



PALM EXPO MAGAZINE

Pro Audio | Stage | Studio | Broadcast | AV Integrated Systems | Display | Lighting

OTHER FEATURES

- Meyer Sound: Sound Reinforcement
- Genelec and TiMax: Spatial Audio
- Famous Studios: Integrated Content

11 QUESTIONS

**Dr. Andreas
Sennheiser**

Co-CEO

Sennheiser Electronics

ISSUE: SOUND REINFORCEMENT - NOVEMBER - DECEMBER 2023



RØDE



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STUDIO CONDENSER MICROPHONE



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- 1 Stereo Out - L/R (75 Ω)
- 4 Group Outputs (150 Ω)
- 3 Aux Outputs (75 Ω)
- 1 Phones Output (150 Ω)

BUS

- 8 Bus Mixer
- 1 Stereo Bus - LR
- 4 Groups
- 3 Auxes

INPUT STRIP

- Dedicated Input Metering
- +48V phantom power / channel
- 20 dB Pad
- 3-band input EQ
- Aux/FX Sends
- L/R Panning
- Peak/Solo PFL
- Group Selection

FEATURES & FX

- Class-A PSL Preamps
- Oliver FX Engine with built-in preset library
- Individual Return Channels for both FX1 & FX2
- iPhone, Android, PC & Mac Sound card Compatibility
- 7-band Stereo Graphic EQ

THD+N

- 0.03% Total Harmonic Distortion, Full Bandwidth
- 30 dB Gain, Mic Input to L/R
- 0.015% Total Harmonic Distortion, Full Bandwidth
- 0 dB Gain, Mic Input to L/R
- 30 dB Gain, Line Input to L/R

POWER REQUIREMENTS

- AC 110V-240V, 50-60Hz
- IEC input power cable (included)
- Internal Universal Power Supply
- 78W Max Power Consumption

OPERATING PARAMETERS

- Maximum permitted ambient temperature (Ta max): 45°C (113°F)
- Minimum permitted ambient temperature (Ta min): -10°C (14°F)
- Desktop use only, cannot be rack mounted

AESTHETICS

- Mixer Skeleton made of aluminium and steel metal plates.
- Moulded exteriors in Class V0 rugged ABS
- 100mm Tex-Touch Faders
- Contour Sensitive Rotary Knobs
- IP 20 Protection Rating
- Exterior Finish: Porus Slate Grey

DIMENSIONS

- H x W x D (in mm) : 155 x 925 x 495
- H x W x D (in Inch) : 6.1 x 36.4 x 19.4
- Net Weight - 19.8 Kgs



STUDIOMIX 32.4

The British Acoustics Studio Mix 32.4 is a state-of-the-art 32-channel live mixer, equipped with 28 Mic/Line XLR inputs, 2 Stereo Line TRS Jack inputs, USB audio playback and recording, and wireless media input. Its output capabilities include 1 Stereo Out, 4 Group Outputs, 3 Aux Outputs, and a Phones Output, all managed through an 8 bus system with dedicated input metering, +48V phantom power, and a 20 dB pad for each channel. The mixer's standout features include Class-A PSL preamps, the Oliver FX Engine with a preset library, and a 7-band Stereo Graphic EQ and a low THD+N of 0.03%.



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Input Channels
32 (28 Mic + 2 Stereo)

Outputs
LR + 4 Groups

Aux Sends
3 Local Aux

FX Engine
Oliver Dual FX

Preamps
Class A PSL

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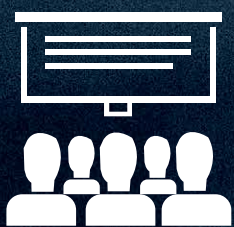
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New Arrival in TK family

TK-608

Performance Microphone

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N-LABS INTRODUCES X9 SUBWOOFER AMPLIFIER FOR POWERFUL PERFORMANCE

N-Labs introduced **X9 subwoofer amplifier** in November 2023 to deliver powerful audio for live sound, road shows, in cinemas, and more. The X9 is one of the biggest power amplifiers ever made by any Indian brand & only amp which is available in that power rating and specs in India right now.

With a peak power of 2 X 3500 W for 8 Ω, 2 X 7200 W for 4 Ω, and 2 X 9250 W for 2.6 Ω, the subwoofer amplifier uses the highest output power in the industry. It is designed for subwoofers, delivering more than 2700 Damping Factor with

a frequency response of 0.1DB +/- @ 20HZ – 200HZ.

X9 subwoofer amplifier also features automatic power supply, which can correct the input and output voltages. Some of the key features of X9 include – separate fuse boards inside to protect input and output supplies from damage, automatic temperature sensors inside to regulate the fan speed reducing noise, pure class H Technology for higher output and efficiency, and ideal for low frequency response. Not only that, the unique Titr Circuit design of the amplifier is loaded with 4 special variable speed

coil fans with high density radiator design. Aviation helps amplifiers stay cool and stable for long term usage. Moreover, the model uses eco-friendly bis approved powersupply for lowest power consumption and highest output power.

Product Specifications:

- SN Ratio - 109 dB
- Slew Rate - 60V / US
- Crosstalk - <-70 DB
- Total Fans - 4
- Input Impedance - 10K / 20K
- Input Sensitivity - 0.775V / 1.4V
- Peak Output Voltage - 155V
- Working voltage - 200V – 263 V 50/60 HZ
- Net weight - 50 kg

Features:

- Short circuit, overload, overheat, high voltage, output DC, over current fuse protections with soft start
- New and unique SMT circuit design to improve the long duration opera-

tions without any issues

- 4-step output power circuit which works perfect even at lower voltage without any issue
- Tunnel state cooling design for heatsinks confirms force cooling inside with a special audio cutout feature in each channel which shuts down the audio in case of wrong wiring or short circuit and handle the same in real-time with preset
- Separate volumes for channels with power, input, clip
- Inbuilt sub-synth filter with extended low frequency response for extremely clear subs
- Balance 4 metal Neutrik Speakons & 30 A wire terminals output connectors
- Balance XLR input / output
- Multiple operation modes and sensitivity selector switches
- 3U design with 19" rack mounting



N-Labs X9 subwoofer amplifier

DPA MICROPHONES LAUNCHES THE 2017 SHOTGUN MICROPHONE

Newest mic captures authentic, high-clarity sound for broadcasting events

DPA Microphones has launched the **2017 Shotgun Microphone**. Designed to capture authentic sound with high directivity, clarity, and consistency, the 2017 excels in challenging broadcast scenarios. With its durable design and ability to withstand any environment or extreme application, DPA's newest solution is ideal for broadcast and live events, from traditional news and sports to location sound or musical performances.

"In an industry with a variety of shotgun microphones, we built the 2017 to stand out from the crowd," says **Helga Volha Somava**, Product Management Director, DPA Microphones. "Measuring just 184mm (7.24 inches) in length, the 2017 is more compact than many popular solutions and still offers impressive technological features. From its durable construction and ease of use to its leading acoustical properties, the 2017 can capture the energy of any event. Whether it is used in fixed positions at facilities or on camera systems and booms, our goal was to create a dedicated, optimized broadcast and live sound microphone that rivals the competition and provides exceptional

value for professionals."

Designed to endure extreme weather and mechanical impact, the 2017 will hold up to travel and repeated use in harsh environments. The microphone persists in humid conditions and direct rain showers, as well as dry, arid envi-

ronments. It has been tested for use in settings with temperatures up to 40°C (104°F) with 90-percent relative humidity, and cold environments as low as -40°C (-40°F). With a consistent ability to easily withstand the effects of moisture, the 2017 ensures that any broadcast or

event can go live with incredible sound, no matter the setting or forecast.

Featuring a specifically designed capsule that is perfectly paired with an interference tube and microphone grid, the 2017 offers outstanding performance, both on- and off-axis. It has a high degree of off-axis rejection which permits the main source to stand out. This heavily attenuated off-axis audio is authentic and extremely usable for mixing into the entire soundscape.

Audio professionals can now pick up accurate, clean sounds from even the most minute sources. For broadcasts that take place at quieter locations, the 2017's low self-noise promises just as excellent a performance, even in the presence of many open microphones.

DPA has also prioritized versatility with the 2017, creating an easy to set-up mic that is ideal not only for fixed or booming applications in live sports and news broadcasts, but also in the theatre on a FOH boom or fly bar; for indoor or outdoor booming while capturing location sound; or to pick up a musician's ambient blend for in-ear monitoring during live musical performances.



The 2017 Shotgun Microphone is designed for broadcast and live applications

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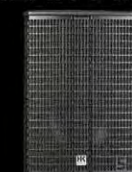
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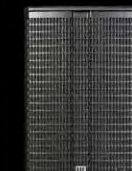
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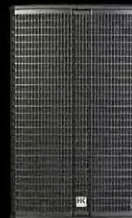
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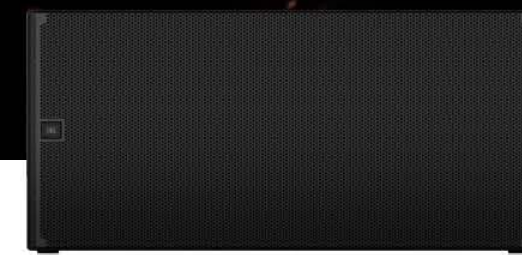
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NX AUDIO RAISES THE BAR WITH NEW LIVE SOUND PRODUCTS

Nx Audio Expands Series Of Wireless Microphones

Nx Audio added to its range of wireless microphones with the launch of the **PRO7000**, **UHF77**, **UHF400**, and the **URX60**.

The PRO7000 builds on the legacy of the PRO600 and PRO4000 with a long-range version offering the user a range of 700 feet.

Featuring a UHF digital TRUE Diversity Receiver and an advanced Single Chip Architecture to avoid dropouts

10 available frequencies, perfect for live sound, portable sound, install sound, and more.

With all the same features, the 4-channel, handheld version of the UHF400 comes with a high-sensitivity cardioid capsule that gives the vocals the desired professional sound while noise absorption components within the mic barrel eliminate switch shock and handling noise. The high-quality lapel

other wireless systems, the receiver's front panel provides a power button and rotary volume control. RF and AF LED indicators also let the user monitor incoming signal strength, while balanced XLR and unbalanced 1/4-inch outputs offer true connecting convenience.

Rounding out the collection is the URX60, an ideal choice for a cost-efficient, high-performance multichannel system. With over 90 selectable frequencies, up to 24 channels can be used simultaneously. As with the previous models, the URX60 is available in Dual Handheld, Hand + Lapel and Dual Lapel Wireless Microphones.



With over 90 selectable frequencies and up to 24 channels, the URX60 is available in Dual Handheld, Hand + Lapel and Dual Lapel Wireless Microphones



The PRO7000 uses digital 16bit ID technology to avoid crosstalk in adjacent frequencies and has automatic frequency scanning along with a TFT display with battery status monitor

and dead spots, the PRO7000 uses a sophisticated digital 16bit ID technology to avoid crosstalk in adjacent frequencies. The PRO7000 has automatic frequency scanning for optimum usage

capsule gives crisp sound and extremely clean reproduction. The transmitter also provides a convenient Power/Mute button and runs on two AA batteries with up to eight hours of battery life.



The UHF400 features a robust metal body UHF receiver with a range of 250 feet in open spaces

of the available bandwidth and a TFT display with battery status monitor.

Based on the popular PRO series of wireless microphones, the UHF200 also uses the same sophisticated Digital 16bit ID technology and was released by Nx Audio incorporating SMT technology for flawless performance and superb range. The UHF77 followed suit, with an operating range of 250 feet and

Built to withstand the rigors of heavy touring or consistent use at bars, clubs, auditoriums, and houses of worship, the UHF400 features a robust metal body UHF receiver with a range of 250 feet in open spaces. Using the ultra-fast microcomputer-controlled oscillation and advanced compression circuits to reject unwanted noise, to prevent phasing issues that plague

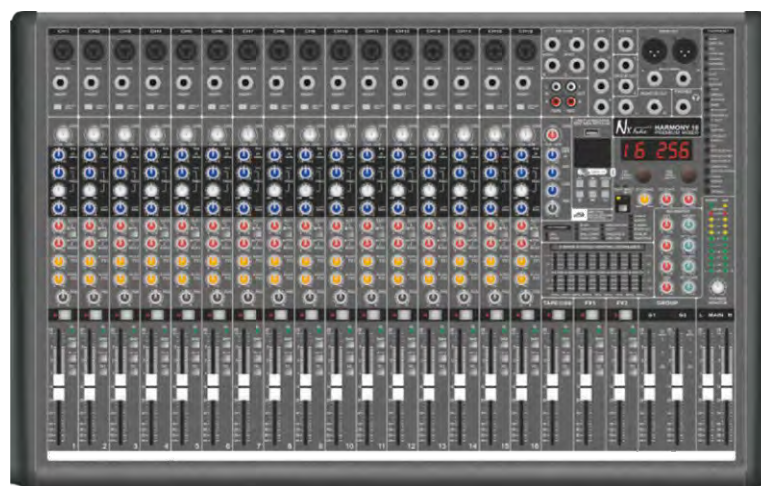
Nx Audio Launches New HARMONY Analogue Live Mixers

Nx Audio launched new **HARMONY Analogue Live Mixers** to provide sound engineers with the desired signal for transparent sound, offering just the right sonic purity and sound quality. Using studio-grade discrete PRE preamps for delivering fat, natural sounding bass and smooth, soaring highs, with very low distortion, HARMONY Analogue Live Mixers offer a reliable 3-band with swept mid equalisation when the user needs nuanced management of the tone.

The **HARMONY Series Analogue Live Mixers** features dual digital multi-effect processors, offering a comprehensive suite of 31+16 editable digital effects,

perfect for enhancing the mix, whether adding depth to a speaking engagement or breathing new colour and atmosphere into a live band performance. In particular, the high-quality reverb and delay expand the spatial quality of the sound with realism and naturalness.

These feature-packed mixers also have 9 Band Graphic Equalizer, USB Recording, Bluetooth and more. With 4 Aux sends to connect multiple effects and monitors, a pair of secondary outs to connect multiple outputs, and premium 100 mm faders giving the user greater control, the HARMONY Series Analogue Live Mixers does the job.



The HARMONY Series Analogue Live Mixers features dual digital multi-effect processors, a suite of 31+16 editable digital effects to enhance the mix, add depth, or breathe new colour and atmosphere into a live band performance



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FRIENDS OF SHIVA SOARS AHEAD WITH AN IMPRESSIVE INVENTORY UPGRADE FROM MEYER SOUND AND DIGICO

Friends of Shiva Expands Inventory With Meyer Sound

One of India's most prominent event equipment rental service providers, **Friends of Shiva**, made a significant enhancement to its FOH loudspeaker inventory with the acquisition of a brand-new comprehensive **PANTHER Line Array System** from **Meyer Sound**, complete with **2100-LFC Low-Frequency Control Element**. This makes Friends Of Shiva the owners of the first PANTHER line array system in Eastern India.

Friends of Shiva reached out to **Sun Infonet** to add the newly launched PANTHER and 2100-LFC into their inventory. Utilizing this system, the company's team recently executed their first show, the **Coca-Cola Festival 2023 Season 2**, which was held in Kolkata in November. The festival was powered by a system that utilized 24 units of PANTHER loudspeakers, 16 units of 2100-LFC control elements, and 2 units of **Galileo GALAXY 816 Network Platforms**.

"The Meyer Sound PANTHER, with its remarkable output exceeding 150 dB in a compact cabinet, proved to be the ideal selection for incor-



The Coca-Cola Festival 2023 Season 2 was powered by 24 units of PANTHER loudspeakers, 16 units of 2100-LFC control elements, and 2 units of Galileo GALAXY 816 Network Platforms from Meyer Sound

porating a large-format line array. The system delivers unparalleled linearity and headroom," remarked **Kyle Mukherjee**, Director, Friends of Shiva. "Choosing the Meyer Sound System, specifically

the combination of PANTHER and 2100-LFC, was ideal for the show. The system sounded incredible comfortably driving at 115 dB C at the console, and it sounded clear and bright even from a distance of 300 feet at the back of the venue."

Friends of Shiva Invests In DiGiCo's Trusted Equipment:

Friends of Shiva also expanded its digital mixing capabilities with the addition of the **DiGiCo Quantum 338 system** coupled with the SD-Rack, along with a single unit of the **S31 digital mixing console**, making the Kolkata-based rental company the owner of the first DiGiCo Quantum 338 system in the region.

Mukherjee explains that the decision to acquire the Quantum 338 system was fuelled by the need to meet the evolving demands such events. He elaborates, "We'd noted that a majority of all top touring artists and engineers citing the Quantum 338 as their preferred desk to work with. To be honest, the DiGiCo Quantum 338 digital mixing console is, in fact, a true technical powerhouse – with its lavish 128 input channels, 64 busses, and a 24x24 matrix, all operating at a pristine 96kHz sample rate. When you throw the SD-Rack into the mix, what you have is a comprehensive system that offers ultra-low latency, high-channel-count audio transmission,

and seamless integration with diverse stage configurations with the capacity to accommodate a wide range of audio sources – all while assuring uninterrupted reliability."

On the other hand, the decision to invest in the S31 mixing console was a strategic move, states Mukherjee, "The S31 offers DiGiCo's flagship audio quality, power and flexibility – all in a compact frame – which makes it the perfect main mix solution for small to mid-size event; whereas its capacity to work seamlessly with all other DiGiCo consoles makes it extremely useful as a 'slave-desk' for larger-scale shows."

Mukherjee asserts that the acquisitions of the digital consoles from DiGiCo and the Meyer Sound PANTHER line array system has expanded the world of possibilities for Friends Of Shiva. "What excites me most about the addition of our DiGiCo consoles and the Meyer Sound PANTHER system is how it has positively influenced our ability to seamlessly adapt to diverse venues and event scales, which enables us to efficiently cater to the most intricate and complex production demands with great ease!" Mukherjee concludes optimistically.



Team Friends of Shiva pose with their latest inventory from Meyer Sound and DiGiCo – the rental service company invested in PANTHER line array system and 2100-LFC Low-Frequency Control Element from Meyer Sound and Quantum 338 system with SD-Rack and S31 Digital Mixing Console from DiGiCo



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DX-480.....4 IN \ 8 Out



DX-260.....2 IN \ 6 Out



- 8 band parametric EQ on each Input
- 6 band parametric EQ on each Output
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- Noise gate and phase on each input
- Password Protect Security
- RS485 connection
- Crossover filters from 12 to 48 dB/ Octave including Butterworth, Bessel, Linkwitz-Riley
- Limiter and phase of each output
- Full matrix routing
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LIVE MIXER

HARMONY16...16 XLR MIC / LINE

HARMONY12...12 XLR MIC / LINE

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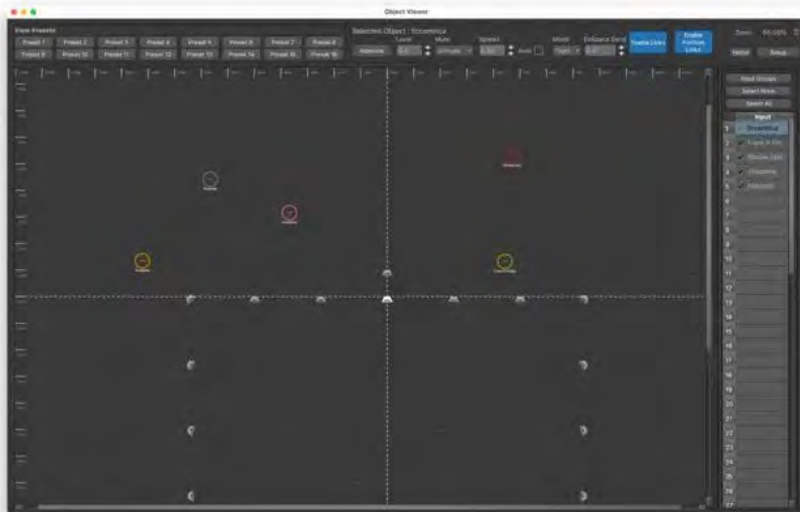
D&B AUDIOTECHNIK RELEASES EN-SNAP SOFTWARE VERSION 3

En-Snap software version 3 enables positioning and editing of Soundscape objects

En-Snap, the **d&b Soundscape** cue automation and show control software provided in collaboration by **d&b** and **Gareth Owen Sound**, has been given a major upgrade and is now available to all Soundscape users as **En-Snap V3**.

