight (per display): 6.08kg | 13.39lhs
- Cabinet Weight (per m²): 30kg | 66.12lbs



- Brightness: 600
- Contrast Ratio: 5000:1
- Viewing Angle, Horizontal: 160°
- Viewing Angle, Vertical: 140°
- Service Access: Front, Rear
- · Fnvironment: Indoor
- Operating Temperature/Humidity (degrees F/C, relative humidity): -20° to 40° C | -4° to 104° F 10-80%
- LED Lifetime: Typical: 100,000

### Samsung The Wall All-In-One 146" (P.84)

Samsung's The Wall All-In-One is a LED video wall that stands true to its name. A complete solution that is easy-to-install, the Wall All-In-One delivers on the promise of brighter, bolder visuals with Black Seal Technology that creates a seamless pure black background for images with enhanced depth and unparalleled contrast.

#### Main features include:

- Enabled with Black Seal Technology
- Features Ultra Chroma Technology
- Easy to install, thanks to docking and hanging
- Comes with all-inclusive, built-in components
- Linear grayscale for continuous natural shading

### **Technical Specifications:**

- Pixel Pitch: 0.84mm
- Pixel Configuration: 1 red, 1 green, 1 blue
- Diode Type: Flip-chip RGB LED
- Configuration (LxH, per screen): 3840 x 2160 pixels
- Dimensions (mm, LxHxD, per screen): 3225.6 x 1814.4 x 49 mm
- Dimensions (inch, per screen): 145.7 x 1.9 inch
- No. of Modules (WxH, per screen):16 x 12
- Weight (per screen): 168 kg



- Size: 146" UHD
- Type: IA Series
- Brightness: Yes
- Brightness (Peak / Max): 1600 nit / 500 nit
- Contrast Ratio: 24000 : 1
- HDR Compatibility: LED HDR / HDR10+ support / Al Picture
- Viewing Angle Horizontal: 170°
- Viewing Angle Vertical: 155°
- Bit Depth: 16 bit (Internal processing 20bit)
- Colour Temperature (Default): 6,500K  $\pm$  500K (Floating bin)
- Colour Temperature (Adjustable): 2,800K  $\sim$  10,000K
- Video Rate: 50/60 Hz 100/120 (FRC) Hz
- Input Power Range: 100~240 VAC, 50/60
- Power Consumption (Max): 1700 (W/Screen)
- Power Consumption (Typical): 1100 (W/ Screen)
- Working Temperature / Humidity: 0%+40% / 10%-80%RH
- IP Rating: IP20
- LED Lifetime: 150,000 hours
- Package Weight (per Cabinet): 301 kg

### MAXHUB Integrated LED Wall Raptor Series – LM120A03

The LM120A03 from MAXHUB's new LED video wall series helps presenters and participants interact more seamlessly and more naturally. With improved voice intelligibility, the LM120A03 is here to revolutionize the way LED video wall works.

#### Main features include:

- Features screwless fabric
- 3-in-1 plug-and-play installation design
- Flexible PIB/PBP display modes
- Screen split available for up to four windows
- Comes with fully-integrated 2 x 30W speakers

#### **Technical Specifications:**

- Size (inch): 120
- Pixel Pitch (mm): 2.0
- Resolution: 1280\*720
- Overall Size (W\*H\*D\*mm): 2678\*1616\*30
- Weight (Kg): 95
- Power Requirement (Max/Ave): 1.5/0.6



### **AUDIO-TECHNICA INTRODUCES ITS 60TH ANNIVERSARY AT-LP2022 HIGH-PERFOR-**

**MANCE TURNTABLE** 

Audio-Technica today announced the introduction of its 60th Anniversary AT-LP2022

Manual Belt-Drive Turntable,
a limited-edition record player that celebrates A-T's 60 years of excellence in high-performance analog audio. A limited number of AT-LP2022 turntables will be offered worldwide, each carrying a unique serial number.

"Audio-Technica was founded in 1962 by Hideo Matsushita with the intention of bringing the joy of experiencing high-fidelity music to listeners," noted **Kurt Van Scoy**, Audio-Technica U.S. Executive Director of Product Development. "In his honor, it is only fitting that on our 60th anniversary, we offer the finest turntable A-T has ever created, to carry on his legacy and exemplify the commitment to analog listening



that Audio-Technica has pursued for 60 vears."

The AT-2022 combines exceptional record-playback performance with a completely new, elegant 60th Anniversary design. The turntable is built upon a 30 mm thick, high-density clear acrylic chassis that reduces unwanted resonances while imparting a distinctive look. The chassis is complemented

by a transparent anti-resonant acrylic platter with a mounted black AT-VM95E cartridge and also includes a clear AT-VMN95SH Shibata stylus.

The turntable's sensor-monitored belt-drive motor system provides quiet, accurate and stable playback of 33-1/3 and 45 RPM records. It features a carbon-fiber tonearm mounted on a metal base, with adjustable VTA (vertical tracking angle),

tracking force and anti-skating.