In addition to a range of new cue au-

tomation features and significant show control workflow improvements, the V3 update adds the ability to use En-Snap as a stand-alone sound object control user interface on the FoH for all types of immersive live stage performances using a d&b Soundscape system.



En-Snap V3, the upgraded version of d&b audiotechnik's En-Snap V3 is designed as a stand-alone sound object control user interface for immersive live stage performances

The all-new Object Viewer allows users to monitor and control the positions of sound objects directly in En-Snap, within an intuitive workflow that supports positioning and parameter editing for a single object or group selections in absolute and relative editing modes. The ability to organize the visibility of objects, background images, and view sections in user-defined "view presets," combined with options to color objects and assign names, ensures maximum customization. Input groups for quickly selecting multiple objects for mass editing and object linking with multiple mirror modes for group positioning ensure efficiency within the streamlined, user-centric workflow of the new Object Viewer, which is designed (from scratch) for object-based content creation in immersive live applications.

This is complemented by a new category of innovative controls integrated into En-Snap V3: 'Position Dependent Spread'.

Gareth Owens from Gareth Owens

Sound, shares, "Since its introduction we've always tried to make En-Snap an innovative yet intuitive interface for d&b's DS100 Soundscape signal engine. With V3, we've taken the control capabilities a big step further as the software now allows En-Snap positions and parameters to be viewed and edited directly within En-Snap. Not only that but we have integrated metering directly in to each and every object right on the object viewer screen making, mixing, and editing far more fluid. We've been using it on our theatre shows both in London and on Broadway for quite a while now and so far, it has worked flawlessly."

"En-Snap V3 provides Soundscape users with an easy-to-use control solution for their most creative projects. The new software version not only gives them a more time-efficient and coherent workflow, but also a comprehensive feature set that is innovative and inspiring," comments **Georg Stummer**, Manager Advanced Systems, d&b audiotechnik.

HARDIA SOUND, INDORE PICKS UP HIGH PERFORMANCE ADAMSON E15

To cater to the growing market of large format events in the Indore, **Hardia Sound and Lights Pvt. Ltd.**, an AV equipment rental company based in Indore, India has invested in an **Adamson E15 Large Format Line Array** comprising 18x E15

speakers, 12x **E219 Dual 19" Subwoofers**, and 12x **S10 compact line array speakers** all powered by **Lab Gruppen PLM 20K44 amplifiers**.

The Adamson E15 is a high-performance, three-way line array loud-speaker that is ideal for a wide range

of professional audio applications, including touring, live sound reinforcement, and fixed installations. It features a dual 15-inch woofer, dual low excursion 7" mid-range drivers, and a dual 4-inch compression driver, providing seamless full range energy

with minimised distortion even at high SPL levels. The E15 has a frequency response of 60 Hz to 18 kHz, and it can produce a maximum peak SPL of 147 db. The E15 is also equipped with Adamson's proprietary Smart Link™ rigging system, which makes it easy to set up and deploy.

Mahesh Hardia, Director, Hardia Sound and Lights Pvt. Ltd. tells us that he chose the Adamson system as it is, "a versatile and powerful line array system. We look forward to providing our artists and audiences with state-of-the-art technology from Adamson."

Karan Nagpal, Stagemix, authorized distributor for Adamson systems in India, remarked, "One of the things that makes the E15 so popular is its sound quality and high SPL levels. The speaker produces a very clear and natural sound, with excellent bass response and smooth highs. We are happy to welcome Hardia Sound into the fast growing family of E15 users in India."



Mahesh Hardia, Director, Hardia Sound and Light, **Sahil Hardia**, Manager, Hardia Sound and Light, and **Pulkit Hardia** pose with their latest acquisition - the Adamson E15 Large Format Line Array

Gujarat Grooves To Meyer Sound



Phoenix Networks And Meyer Sound Take Gujarat's Navratri Celebrations To New Heights

Gujarat's premier Navratri Celebrations organized by the Rotary Club of Bhuj reach new heights, as Phoenix Networks deploys their formidable PANTHER Line Array System for the very first time for a public event, and receives praise for their meticulous approach to achieving sonic excellence.

The vibrant tapestry of Hindu culture is woven with a myriad of festivals, each celebrating different facets of life and spirituality. Among these, Navratri stands out as a radiant and joyous occasion, marking the triumph of good over evil; with the festival spanning nine nights dedicated to the divine feminine in various forms – each representing strength, wisdom, and prosperity.

This year's Navratri celebrations reached new heights, both metaphorically and literally, as the **Rotary Club of Bhuj in Gujarat** orchestrated a 10-day cultural extravaganza at the **iconic Sandalwood Villa & Clubhouse Grounds** in Mirjapur. Nestled in the heart of Gujarat, this sprawling venue, measuring a colossal 550 feet in length and 260 feet in breadth, set the stage for a celebration of music, dance, and devotion.

The cultural confluence witnessed performances by renowned artists, including the mesmerizing dhol virtuoso Aslam Dafrani of Hanif-Aslam fame, and soul-stirring singers Firoz Ladka, Amber Desai, Yasita Sharma, and Pallavi Dabholkar. The musical ensemble accompanying these greats was nothing short of spectacular, featuring an eclectic mix of instruments that included the likes of a complete Pearl Reference Pure drum kit, numerous keyboards, a Kittar, bass guitar, trumpet, banjo, saxophone, and a captivating array of wireless dhols and 'puneri' dhols.

The meticulous technical production of the event was planned and executed by **Phoenix Networks** – one of the top-tier professional rental services companies, syn-

onymous with providing world-class equipment and technical expertise. Phoenix Networks was the first company in India to acquire **Meyer Sound's PANTHER line array system**, and this event, in particular, marked a historic moment for the company, as it became the first-ever open-to-public event that the company deployed their prized PANTHERs in spectacular fashion that did absolute justice to the unbridled potential and power of the system.

"This was the perfect platform for us to showcase the true potential of the PANTHERs as the Navratri Celebrations organized by the Rotary Club Of Bhuj are by far one of the most prestigious and grand events to take place in the entire region. The sheer expanse and scale of the event was so magnanimous, that it not just presented us with the opportunity to demonstrate what the PANTHERs are capable of achieving, but also set the stage for our team of wonderfully talented and astute crew members at Phoenix Networks to shine bright with their impressive technical expertise and skill," comments **Animesh Mishra**, Director, Phoenix Networks.

The Sound Design: Planning & Execution

The planning and execution of the sound reinforcement solution at the heart of this 10-days long celebratory event was nothing short of novel and out-of-the-box; as the team of experts at Phoenix Networks embarked on a journey to create an immersive auditory experience that would envelope the massive audience space

without the need for additional delay sound reinforcement systems.

Starting off with Meyer Sound's advanced MAPP3D software, the team meticulously crafted a map file, laying the groundwork for the perfect sound reinforcement solution that eventually saw no delay reinforcement solution being deployed whatsoever, despite the massive expanse of the ground.

The team then referenced the extensive MAPP3D analysis, and subsequently decided to fly the PANTHER line array system at a height of 42 feet; with 16 units of the PANTHER Line Array modules suspended on each side of the stage. The decision to do so not only helped team Phoenix Networks to guarantee remarkable projection, coverage, and linearity but also ensured that a substantial amount of headroom was left for mix engineers to elevate volume levels without compromising on clarity.

Furthermore, to enhance the low-frequency fidelity, Phoenix Networks adopted an ingenious and unique approach, as they decided to 'fly' six units of the compact



The Rotary Club of Bhuj at the Sandalwoods Villa & Clubhouse Grand in Gujarat was imbued with superlative sound, as rental company Phoenix Networks equipped the massive ground with 16 unites of PANTHE Line Array modules, six units of 1100 LFC subwoofers, eight LINA Line Array modules, and more

yet powerful 1100 LFC subwoofers per side in a cardioid pattern; with this strategic move not only ensuring true linearity but also assertively ensuring that every beat resonated powerfully reached even the farthest corners of the vast ground with consistent projection and impact. This was the first time in known history that the 1100 LFC subwoofers were ever flown for an event of this size and magnitude.

Providing some insight on the reasoning behind this novel approach, Mishra explains, "Considering the sheer expanse of the ground and taking into account that we aimed to have no delay reinforcement solution whatsoever, we tested out quite a few configurations for the subwoofer placements and found that there was cancellation of the subs along centre-line of the audience space, while also noting a considerably high level of back rejection. We therefore tried configuring the subs in a cardioid pattern and also angling them to fire slightly outward. It was first time ever that we had tried this out, and the pressure projection readings turned out

to be much better. Hence, we decided that we would fly the 12 subs in the same configuration but at a height of 39 feet, which allowed for better projection and coverage, while opting to also have 6 subs on the ground in front of the stage to further enhance the overall low-frequency experience for the audience."

While the addition of six ground-stacked 1100 LFC subwoofers did bring together an impactful 'tight' low-frequency fidelity experience; the auditory landscape was further enriched by eight compact **LINA line array modules** from Meyer Sound, which were strategically placed as the center-fill reinforcement. The result was a breathtaking symphony of sound that resonated with unparalleled clarity, power, and intelligibility, captivating the audience from every angle.

More Than Meyer Sound - The Detailed Inventory:

To perfectly complement this cutting-edge loudspeaker solution, Phoenix Networks selected **DiGiCo's flagship Quantum 338 digital mixing console** and the renowned **SD10 digital mixing console** for the FOH and monitoring stations, respectively, complete with two units of the SD Racks matched parallel with Optocore connectivity.

The commitment to excellence didn't stop with the audience; as the artists and performers on-stage received equal attention. Team Phoenix Networks equipped the stage with an almost unending array of world-class microphones, including the **Shure Beta 52A and Beta 56A, Audix DP7, Sennheiser Neumann's clip-on microphones, Sennheiser 6000 Wireless Solution, and Shure's Axient Digital System**. A total of 32 channels of Sennheiser 2000 In-Ear Monitors provided artists with a personalized monitoring experience, while eight MJF 210 wedges from Meyer Sound served as the primary floor-monitoring solution for the main artists to provide them with an extremely precise and nuanced feel of their performance. Alongside, 16 units of **JBL's VRX 915M two-way stage monitors** acted as the floor-monitoring solution for the band members, which allowed them to partake in a truly immersive performance experience.

Needless to say; the 10-days long Navratri celebratory extravaganza at the Sandalwood Villa & Clubhouse grounds were nothing short of spectacular, as the audience and performers alike, found themselves immersed in an enchanting sonic tapestry.



From L-R: Team PHOENIX NETWORKS with assistants Deva, Abidul, RF Engineer Aditya, System Designer Pratiksha followed by assistant Uttam , Mix Engineer Dheeraj, Director Animesh Mishra, Assistant Engineer Shubham, Assistant Alam, Deepak, and Mangal

Praises and Accolades:

Senior members of the event's organizing committee at the Rotary Club of Bhuj seem to resonate in agreement, as one of the distinguished members commented, "The meticulous planning, innovative solutions, and unwavering commitment to delivering a sonic spectacle by Phoenix Networks has undoubtedly transformed the Rotary Club of Bhuj's Navratri celebrations into a true auditory masterpiece. The fusion of traditional cultural celebrations with cutting-edge audio technology created an experience that we've never had before, and we were so pleased to see all our club members, guests, and performers enjoying the true spirit of Navratri. Kudos to team Phoenix Networks for their exemplary passion and commitment!"

At the end of it all, as the echoes of the celebration faded, the impact of this harmonious extravaganza left an indelible mark on the landscape of live sound production.

EAW BRINGS SONIC BLISS TO MOLECULE, AGRA

Molecule, a renowned restaurant in the heart of Agra, specializes in North Indian cuisine and caters to both residents and visitors, offering a delightful one-stop dining experience. The restaurant's dedication to excellence extends to hosting events and activities, making it an ideal spot for socializing with friends and family.

To elevate Molecule's elegant ambience sonically, **Pink Noise Professionals** installed the **RS121** and **RS118** speakers from **EAW (Eastern Acoustic Works)**. Recognizing the pivotal role of seamless installations in maximizing the potential of premium audio equipment, Pink Noise Professionals' technicians worked diligently to integrate the RS121 and RS118 speakers seamlessly into the dynamic space housing Molecule Agra.

The EAW RS121 and RS118 speakers transcend conventional audio equipment, standing as



EAW's RS121 and RS118 speakers amp up the power of sound at the Molecule in Agra

masterpieces of sonic engineering. Through meticulous fine-tuning during

installation, the team at Impressa Controls ensured these speakers would



Rajesh Sabhlok, MD, Molecule Agra

not only meet but exceed expectations, delivering optimal performance and sonic excellence. The result is a seamless fusion of technology and artistry, elevating the auditory senses of all who enter Molecule Agra into an immersive realm of sonic brilliance.

Rajesh Sabhlok, MD, Molecule Agra, praised the audio

(Continued on page 20)

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NIGHT OWL CHOOSES BRITISH ACOUSTICS AS THEIR SOUND PARTNER

Night Owl in Kolkata, West Bengal, embarked on a mission to enhance its sonic environment. Aiming to transition from an existing OHM system, the goal was to curate a sound experience that

team grappled with harmonizing the new equipment with the venue's distinctive architectural features. The task was to amplify the auditory presence, ensuring a seamless enhancement from the previous OHM system, while main-

– **95** ensured the delivery of profound bass and crisp, clear sounds, marking a notable advancement from the prior sound setup.

This meticulous upgrade has propelled Night Owl into a realm of acoustic superiority, establishing it as a pinnacle of auditory and atmospheric excellence in Kolkata's vibrant nightlife.

"Working on the Night Owl project was a remarkable experience. The British Acoustics equipment seamlessly blended with the venue's aesthetics, allowing us to enhance the auditory environment effectively. The upgraded system now delivers a powerful and clear sound that perfectly resonates with the venue's luxurious ambiance," said **Dipan Kundu**, Systems Integrator, Electro Acoustic Infotech Pvt. Ltd.

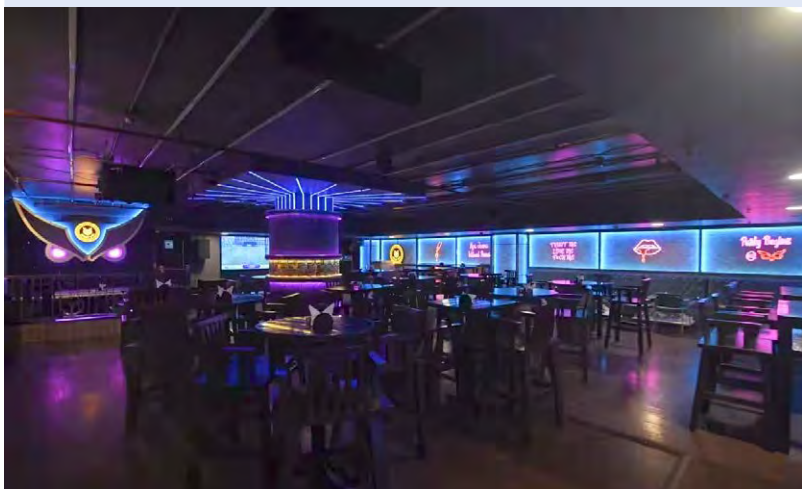
"Upgrading the Night Owl's sound system with British Acoustics' products was a strategic triumph. The new equipment not only elevated the sound quality but also harmonised with the venue's unique architecture. The result is a sophisticated, immersive sound experience that aligns flawlessly with Night Owl's reputation as a premier destination in Kolkata's nightlife," stated

Joydeep Roy, Systems Integrator, Electro Acoustic Infotech Pvt. Ltd.

"The upgrade at Night Owl was a triumph. British Acoustics' products seamlessly elevated the venue's auditory experience, blending innovation with powerful performance, ensuring a transformative sound experience," stated **Vinayak Ghadigaonkar**, Pre-Design & Sales Engineer, VMT Central.

Adding to the experiences, **Anindya Bhattacharya**, Deputy General Manager – East India, VMT Enterprise, said, "Night Owl's transformation is a milestone in acoustic excellence. The integration of advanced equipment has redefined the venue's sound landscape ensuring an unmatched and immerse auditory experience."

Jeff Mandot, National Sales Manager, VMT, added, "Night Owl's upgrade showcases the pinnacle of sound system excellence. British Acoustics' equipment has been instrumental in creating a sound environment that captivates and resonates with unmatched quality."



The meticulous upgrade by VMT propels Night Owl's audience to experience auditory and atmospheric excellence

aligns with the venue's luxurious aura and satisfies the refined tastes of its patrons.

Navigating through the complexities of upgrading, the installation

taining the venue's aesthetic integrity.

British Acoustics' elite products were chosen as the pillars of this transformation. The deployment of the **Alpha Sub 428 S** and the **Alpha Source 415**

CHENNAI'S STUDIO H UNVEILS ICONIC RUPERT NEVE DESIGNS' 5088 CONSOLE

One of the renowned music composers and producer **Harris Jayaraj**

has elevated the sonic landscape of Studio H with the installation of the

iconic **Rupert Neve Designs 5088 Analog Console**. This addition marks a

significant milestone in India's music production & recording industry, as this prestigious console finds its new home in the heart of Chennai.

The Rupert Neve Designs 5088 is celebrated globally for its unparalleled audio quality, craftsmanship, and innovative design. Also known as one of the greatest consoles of all time for its warm and rich sound, the console's versatile features make it a prized possession for any serious music professional. **Studio H's** investment in this iconic piece of audio engineering underscores its dedication to providing a cutting-edge environment for music creation and production.

A comprehensive feature article on this momentous installation, including insights from Harris Jayaraj and a detailed exploration of the Rupert Neve Designs 5088 will be unveiled in the coming months. Stay tuned for an in-depth look at how Studio H is setting new standards in audio excellence with Rupert Neve Designs 5088 analog console.



Seasoned music composer and producer Harris Jayaraj poses with Rupert Neve Designs 5088 Analog Console in Chennai's Studio H

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^{*}Source: Futuresource Consulting. [^]Colour brightness (colour light output) in brightest mode, measured by a third-party lab in accordance with IDMS 15.4. Colour brightness will vary depending on usage conditions. Top-selling Epson 3LCD projectors versus top-selling 1-chip DLP projectors based on NPD sales data for May 2017 – April 2018. ³3 years or 20,000 hours, whichever is earlier.

GURUGRAM'S EBOWLA CLUB & BYOB ENHANCES NIGHTLIFE EXPERIENCE WITH BETA THREE

Offering a unique twist to a traditional club space, **Gurugram's Ebowla Club & BYOB** presents a delectable mix of gourmet wine and dine with the concept of 'Bring Your Own Bottle', allowing visitors to experience fine ambience as they sip on the drink of their choice, brought from home. To enhance the atmosphere and provide guests an unforgettable clubbing experience, Ebowla Club & BYOB hired integrators to design and install cutting-edge **Beta Three Professional Audio Solution**. The Club offers guests a one-of-a-kind nightlife experience. Looking to take the impressive venue to the next level and offer an even greater partying experience, Ebowla Club & BYOB upgraded its sound with Beta Three Professional Line Array Speakers and Monitors, Dual 18" Subwoofer, and much more.

The Solution

The system installed at Ebowla Club & BYOB includes **VR112 - 3 Transducers 2-way 12" Full Range Loudspeaker**. This is a full range speaker comprising of 12" Neodym-



ium woofer and dual 44mm Neodymium drivers. The woofer unit uses a 65mm voice coil.

The N Series Waterproof Speakers



Gurugram's Club Ebowla and BYOB delivers an unforgettable nightlife experience with Beta Three's VR112 - 3 Transducers 2-way 12" Full Range Loudspeaker, ΣJ218B subs - Dual 18" Subwoofer, TW15 15" Two Way Full-Range Passive Speaker, and Beta3 DT Series- D Class Amplifiers



are specially designed with the latest technology to optimize phase response, and it provides an incredibly high-power output with low distortion and a flat frequency response in various applications demanding extraordinary acoustic performance. For great punch and bass effect, the speakers are complimented by **ΣJ218B subs - Dual 18" Subwoofer** deployed on the floor. For the DJ monitor, our integrator deployed a **TW15 15" Two Way Full-Range Passive Speaker**. The system is powered by **Beta3 DT Series- D Class Amplifiers**, which are professional touring amplifiers 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. The **ΣC2600U** was installed for digital speaker management processor.

The Impact

Audio solutions deployed from Beta Three in Ebowla Club and BYOB were both musical and powerful. "Everyone immediately appreciates the power of the Beta3 system," concludes the Ebowla team, "But more compelling is how music has enhanced the ambience of the lounge with a melodic effect, which came from Beta3's unique sound."

EAW BRINGS SONIC BLISS...

(Continued from page 17)

system installed at the restaurant, complimenting its product quality and sonic delivery, "I am thrilled to express my utmost satisfaction with Pink Noise Pro and their installation of EAW RS121 and RS118 speakers! Meticulous craftsmanship enhances my audio experience. Dedicated to precision engineering,

they optimized the full potential of RS121 and RS118 seamlessly. Collaboration with local dealer Impresa Controls, led by **Mayank Gupta**, added a personal touch. I am impressed with the product and exceptional service, ensuring an enhanced audio experience for me and my customers."



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RØDE APPOINTS DR SAM BUCOLO AS CHIEF OF DESIGN

RØDE announced the appointment of **Dr Sam Bucolo** as Chief of Design. Dr Bucolo joined RØDE from the Australia Design Council, where he is currently Chief Executive Officer. With a career spanning more than 30 years, he has worked for a number of organisations implementing design-led innovation strategies across design, technology and education sectors.

A key hire for RØDE, Dr Bucolo will oversee all aspects of research, development and design across the entire RØDE product range, with a focus on driving innovation and

leading RØDE's ongoing global R&D expansion.

Commenting on the appointment, RØDE CEO **Damien Wilson** said, "We are extremely excited to welcome Sam Bucolo to RØDE. He is one of the leading design thinkers in Australia and a global innovation expert with a proven track record of delivering impact in businesses like ours. Innovation is at the core of what we do here at RØDE, and with an incredible product roadmap ahead of us, his addition to the team will continue to drive new successes and deliver exceptional new products for the world's creators."

"It is with great enthusiasm that I join RØDE at this pivotal time in the company's history," said Dr Bucolo. "I have long revered RØDE not only as a stalwart of Australian design, but as a global technology and advanced manufacturing leader. I am incredibly excited to work alongside Damien, **Peter Freedman** and their incredible team here in Sydney. RØDE's facilities are second-to-none and the team's passion for innovation and customer-centric design is admirable. I look forward to helping carry the company's legacy as one of the world's premier technology brand for creators into the future."



Dr Sam Bucolo, Chief of Design, RØDE

ARRI APPOINTS DR. RAPHAEL KIESEL AS SENIOR VP BUSINESS UNIT LIGHTING

Dr. Raphael Kiesel took over the management of ARRI's lighting division on December 1, 2023. In this role, he is responsible for the entire business unit. Dr. Kiesel reports directly to **Dr. Matthias Erb**, Chairman of the Executive Board at ARRI.

Dr. Kiesel was currently responsible for global quality management at ARRI. In this role, he systematically refined quality management at the company. The focus of further development is on the structured transfer of customer requirements into the film technology company's products and services.

Even before joining ARRI, Dr. Kiesel acquired a deep technical understanding combined with entrepreneurial thinking and international experience. He spent time abroad in the USA,



Dr. Raphael Kiesel, Senior Vice President Business Unit Lighting, ARRI Lighting

France, and China. During his time as a Research Assistant and Department Head at the Fraunhofer Institute IPT and Machine Tool Laboratory (WZL) at RWTH Aachen University, he completed his Doctorate in Mechanical Engineering. At the same time, he completed an MBA at the Collège des Ingénieurs in cooperation with Siemens.

Dr. Erb, Chairman of the ARRI Executive Board, remarked, "We are extremely pleased that we have been able to win Dr. Kiesel for this position. As the new head of the division, he will continue to drive the development of ARRI Lighting. I wish Raphael the best of luck and success in this exciting and challenging task."

Lars Weyer, member of the Executive Board and CFO of ARRI, emphasized,

"In his role as Head of Quality Management, Raphael has already proven that he can drive topics successfully. He will continue to do so in his new position."

Dr. Kiesel, new Senior Vice President Business Unit Lighting at ARRI, added, "ARRI's commitment to quality is already inspiring but I want to push the quality of our brand and its lighting portfolio even further. The sights are set on becoming a full-range provider in our core market while elevating activities in new segments. Producing the right products at the right time and in the best quality, that's been the ARRI promise for over 100 years. I look forward to continuing this success story in intensive dialog with our customers and users."

KV2 APPOINTS LEO TANZIL IN A CRUCIAL ROLE TO STRENGTHEN APAC TEAM

KV2 Audio has announced the appointment of **Leo Tanzil** to the role of Technical Support Director & Product Specialist for the APAC region. He will be providing valuable support to KV2's APAC sales director, **Robert Adrian Tan**.

"We're thrilled to welcome Leo to the KV2 family," says CEO, **George Krampera Jr.** "His technical expertise coupled with his passion for high fidelity sound makes him an ideal choice for the role. As Technical Support Director & Product Specialist, Leo will be

supporting specifiers and integrators in system design and commissioning, in addition to running training courses and providing technical support where it's needed. We set great store by our ability and commitment to providing top-notch technical support and education, so we're delighted to welcome Leo aboard."

Tanzil is equally pleased to be joining the KV2 team. "Pursuing perfect sound has been my lifelong passion," he declared. "That passion has been my driving force for over 20 years, and I firmly believe that science and




Leo Tanzil, Technical Support Director & Product Specialist, APAC Team, KV2 Audio


engineering can fulfil the quest for perfect high-fidelity audio. At KV2 I have found a group of like-minded people who are as passionate about good sound as me and have the engineering skills to back it up. I hope that my experience across a wide range of applications, from houses of worship to hospitality and the performing arts will help build KV2's business across the APAC region, all the while enabling me to pursue my goals of continued learning and perfect sound!"


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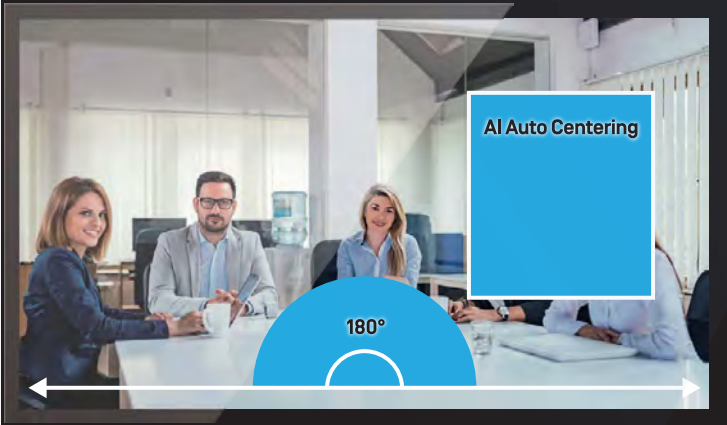
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VMT NAMES EXCLUSIVE DISTRIBUTOR FOR ELATION AND OBSIDIAN IN GROWING INDIAN MARKET

Elation Professional announced that VMT (Vardhaman Megatech), one of the highly reputable distributors of audiovisual solutions in India with extensive experience, has been appointed as the exclusive distributor for Elation Professional and Obsidian Control Systems products in India.

Based in California with facilities in Florida and Mexico City, as well as European offices in The Netherlands, Elation designs and manufactures a comprehensive range of innovative lighting products known for its superior performance, excellent efficiency, and outstanding price: value ratio, all backed by a hard-earned reputation for Total Support. Elation also offers an advanced line of lighting control products through Obsidian Control Systems, as well as a full range of



L – R: Dinesh Mandot, Director, VMT, Jonas Stenvinkel, International Sales Manager, Elation Professional, Jeff Mandot, Director, VMT

dependable specialty effects called Magmatic.

"Having a dedicated distributor in India is an important step in ensuring

growth and success in this expanding market and we are very excited for the opportunity it represents. VMT will carry and represent our full portfolio and we

are excited for the future expansion into India," stated, **Jonas Stenvinkel**, International Sales Manager, Elation Professional.

"With Elation's industry-leading reputation and commitment to innovation and high-quality, and Obsidian's growing reputation as an innovative lighting control brand, the partnership will have a great benefit to customers in India. For VMT, the partnership allows us to strengthen our position in the industry while enhancing our reputation as a trusted provider of professional lighting in the country. Together, we aim to elevate the lighting experience in India's entertainment and corporate sectors and look forward to a successful and mutually beneficial collaboration," said **Jeff Mandot**, National Sales Manager, VMT.

HARMAN PROFESSIONAL SOLUTIONS TO ACQUIRE FLUX SOFTWARE ENGINEERING

HARMAN Professional Solutions, one of the global leaders in audio, lighting, video and control technologies, announced it has entered into an agreement to acquire **FLUX SOFTWARE ENGINEERING ("FLUX::")**, pioneers in immersive audio production, audio processing plug-in design, and audio analysis.

The acquisition will broaden HARMAN Professional's offerings across multiple applications with world-class immersive technology, in addition to establishing a foundation for future innovation by bringing together FLUX::'s team with the hardware

and software engineers of HARMAN Professional. When closed, the purchase will include FLUX::'s immersive, processing, and analysis solutions across live production, installation sound, content creation, and post-production.



FLUX:: will advance HARMAN Professional's Portfolio in Live Production, Installed Audio, and more

"The FLUX:: acquisition is part of a technology investment HARMAN Professional is making to bring outstanding immersive experiences for live and recorded productions," said **Brian Divine**, President, HARMAN Professional Solutions. "From creation to real-time immersive delivery, we aim to empower artists, designers, and engineers with a comprehensive product offering across the entire system. The foundational technology developed by the talented FLUX:: team opens many opportunities for future integration with our portfolio of brands."

"The future integration of our

software technology with HARMAN's industry leading brands make for exciting opportunities not only for touring applications, but for installed audio where spatial audio will play an increasingly important role," said **Gaël Martinet**, Founder and CEO of FLUX SOFTWARE ENGINEERING. "We've been pioneering and engineering immersive audio solutions for many years and to be among these HARMAN brands, namely JBL, which developed some of the earliest loudspeakers, is very compelling for our team and for customers."

Closing of the acquisition is anticipated before the end of 2023.

RØDE ACQUIRES PRO AUDIO BRAND MACKIE

RØDE Microphones LLC announced the acquisition of iconic American pro audio brand **Mackie**. The acquisition represents a new chapter in the evolution of RØDE and establishes **The Freedman Group** – parent company of RØDE – as one of the most well-rounded pro audio companies in the world, with an enviable catalogue of products spanning a wide range of audio solutions for content creation, home and studio recording, broadcast, and live

sound production.

"I am absolutely thrilled to welcome Mackie to The Freedman Group's roster of iconic audio brands," says Founder and Chairman **Peter Freedman AM**.

"They are true legends, with a pedigree of live sound expertise that is simply unmatched. Today, RØDE and Mackie are both leaders in audio, and we share the same passion for creating innovative, high-quality products with a strong customer focus. With this ac-



quisition, The Freedman Group is now a premier audio technology company offering world-class products to an even wider range of customers, from up-and-coming content creators to professionals working in live production and everyone in-between."

Speaking about the acquisition, **Alex Nelson**, CEO, Mackie says: "The entire Mackie team is excited to be joining

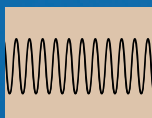
forces with Peter, Damien, and their incredible crew. Having worked in the audio industry for many years, I have always held RØDE in high esteem. Their manufacturing capability and technology leadership is second-to-none in pro audio and I think they are the perfect partner to help Mackie expand as we

(Continued on page 27)

Amplify your sound quality

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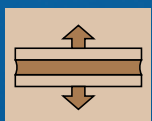
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BEYERDYNAMIC ANNOUNCES NEW DISTRIBUTION PARTNER IN INDIA

beyerdynamic, one of the renowned German audio brands, introduced **Pink Noise Professionals Pvt Ltd** as its new representative, distributor, and service center in India.

Following the decision by the beyerdynamic headquarters to close the local subsidiary, beyerdynamic India Pvt Ltd, by September 30th, 2023, Pink Noise Professionals Pvt Ltd will step in as the official distributor of beyerdynamic products in the Indian market.

Pink Noise Professionals Pvt. Ltd has carved a niche for itself in the audio industry, collaborating with globally

recognized brands such as Apogee, EAW, and others. Their expertise extends to distributing professional audio equipment across various sectors, in-



cluding live sound, studio production, MI retail, broadcast, the public sector, and hospitality. Their well-structured

organization, extensive sales network, and complementary product offerings make them the ideal partner to nurture and support beyerdynamic's customer base in the country.

Andreas Rapp, Managing Director of beyerdynamic, expressed his enthusiasm about the partnership, stating, "We are excited to work with **Vikram Yadav**, the Team at Pink Noise Professionals, and their extensive dealer network across the country. Pink Noise Professionals will continue to enhance beyerdynamic's brand recognition and provide

its top-quality products to both our existing and new customers in India."

Vikram Yadav, founder and CEO of Pink Noise Professionals, shared his sentiments, saying, "We take immense pride in representing beyerdynamic in India. beyerdynamic seamlessly complements our existing brands by offering high-class headphones and microphones that cater to a diverse range of applications. The entire team at Pink Noise is thrilled to collaborate with beyerdynamic, a brand known for its esteemed reputation and quality within the audio industry."

MEYER SOUND ORGANIZES THREE-DAY EDUCATION EVENT IN MUMBAI FOR PRO AUDIO INDUSTRY PROFESSIONALS

The event, held in collaboration with Sun Infonet, demonstrated cutting-edge audio solutions & imparted training to pro audio engineers & technicians

Nestled in the heart of Mumbai at Nesco Centre in Goregaon, **Meyer Sound**, in collaboration with **Sun Infonet**, orchestrated a comprehensive three-day educational event entitled 'Listen, Lunch and Learn – Portable System Deployment.'

The primary objective was to present Meyer Sound's cutting-edge audio solutions to industry professionals while imparting essential training to engineers and technicians, enabling them to adeptly deploy these systems across diverse scenarios.

The event strategically catered to a niche audience, including systems integrators, consultants, design engineers, and audio professionals.

Attendees were treated to firsthand experiences with Meyer Sound's latest innovations, notably the **ULTRA-X20** compact wide coverage loudspeakers and **USW-112P** compact subwoofers, distinguished as the industry's inaugural Milan-certified portable PA loudspeakers. The event's showcase also featured Meyer Sound's remarkable 'Power Couples,' uniting **ULTRA-X40** compact loudspeakers with **900-LFC** compact low-frequency control elements, accompanied by a lineup of six ground-stacked **LINA** very compact linear line array loudspeakers and the revolutionary **2100-LFC** low-frequency control elements. The spatial sound design and mixing tool, **Spacemap Go**, seamlessly complemented the system.



Meyer Sound & Sun Infonet's collaborative three-day educational event, 'Listen, Lunch and Learn – Portable System Deployment' witnessed a comprehensive training session for the delegates using pro audio solutions from Meyer Sound

Post-lunch, the session, led by Meyer Sound's Technical Services Manager, Latin America, **Oscar Barrientos** from

Mexico, delved into a comprehensive training on the Meyer Sound Precision Toolset – a pivotal tool for predicting, driving, and monitoring the systems showcased during the listening session of the event.

A dedicated day was allocated to the highly anticipated topic of 'Portable System Deployment Fundamentals,' led by Oscar Barrientos. This session offered participants foundational knowledge crucial for accurate deployment of portable live sound systems, covering critical aspects such as networked audio and sound system monitoring. The training session's ultimate goal was to furnish attendees with a practical understanding of the entire process, from initial system



Team Meyer Sound and Sun Infonet with participants from the three-day 'Listen. Lunch. Learn' Event

(Continued on page 27)

ALL INDIA SOUND & LIGHT WELFARE ASSOCIATION SET TO CONSOLIDATE INDIAN PRO SOUND & LIGHT INDUSTRY

The idea for **All India Sound & Light Welfare Association** originated in 2020, as the need to bring the forces of Indian pro sound and light industry under a single roof became more and more imminent. **Virendra Babbar**, Chairman, All India Sound & Light Welfare Association, notes, "When the world was plagued by the Coronavirus in 2020, the professionals from the pro sound & light industry in India realized that they do not have any support to survive and thrive in any manner. Our industry is so mammoth – in this industry alone, there are five crore professionals. We were all locked inside our homes, our businesses had stalled, and to top that, no government body or industry player's attention fell on us. This is when we decided to create our own association by getting everyone involved in the pro sound industry under a single roof."

The All India Sound & Light Welfare Association is the result of teamwork emanating from several minds that think alike. Babbar shares, "The Association has a President in every state. From Punjab, we have **Prakash Singh Kala**. From Rajasthan, we have **Deepak Sharma**. From Jabalpur, we have **Vimal Gupta**. From Jharkhand, we have **Dinesh Sahu**. From West Bengal, we have **Balram Sahu** and **Lal Thakur** from Chhattisgarh. The list goes on."