The AT-LP2022 offers users a unique opportunity to evaluate different diamond profiles, as it includes two separate styli with different geometry. An elliptical AT-VM95E is premounted on the AT-HS4-SV headshell, and the AT-VMN95SH, a special-edition Shibata stylus with a clear housing, is also included. The VM95 cartridge platform also offers additional stylus shapes to accommodate listeners' vinyl playback preferences. The AT-LP2022 features newly-designed isolation feet that are height-adjustable. The turntable's external power supply prevents any unwanted electronic noise from intruding upon the sonic purity of the signal. The AT-LP2022 also comes with a removeable dust cover, detachable RCA cable and 45 RPM adapter.

### ALPHATHETA CORPORATION RELEASES DDJ-FLX6-GT — A FOUR-CHANNEL DJ CONTROLLER

AlphaTheta Corporation announced the release of the 4-channel DJ controller for multiple DJ applications DDJ-FLX6-GT from its Pioneer DJ brand – an updated version that will replace the popular DDJ-FLX6.

The fresh design of the DDJ-FLX6-GT introduces a new look and feel for its full-size jog wheels, which feature a graphite colour plus a metallic texture on top and a rubberized coating on the outer ring for improved playability. The rest of the unit also boasts a sophisticated look, with a brand-new matt grey colour across its body. Another major update to the DJ controller is its com-

patibility with an expanded range of software. The new unit adds support for VirtualDJ (licenses available separately), while retaining free compatibility with rekordbox and Serato DJ Pro. VirtualDJ software will be available to use with the original DDJ-FLX6 (black/white models) by updating the unit to the latest firmware version, and TRAKTOR PRO 3 will be available to use downloading the mapping files (TSI file).

The DDJ-FLX6-GT includes all the features of the original unit including Merge FX, which makes it easy to hype up the audience and mix songs from totally different genres. One can effort-



lessly change from hip-hop to house, from rock to EDM, or between any other styles you want to play. With the Jog Cutter and Sample Scratch features, you can easily elevate sets with pro-sounding scratch effects.

### The Zright Spark

park DEMOCRACY

(Continued from page 59)

to get a response. Else you risk losing the audience's attention.

Take away LED screens and the cheerleaders, but the IPL fan will still sit at the edge of his seat praying for his team to win. Our offerings can only enhance his experience.

I hope all of us can extend that idea into all our installations.

Remember, earlier on, we were talking about being 'messy'. Sadly, the larger we are getting the messier we are becoming. Can I dare extend that to being lazy?

Sure, Technology allows us to tweak our offerings very quickly. Too many people rely on that totally. I'd like to see everybody use that as a crutch only in an emergency.

I fear that we could be huge losers if our content does not grip our audiences. This new technology may be great but its very expensive to buy and needs expensive maintenance. All of us recognise that, in general, Indian equipment is very badly maintained. I hope some of you out there use that as a business opportunity to set up servicing businesses. Training people formally to make the equipment perform better over longer time frames.

If we tolerate bad equipment, then it will be a long downslide. People will pay for what they get. Choppy equipment will inevitably lead to compromised experiences and that will

obviously lead to tighter budgets.

Let me end with another characteristic of democracy.

We get the politicians / equipment experience we deserve.

Choose wisely, make the best use of the equipment we install and make sure it runs as per our wishes to enjoy a great experience.

That is true democracy at work for all of society to benefit.



### by Jayakrishnan Nalinkumar,

Live Sound Engineer, Sing Mixing Engineer and Founder/Director at The Audio Guys (TAG) Institute

### **IMPORTANCE OF GAIN STAGING**

his is a fundamental concept that many people don't understand or completely ignore. Gain staging is important in recording, song mixing, film mixing, music production, live sound, in a piece of audio or music equipment and probably all specialisations in sound.

Gain staging refers to adjusting the level of each stage of amplification in order to achieve optimal signal-to-noise ratio without unusable distortion.

What is the optimum level to be followed?

In this fast-paced digital era, most of our production and summing has been limited to DAWs to keep up with industry's speed of content delivery and also ease for recall ability for changes, if any.

The ceiling for digital audio is 0 dBFS (Decibel Full Scale). So it is important to ensure the peaks of your material does not cross -6 dBFS at all times, so that there is always a 6 dB of headroom in your system at all times.

Gain staging needs to be observed at a track level, at a buss or sub group level and also at your mix buss level. A good mix should always have around 6dB of headroom before it reaches the mastering chain, where it can be further maximised for delivery to a particular medium.

When it comes to anything studio, it all starts from the source. How are the different tracks laid? In modern workflows, it's always a mix of recorded elements along with produced materials.

So it's important to check recording levels and at the same time make sure the produced tracks are bounced at optimum levels too.

Though people have understood the importance of recording levels, it's often observed that produced materials are bounced at a much higher level, may be due to a normalise option that was selected while exporting the tracks from the production DAW or simply the programmer didn't pay much attention

to levels. This could be avoided.

If you receive tracks to mix that were normalised at export, it's a good practice to clip gain them down to the optimum levels per track, so that your sum levels do not clip at later stages in the chain. This is a better practice instead of pulling faders down as when faders are brought quite down, you lose the resolution in them. Also, bringing the faders down on a channel doesn't help gain staging plugins in that channel as

tained is dependent on the material one is working on.

Running your DAW in floating bitdepth is a good practice especially to avoid internal clips in tracks as well as on plug-ins, but that is not the complete solution because many streaming platforms still accept 24bits delivery, which is also the case with digital-toanalog converters.

It's also important to ensure that the signals are not too less either. Too low

Most plug-ins have input and output gain knobs. Make use of them. Often analog modellers or saturation plug-ins give better results when driven hard, but make sure the output gain of the plug-in is dropped down to achieve optimum levels in order to maintain healthy levels across the chain ahead...lt's also important to ensure that the signals are not too less either. Too low levels can result in poor signal-to-noise ratio and also lead to having less accuracy especially while using dynamic processors.

most inserts in DAWs are pre-fader.

Next thing to be looked into is the gain staging of plug-ins.

Keeping the levels at bay is not an easy thing to do especially when one is behind a loud and saturated mix.

Most plug-ins have input and output gain knobs. Make use of them. Often analog modellers or saturation plug-ins give better results when driven hard, but make sure the output gain of the plug-in is dropped down to achieve optimum levels in order to maintain healthy levels across the chain ahead. Also, utilising compressors and limiters effectively in every stage plays an important role in gain staging. Well, the amount of dynamic range to be main-

levels can result in poor signal-to-noise ratio and also lead to having less accuracy especially while using dynamic processors.

When to cross the optimum?
Sometimes, deliberate clipping is
done on an analog gain, an analog
outboard gear, a tape machine or even
on a converter to achieve a particular
tonality that the device adds as a result
of soft clipping or saturation that adds
certain harmonics and may add certain
character to the content. In digital
audio too, hardclip is sometimes used
an effect during production. This is a
deliberate creative choice that the engineer or producer makes and not often a
mistake due to improper gain staging.



### Tips to improve gain staging:

- Discipline It's a matter of discipline that one needs to adopt and continuously practice in order to improve gain staging.
- 2. Use Meters Always use meters (preferably peak meters) in all stages of production (not to be confused with loudness meters for delivery).
- 3. Monitor levels Monitoring loud can result in using lower levels and monitoring quiet can result in using higher levels. Its good to have an average listening level of around 78 to 85 dB SPL while working in studios.
- 4. Know Your Equipment/Plugin

   Read manual to understand
  the operating levels of your
  equipment or the metering in
  them. Many analog equipment
  or analog modelled plugins
  have VU metering on them,
  where 0VU mostly correspond to
  -18dBFS.
- 5. Use Gains effectively during recording and Clip Gain for produced content to achieve around -12 to -6 dBFS as peaks.
- 6. Utilise Dynamic Processors in different stages to keep dynamic range in control (ex: track, subgroup, mix, master).
- 7. Have subgroup and master faders always at Unity Gain.

To feature your **editorial** in **PALM** + **AV-ICN** 

magazine

contact:

**Pooja Shah** pooja.shah@hyve.group

### AVID PROMOTES TECHNOLOGY SERVICES EXECUTIVE DEB SANDERS TO CHIEF

**CUSTOMER OFFICER** 

Avid announced the promotion of technology services executive **Deb Sanders** to the role of Chief Customer Officer & Senior Vice President to lead worldwide operations for customer success, customer care, advocacy, learning and overall CX, as well as oversee collaboration with customer-led Avid Community Association

Deb Sanders joined Avid as Vice President of Global Customer Care in 2019 with responsibility for the vision, strategy and tactical plans for the global customer care organization supporting thousands of large media enterprises and hundreds of thousands of creative individuals who rely on Avid software and



**Deb Sanders, Chief Customer Officer** & Senior Vice President

solutions. Her career spans more than 25 years of leading customer-facing teams, transforming service delivery

models, and building new service teams to adapt to the changing customer landscape. She has held leadership positions in technical support, field services and managed services delivery within medium and large enterprises in multiple industries (IT, security, networking) and geographies. Deb earned her MS in Technology Commercialization from the University of Texas, McCombs School of Business, and her BS in Chemical Engineering from the University of New Mexico.

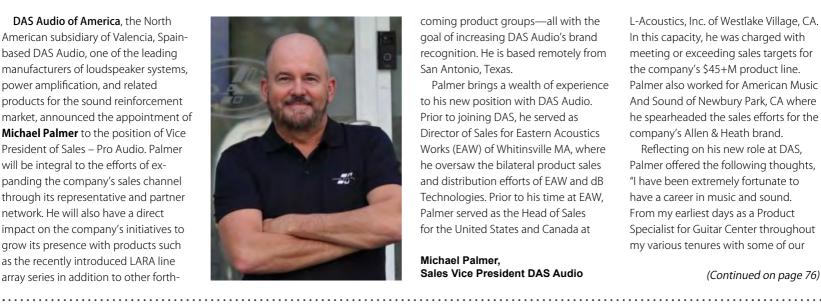
Jeff Rosica, Avid's CEO & President commented, "Deb naturally inspires confidence from our customers and motivates our teams. I'm thrilled that we can promote our proven talent while we continue Avid's growth

through subscription delivery and expansion of our SaaS offerings and cloud deployments for the world's media creators."

Deb Sanders commented, "Caring for Avid's discerning customers everywhere in film, television, music and education is an awesome responsibility. What excites me more than anything else in stepping into this role is that I'm surrounded by the most extraordinary people who possess unprecedented, specialized knowledge about how media creation works now and how it will evolve. I look forward to leading our many talented people as we transform Avid service delivery for our customers."