The All India Sound & Light Welfare Association has been instrumental in



ensuring that the pro sound industry in India continues to thrive even in testing times. But, collective effort to overcome several obstacles on the ground is the need of the hour, as Babbar recalls, "In West Bengal, the CM imposed a ban on sound. We organized a three-day peaceful protest to oppose the ban. In Delhi too, there was a ban on sound. To oppose it, we organized a six-day bike rally and a flag roadshow. Similarly, there are many such instances in states like Bihar, Chhattisgarh, and the likes – we are planning to find a common ground there as well. The government has capped the maximum decibel at which sound can be played. We are filing a petition against the levels decided by the Government in the Supreme Court. For this, all the pro sound professionals have to speak up collectively."

The Association plays a pivotal role in addressing disputes and grievances arising between pro sound and light rental companies and equipment distributors, dealers, and manufacturers. Babbar elucidates with a couple of instances, "Disputes are a common occurrence in this industry, and the All India Sound & Light Welfare Association plays a pivotal role in addressing the grievances and disputes. For example, one client had paid INR 3 lakhs to a company, and yet, the company wasn't supplying the equipment to the client on time. We intervened and ensured that the equipment reaches the client as soon as possible. Likewise, a customer placed a huge order of almost 13 lakhs or so, with a company. As an advance token, the customer paid only INR 50,000 to the company. The Association stepped in and solved the company's grievance."

Babbar adds, "Another problem is that rental companies are unsatisfied with the service centres developed by big brands. So, I request to big brands, big manufacturers, and big companies to provide at least one year's guarantee on the equipment. I also request all rental companies to collect the purchase invoice every single time at the time of purchase, which can be helpful if the equipment is faulty."

Commenting on the long term vision for All India Sound & Light Association, in alignment with the role it plays in uniting and serving the Indian pro sound & light industry in the best manner possible, Babbar concludes, "We want to get our association registered and have a pan-India presence. Our goal is not just creating separate associations from state-to-state, but also getting them registered under the umbrella of All India Sound & Light Welfare Association so that we can serve our industry better."

RØDE ACQUIRES PRO AUDIO...

(Continued from page 24)

enter an exciting new chapter in our history. Also, the timing could not be better. We have an incredible product roadmap ahead of us, which we'll be making some big announcements for leading up to NAMM '24. This is an extremely exciting time for Mackie, and we couldn't be happier doing all of this alongside the RØDE team."

"It has been our pleasure to work

with the Mackie leadership team over the past several years," says **Russ Roenick**, Managing Partner, Transom. "Their spirit of innovation, customer-facing approach, and overall drive for excellence has built a company culture that is unparalleled. I wish the team continued success as it takes the next step in its journey alongside the outstanding team from RØDE."

MEYER SOUND ORGANIZES THREE-DAY...

(Continued from page 26)

design to final verification. All concepts were elucidated using Meyer Sound solutions, including loudspeakers, rigging hardware, the MAPP 3D System Design Tool, Galileo GALAXY Network Platform, Compass Control Software, Nebra Connectivity & Monitoring Tool, AVB Milan networking, and FFT-based

transfer-function analyzers.

The two-day symposium, 'Listen, Lunch and Learn', concluded with expressions of gratitude to Meyer Sound and Sun Infonet from various industry players. Simultaneously, the one-day training session concluded with appreciative remarks from attendees repre-

senting systems integration companies, consultancy firms, and freelance audio engineers. The triumph of this educational endeavour has not only set a precedent, but also established the groundwork for Team Meyer Sound and Sun Infonet to replicate this initiative in Bangalore.

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A Legacy For A Lifetime

How Famous Studios is reinventing its services for a creative world that is more cohesive and integrated than ever before

Famous Studios, like the name suggests, is a famous destination for music artists, recording/mixing/mastering/production/postproduction engineers, and creative talent looking to elevate their content with quality audio and acoustic tech/equipment, CGI, and VFX. Now, as **Anant Roongta** takes over the reins at the studios, he aims to continue the legacy of Famous Studios while envisioning a future where the studios turn into an enabler of crème-de-la-crème audiovisual craft and creative solutions. **PALM Expo Magazine** reports.

Famous Studios, founded in 1946 by J.B. Roongta, have expanded its reach to several parts of the country with its goal to deliver integrated content services - today, it has a presence in Mahalaxmi, Khar, and Andheri in Mumbai and in Hyderabad

Famous Studios first opened its doors to the world in 1946 in Mahalaxmi, Mumbai, where founder **J.B. Roongta** built a legacy of bridging the gap between demand for ADR/Music production and postproduction services and a state-of-the-art studio that delivers on the demand brought to life a seamless

space housing cutting-edge tech, infrastructure, and talent in order to offer, as the official website says, "a canvas for storytellers".

The legacy continues.

In the span of 77 years, Famous Studios has expanded from its original space in Mahalaxmi to locations in Khar, Mumbai in 2012 to Andheri in 2022 and the latest addition in Hyderabad in 2023.

After Covid, with a rise in demand for content in theatres and on OTT platforms, the team at Famous Studios witnessed the growing acceptance of these segments and began to focus more on them in terms of service and delivery.

In 2022, the team launched a new facility in Andheri, Mumbai, which is a modern-day postproduction and visual effects facility. The studios in Khar and Andheri cater to LF, OTT, Advertising, and Music Videos. In 2023, the team opened a facility in Hyderabad to focus on high-end computer-generated images (CGI) and VFX.

What sets the studios a class apart is the fact that they are all **Dolby Atmos HE** compliant and house the latest equipment, tools, and software to nail their service delivery to perfection.

Famous Studios' Atmos 7.1.4 HE Mix & Dub Room in Andheri is equipped with **AVID S6 M60** mixing console, speakers, subwoofers, and condenser microphones from **Neumann**, and

headphones from **Sennheiser**. A standout feature of the studio was the combination of **Chord Audio Amplifiers** and **Dynaudio M3** Custom Main Speakers along with Dynaudio surrounds. The 5.1 Mix & Dub Studio is fitted with **SSL Big Six Super Analogue Mixer**, speakers, subwoofers, condenser microphones, and boom microphones from Neumann, headphones from Sennheiser, and audio equipment from **Focusrite** among other equipment.

The **Studio at Galactica - A - Ramee** in Khar houses control surface from AVID, speakers and amplifiers from Dynaudio and Genelec, microphones and headphones from Neumann, Schoeps, Behringer, DPA Microphones, Audio Technica, AKG, and Shure, while the studio at Galactica - B - Ramee is elevated by control surface from AVID, speakers and amplifiers from Dynaudio, microphones and headphones from Neumann, Pulse, Sennheiser, Behringer, and Shure.

Famous Studios' various branches across the country are supervised by independent artists and the VFX department at the Famous Studios are spearheaded by Creative Director **Jayant Hadke**.

Some of the most noteworthy projects in which Famous Studios has lent its expertise to are Dream Girl 2 (ADR), The Night Manager/The Night Manager 2 (ADR), Thank You For Coming (ADR), Ujala Liquid Detergent (TVC ADR), Zomato Everyday (TVC ADR), PI Meena (The Girl) (Mixing), and more.

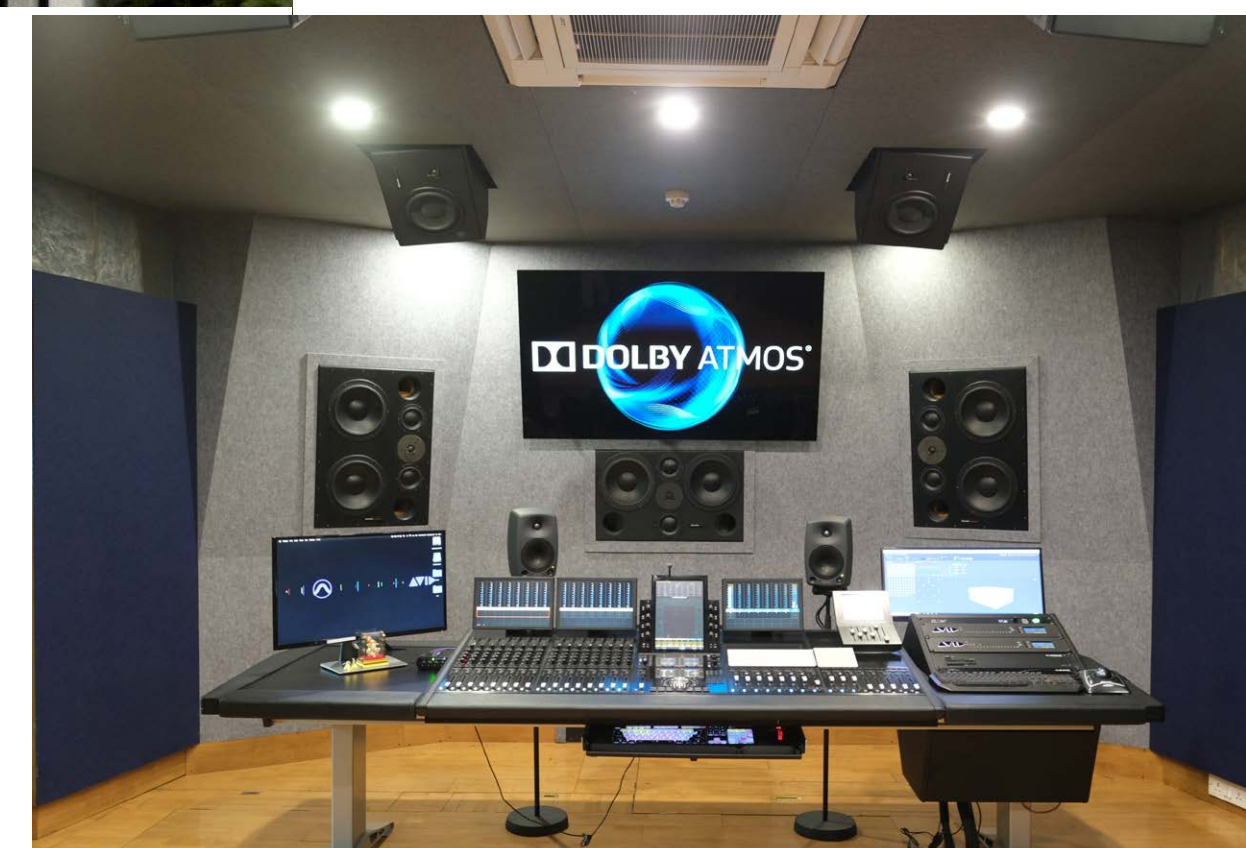
The Acoustic Design: Opportunities & Challenges

Since 1994, the team at Famous Studios have entrusted acoustic consultant **Munro Acoustics** to oversee the acoustic design of the studios. The newly opened branch at Andheri is no exception.

Speaking about his experience of working as an acoustic consultant for Famous Studios' Andheri studio, **Cyril Thomas**, Senior Acoustic Designer, Munro Acoustics commented, "What worked in our favour at Famous Studios was the height of the rooms in the studio. With respect to designing an Atmos Studio, height is a big factor because you need certain dimensions to ensure that the studio is compliant with Dolby standards. Although there were still massive beams that run through the structures, the height definitely helped. We tried to maintain the sonic signature as that of the Santacruz studio as well. At Famous Studios, we were at the liberty of doing the architectural design intent, with architects **Malhar Ambekar** and **Rachel Jacob**. Malhar specifically designed the studios and Rachel oversaw the design of the DI room, the lighting, and more."

Recounting the challenges, which were albeit almost non-existent, Thomas added, "In terms of challenges, I don't think there was anything noteworthy like you have in certain studios. With the design aspect and intent of the space, **Anant Roongta** had certain ideas about the colour palette, which he wanted to employ

(Continued on page 31)



The Atmos 7.1.4 HE Mix and Dub Room at Famous Studios in Andheri is equipped with cutting-edge technology - mixing console from AVID, speakers and amplifiers from Dynaudio and Chord Audio, Analogue Mixers from SSL, microphones from Neumann, and more



In Conversation With **ANANT ROONGTA,** MD, Famous Studios

What motivated you to join Famous Studios as a Managing Director?

My first stint with Famous was in 2009, which lasted about 5 years. In 2014, I decided to move away to continue my entrepreneurial journey in a sports company, which lasted for 4 years. I rejoined as a Managing Director in Famous in 2018. When I was in my sports tourism business, the entrepreneurial bug bit me and it gave me a very good sense of how to spot opportunities and scale a business. Around 2018, the entire business of content had seen a seismic shift. So, I decided to come back to the company to make certain radical changes in the business, which has now led to many new introductions of products and services across the board for multiple segments in media and entertainment.

What are your day-to-day responsibilities at Famous Studios?

It's a unique responsibility, which ranges from leading strategic growth of the business to sometimes troubleshooting when working long drawn, long format projects. So, my usual day at Famous Studios is packed with constant meetings with the clients and constant internal meetings with our senior management, artists and line producers who are responsible for various services that we offer to our clients. Also, because the industry is changing so quickly, I do spend a couple of hours daily looking at how we can transform the business. My day usually starts at around nine in the morning and ends around six thirty in the evening. The days are usually power-packed, filled with fun and excitement; sometimes obviously, it could get overwhelming, but it is part of the journey of any business.

As the third-generation entrepreneur hailing from a family that established the legacy of Famous Studios, what is your strategy for continuing and elevating it to bigger, better heights?

I believe any studio that is offering a product or a service to content creators must look at it as a holistic solution – not only the processing part of it, but also how or what is the right way of entering the market with a creative

approach, where you would be able to add value to your client all the way from pre-production to delivery. So, this is where our focus is right now. In addition to what we possess in technology, infrastructure, talent, and tech, we're also building new products for the next generation, which boil down to things like pre-viz, virtual production & other immersive technologies.

From the film point of view, we encourage a collaborative approach with all stakeholders – producers, directors, cinematographers, and visual effects supervisors to launch new products in pre-vis, post-vis, tech-vis, because we believe if more time and effort is spent on these activities, there will be a significant positive impact on the eventual output, the look and feel of the film – and that is our eventual objective. Recently, we opened a facility in Hyderabad and are looking nationwide in areas where there is a good catchment area for talent.

You have spearheaded the expansion of Famous Studios' creative, VFX, and content production facilities both in Mumbai and in Hyderabad. What motivated you to expand and did you face any challenges along the way?

After Covid, we realized that the demand for content went up, not only from the theatrical point of view, but also on OTT platforms. Also, brands started getting a lot more wary, began to understand various mediums of making their content reach the final consumer, and have now started spending money on the entire customer journey process. So, we looked at both segments as a very important focus area and the pure demand and history (stats) that were presented to me by very senior personalities in the industry gave me a lot of confidence to take up multiple challenges and expand the business' cross facilities.

In 2022, we launched a new facility in Andheri, Mumbai, a classic postproduction and visual effects facility, but all with state-of-the-art technology and very good talent. Recently, we opened a facility in Hyderabad to focus on high-end computer-generated images (CGI) and VFX. Because we set foot in a new geography, it has also given us access to a new market down south, which has really helped us. I have always believed in the industry. I have always believed in the story of India. I believe India is one nation that has so many stories, deep rooted



Famous Studios at Andheri, which began its operations in 2022, is designed as a state-of-the-art facility that can work on and deliver the most modern forms of content, from OTT to advertisements

(Continued from page 29)

for the studios, but otherwise, he gave us a free hand. In the end, he just wanted to be surprised, especially with the Atmos Studio's look and feel. For the 5.1 Studio, because we wanted to maximize space, we employed an inverted detail onto the booth. The booth is a little narrow and we also had to negotiate the server room, because when you look at the server room for the Atmos Studios, there is a dedicated server for the Atmos, which is inside the sound log for the booth. Basically, we had to ensure that none of the noise from the server room gets transferred into the booth as that is a critical space."

"When you design Dolby Studios, you have a DARTD sheet, which is employed

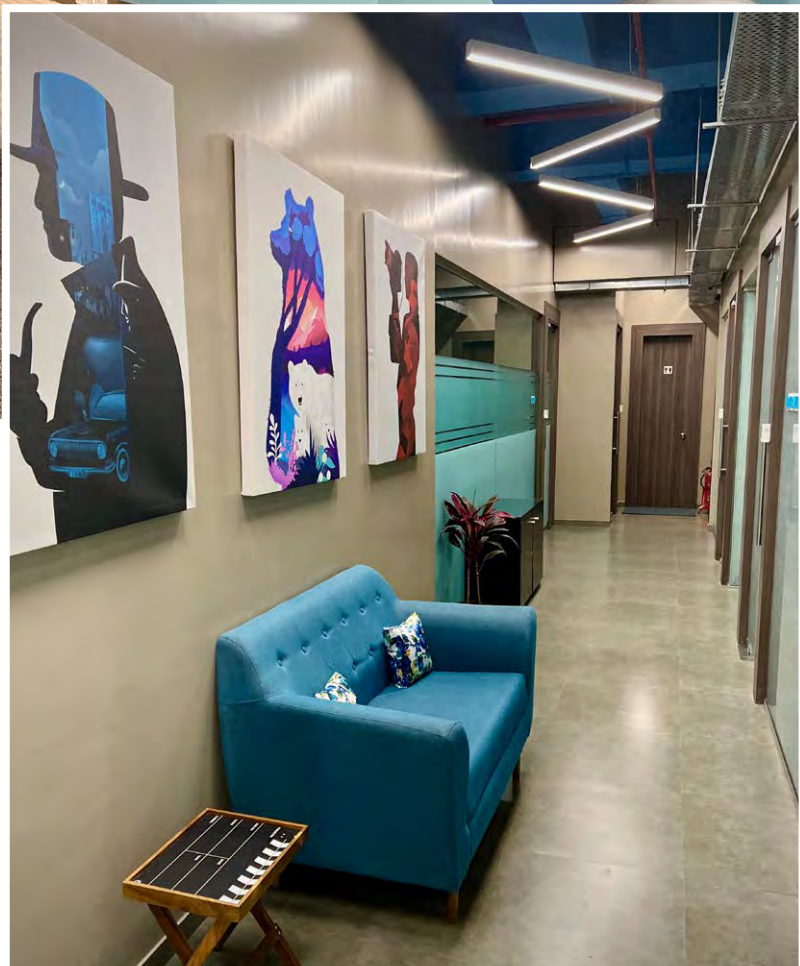
in its culture, and if we focus just on our own country, there is never going to be a dearth of content for generations to come.

Do you see a wide chasm between the technology used in recording/mixing/production and postproduction studios in India versus in international waters?

No, I think audio engineering is really consolidated. Maybe, three or four years back, sound designers would expect a massive, big S6 console to be a part of a studio's arsenal. But now, with tech advancements, designers and engineers are capable of mixing tracks and background scores, from the comfort of their homes. So, no, I don't see India having a technology that is lesser than a foreign studio. In fact, I believe in some cases we have as good or better tech than what foreign studios might have.

What is your long-term vision for Famous Studios and how do you plan on materializing it?

The long-term vision is for Famous Studios to be a global enabler of the audiovisual craft, creative solutions, and to ensure that anyone we collaborate with to create and deliver content, they have a seamless experience. Under that vision, every single segment that has a future or has a growth story will be on our radar as well.



The corridors of Famous Studios in Andheri offer an eclectic mix of tasteful, contemporary interiors - a reflection of its own identity, which is true to its roots and yet flexible enough to shape itself according to today's content trends

by Dolby," concludes Thomas while recalling how Munro Acoustics set up Dolby Atmos HE compliant studios in Andheri. "One has to fill in the details, which then generate certain angles for the products that are to be maintained. So, there are certain thresholds of angles that must be maintained for each speaker. Let's say you have a left and right speaker, you cannot go beyond certain angles and you cannot even be within certain angles. In terms of dimensions as well, we had some constraints. The room and speaker-to-speaker dimension was a certain way to clear Dolby standards. Otherwise, in terms of isolating all the bits, there was no challenge. It all went smoothly."