### MICHAEL PALMER JOINS DAS AUDIO AS SALES VICE PRESIDENT — PRO AUDIO

DAS Audio of America, the North American subsidiary of Valencia, Spainbased DAS Audio, one of the leading manufacturers of loudspeaker systems, power amplification, and related products for the sound reinforcement market, announced the appointment of Michael Palmer to the position of Vice President of Sales - Pro Audio. Palmer will be integral to the efforts of expanding the company's sales channel through its representative and partner network. He will also have a direct impact on the company's initiatives to grow its presence with products such as the recently introduced LARA line array series in addition to other forth-



coming product groups—all with the goal of increasing DAS Audio's brand recognition. He is based remotely from San Antonio, Texas.

Palmer brings a wealth of experience to his new position with DAS Audio. Prior to joining DAS, he served as Director of Sales for Eastern Acoustics Works (EAW) of Whitinsville MA, where he oversaw the bilateral product sales and distribution efforts of EAW and dB Technologies. Prior to his time at EAW, Palmer served as the Head of Sales for the United States and Canada at

Michael Palmer. Sales Vice President DAS Audio L-Acoustics, Inc. of Westlake Village, CA. In this capacity, he was charged with meeting or exceeding sales targets for the company's \$45+M product line. Palmer also worked for American Music And Sound of Newbury Park, CA where he spearheaded the sales efforts for the company's Allen & Heath brand.

Reflecting on his new role at DAS, Palmer offered the following thoughts, "I have been extremely fortunate to have a career in music and sound. From my earliest days as a Product Specialist for Guitar Center throughout my various tenures with some of our

(Continued on page 76)

### GENELEC APPOINTS KATI PAJUKALLIO AS AV BUSINESS MANAGER

**Genelec**, one of the world leaders in professional loudspeaker systems, has deepened its commitment to the AV market by appointing Kati Pajukallio as AV Business Manager. The appointment will bring Genelec even closer to its key customers, and help drive continued growth in international AV markets.

Pajukallio joined Genelec last year, bringing with her a wealth of AV industry experience, having previously worked in marketing communications roles for Electrosonic and Audico Systems, both highly regarded integrators. As AV Business Manager, she will now

November - December 2022

lead Genelec's global AV Installation business, helping to develop the company's international presence by developing its AV portfolio and partner network. As well as strengthening Genelec's reach and relationships with customers, Pajukallio's strong marketing background will be fundamental in helping to shape the company's profile in this key market segment.

"I'm looking forward to strengthening the co-operation with our fantastic global distributor and integrator network, providing customer-oriented solutions and support together with

our professional AV team." comments Paiukallio

Genelec Business Development Director **Ken Kimura** concludes by adding "Since the launch of our Smart IP networked loudspeaker family in 2019, our profile in the AV market has grown significantly and we're totally committed to further expansion. The experience that Kati brings to the company will help us to significantly drive our global AV sales and marketing efforts. We see a very bright future for us in this extremely important market segment."



Kati Paiukallio. AV Business Manager, Genelec



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### PPDS APPOINTS NICK BEGLERIES AS NEW COMMERCIAL VICE PRESIDENT FOR NORTH AMERICA

Recognized and well-respected Pro AV industry leader, Nick Begleries will spearhead PPDS' ambitious growth and expansion plans in North America – including a significant recruitment drive – as the company begins its next evolutionary phase.

PPDS, the exclusive global provider of Philips digital signage, interactive displays, direct view LED and professional TV products and solutions, is excited to announce the appointment of highly experienced AV leader, Nick Begleries, as its new Commercial VP, North America.

Adding more than 25 years of top-level senior AV experience to the steadily expanding PPDS US team, Nick is one of the AV industry's most accomplished talents in North America, heading up and guiding forward some of the world's largest and most successful display manufacturers during an already illustrious career.

A recognized and respected leader, Nick's specialist knowledge of the Pro AV market and proven management skills, backed by an impeccable track record delivering substantial and often record-breaking growth, made him a standout

choice for this business-critical position.

As Commercial Vice President, Nick will play a crucial role in PPDS' accelerating phase of growth in the US, with the target of achieving the business' ambitions to achieve a top three position in the North American marketplace.

Reporting to Franck Racapé, Head of Global Commercial at PPDS, Nick will be responsible for all aspects of PPDS' North American business. This includes, but is not limited to, defining the mid- and long-term sales strategy for North America, setting and achieving quarterly sales targets, managing the supply chain, service and post-sales, and driving greater awareness of the PPDS brand and its solutions. Education, retail, hospitality, corporate, healthcare and transportation are among focus markets, with Philips Professional TVs, Interactive Displays, dvLED, Digital Signage and the company's exclusive remote display management cloud platform, Wave, all key product categories.

Nick will also oversee the compa-

ny's move into a new US head office and globally connected showroom, as well as executing plans to increase staff numbers by 50 per cent in 2023



Nick Begleries, Commercial VP - PPDS

in order to better support customers and enlarge reach across all verticals, leveraging on PPDS' extensive product portfolio.

In addition to leading the North American team, Nick will work closely with the wider global organisation, using his knowledge and expertise to support senior management operating in the company's other 158 regions.