However, a studio is more than its acoustic design. It's also elevated to greatness by the legacy imbued within its walls – and how, generations after generations, the legacy is passed down and nurtured with great care. Anant Roongta, a third generation entrepreneur, in his role as the Managing Director at Famous Studios, aims to revolutionize the way Famous Studios creates and delivers content that comes in all shapes and sizes. *PALM Expo Magazine*, in a conversation with Anant Roongta, explores how Famous Studios, as an extension of its Managing Director's vision and mission, is adding onto its original identity with tried-and-tested acoustic layout and experiential equipment and tech.

The **Nita Mukesh Ambani Cultural Centre (NMACC)** is home to the largest cultural and performance spaces in India. Opened in March this year, the NMACC has been instrumental in, according to Founder Nita Mukesh Ambani, “showcasing the best of India to the world and welcoming the best of the world to India”. The NMACC’s debut exhibition, ‘India in Fashion: The Impact of Indian Dress and Textiles on the Fashionable Imagination’ proved to be a veritable reflection, not just because of dazzling, stylish costumes on display, but also because of the smart, sophisticated sound enveloping the space. **Dave Haydon**, Director, Out Board and **Kapil Thirwani**, Audio and Acoustic Consultant, Munro Acoustics flesh out how the right sound system made the exhibition a success

In late March this year, the **Nita Mukesh Ambani Cultural Centre (NMACC)** opened its doors in Mumbai, India, ushering in a new era of creativity in a city renowned for its Bollywood influence. This multidisciplinary arts centre boasts a 2,000-seat theatre, two intimate performance spaces and a four-storey Art House. To mark its grand opening, a three-day celebration blended musicals and international art exhibitions, including ‘India in Fashion: The Impact of Indian Dress and Textiles on the Fashionable Imagination.’ The exhibition is curated by Vogue’s Global Editor, **Hamish Bowles** and presents a multi-zone exploration into the impact of India on global fashion and vice versa.

A Sonic, Sartorial Splendour: India in Fashion Oozes Acoustic Excellence with Genelec and TiMax



The ‘India in Fashion’ exhibition at the Nita Mukesh Ambani Cultural Centre (NMACC) is an ode to India’s influence on global fashion, which is delivered with serene seamlessness with a sound system from Genelec and TiMax

TA-80

UHF Digital Plug-on Transmitter



TA-58

5 GHz Digital Plug-on Transmitter



MI-909 Series

UHF Digital Wireless IEM System



MI-58 Series

5 GHz Digital Wireless IEM System



'India in Fashion' wove together India's colourful relationship and influence on fashion across the globe from the 18th century to modern day, featuring the delicate and detailed garments in glass domes under spotlight. The exhibition explored everything from the Mughal emperors to the imperial rule that brought the country's craftsmanship over to Europe. Throughout its two-month run, India in Fashion attracted a prestigious line-up of celebrities and influential figures from the fashion industry, including Gigi Hadid and Zendaya.

Overseeing the project was Mumbai-based technology and acoustic consultancy firm, **Munro Acoustics**. Their mission was to craft a soothing auditory landscape without compromising audio quality, while ensuring the seamless integration of the loudspeakers into the background and their continuous operation for 12 to 14 hours daily.

"We work extensively on projects where new ideas are explored for culture and entertainment," explains **Kapil Thirwani**, Audio and Acoustic Consultant at Munro. "We were called in mid-January 2023 to explore possibilities of adding an immersive sonic experience to a fashion exhibition for the NMACC launch. The concept was the influence of India and its fabrics and handiworks on the world of fashion against a backdrop of world music with subtle Indian influences, with 15 zones playing different tracks to build the soundscape."

"Munro is well known for its sonically excellent designs," adds Thirwani. "If we are hired to design, we also have to keep up to the same design sense for sonic aesthetics. This led us to the Smart IP loudspeakers by Genelec. They run seamlessly off a PoE+ switch via a single CAT cable and ticked all the boxes. We verified this by comparing electroacoustic modelling simulations of similar IP speakers and analogue speakers, followed by the creation of a mini rig for a singular immersive zone which we measured to verify performance against the theoretical model. Genelec was a clear winner."

Genelec Delivers Discreet, Superlative Sound In Form & Function

The exhibition celebrated the global influence of Indian design on fashion with the help of 128 **Genelec 4430 Smart IP loudspeakers**. The Genelec 4430 is a small but powerful, self-powered, Smart IP installation speaker which connects to a Dante network and supports external control via third-party hardware or software. Each

running on a single CAT5 cable, the self-powered Genelec speakers were not only discreet but avoided the use of over 20Km of expensive and hard-to-conceal copper wiring.

Genelec's Smart IP series supports PoE, AoIP and sophisticated loudspeaker management, combining exceptional audio with single cable networked convenience. Featuring Genelec's trademark Minimum Diffraction Enclosure (MDE) and Directivity Control Waveguide (DCW), Smart IP loudspeakers provide clarity, intelligibility and uniform coverage, combined with 24/7 reliability.

The Genelec 4430, though compact, envelopes the exhibition in powerful yet discreet sound by connecting to a Dante network and supporting external control via third-party hardware or software.

"The Smart IP series offers outstanding sonic quality, minimum distortion and an excellent signal-to-noise ratio, all of which were important to us," continues

“

The Smart IP series offers outstanding sonic quality, minimum distortion and an excellent signal-to-noise ratio, all of which were important to us," continues Thirwani. "Everything is run over a single CAT cable, which simplifies the installation massively — a crucial advantage when you're working on a big project like this. We have a reputation for providing and designing some of the best audio solutions in India, and using Genelec allows us to maintain that reputation."

Thirwani. "Everything is run over a single CAT cable, which simplifies the installation massively — a crucial advantage when you're working on a big project like this. We have a reputation for providing and designing some of the best audio solutions in India, and using Genelec allows us to maintain that reputation."

Designed to integrate with any **Smart IP loudspeaker system**, Genelec's Smart IP Manager software allows installers to configure an almost unlimited number of rooms, loudspeakers and audio channels, and includes device discovery, room-equalisation tools, system organisation and status monitoring. This enables installers to deploy Smart IP loudspeakers even on complex, acoustically challenging projects.

TiMax Steps Up To The Challenge – Take Immersive Soundscapes A Notch Higher

The audio brief for 'India In Fashion' demanded an array of immersive soundscapes that segued from zone to zone. Calling upon the expertise of distributor, **Alphatec**, Thirwani quickly discovered that only the unparalleled capabilities of TiMax SoundHub would meet the complexity of the audio solution in its entirety.

Out Board Director, **Dave Haydon**, explains, "Alphatec showed Thirwani various ways TiMax could handle this project, which involved playing spatial music and effects across 15 different zones, starting and stopping it all automatically without anybody having to touch it. He worked out that TiMax was the only thing that could do it all at once."

The exhibition played with multiple immersive and stereo zones stored on two **64 channel TiMAX servers** via the Dante network. These outputs were then assigned via Smart IP Manager and Dante Controller. "Time delays and source intercorrelation data were adjusted and stored both on the Genelec and TiMAX software," elaborates Thirwani. "The TiMAX stored the preset for the show reel and tracks and the global level variations between zones, while the Genelec sources stored the individual local information of that source in a particular zone."

The soundscapes for the individual exhibition zones were originated by Goa-based musicians **Sandunes**. With some multi-channel spatial audio tuition from Haydon in hand, the duo cleverly created audio content in the same key, which



The Genelec 4430, though compact, envelopes the exhibition in powerful yet discreet sound by connecting to a Dante network and supporting external control via third-party hardware or software



Two 64 channel TiMax servers housed within the exhibition space imbued 15 separate zones with truly immersive soundscapes, spatial music and effects – and they required zero human interference to start or stop

served to prevent musical clashes from one zone to another. Various show content stems were sent to the UK, where OutBoard’s Haydon could begin programming the showfiles, and he subsequently visited Mumbai to help Sandunes bed in the immersive content on-site.

Without walls between the exhibits, overlap was unavoidable, but once the audio installation was complete, the team started auditioning the soundscapes over the

various zone speaker systems, walking from zone to zone with a Mac to fine-tune them.

Following this process, all the settings were saved and the SoundHubs locked. Set to fade up at 10:00 a.m. and then slowly fade out at the end of the day, simplified client control for the TiMax-controlled system was provided via a TouchOSC iPad for each SoundHub. Changes could be made to master level and individual zone levels for out-of-hours VIP visits, press and TV interviews without impacting the saved set-up.

Arriving at the completed project shortly before it opened to the public, Haydon said, “The integration and design were amazing, and all the equipment was up and running to provide totally automated, hands-free, fully integrated show-in-a-box operation.”

Thirwani concludes, “This was a team effort, and solutions like these require meticulous planning and execution, drawing expertise from various fronts. From conceptualization to planning and execution, the project faced challenges on site that had to be resolved before completion. I’d like to thank the team involved in the design and execution of this project: **Utkarsh Naidu, Cyril Thomas, Johan Pais, and Aman Prajapati**. Everyone worked incredibly hard, and the exhibition was an undeniable success.”

The completed project received positive feedback from both the client and industry stalwarts. India in Fashion was a successful celebration of techniques, practices and centuries of India’s influential impact on global design. It featured over 30 of the world’s most celebrated designers and threaded this together with intelligent yet discrete audio from Genelec and Timax Spatial Audio to create a truly immersive experience.

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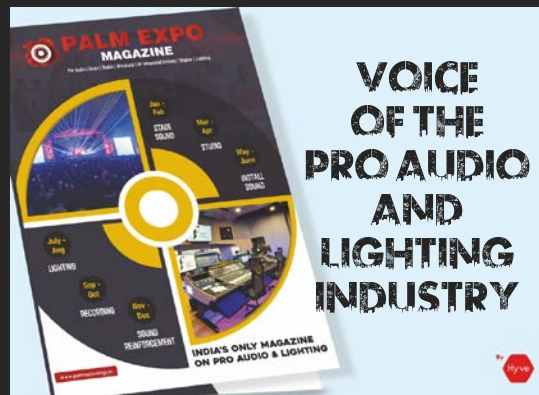


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Do Big Ticket Events Require Bigger Investments?

A Panel Discussion On The Future Of Live Sound In Big Ticket Events

*The PALM + AV-ICN Conference, held at the PALM + AV-ICN Expo in May this year, witnessed a conference session on The Future of Live Sound in Big Ticket Events, where a panel of five eminent pro sound industry experts – **Dr. Rajesh Khade, Warren Dsouza, Manish Mavani, George Georgallis, and Tony Sawyer** - sat together and analysed the parameters of a big ticket event, does a big ticket event necessitate the use of big-sized boxes, and if so, what is the ROI on the investments rental companies make for the big sized boxes. The article is an excerpt of the entire talk.*

What are big ticket events in the live sound industry? Are they confined within a periphery, or is the distance covered in a big ticket event just a construct of the mind? Do these live big ticket events require boxes just as big as they are? If so, what ROI can a rental company gear up to achieve with a heavy investment in a big sized box for a big ticket event? A panel of professionals and rental company owners from the pro audio industry, **Manish Mavani, Warren Dsouza, George Georgallis, Tony Sawyer**, with moderator **Dr. Rajesh Khade**, discuss and arrive at a conclusion. Read the highlights of the talk below.

Dr. Rajesh Khade: As the topic states, this is a discussion on the future of live sound in big events. By the end of the session, we will have an idea of the commercial aspect as well as the technical aspect of what goes into big events. Before that,

I want to first quantify – what do we call a big ticket event? Warren sir, what do you think is a big ticket event in India?

Warren Dsouza: A big ticket event is something where you are throwing sound over 350-800 feet. There are mega events that throw audio even far beyond that. Predominantly, for most of the shows that happen in India, the sound is thrown at a maximum distance of 250 feet. The moment you start doing bigger gigs, it starts going into the distances of 500, 600, and 700 feet. So, if I had to generalize it in a very simple synopsis, that would be called a big ticket event.

Dr. Rajesh Khade: I would also like to ask this question to Tony. What qualifies as a big ticket event?

Tony Sawyer: I think most large-scale systems are very flexible based on the

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country you are in. In India, these events are huge because you have a huge population here. But in smaller cities or smaller islands, 450 feet, give or take, is probably as big as you are going to get.

The Right Box Size For A Big Ticket Event:

Dr. Rajesh Khade: Now that we have quantified what a big ticket event is, what do you think is the right box size to work for these events?

Tony Sawyer: You know, that's a big question. How big of a PA do you use? One thing I have learnt while travelling around the world is that the requirements for subwoofer count is somewhat neglected in most countries. But I think the subwoofer count is dependent on content. If you are doing a dance festival, the subwoofer count and the top count is very, very different. Delay towers are in a different position. They are at 60 metres and that's it. But, if you are doing a classical event, it changes. So, really, there is no hard rule. Genre-specific, I think, is the correct way to put it.

Dr. Rajesh Khade: Genre specific, I agree on that. Does a big ticket event ask for a big sized box or you can do with a smaller box as well?

Tony Sawyer: I think you need the mass of a big sized box. Nowadays, with the big ticket events, a double 12 is a fashionable box because I think it is more versatile, so rental houses prefer it because the ROI on it is going to be good. They can do smaller gigs as well as bigger gigs with it. So, I think the double 12 it seems to be the synopsis now of what people are using.

Dr. Rajesh Khade: George, I would like to address the next question to you. According to you, what is the difference between, and the reason behind going for a big sized and/or a small sized box? What factors a rental owner needs to consider while choosing that?

George Georgallis: There are many different ways to look at it. As far as the size of the box goes, I agree with the rest of the group, that usually, for the large scale events, you probably need a dual 12 and above what we consider to be large format boxes. So ultimately, whether it is a compact box or mid-sized box, it is going to be up to the company and to figure out what type of shows they are doing, the size of the rooms, the budgets, sometimes the weight that can be done on a roof, the power available for a gig, etc. So, depending on what the company tends to specialize in and the types of customers, they can choose to go with a certain system or another system. I agree that it has to be a dual 12 and above for a big ticket event.

Dr. Rajesh Khade: So, you are saying that it always has to be a big sized box?

George Georgallis: Yes. I mean, typically these events require very high output in terms and the bigger boxes tend to have more high frequency drivers and therefore be more appropriate for the large events. But then, more important than the size of the system is actually the deployment. So yes, system size is one thing, but the correct deployment for the venue and deciding where to put the delay towers, how to deploy the large boxes, is also important. You can take a big box and deploy it in a certain way or it might not be as effective as a smaller box when deployed in a different way.

The ROI On A Big Sized Box:

Dr. Rajesh Khade: I think the gist that we are getting is that if you want to do a big ticket event, you need a big sized box. I had a question for Manish, what would you recommend people to go for, a big sized or a small sized box, and why? But then, I think it is self-answered that if you are going for big ticket events, you need to buy a big sized box. So my question for you Manish is, how much time do you think it actually takes to get the return on investment on a big sized box?

Manish Mavani: I have contradictory answers to what people have spoken till now, but I will go with what you asked me. So, how much time it takes for you to get your ROI - that's a homework that you need to do. It depends on what region you are in, it depends on what is your client base, or what is your target base after getting the big box. Is it something that you have been regularly falling short of, so you want to go for a big box?

Let me give you my example. We do a lot of large events, we consistently do venues of over 200-300 metres, which is akin to more than 600-750 feet with multiple delays. So, there are common challenges that one has to keep in mind - like what are the structures that you get to rig in. Everything boils down to a lot of economics in terms of the client budget versus the time versus the weather versus so many factors. It's very easy to say that a big ticket event should be with a big box but you need to factor in the other things before you put that money down. Also, are you targeting to do events which are specifically brand-driven, rider-friendly, or are you doing events which are not important with a specific brand but you can use any kind of brands and it's the audio coverage which is important.

Dr. Rajesh Khade: Still, I think we didn't get the answer to how much time does it take to get the ROI. Warren, would you like to go in depth on answering how much time does it take to get the return on investment?

Warren Dsouza: I don't think that there's a fixed parameter. It's really about your appetite, which brand you buy - you can buy a unicorn brand. It can, on average, take you three years, or maybe five years, and if you have done a great job, you can probably wrap it up in three years or two and a half years. Sometimes, people make mistakes and they are not ever able to recover their money. That is because you have to see it holistically. Who is your team? What is your infrastructure? Where are you demographically? You could be in the North East probably and struggle with a very expensive sound system, because there is not that much of work and then, it also depends on whether you are a regional vendor or a national vendor. There are a lot of guys who buy very expensive systems, but they don't do gigs out of their state.

In mine and Manish's case, the reason why we are able to do work out of the state is because we have such a large quantity of our inventory. We can take care of our domestic market as well as tour across the country. We can even do Leapfrog tours where there is a gig happening in Ahmedabad, and the same artist, on the next day, performs in Kolkata.

So, you start building your ROI based on everything - your infrastructure, your team, the kit, how well you have invested, or how aggressive or risk averse you are. If you have a very strong foundation in form of a good team and a decent infrastructure, you can take more risks. At the end of the day, our equipment is a pile of dumb metal without people. Your ROI could also be timing. You could have bought the most expensive system and then Covid hit. You could have probably not realized that there will be revenge consumption, like last season, where everybody was busy, but they had no kit, electronics, or spares. I think the game here is that the guy who plans for today is the guy who will make the ROI tomorrow.

Is The Indian Sound Rental Market Brand Driven?

Dr. Rajesh Khade: What I have experienced with people is that they think, 'I want to buy the biggest box. I want to buy more boxes. I want to buy a branded system'. The Indian market, I feel, is very much driven by a brand. George, I want to ask you, how is the international market driven? Is it very brand-specific or are there other brands which are not amongst the top three brands and you still have shows happening with them.

George Georgallis: I think for the most part, the Tier I market is brand-based and I think companies making large investments usually want to go with brands that have a good reputation and are going to be in the market for a long time. They are safe investments. I do think that there are performance aspects of different brands and whether someone prefers one brand versus another. But, I would say probably Tier I market tends to go with the bigger and more reputable brands. There are a lot of good brands and sound systems out there, so it's not just the main brands - we see a lot of different brands in the market too.

Dr. Rajesh Khade: The next question that I want to direct at Tony is that we all end up buying systems, whether big or small. Is then just having a big system enough to guarantee your company's success?

Tony Sawyer: No. You have to look at the rental market as two points - you have the international market and the domestic rental market. I think as a rental owner, you need to focus on whether you are looking to go to international standard level market, or you are going to take care of your domestic rental market. That gives you a target of how you are going to earn your money back.

If you are going to be 95% domestic rental market and only 1 or 2% of your revenue is coming from the international market and you are investing heavily into the inventory for the international market, which may not be needed, as you have got any one of the top tier brands or manufacturers. For example, in Europe, they would look at a 10-year ROI. That's the life expectancy of a system. But, I have known people who are paying off for their sound system 10 years later. Rental companies need to look at this: Are you going to target that 2% or 5% market-driven at the international market, or are you going to your local, domestic market? The domestic rental markets tend to be a bit more lenient on the brands. But the international market is pretty hard and driven about the way they want stuff, because they need the consistency from India to Japan to Tokyo. The domestic rental market is a little bit lenient, bit more feasible, and a bit more flexible. So, if you are in that market, it gives you a little bit more opportunity to design stuff.

Dr. Rajesh Khade: Apart from that, as an owner, as an investor, you need to understand what market are you targeting. The idea that I am getting from this discussion is that the kind of shows you do, the market you are targeting, and the amount of travelling you do is very important rather than just having big brands. Apart from boxes, what are the other factors that are much more important than having a good box?

Manish Mavani: Let me talk about myself and my company. We have had a very organic growth. We have taken about 22 years to be where we are today. The first five years, the ROI was as good as nothing. And about 15 years ago, when I went to the banks to raise money, I paid about 18-21% interest. Back then, no brands

offered you credits. The whole model was, 'pay upfront and get the delivery'. As of today, I, at times feel that there is a demand-supply mismatch, especially Pre-Covid. There was much more supply than demand. So, this makes you think, where is the demand in your region before investing into anything – whether you are buying a small box, a medium box, or a big box. Whether you are buying a microphone or a console, first study how many times are you going to use it and at what price. Look what product is being offered by others currently, and you will automatically come to know if you can recover the money for that or not.

You need to have a lot of process and a lot of infrastructure in your company. What I mean by that is you need to have a strong warehousing team, a lot of back-end help to prep and plan and then reach on your show site. All these things cost a lot of money. It needs time, experience, and this doesn't come overnight. Just because someone is trying to push you XYZ amount of system or XYZ amount of boxes, or just because you have gone and heard the system somewhere and you really liked it, it may not be the best way to choose and buy that system.

Also, when you are calculating your ROI, don't just look at the rental versus the system that you have. You also look at adding into your PNL. There should be a pre PNL for your project and there should be a post PNL for your project. If you are looking at one event, you need to add things like insurance, your back office crew, your transport crew, a lot of things. Just don't look at what you are getting for that show versus what you are spending on the show. There is a lot of spending that you do to just keep your company afloat, whether it is your CA's cost, whether it is the taxes that you pay, or the repair and maintenance that you do – add all of it into your per show cost, and then you will know what is it that you are taking home.

Warren Dsouza: I think I can echo what he is saying because we have a concept of fixed cost and variable cost. The fixed cost is the cost you pay every month – which includes your rent or electricity, CA fees and audit fees. The variable cost is show specific. For any sound guy, the production cost of an average outstation

show is approximately 35% of his total billing. For example, if he charges 10 lakhs for a job, he will spend 3.5 lakhs in only transport and hotels, and what we don't do in India, is audit the cost of time. Even your time is very important.

On your prep day, it takes one whole day just to prep the gear. Like, when I and Manish are doing Arijit's or Diljit's show, it's a one-day prep just to empty everything into the godown. The cost of time is very important. When you add all this up, you will realize how small your margin ultimately becomes. What we are all working for is our bottom line, because from that, you can buy capital goods, which is equipment. It's the equipment, along with your people, that earns you money. So, if you can't do this math right, you will see the differentiation in your company and any other company. Not because that guy has Brand A and this guy has Brand B, but the differentiation is going to be because of the economics – your balance sheet does not lie at the end of the day.

Dr. Rajesh Khade: This is a really good insight into the working of a system. If I decide to start a rental company and grow, what should be my approach?

George Georgallis: From a technical point of view, it's always the performance and all the aspects of the system. One thing to look for is the scalability of the solution. For example, can you grow with the system. You probably look at something that you can grow into a much bigger system. So, you probably want to invest in a solution where, if you do end up with a small system, but you have the emphasis on the infrastructure, you can continue growing. From a sound system's point of view, the number one thing to look for is something you can grow and make it bigger, not having to start it from scratch again for the next step, and invest in a brand new platform and a brand new amplifier.

There is nothing with starting with a small sound system. If you want to start small and grow from there, just look at an investment where you can expand and not start all over again.

To view the complete conference session go to **Youtube PALM Expo India**

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ALPHATEC'S SONIC JOURNEY: PIONEERING AUDIO AND VISUAL EXCELLENCE ACROSS INDIA

Elevating the Art of Sound with Genelec Workshops and Pioneer DJ Seminars

In the dynamic landscape of professional audio and video equipment distribution in India, **Alphatec** stands out as a leading force, representing over 30 global AV brands. The company's commitment to delivering the most truthful sound and visuals has made it a key player

Session Mixing Demo. Attendees were treated to mesmerizing demonstrations of premium studio products and solutions, guided by Dadyburjor's expertise. The workshops featured cutting-edge technology and avant-garde studio solutions, offering a path to audio mastery with seamless interactions for the

equipping aspiring DJs with invaluable insights into the evolving DJ domain and the ever-changing DJ landscape.

Led by Pioneer's official DJs in India, these masterclasses provided a unique opportunity for attendees to learn from some of the best in the business. The workshops not only showcased

with Pioneer DJ's cutting-edge gear. The workshop also acted as a platform for aspiring DJs to interact one-on-one with Pioneer's official DJs in India.

As Alphatec continues to push the boundaries in professional audio and video distribution, these work-



The attendees at the Genelec workshop, engrossed in exploration of studio equipment & solutions from pro audio brand

in the industry, with a widespread presence across 14 regions, 500 cities and towns, boasting 1100+ dealers and systems integrators, and supported by 20 authorized service centers.

Bringing Audio Mastery to India: Genelec Workshops

As the official distributor of **Genelec**, one of the renowned studio monitor and loudspeaker manufacturers, Alphatec recently organized two impactful workshops in India. These events, held on 5th November, 2023, at Novotel Hotel, Aerocity, New Delhi, and on 22nd November, 2023, at Holiday Inn, Chandigarh, Punjab, showcased superlative studio products and solutions. The workshops, spearheaded by **Farhad K. Dadyburjor**, National Business Head, Studio, Alphatec, aimed to open doors of discovery and immersion for studio owners, music producers, and sound engineers seeking to set up or upgrade their studio/recording spaces.

Dadyburjor, a respected recording and mixing engineer, with a track record that includes Grammy-nominated albums and successful studio designs nationwide, led a

curious-minded.

Celebrating Indian Sound Engineering Talent: IRAA at the Genelec Workshops

The workshops also witnessed the presence of key figures in the industry, with **KJ Singh**, Honorary Vice Chairman, **Indian Recording Arts Academy (IRAA) Awards**, and **Anindo Bose**, an IRAA Jury member, interacting with delegates. They provided insights into IRAA nominations, spanning 79 detailed categories, and encouraged industry professionals to nominate their best work for the 17th IRAA Awards in 2023, especially in the newly introduced categories of **'Song of the Year'** and **'Studio of the Year.'** Genelec, the Platinum Partner for IRAA, solidified its commitment to recognizing and celebrating technical expertise in song and music production.

Setting the Stage for Aspiring DJs: Pioneer DJ Seminars Across India

Taking their commitment a step further, Alphatec hosted its first-ever DJ seminar in collaboration with **Pioneer DJ**, one of the leading brands in the DJ hardware and software industry. This groundbreaking seminar spanned across 15 cities in India and included a series of masterclasses aimed at



Farhad K. Dadyburjor looks all set to demonstrate premium studio solutions at a Genelec workshop organized by Alphatec

the latest DJ gear but also created a community of music enthusiasts eager to enhance their DJ skills. The Pioneer DJ Workshop, a one-of-a-kind experience, aimed to bring the vibrant world of DJing closer to enthusiasts, offering them a unique opportunity to explore, perform, and gain hands-on experience

shops stand as a testament to their commitment to innovation, education, and the advancement of the audio and video industry in India. With a focus on excellence, Alphatec is not just distributing equipment; it is shaping the future of audio and video experiences in the country.



India's Favorite Power Amplifier



MT - 701...1600+1600W RMS @ 2 Ohms

MT-1201...2500+2500W RMS @ 2 Ohms

MT-1601...3000+3000W RMS @ 2 Ohms

MT-1801...3300+3300W RMS @ 2 Ohms

MT-2201...3600+3600W RMS @ 2 Ohms

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**Damping: > 1200 in MT 1801 / > 1000 in
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PMC LAUNCHES MULTICHANNEL AMP FOR IMMERSIVE AUDIO APPLICATIONS

UK manufacturer **PMC** has launched a new multichannel amplifier specifically designed to meet the needs of the professional immersive audio and home cinema markets requiring multiple speakers.

Designed to power any passive PMC

and ceiling channels in Dolby Atmos professional and home cinema installations.

Available from the beginning of November 2023, the **PMC power 750-8** is an eight-channel amplifier that combines exceptionally transparent and neu-

watts per channel from a unit that only occupies 2U of rack space.

In addition, the power 750-8 also offers fully featured DSP control for each of the eight channels. Inputs are selectable/switchable as either balanced analogue or Dante. Adjusting EQ for each channel

powerful yet intuitive software gives a full toolbox to allow users to configure each speaker to deliver its best performance according to room acoustics and position within the room.

Oliver Thomas, PMC's Commercial Director, says: "Many of our professional and home theatre customers expressed a desire for a multichannel power amplifier made to PMC audio quality standards to match our passive speaker products. This multichannel amplifier ticks all the boxes – it sounds incredible, it is very flexible, and it has a control

software that is a dream to use. We are delighted to be introducing this to our immersive audio customers, whether they are building a professional Dolby Atmos music facility or installing a home cinema room."



The PMC Power 750-8 is an eight-channel amplifier that features a power output of 750 watts per channel and DSP control, making it ideal for professional and home cinema immersive audio installations

speaker, this 2U rack-mounted amplifier is particularly well suited for use with PMC's ci series of slimline monitors, which are now widely used for surround

tral sound with a massive power output of 750 watts per channel. When bridged and configured as a four-channel amplifier, the power 750-8 can deliver 1,500

is also incredibly easy thanks to System Engineer software that can be installed on any Windows computer to control and set up any number of amps. This

YAMAHA LAUNCHES HS3/HS4 - HIGH-QUALITY COMPACT STUDIO MONITORS

Yamaha Corporation announced the **HS3** and **HS4**, new models in the HS series of studio monitors.

The HS3 and HS4 are tools to help create a wide range of audio content—from music production to video editing—that meets the expectations of creators who have

of previous Yamaha studio monitors. The speakers comprise carefully selecting parts such as a high-performance class-D amp, a highly resilient cabinet, and woofers and soft dome tweeters that deliver a sound that is faithful to the source despite their small size. They also feature proprietary 'Twisted

functions that allow the user to make adjustments to achieve the ideal sound for any environment, such as reducing the unneeded, exaggerated low-end that can often occur when speakers are placed next to walls. The rear panel of the HS3 and HS4 is equipped with combination XLR/TRS phone, RCA,

most commonly used features—power button, volume knob, and headphone connector—are located in the front for easy access.

The compact size of the HS3 and HS4 was made possible thanks to the highly efficient class-D amp. Using one amp for two speakers en-



The HS3 and HS4 Studio Monitors are equipped by a class-D amplifier, resilient cabinet, woofers, and soft dome tweeter, along with proprietary 'Twisted Flare Port', ROOM CONTROL and HIGH TRIM Functions

limited space and need to keep the volume down but do not want to compromise on monitoring quality.

The HS3 and HS4 continue the design philosophy and know-how

Flare Port' technology that reduces air turbulence noise in the bass reflex port, providing clear and accurate bass.

The HS3 and HS4 are equipped with ROOM CONTROL and HIGH TRIM

and stereo mini connectors, allowing the user to connect to a wide range of professional and consumer equipment such as computers, audio interfaces, audio mixers, and electric instruments. The

abled to both reduce the weight of the speakers and simplify the cable connections. They take up little space even in a small bedroom studio, and are easy to take on the road.

"We are pleased to announce the addition of a new model to the HS series," says

Yoshiyuki Tsugawa, Senior General Manager at Yamaha Creator & Consumer Audio Division. "We look forward to supporting the creative work of more people than ever before by offering even more ways to use the HS Series' renowned high sound quality in a compact chassis."

To feature your **Audio Install** stories in **PALM Expo** magazine

contact: **Pooja Shah** - pooja.shah@hyve.group or **Ritika Pandey** - ritika.pandey@hyve.group

MAIN FEATURE HIGHLIGHTS PIXERA 2.0



CONTROL TRACKING INTEGRATION

Native integration of tracking protocols such as SPNet, BlackTrax, TrackMen, Opti track, MoSys, FreeD, Stype, PSN.



HEAT MAPS

Based on the projector data and the position of the projector in the 3D space, LUX values for screens can now be calculated.



CONTENT ENCRYPTION

PIXERA can encrypt content so that it can only be played out by the engine itself.



CUSTOM TEST PATTERNS

Users can individually adjust test patterns for warping and pixel mapping.



MULTI RESOURCE

A split resource can now be handled like a clip.



AUDIO OVER CLIENTS

Play out audio files on the soundcards of other clients. Each client can play 128 audio channels.



CONTENT REMAPPING

Makes it possible to define multiple areas within a content frame, and to position them separately in the compositing space. Users can directly deal with mappings at the content level.



AUTOMATED COLOR CALIBRATION

Automatically adapt LED output so that a studio camera sees the correct colors as given in a virtual studio environment.



TIMELINE SPEED

Smoothly adjust the speed for an entire timeline.

SMPTE



SMPTE HOT REGIONS

Define time code ranges in which a timeline reacts to SMPTE input.



MULTI-USER

Update entire projects, sync only certain aspects of a project, like e.g. projector warps or continuously update all systems with all changes.



1:N BACKUP

BACKUP

Use Control to detect Director failure and allow a different Director to take over. Multi-user functionality ensures that all Directors are up to date and ready to fully replace a downed system.



PERSPECTIVES FOR SCREEN GROUPS

In PIXERA 2.0 each screen group can have an independent set of perspectives that determine how layers are seen through the screens they appear on.



DMX INPUT RECORDING

Efficiently record DMX data as it enters the system, filter it to remove noise and then create timeline clips that replicate the DMX input.



LAYER MAPPING EFFECTS

Go beyond screen group perspectives with layer mapping effects, which provide complete freedom to map content pixels to screens, based on the position of the screens in space.



UNREAL ENGINE 5.2

Support for the 5.2 release of Unreal Engine when hosting Unreal as a compositing resource.



LTC
00:00:00:00

LTC AUDIO

Longitudinal Time Code (LTC) via Audio Input. Receive LTC directly from a server's audio input card.



PREVIEW CAM

Different viewpoints can be saved in the 3D space, which can also be animated and played out via NDI.

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LIGHTING | TRUSS | SOUND | VIDEO | INTEGRATION

RØDE INTRODUCES NT1 SIGNATURE SERIES STUDIO CONDENSER MICROPHONE

The **NT1 Signature Series** arrives hot on the heels of the NT1 5th Generation, which fused the classic sound signature of the NT1 with cutting-edge technology, such as its world-first Dual Connect output for both XLR and USB connectivity, a 32-bit float digital output, and on-board DSP. With the 5th Generation, the analog circuitry of the NT1 was

also upgraded to deliver lower noise, higher SPL handling capabilities, an extremely smooth frequency response and a tightly controlled pickup pattern.

The NT1 Signature Series joins the NT1 5th Generation in the brand's current NT1 range, offering these same high-performance specs and the classic NT1 sound signature, with the original XLR-only design of previous genera-

tions. Offering exceptional sound quality and specifications, classic **RØDE** build quality and incredible affordability, the NT1 Signature Series affirms the NT1 as the industry-standard studio condenser microphone.

The NT1 Signature Series also offers the NT1 in a range of limited-edition colours including red, pink, purple, blue and green, allowing the user to express his/her signature style in both sound and colour.

Key Features of the NT1 Signature Series:

- RØDE HF6 large-diaphragm (1-inch) condenser capsule, precision engineered to sub-micron tolerances
- Tight cardioid polar pattern for background noise rejection
- Classic NT1 sound signature
- Smooth frequency response and high sensitivity
- Extremely low noise (4dBA) – the world's quietest studio condenser microphone
- High SPL handling capabilities for capturing very loud sounds

- Studio-grade shock mount and pop filter, premium XLR cable included
- Available in classic black or a range of limited-edition colours, including red, green, purple, pink and blue
- Rugged aluminium body and high-grade finishes
- Industry-leading 10-year warranty
- Designed and made in RØDE's precision manufacturing facilities in Sydney, Australia

"When we designed the NT1 5th Generation, not only did we add revolutionary digital technology, but we also redesigned the analog circuitry to deliver improved performance, while retaining the classic NT1 sound that everyone loves," said RØDE CEO **Damien Wilson**. "With the NT1 Signature Series, we wanted to offer creators this new-and-improved NT1 with the original pure-analog design of previous generations – plus the option to get one in your favourite colour to match your own unique aesthetic!"



The NT1 Signature Series features an upgraded analog circuitry to deliver lower noise, higher SPL handling capabilities, smooth frequency response and controlled pickup pattern

SOLID STATE LOGIC LAUNCH PURE DRIVE QUAD AND PURE DRIVE OCTO MICROPHONE PREAMPLIFIERS

Available in 4 or 8 Mic Pre configurations, new PURE DRIVE Pre's feature three DRIVE modes, advanced connectivity, and a built-in USB interface

Solid State Logic (SSL) announced the launch of two new 2U rack-based studio tools: the **PURE DRIVE QUAD** and **PURE DRIVE OCTO** microphone preamplifiers. These preamplifiers are available in 4-channel (QUAD) or 8-channel (OCTO) configurations, and both incorporate SSL's SuperAnalogue PureDrive Technology, which was initially introduced by the company's acclaimed **ORIGIN** recording console. Additionally, these units feature a newly introduced **DRIVE** mode, comprehensive analog and digital connectivity options and an integrated USB-C soundcard. SSL's latest offerings represent some of the most feature-rich outboard microphone preamplifiers on the market, introducing a host of new sonic possi-

bilities and workflows for the discerning producer and recording engineer.

SSL's contemporary-classic recording console, **ORIGIN**, introduced the PureDrive microphone preamplifier. This preamp retains the clarity and punch of previous SSL designs

while offering the added versatility of switching its character to a warm, harmonically rich, and driven tone that varies with gain. PURE DRIVE QUAD and OCTO deliver four/eight microphone preamps with **ORIGIN**'s renowned **PURE** and **DRIVE** modes, but take it further,

adding a new 'Asymmetric' Drive, comprehensive digital connectivity, and an onboard USB-C interface. PURE DRIVE QUAD and OCTO also offer four mic preamp input impedance options, enabling engineers to explore various tonal possibilities or match the Mic Pre's impedance closely to the microphone.

Additionally, each mic pre includes independent +48V phantom power, polarity inversion, and a High Pass Filter, which is sweepable on QUAD.

The PURE DRIVE QUAD and OCTO offer a collection of features and workflows never seen before in an outboard mic pre," stated **Andy Jackson**, Senior Product Manager - Studio Products, Solid Slate Logic. "They stand as a testament to SSL's commitment to progressive analogue circuit design, offering exceptional performance and versatility."