Commenting on Nick's appointment, Franck Racapé, said: "Our ambitions for Philips professional displays in the North American market are extremely high and we have been looking for a profile combining great industry knowledge, strong manufacturing experience across all our product categories (Digital Signage, Interactive, dvLED and Hospitality TV), who already has a track record of driving growth and developing an expanding team.

"Nick ticked all these boxes, and I am really pleased to start our collaboration, with extremely exciting times ahead. With Nick on board, we aim to accelerate our growth exponentially in what will be our most strategic growth region for the coming 2-3 years."

### SYMETRIX APPOINTS JIM NEWHOUSE AS DIRECTOR OF INTERNATIONAL SALES

**Symetrix, Inc.** announced the hiring of **Jim Newhouse**, a veteran of the professional audio industry, to be Director of International Sales.

"Jim brings a wealth of experience to the table and will be building out a team specific to our partners outside North America," said **Ty Hawley**, Director of Sales and Marketing. "In collaboration with our network of distributors and certified resellers, he will help strengthen the Symetrix brand,



position our products, and drive growth."

Jim's career in pro AV began with a warehouse role 30 years ago and he eventually launched his own successful installation business. More Recently he developed high-functioning sales teams for a global loudspeaker manufacturer.

"I'm excited for this opportunity

Jim Newhouse, Director of International Sales and to be working with such a great team," Jim said. "Symetrix's products set the standard for DSP quality and integrated control flexibility."

"Despite all the challenges of the past few years, the Symetrix family has been steadily growing," said **Mark Graham**, Symetrix CEO and owner. "Investing in this strategic role now demonstrates how serious I am about our global partners' success and delivering exceptional solutions for all of our customers."

### **MICHAEL PALMER JOINS DAS AUDIO...**

(Continued from page 74)

industry's leading equipment manufacturers, I have gained a well-balanced perspective on the ins and outs of our business. I like to think that I have a solid understanding of the concerns facing both equipment manufacturers

and customers alike, and I believe this experience will enable me to make a solid contribution to DAS Audio. I look forward to being part of the team that takes DAS to its next level of success."

Jaime Villegas, General Manager

at DAS Audio of America, is equally enthusiastic about Palmer's addition to the company team, "Michael brings an impressive track record to his new position with DAS, and I have complete confidence that he will be a significant contributor to our efforts. His background has an ideal blend of both sales and product knowledge, and I am confident he will be a tremendous asset to our company going forward. All of us at DAS Audio welcome him aboard."

### MARTIN AUDIO AND OPTIMAL AUDIO APPOINTS JAMIE GOMEZ AS GLOBAL MARKETING MANAGER

Jamie Gomez has been appointed to the position of Global Marketing Manager for Martin Audio and Optimal Audio. Jamie moves to his new position from within the wider Focusrite Group, where he was GMM for Focusrite Pro. A marketing professional with a strong audio background who specialises in brand development and digital marketing, Jamie spent time with Pioneer PRO AUDIO developing an in-depth understand of sound reinforcement, before his move into the world of networked audio, recording and post-production at Focusrite PRO.

Jamie Gomez comments, "The opportunity to return to the world of sound reinforcement and loudspeakers with not one, but two exceptional brands, is a unique and irresistible challenge, and one which I'm very excited to take on. With Optimal Audio, the chance to work on what is effectively an exciting startup brand with an innovative edge in the commercial sector, dovetails brilliantly with the Martin Audio side of the role. An established market-leader like Martin Audio demands a different approach. but I'm looking forward to sharing my ideas and helping to maintain the brand's position at the top of the professional audio sector."



Jamie Gomez, Global Marketing Manager

James King, Marketing Director for Optimal Audio and Martin Audio adds, "One of the many advantages of being part of the wider Focusrite Group is that we have been able to present opportunities across the brands for its employees to progress. Jamie is another great example of that, and I couldn't be happier that he has joined the team. He has a bold outlook towards marketing that I know will go a long way to accelerating the rise of the fledgling Optimal Audio brand as well helping to freshen and further the more established Martin Audio "

### **JOHN BASTIANELLI APPOINTED AS SLATE DIGITAL CEO**

Following on from the **Slate Digital** acquisition announcement, **Audiotonix** have confirmed **John Bastianelli** as the new CEO of Slate Digital.

John brings a wealth of technology and creative expertise to the role, with 30 years' experience as a professional audio industry executive, music producer, song writer, and musician. A well-respected figure in the music technology industry, John has been at the helm of product management teams for leading audio brands including **PreSonus** (Fender), **M-Audio** (Avid Technology) and **Tascam**. At each of these organizations he has been responsible for delivering new product innovation backed by commercial success.

James Gordon, CEO of Audiotonix, comments "This is a fantastic appointment for the Slate Digital business and their customers, and one that I am personally very excited about. I've wanted to work with John for many years, and finally the stars have aligned just at the right time and with the right company! He has that rare background in both technology and music creation which I know will resonate with Slate Digital users and the teams in LA and Grenoble. It's exciting times at Slate Digital and bringing John into the team is the icing on the cake."

Regarding his new appointment, John Bastianelli adds "It's hard to express just how excited I am to be a part of this new chapter having been a longtime fan of Slate Digital products. The team here is incredibly talented and with access to additional resources via Audiotonix and our new sister brands, the potential to deliver exciting new products is limitless. I can't wait to kickstart this new journey and look forward to inspiring our very passionate Slate Digital users."

With this new appointment, Slate Digital Co-founders, **Steven Slate** and **Fabrice Gabriel**, will both take part-time consultancy roles within Slate Digital.



John Bastianelli, Slate Digital CEO

### MICHELE WRIGHT JOINS SMPTE AS DIRECTOR OF BUSINESS DEVELOPMENT & OUTREACH

**SMPTE**, the home of media professionals, technologists, and engineers, announced the appointment of **Michele Wright** as director of business development and outreach. Wright will lead the Society's marketing and sales teams and partner with SMPTE staff and volunteers to guide multiplatform marketing and outreach to new and diverse members and partners.

"With advanced degrees in both engineering and public policy, and a record of transformational leadership in diverse roles and environments, Michele comes to this SMPTE role ready to partner with colleagues in realizing meaningful change and growth for the



Michele Wright, SMPTE

Society," said SMPTE Executive Director **David Grindle**. "She has a unique ability to share and communicate a vision for change, and then to foster and guide a practical approach to implementation and administration — all aimed at improving operations and contributing to organizational growth and scaling. I am so pleased to welcome her to SMPTE."

A native of Tuskegee, Alabama, Wright is the 2022 USA TODAY Woman of the Year for Arkansas and a 2022-2023 AARP Purpose Prize Fellow. She and her husband, Terry Wright, made history in 2022 as the first people of colour to be honoured by the Cystic Fibrosis Foundation (CFF) with the organization's top

honour, the Breath of Life Award, and to be named CF Ambassadors. She is the recipient of the Nations of Women Change Makers 2021 Global Leadership Award and a nominee of the EveryLife Foundation of Rare Diseases' RareVoice 2021 Award for Diversity Empowerment.

"I am beyond ecstatic to step into my new and adventurous role as SMPTE's director of business development and outreach," said Wright. "It is an ideal fit in merging my extensive background in STEM, administration, sales, marketing, and community outreach to help develop and expand SMPTE's membership

(Continued on page 78)

### ANDREW EDWARDS ESTABLISHES C-SUITE LEADERSHIP TEAM FOR EXTRON

**Andrew Edwards** announced that he is moving to the position of Chairman of the Board and promoting **Brian Taraci** to Chief Executive Officer, **Casey Hall** to Chief Marketing Officer, and **Ed Ellingwood** to Chief Financial Officer. These moves are designed to ensure the company is solidly positioned to face future challenges and reach the next level of its growth. With more than 80 years of combined Extron experience, the three executives have been instrumental in helping Extron to become the industry-leading organization it is today.

"I'm extremely excited to appoint this new leadership team. These three gentlemen have spent years working directly with me, operating at the highest level and handling every issue that's come our way," says Andrew Edwards, Chairman of the Board of Extron. "Through our combined efforts, we've created a company that has been an industry leader for almost 40 years. These are the people I'm trusting to carry Extron forward into the future."

Brian Taraci has been with Extron since 1994. Most recently, he served as Chief Technology Officer, a role he will continue to fulfill in addition to his new responsibilities as Extron's CEO. Taraci

has a background in semiconductor manufacturing, where he worked as a process engineer, device engineer, and test engineer. At Extron, he has played a central role in the development of foundational technologies which



Extron C-Suite leadership team - Andrew Edwards, Brian Taraci, Casey Hall and Ed Ellingwood

formed the basis for the company's line of scaling and control systems products. Through the years, Taraci has led teams in developing critical product lines such as Extron's CrossPoint matrix switchers, XTP matrix switchers, and the new NAV Pro AV over IP products. He has significant experience in product development, engineering, production, and marketing, along with a clear vision for the future of Extron.

Casey Hall is an industry veteran who has worked in Extron's industry-leading support department for over 26 years. He most recently served as Vice President of Worldwide Sales and Marketing. As Chief Marketing Officer, Hall will oversee the sales, support, and marketing efforts of the business worldwide.

Ed Ellingwood has led Extron's finance departments since 1993. In his most recent role as Vice President of Finance, he has also overseen the Human Resources Department and provided guidance and direction to the company's executives and leaders through the years. A Wharton School of Business graduate, Ellingwood has the skills and experience needed to help the company navigate an ever-changing global economy.

### **MICHELE WRIGHT JOINS SMPTE...**

and the industry as a whole."

growth, business opportunities, and global profile to diverse new dimensions. As such, I am fully committed and excited to build positive and sustainable relationships with members, partners,

"I was drawn to this role because it affords me an invaluable opportunity to work for the global gold standard society of media professionals, tech-

(Continued from page 77)

nologists, and engineers," continued Wright. "I am also thrilled to report to a forward-thinking change agent like SMPTE's new executive director, David Grindle, and to work synergistically with my technically brilliant team. I also look forward to collaborating with SMPTE's

staff, officers, and board of governors, alongside its first newly elected African American president, **Renard T. Jenkins**, to build from SMPTE's past and to plan and enhance our future."

Wright will be based in North Little Rock, Arkansas.