Solid State Logic's PURE DRIVE QUAD and OCTO features four/eight microphone preamps with famed **PURE** and **DRIVE** modes and a new 'Asymmetric' Drive, complete with USB-C interface



NEUTRIK



FXX series



NLT4MXX series



NLT4MXX Series



FC Series



NLT4FXX series

Neutrik SpeakON Connectors



STXX series



speakON chassis
connectors



speakON combo



STX series

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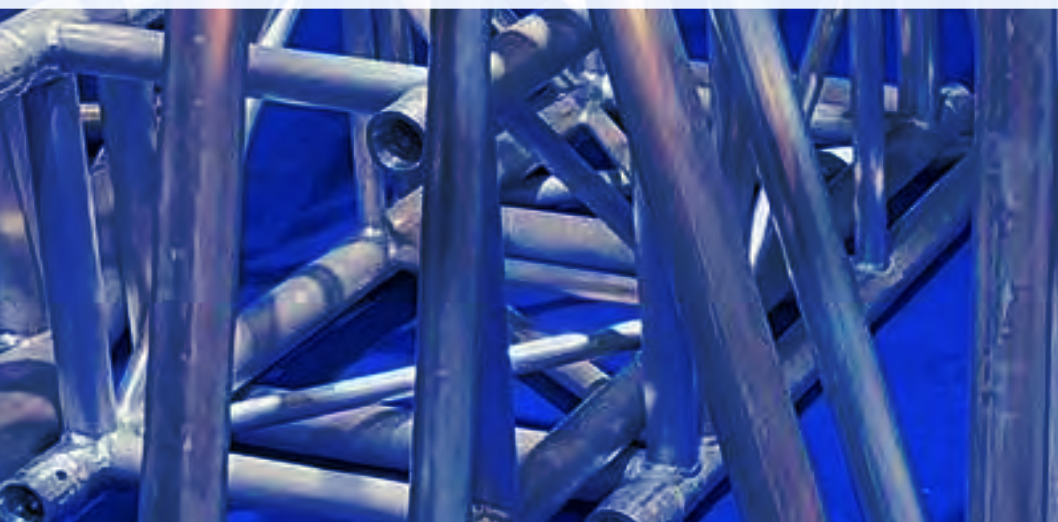
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TRUSSING Gets an Indian Twist

How Giant Truss is driving the metamorphosis of the trussing landscape in India



Arvind Kumar, Chairman, and Akshay Kumar, Sales Director, Giant Truss (far right) talks about trussing with Anil Chopra, Founding Director, PALM Expo & PALM Expo Magazine and Ramesh Chetwani, Project Director, PALM Expo

Trussing can be a task. But **Giant Truss** is up to it. **Anil Chopra**, Founding Director, **PALM Expo** and Editor of **PALM Expo Magazine** and **Ramesh Chetwani**, Project Director, **PALM Expo**, join **Arvind Kumar**, Chairman, **Giant Truss** in a conversation on how, through quality innovation and maintenance, the trussing giant is poised to change the way the world looks at the Indian trussing industry.

A celebrated name in the Indian trussing and rigging manufacturing industry, **Giant Truss** is synonymous with quality and consistency. Right from manufacturing bespoke trusses for its consumers to putting each truss to test with a thorough quality check, Giant Truss is a company that doesn't compromise on its promise – delivering crème-de-la-crème trussing equipment every single time.

But where did it all begin? What makes Giant Truss a class apart from its competitors even today? **PALM Expo Magazine** explores the journey, the differentiating factor, and the road-map of the trusses brought to life by Giant Truss.

Elaborating on how the 'Make In India' campaign drove him and his team to start making trusses in India, **Arvind Kumar**, Chairman, Giant Truss, states, "I started this initiative in 2014, when the present government came into power and pushed the 'Make in India' campaign. We thought this is the right time to start making trusses. None of us have studied business man-



Every single truss from Giant Truss features a custom design and the structure required to give it the strength to sustain on uneven Indian landscapes, making it a safe and successful product

agement, marketing, or engineering. All we had was motivation.”

Kumar further expands on the need to invest in quality control in the trussing industry in India in order to ensure that the industry thrives, “The entire world is looking at India right now. The only problem is trust and quality. Indian manufacturers don’t know how to make the SOPs and maintain the quality of manufacturing throughout the production timeline. They invest in machines, but forget to invest in quality control. As a result, the consumers receive the wrong product and remain skeptical about the quality of the products. This will only change when businesses will start thinking about quality and develop the standards of quality along with maintaining that quality that equals the likes of the US, Europe, or China. This is precisely what will make us grow.”

The Design Of The Truss

When asked about the one thing that can make or break trussing, Kumar responds, “The most important part is the design. The first thing is to understand what we want to make and why do we want to make this. Without this, one can keep the most cutting-edge machines in your factory, the most efficient manpower, your product won’t be of top-notch quality.”

He adds, “This is what we began studying first. Because one of our trusses fell in 2013. We were using locally purchased steel trusses. At the time, businesses rarely had aluminum trusses, except for the big business houses. So, for three to four months, we worked hard on our trusses. We started talking to truss manufacturers to source better trusses. I insisted on my truss never ever falling again. We studied the product, we researched all about it on the websites. We learnt all about trussing - the machines, the processes, or how to read the structure. We went through several engineers’ blogs to understand this more deeply. I even studied about welding processes thoroughly – right from the kinds of welding machines out there to finding out the strength of the welding. We did all of this on our own, because the market at that time was not aware about the nuances of trussing.”

But it wasn’t just about studying the truss design. For Kumar, the mission was to create a one-of-a-kind truss in India. Elucidating on the same, Kumar shares, “We studied the Chinese and European trusses – the structure of the European trusses was very nice. The design of the structure was able to take the load. However, this was not as per the Indian market. In India, we overload, abuse, and even misuse the structure of the truss. So, at Giant Truss, we thought that the design and the structure needed a little bit of modification – we needed to put some extra strength on some parts to make it a safe and successful product.”

Delving deep into the specifics, Kumar expounded, “The most important thing in trussing is the control system. When you improve the base plate, you improve the ground support, and you improve the top plate (since the load hangs over the top plate). So, there’s the base plate, which can make the tower collapse, and there’s the top plate, which pulls up the entire load. Ultimately, the load is going in the truss, through the base plate, and then it penetrates into the Earth, maintaining the center of gravity. Hence, the top plate must be strong.”

Illustrating the above-mentioned point, Kumar shares, “When the base plate is compromised, the tower is compromised. The size of the base plate was small, so the core of the base plate’s design was also wrong. That is the first thing we changed. The second change that we made was in a component known as ‘height

adjustors.’ Indian surfaces are uneven in nature, be it the banquet halls or the gardens – 99% vendors don’t waste time in balancing the plates. They are always in a hurry to put up the truss and let things work on autopilot. We improved on that. We were the first ones in India to bring CNC manufactured height adjustor machines to the country.”

Transforming the Truss with a Steel Bullet

At Giant Truss, trussing isn’t just a business. It is a science. To perfect the art and science of trussing in India, the company introduced and inculcated several components, techniques, and approaches to putting up a truss the right way. “We worked on the locking system, especially on the steel bullet. The steel bullet is the most critical part. There is more tolerance and more precision, because ultimately, this bullet is going to take the entire load of the structure. In most trusses that collapsed, it was the bullet that cracked. I saw a good truss break because the welding cracked and the connection emerged out of the truss. So, for our trusses, I improved the length of the connection.”

But it doesn’t end here. Giant Truss is on a mission to revolutionize the trussing landscape in India. To do this, the company has adopted a unique way of calculating the loading capacity of the structure. Kumar outlines, “To calculate the loading capacity of the structure, one has to input the values of the weakest point, not the strongest point. If the strength of the weakest point is 200 MPa, then one has to input the value of 200 MPa in the entire structure from every joint. If I put in the higher capacity point, let’s say, 350 MPa, the capacity will become almost double. So, my study was to understand and find out the weakest point in the structure, and hence, the strength of the weakest point. No one in the Indian entertainment industry has ever spoken about this in so much detail.”

What’s Next for Giant Truss

Giant Truss isn’t going to stop at manufacturing trusses with an Indian twist. The goal is to keep growing and thriving. Kumar brings the expansion of the company beyond national borders into the conversation, and shares how the trussing giant is strategically investing in stretching the horizons of its growth trajectory, “We invested a lot of money in machines – robots, new welding tables, CNC cutting machines. We are moving to a massive new plant – 20 acres of land – where our facility will be developed. We will change the way the world looks at India – especially in this industry. We have several inquiries coming in from different countries and continents, the Middle East, Europe, and many more. We have also exported our trusses in Bangladesh. We are currently getting numerous orders from Germany as well. We have also applied for standard certification and are in touch with the agency who will help us get there. The day our truss will land in Germany with their certification, we’ll be unstoppable.”

Talking about Giant Truss’ major projects in India, Kumar concludes, “We are growing very fast in India, working with the top-of-the-line agencies and events – take for instance, *A.R. Rahman, Arijit Singh, Diljit Dosanjh, Salman Khan, Aditya Birla Group Awards*, and more. Our truss is also deployed within the new Parliament building, the country’s largest convention centre, in Jio World Drive, and more. Yes, we are expanding and introducing new product lines as well – aluminum stages, aluminum scaffolds, aluminum liftings, aluminum stands, and more – and these are 100% Made in India.”

REDISCOVERING FAIRLIGHT

In 2001, I embarked on a brief stint as an in-house audio engineer with a channel that had just unveiled two state-of-the-art studios in Mumbai, dedicated primarily to mixing promos. These studios were equipped with cutting-edge Fairlight MFX3 plus systems.

For those unfamiliar with Fairlight, a brief historical backdrop is in order. Two visionary Australian engineers initially set out to create a synthesiser capable of generating any sound, but their efforts ultimately led to the birth of the world's first sampler, known as the Fairlight CMI. Upon its launch in 1971, it revolutionised music production. In 1989, Fairlight ESP (Electric Sound and Picture) was established to produce products exclusively for the post-production market. Fairlight ESP developed standalone DAWs (the MFX systems) tailored for audio post-production in video and film. These systems found widespread use by esteemed entities like NHK in Japan, BBC, NBC, Skywalker Sound, Universal Studios, Todd-AO, Sony Pictures Entertainment, and several post-production studios and television broadcasters in Australia.

In the early 2000s, Mumbai's Film Mix and Dubbing studios embraced Fairlight MFX3 plus systems, including renowned studios like Mukta Arts, Famous Film Labs, B. R. Films, Jyoti Chitarbon in Guwahati, and Verve Recording. In 2011, a landmark event took place when Ramoji Film City purchased 14 Fairlight systems, including digital audio mixers, marking the country's most extensive fully digital networked system at the time.

Returning to my experience with Fairlight in 2001, the two MFX3 plus systems were networked to a colossal 50 GB HDD data storage RAID. At the time, this storage capacity was staggering, considering my home PC had a mere 2 GB HDD.

However, my tenure at the studio was short-lived as I transitioned to work on multi-camera television shows, consequently bidding adieu to Fairlight and DAWs in general.

Over time, Fairlight systems in Mumbai slowly faded into obscurity, replaced by other industry-standard DAWs. It seemed like Fairlight had

met an unfortunate end, with few in Mumbai using it anymore.

So, what did I find appealing about the Fairlight MFX3 plus system? It was an exceptionally robust system, never causing us to lose any recorded tracks due to crashes. At the time, it could handle playback of 24 tracks from a single HDD. Though I cannot recall if it supported any plugins, I distinctly remember being able to edit audio swiftly, despite the absence of a conventional keyboard and mouse. Every DAW function was conveniently mapped to dedicated keys on the MFX3 plus console. The jog and shuttle wheel operated flawlessly, and it featured an ADR setup that simplified recording voice overs, ADR, and language dubs.

Working on the Fairlight MFX3 plus

Working on the Fairlight MFX3 plus system felt akin to operating a high-end 24-track 2-inch tape machine while harnessing the advantages of cutting-edge digital audio recording and editing.

system felt akin to operating a high-end 24-track 2-inch tape machine while harnessing the advantages of cutting-edge digital audio recording and editing.

After my year-long experience with Fairlight, I found it nearly impossible to work on other DAWs that relied on a keyboard and mouse. The need to memorise countless shortcuts for both Mac and PC proved cumbersome. I had nearly given up hope of seeing Fairlight make a comeback.

However, when Blackmagic Design acquired Fairlight in September 2016 and integrated it into DaVinci Resolve at NAB in 2017, I was elated. It meant that former users like me could once again work with the Fairlight DAW.

While most DAWs excel at recording and mixing music and also handle au-

dio post-production for video and films commendably, Fairlight MFX-based systems were designed from the ground up with a primary focus on audio for video and film. Now, it is seamlessly integrated into DaVinci Resolve.

The integration process is nothing short of brilliant. You can import your picture and audio files, sync them instantly (if time code was used on location), edit your film, and effortlessly switch to the Fairlight tab to start working on your audio. No need for exporting or round-tripping to other software, no exporting AAF or OMF files—just a click, and you're ready to work on the audio.

This setup is tailor-made for film schools and a no-brainer for corporate filmmakers. In media institutes and

The current Audio Editor Hardware Control Panel available from Blackmagic Design for the Fairlight.

This hardware control panel is a unique addition, not typically seen with other DAW makers. It's a larger, improved version of the MFX3 plus panel I worked with in 2001. One might wonder why invest in an expensive editing panel when every DAW function can be performed with a keyboard and mouse. The answer lies in speed—speed that the Audio Editor panel delivers in spades. Since it operates without the need for a mouse, it eliminates the risk of carpal tunnel syndrome, a common ailment for sound editors who spend long hours with a keyboard and mouse.

The hardware required for filmmaking is becoming increasingly affordable, with desktop computers and laptops growing more powerful. The trend of remote working in film production, accelerated by COVID-19, is gaining prominence, and Blackmagic Design has introduced a cloud-based workflow to accommodate this shift.

Resolve, as a software, continues to evolve, and Blackmagic Design's philosophy of making filmmaking affordable ensures that creativity is not stifled by budget constraints. While major Hollywood and Bollywood studios may continue to favour industry-standard equipment, young filmmakers fresh out of film school can experiment within the DaVinci Resolve ecosystem, creating finished films at a fraction of the cost.

There is a Studio version of Resolve that is highly affordable and offers additional features compared to the free version. The free version of Resolve is a capable NLE and DAW, making a compelling case for media institutes and film schools to incorporate it into their curriculum.

No software is perfect, including Fairlight, but the key is to keep an

(Continued on page 65)

LOCATION SYNC SOUND RECORDING

By **Cheerag Cama**, *Freelance Audio Engineer*





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CLAYPAKY AND ARRI ILLUMINATE BOLLYWOOD MUSIC VIDEOS

Claypaky and ARRI teamed to light music videos from the Bollywood film, 'Dream Girl 2'.

'Dream Girl 2' is a new Hindi-language comedy-drama about a man who creates chaos and confusion when he disguises himself as a woman. Director of Photography **C.K Muraleedharan** was challenged to create music videos for two item

Craft & Sound Pvt Ltd provided Claypaky Tambora Batten Square, Sharpy X Frame, HY B-Eye K25, and Mythos2 fixtures as well as ARRI SkyPanel S60-C lights for the shoots.

The lighting equipment was chosen for "the amount of trust we have in the brands and their fixtures," says **Imran Shaikh** and his team of talented Lighting Designers namely, **Sachin,**

is one of our most trusted lights. The fixtures are compact and lightweight with high-intensity beams and fast and precise movement."

The Claypaky Sharpy X Frames, K25s, and Mythos2 fixtures were hung upside down on truss while the ARRI SkyPanel S60-Cs were mounted on stands to provide ambient light, and the Claypaky Tambora battens were positioned in

the user the additional simplicity of bundling with one single manufacturer." He further elaborates, "As of late, there has been an uptake in using traditional entertainment or live event lighting fixtures as an accompaniment to our Cinestyle luminaires in film productions, not only for effects but also in far distance key-lighting applications."



ARRI and Claypaky lights up the production sets of Bollywood film 'Dream Girl 2' with Claypaky Tambora Batten Square, Sharpy X Frame, HY B-Eye K25, Mythos2, and ARRI SkyPanel S60-C lights

songs, upbeat dance numbers featuring the hero in his female disguise; one song with a club dance vibe, and a festival celebration song with the lead actors – all shot at different locations.

Equipment rental company **Light**

Vikram, Kaushik, Naresh, Rohan, and Raju Das. "ARRI offers performance power and fixture sustainability, which means the SkyPanel S60-Cs have the kind of light quality we prefer and are very reliable during shoots. Claypaky Sharpy X Frame has unique effects and



Bollywood actor Ayushmann Khurrana grooves to a dance number in the film 'Dream Girl 2' – behind him, Claypaky and ARRI adds luminescence to the choreography

the background.

Markus Klüsener, Senior Product Manager Lighting at ARRI, comments, "This application perfectly demonstrates the synergistic potential of combining ARRI and Claypaky lighting fixtures. The product offering of both brands compliments each other while offering

"All of the fixtures performed phenomenally well throughout the shoots," reports **Arjun Singh**, Managing Director, Light Craft and Sound. "Support from the manufacturers was great; whenever we needed them, even for minor issues, we received their help."

PROLIGHTS' ECLPANEL SHINES IN TV COMMERCIAL WITH MS DHONI

The PROLIGHTS EclPanel TWC series shone in a recent television commercial featuring the iconic Indian cricket player, **MS Dhoni**, thanks to the lighting services provided by **Light Craft & Sound Pvt Ltd.**

The lighting setup included over 150 projectors, including the EclPanel TWC and EclPanel TWCXL by Prolights. This dynamic configuration provided a vivid and dominant light source, transforming the television set into an enchanting environment.

In the context of this exceptional installation, 50 EclPanel TWC fixtures were skillfully mounted on a truss and covered with snapbags to ensure even light diffusion. The entire structure was then lifted above the set using pulley systems, creating a surprisingly bright and captivating



Prolights' EclPanel TWC and EclPanel TWCXL illuminate the sets of a television commercial featuring MS Dhoni

atmosphere.

Additionally, 8 EclPanel TWC XL soft lights were meticulously arranged in a linear structure to replicate a vibrant and radiant daytime atmosphere.

Sachin Vishwakarma, the Head Light Designer for the project, and **Rajesh Singh**, the installation's gaffer, expressed their great satisfaction with the results, stating: "The versatility of the Prolights EclPanel series is truly remarkable. These panels allowed us to seamlessly transition from a moonlit night to a sunny day, enabling us to translate our creative vision with impeccable precision."



*Merry Christmas
&
Happy New Year 2024*



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ELIMINATOR LIGHTING LAUNCHES MEGA HEX L PAR

Powered by four extremely bright 20-Watt HEX (6-in-1) color mixing LEDs, the compact **Mega HEX L Par** from **Eliminator Lighting** offers output in a wide variety of colors. Each LED combines red, green, blue, lime, amber and UV elements, each with independent 0-100% dimming control, allowing for a huge spectrum of colors to be mixed. Inclusion of the UV element allows for the 'black light' effect which causes white and neon colored décor and clothing to glow when used alone, and it can also be combined with other elements to create vibrant colors like hot pink, deep purple, and electric blue.

The lime element, which is becoming common in top of the range fixtures but is unusual at this price-point, allows for vivid shades of green as well as white light with a CRI of >90. A high CRI means that colors are rendered more accurately when the fixture is used as a wash to illuminate scenery, décor, or performers, which is particularly important to ensure natural skin tones and enhanced depth. The fixture also offers tunable white light output with a wide color temperature range of 2300K (very warm) to 9900K (extremely cool) and is

pre-programmed with 15 presets to allow easy selection of popular options.