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### 11 QUESTIONS WITH Michael Bosworth

### Executive Vice President, Christie Digital Systems

Michael Bosworth, Executive Vice President, Enterprise, Christie, has garnered more than three decades of experience in the field of projection and visualization. In his current position, Bosworth is responsible for overseeing and steering the sales and strategic planning for Christie Digital Systems in North America, EMEA, and APAC regions. In his previous positions, as Business Development Head at Barco and Managing Director and Owner at VR Solutions Pvt Ltd, Bosworth amassed a wealth of knowledge and knack with respect to modernday projection and innovative, experiential visualization. In this article, Michael Bosworth fields 11 questions on Christie being at the forefront of innovation and transformation, its journey through the pandemic, how far along has it penetrated the Indian market while addressing the unique cultural aspects the country poses when it comes to 3D mapping and projection, and the roadmap ahead.



### Christie story is one of constant innovation and forward transformation, what according to you are the five main milestones in terms of product development in the history of Christie?

Christie has brought great technology to life for more than 90 years. From the first projectors we built in the 1960s to our digital cinema projection that revolutionized the movie industry, we are leading the way to help our partners and customers create amazing shared experiences. Over the years, our integrated solutions have captivated audiences in numerous applications from houses of worship to Hollywood, from mission-critical command centres to classrooms.

We are proud of the accolades and milestones that we've achieved:

- 1. Christie debuted the world's first CRT (cathode ray tube) projector in 1980, and became the first projection manufacturer to enter into digital cinema in 1999.
- At the close of last century, Christie provided the first DLP cinema projector to premier the fully digital feature of the animated film, Toy Story.
- 3. In 2012, Christie became the first manufacturer to conduct the first public movie screening using a laser projector.
- 4. In 2018, Christie was named by AV Magazine as the Most Influential Company of the last 20 years.
- 5. Christie has set a high standard with more than 50 industry-firsts, 100+ patents, countless industry

awards, and multiple Academy Awards.
Christie solutions are used around the world,
from the largest mega-events to the smallest
boardrooms. We've created a legacy of light, and
will continue to create innovative and industryleading technology, and look to a brighter future.

What are your views on solid-state light source in a projector? Can you share some developments from Christie in respect to these types of projectors? And what are some of the advantages of RGB pure laser projectors?

Christie has continued to lead the way in advancing laser illumination technology over the past decade by offering the widest range of leading-edge laser projectors in the industry. Our greatest breakthrough is in RGB pure laser projection technology, where our innovative laser illumination system architectures, which include our proprietary all-in-one design with integrated cooling and sealed optical path, continues to outperform competing systems in their class. For example, our Griffyn Series and M 4K Series pure laser projectors are capable of producing an exceptionally wide colour gamut, achieving over 95% of the Rec. 2020 colour space—more than twice the colour of Rec. 709 and 50% more than DCI-P3-capable projectors—for an enhanced audience experience. As a testament to this achievement, many of our customers are impressed that our projection systems are able to deliver excellent picture quality at very

compact sizes and weight.

### What is the most popular Christie projector sold in India today?

While Christie is well-known for its leadingedge display solutions, our product offerings are not limited to projection. We offer comprehensive, end-to-end visual and integrated solutions that consist of various technologies such as projection, LCD panels, direct-view LED video walls, as well as an array of content management and processing, auto calibration and even far-UVC disinfection fixtures that light the way to a sustainable, brighter future for everyone.

For the Indian market, we have had immense success with the Crimson Series 3DLP laser projectors and the Griffyn Series, which is powered by RGB pure laser illumination. Over the years, we have established ourselves firmly in the marketplace with a number of high-profile, large-scale projects in India and across the globe that set us apart from the competition. For example, more than 50 Christie Crimson Series projectors were used for the stunning light & sound show on the façade of the Statue of Unity—the tallest statue in the world.

Did Christie witness a slowdown in the last two financial years due to the pandemic and is it now witnessing a strong rebound with demand for products? If yes, the demand is from which segments / sectors of the industry?



Christie projectors illuminate Statue of Equality in Hyderabad

Similar to every organization in the ProAV industry, we witnessed a slowdown over the last two years due to the COVID-19 pandemic. But the industry has since rebounded, driven by strong demand for our products, particularly for experiential installs, and corporate and government projects. We have observed an increase in ProAV investments, buoyed by the implementation of a phased "return to office" mandate by larger corporate organizations that have paved the way for more opportunities and growth in the market. It's interesting to note that government procurement projects have not been impacted by the pandemic. In fact, the number of such projects has gone up during the last two years.

## The home projector space is witnessing strong growth as more consumers look to elevate their viewing and entertainment experience at home. How is Christie poised on this front?

Cinema has always been in our DNA and the home projection segment has taken a leap since our decades-long success in the cinema space. Although Christie is of the view that there is no movie experience better than what you see in theatres, our 4K HS Series platform has been very well received in India for residential installations. We will continue with our efforts to make them more accessible to customers across India who demand commercial-grade reliability, colour accuracy and performance for growing home entertainment spaces. As well, our direct-view LED products have gained significant market share in India, with the full range of our LED solutions widely embraced by multinational corporations, government and local enterprises.

### Please elaborate on the current growth trajectory of Christie in India vis-à-vis the rest of the world. Is it a good market or is it a growing market for Christie?

India is one of the most buoyant markets for us in the Asia Pacific region along with China, and I'm optimistic that the growth trajectory can be sustained. According to new research data by industry body AVIXA, revenue for the ProAV industry in 2022 is set to hit a new high-water mark, reaching \$263 billion

The ProAV industry in 2022 is set to hit a new highwater mark, reaching \$263 billion globally. Although growth numbers might decline in the coming years to a CAGR of 5.9% from 2022 to 2027, ProAV is still set to grow faster than most countries' GDPs during the same period.

globally. Although growth numbers are expected to see a slight decline in the coming years to a compound annual growth rate (CAGR) of 5.9% from 2022 to 2027, ProAV is still set to grow faster than most countries' GDPs during the same period. In view of the positive outlook, we have continued to invest heavily in India, whether it's in terms of manpower or state-of-the-art experience centres.

# Assuming that your response to the earlier question is in the affirmative, we would like to know is Christie increasingly gaining market share or is the market itself getting bigger?

I'm glad to share that Christie is currently the top-grossing brand\* for unit sales in India above 6,000 lumens in the DLP® segment. While the market has significantly increased, we are glad to see that our market share has proportionately increased as well.

### Please tell us a little about Christie's focus on the 3D Mapping projects segment. How much penetration has Christie achieved in India in this segment?

Christie is the pioneer of 3D projection mapping projects in India, having supplied our high-brightness projection systems for such applications for more than a decade. We are delighted and excited to inspire exceptional experiences with the many projects that we were involved in across the country, such as the

Red Fort in Delhi, Ambaji Temple 3D projection mapping show in Gujarat, Statue of Equality in Hyderabad, Victoria Memorial mapping show in Kolkata, and many more. I'm pleased to note that we are currently the market leader of the 3D projection mapping projects segment in India. We are close to achieving 150 permanent installs for projection mapping, out of a total of 200 projects that have been accomplished nationwide to date.

### Do you think Indian Market's attitude differs from that of the rest of the world? If yes, to what extent? And what are the various challenges you faced or currently face in the Indian market?

Every market is different for us at Christie and we believe in applying different strategies to suit the business conditions in each market. For India, I'm proud to say that it has one of the largest numbers of culturally unique and inspiring permanent projection mapping shows in the world. Many of these large-scale spectaculars are one-of-a-kind and produced exclusively to showcase the rich cultural and historical heritage of that particular region, or to honour martyrs, statesmen and religious figures who had made contributions to the country in their own ways. The biggest challenges that we face are in terms of how to accomplish these projects in the most appropriate manner through storytelling—in the form of a son et lumière or light & sound show on various facades and surfaces ranging from architectural structures to huge statues and natural landscapes. We work very closely with all our partners and stakeholders to meticulously design, choreograph and execute them, with the objective to entertain and educate the public about historical events, individuals, as well as social and religious customs that they may not be aware of.

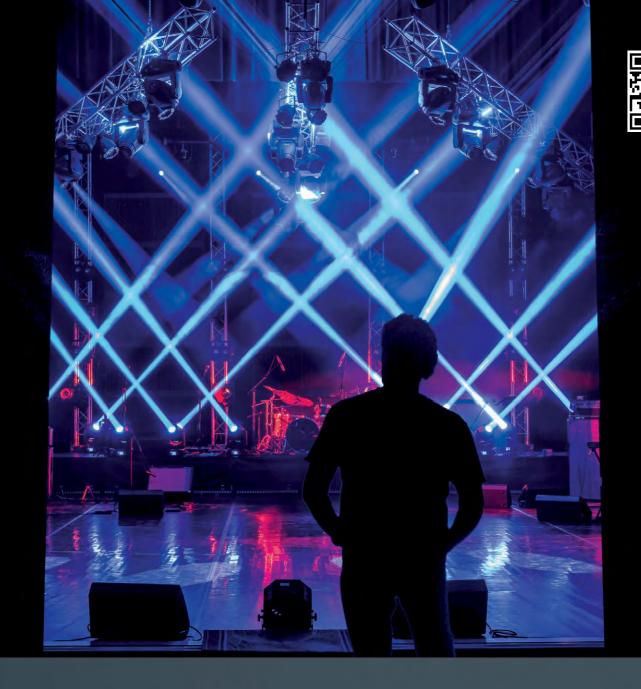
### Can you throw light on Christie's distribution set up? What is Christie's policy on distributorship of its products (especially in India)?

In India, the sales channels are clearly defined and channel partners work towards providing the most appropriate, cost-effective solutions for customers. We have distributors and value-added partners for different market segments, where we carefully bifurcate partners according to the vertical markets that they serve or specialize in, for example government, corporate, education, experiential, and so on.

### What is your vision for Christie in India for the next couple of years?

India remains as one of the most exciting markets for us. We've broken records, created a number of "firsts" in the marketplace and firmly established ourselves as a market leader in various product segments. We firmly believe that there are many more opportunities for growth in this vast economy, and look forward to expanding our presence in new verticals that are previously unexplored. It is an exciting time for us, and we're ready to take on the future.

<sup>\*</sup> Data from Futuresource Consulting



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