Generating an output of up to 1100 Lumens, the fixture is extremely bright for its class and offers flicker-free operation and is therefore suitable for video capture and live-streamed projects. In addition to independent dimming control over the six LED elements, the unit also offers a smooth 0-100% master dimming control with a choice of six different dimmer curves. To create more intense effects, the fixture also offers variable speed strobing in any color.

With a concise native beam angle of 17-degrees, the fixture generates a tight output that is ideal for uplighting walls, highlighting décor elements, or generating intense 'pools' of light on a dancefloor. The unit is also supplied with an optional Frost Filter. This slides over the face of the fixture to soften its output and widen its beam angle out to 20-degrees, which is ideal for stage washing or other applications that require wider light coverage.

LED Par Light With Five Operational Modes

With five operational modes to choose from, the Mega Hex L Par is suitable for all kinds of events and

productions. Static Color mode allows quick and easy selection of any of the unit's 63 pre-programmed color macros, while RGBLA + UV Dimmer Mode allows any combination of the six



Mega HEX L Par

LED elements to be mixed directly from the OLED menu interface on the rear of the fixture. To allow dynamic lighting effects to be created, the unit also features a variety of in-built chase patterns. Auto Run Mode allows a choice of 16 Color Fade patterns, 16 Color Change patterns and a combined pattern to be selected to run at a set speed of the user's choice. Alternatively, Sound Active Mode allows 16 different chase patterns to be set to run, triggered by

the beat of the music detected by an internal microphone. Multiple fixtures can also be linked together using DMX cables for synchronized color chases in a Primary/Secondary configuration.

For remote control, the Mega Hex L Par is supplied with a UC IR24 wireless remote. This can be used to control Black Out, Full On, Strobe, Dimming, Sound Active and Color Change functions. Alternatively, full remote control of all the unit's features can be achieved using the DMX-512 protocol with a choice of seven channel modes.

"Offering impressive output and a comprehensive feature set, the Mega Hex L Par is a professional caliber LED par at an incredibly good price," comments **Albert Paredes**, Product Manager for Eliminator Lighting. "Its HEX color LEDs, with both UV and lime elements, allow for a vast selection of output colors, including tunable white with an excellent CRI. This, paired with our patented 'sit-flat' design and flexible scissor yoke, makes for an extremely versatile fixture that is ideal for a wide variety of entertainment and events applications."

MARTIN PROFESSIONAL INTRODUCES ERA 700 PERFORMANCE IP

HARMAN Professional Solutions, one of the global leaders in audio, lighting, video and control systems, announced the release of **Martin ERA 700 Performance IP**, a state-of-the-art LED-based profile fixture, designed for permanent outdoor entertainment use, to complete Martin's ERA family of fixtures. With its robust construction and innovative features, the ERA 700 Performance IP offers lighting designers and systems integrators a comprehensive toolkit for creating immersive and visually stunning lightshows in even the most challenging environments.

The ERA 700 Performance IP is engineered to withstand extreme environmental conditions, making it an ideal choice for larger outdoor shows, rental applications, and archtainment installations. With 26,000 lumens, this fixture delivers the ideal output for captivating outdoor lighting displays. Despite its power, the ERA 700 Perfor-

mance IP stands at a compact height of only 759mm and weighs below 40kg,



The Martin ERA 700 Performance IP can operate in a spectrum of temperatures and features C5M marine-grade salinity protection with IP65+ rating

providing a lightweight and reliable solution for various outdoor projects.

Designed with durability in mind, the ERA 700 Performance IP can flawlessly operate in a wide range of temperatures and boasts C5M marine-grade salinity protection which shields the fixture against harsh elements, ensuring its longevity and consistent performance. Its IP65+ rating and advanced gasket design provide protection against dust and water ingress, eliminating the need for protection domes commonly used in outdoor installations.

The ERA 700 Performance IP prioritizes security and ease of integration with an incorporated anti-tamper box, preventing unauthorized access to power and data, making it an ideal choice for installations in public spaces.

"The ERA 700 Performance IP represents a significant milestone in

outdoor lighting technology," said **Mark Mercer-Buss**, Martin Lighting Product Manager, HARMAN Professional Solutions. "We've listened to the needs of our customers and developed a fixture that combines reliability, versatility, and security. Its robust design and advanced features make it an exceptional choice for both rental and installation markets, offering lighting professionals an outstanding solution for their outdoor projects."

Highlights:

- Comprehensive Toolkit and New Gobo Designs
- Anti-Tamper Box for Security and Added Outdoor Protection
- All-Weather and C5M Environmental Protection Plus Active Humidity Control
- Ease of Service and Easy Access
- Networking with Fail-Safe Bypass
- Ideal Weight and Size Plus Seamless Aesthetics

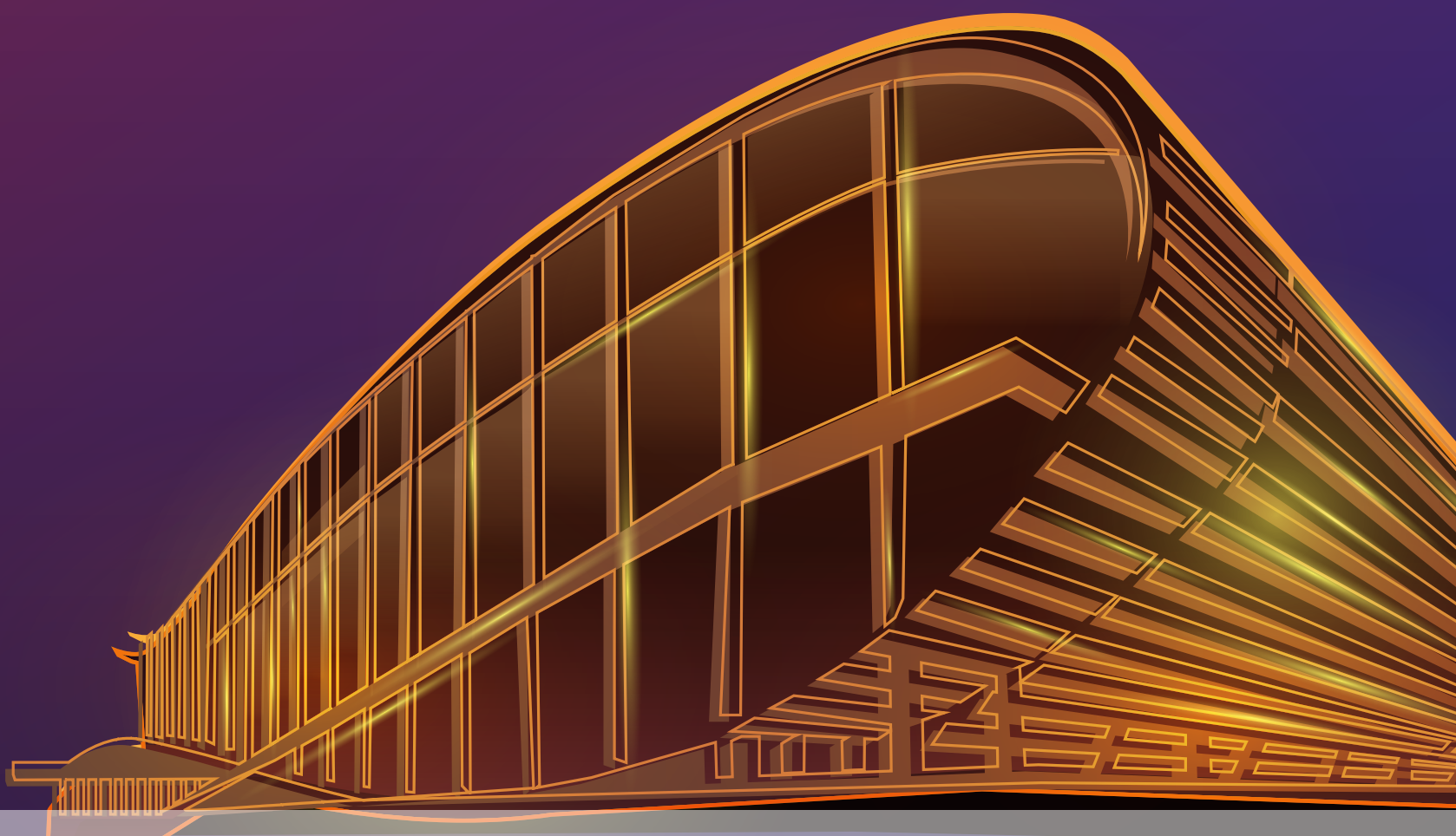
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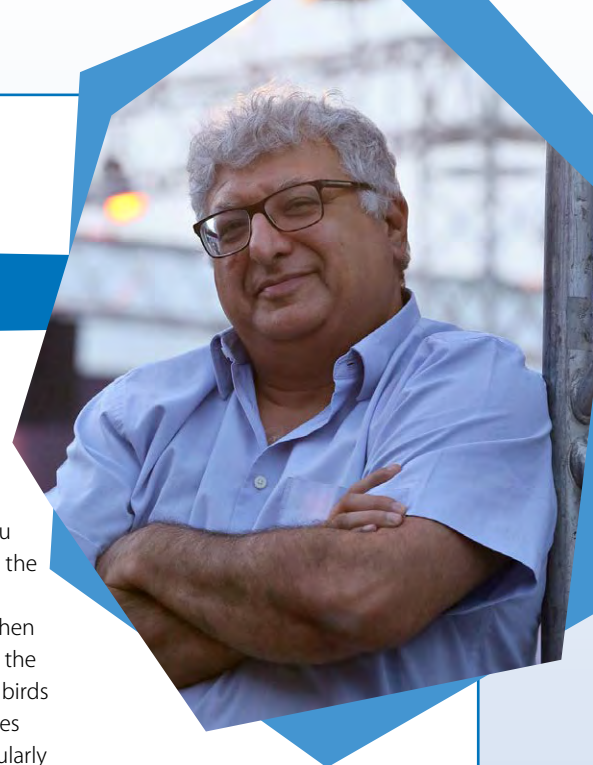
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I was recently in Ladakh. Dry, barren landscape stretching for miles and then more miles.

By some peculiar twist of geography, the mountains all have unique compositions. Apparently, that land was submerged under the sea and as the Indian land mass broke away from Africa and crashed into the Asia Minor landmass, some amazing geology happened and the seabed got squeezed up and formed these mountains.

Some incredible forces of nature millions of years ago created these vistas that we can enjoy.

The ranges are still shifting and that adds to the mystique. Our Border Roads Organisation has done an incredible job making and maintaining a fabulous road system that makes traversing the region incredibly easy.

A huge shout out to them for doing their work under extreme climate conditions. Perhaps a bigger shout to the Indian Army for defending the region.

Ever smiling. Ever helpful. Ever grateful for some human connection and needing to see some personal gratitude from a grateful nation.

On the flip side, they get to see some amazing sunrises and sunsets.

Most habitation is in the valleys of Ladakh. Climbing the hills, much less the mountains, takes an incredible feat of human endurance. Short of oxygen at those heights. The mountains are devoid of vegetation, slippery with stones and gravel as the sharp winds grind the stone of the mountain. If the wind can do that to a mountain, then what it can do to a human body?

So, you rarely see a sun rise or sunset over a flat horizon. You see it over a range of hills.

The more jagged the top, the more diverse are the rays of the climbing sun.

Clouds are low. Heavy with precipitation, they can't lift themselves up higher in the cold thin air.

So, sunrises lick over the hills by underlighting the clouds in a fantastic range of pinks and oranges.

Like a wire mesh candy ball heated from below. Cracking orange base to a dark shape above.

As the sun bursts above the hill lines – the clouds are backlight for a while – depending on the density spewing forth the sun's rays in multiple directions.

The hills and lake below are almost black as the sun's rays have not reached. Then look to the west as you see the wondrous sight of only the tops of those hills – usually with a touch of snow again – catch the blushing sun and quickly turn to blazing yellow. The hills supporting the snow, still dark, as the dark brown gravel does not have enough light to show itself.

Now the shadow line creeps downwards, and you don't know where to look. East, as the sun now skims the icy peaks there. Just an upper ridge of burning yellow. The sun is unable to curve its light around the peaks and light the snow there. So, the snow looks a strange blue grey.

Quickly back to the west. Now the tops of the peaks are glowing white. Due to the contrast and clear air – you

Now that black body of water gets lit on the edges. It is transparent. Even from my window, you can see the pebbles that make up the lakebed.

Just the rim is lit. Transparent. Then as the sun bursts over the hill line, the day officially begins. The very few birds that can exist in these hostile climes squeak. These birds are not particularly pretty. But they look powerful. Their wingspan many times the size of their bodies. And thick. The front thicker than my thigh, and while covered in feathers, look like a knot of muscle.

Sorry to be distracted. The lake now shows itself to be so many shades of blue. Light Mediterranean Blue in bits. Nordic Deep Blue towards the centre. No fish – as most of the lakes are salty from the waters running down the mountain. Remember I said the mountains were a seabed a few million years ago. Like plastic. This salt not going anywhere.

While there is no fish, the lakebed is

your nose, mouth, and ears, is not.

Suddenly it drops. It's bone dry. Your Lips peel and curl. It's the salt that's filling the air. No fancy cosmetic works. Just liberal application of butter. Makes you look like a greedy kid who's finished the sandwiches before anybody else got to them. But hey – I can press my lips together without the upper one scratching blood from the lower one. Yes, that's how dry and sharp your lips become.

Time to look east – as the sun has cleared the range and now beats down upon leeward side of the eastern mountain.

Wow. What diversity.

A Lesson in Lighting

You enjoy the sun's slanted rays warming up the hills in the west. And now you see the sun lighting the mountains in the east.

The lake separating the two and accentuating the difference.

Another range of colours and shadows. Like a tennis match, I switch my gaze from one side to another enjoying (if you will) two champions with diverse styles of play.

I get anxious, this must end soon. Will I have gathered every bit of detail?

I realise I have the camera around my neck but have not even thought of clicking pictures. The scale will make it pointless. Not even the best camera capture that kind of detail on that scale.

Blink. Just capture these photos in your mind. I hope I can get it all.

My Llama friend sees my consternation and advises. Be at peace, my friend. Only in peace can you capture it all without your conscious or sub conscious colouring every detail.

(Continued on page 65)

Over Omelettes and cold fried toasts, I wonder if I can recreate even a smidgeon of this wonder from behind a lighting desk. Can I fill my audiences with such wonder within the enclosed space of a theatre?

can almost see the frost of the snow swelling in the heat moments before it starts melting.

Slowly, the sun inches higher and the light line begins to lower down the mountain.

You can still see the sun in the east, just its dancing rays.

Slowly, the mountain reveals itself. Snow on top and gradually what you thought was a muddy brown shows itself to be a huge collection of colours. Deep reds, dark greens, not of the vegetation. The rock, below the gravel. Light sand, which you can now see swirl gently as the valley breezes force themselves up the mountain.

Finally, the light reaches the foot of the mountain where you spot the darker water run scars where the rainwater has furrowed the silt that has been washed down the mountain.

rich with marine life. Most of Ladakh's lakes are protected (wisely so). No boating. No swimming even. If you are stupid and brave enough to deal with the cold.

A stroll down the shoreline looks like a stroll down any beach. Full of shells, crystals, worn through sea stones in myriad colours and shapes. The kid in me wants to pick up everything. But I'm an out of breath, out of shape, sad case. Bending down in my 'woollen everything' is a process. Straightening up in the lack of oxygen – another ordeal.

I stand and stare at this celestial light show. Subtle. Follows its own rhythm. Time coded by so many forces of nature. You can hear the silence. Does that make sense?

You can hear and feel the wind cutting through you. The sound is comforting. The feeling of it slicing into

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Demystifying Artificial Intelligence & Machine Learning For Audio Engineers

*An extract from **Sreejesh Nair**'s session titled 'Artificial Intelligence and Machine Learning For Audio Engineers' from PALM Conference & Seminar 2023*

***Sreejesh Nair** is a celebrated award-winning audio engineer, and a renowned expert on Dolby Atmos. A winner of the 60th National Film Awards and a four-time IRAA Award recipient, Nair has 20 years of audio engineering experience and more than 200 films to his credit. In the recent **PALM Conference & Seminar**, held at BEC, Mumbai, Nair, AVID Pro Audio Application Specialist, took the stage to share his expertise and insight on the facets of Artificial Intelligence and Machine Learning for audio engineers. This article is an excerpt of Nair's session.*

Kickstarting a much-awaited session, **Sreejesh Nair**, an **Avid Pro Audio Application Specialist**, combined wisdom and wit on stage. He began, "I am here to talk about something that is a bit controversial – Artificial Intelligence (AI) and Machine Learning (ML) for audio engineers." He added, "We are here to understand what artificial intelligence is, what machine learning is, and if you know me, you know I am not a big fan of maths or technical jargon – so we will be learning this with some *paav bhaji* and other such examples." Talking about how AI and ML is often used interchangeably, Nair notes, "AI and ML are not interchangeable. AI is

anything that can exceed or match human intelligence. This is why, two masters or two mixes will never sound the same. If you use the same plugin, the same EQ, the same rides, two people will always have a different response to these things. This is why, these are certain things that can add a lot of randomness to what is beautiful when it comes to human engineering."

What Is AI?

According to Nair, "AI has the ability to discover, it has the ability to infer, and it

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has the ability to reason. But, for all of this, it requires data input. It cannot dream these things out of nowhere. It cannot create these things out of thin air. If you feed it data, it can find patterns in the data or tell you different perspectives of something that you have never thought of before – or reason against you.”

So, if that is AI, then what is ML? Nair explains, “As with audio, the beautiful thing about all of these terms is that it literally means what is written on it. ML is actually the capability to make predictions and decisions based on an input data. But if you look at this, it does not tell you if your prediction is going to be right, if that is going to be accurate, or if that is exactly the same thing. But, it will give you a different perspective to things. And that is where the beauty of it lies as a tool.”

How Does ML Work?

To illustrate how machine learning operates, Nair employs a relatable example from daily life. “This is exactly how we learn audio. You learn about the technicalities, the integration, the differentiation, and more. We learn with terms that we can understand. This is the most simplified version of the same.”

He moves further to illustrate his point, “So, let’s say, I am staying at Marriot and I want to have *paav bhaji*. I want to decide if I want a room service. The first thing I would want to look at is – will I save time? Will I want to get up and do things or do I want to pick up the phone and just order *paav bhaji*? So we assign a value – let’s call it X1, and to simplify things, let’s keep the value of 1 as yes and the value of 0 as no.”

Nair adds, “Will I save time? In my case, yes. That’s a value of 1. Will I lose weight? Am I health conscious? I am going to order *paav bhaji* – I am not looking for a health-conscious diet. So, will I lose weight? No, I am not concerned. Will I save money? Now, if I am in Marriot and I have Marriot points, or I have coupons, I can obviously put it to my Marriot points. So, yes.”

However, there is a caveat. Nair elaborates, “We don’t make our decisions based on just these three things. We assign something called a weightage threshold. Let’s say we put a number of 5 to that. Now, will I save time? Absolutely, I will save time. So, I will assign a weightage of 5 to that. Will I lose weight? Let’s say I am partially health conscious, so I will give it a value of 3. Will I save money? I am not really concerned about money at this point. So, I assign it a value of 2. The calculation looks something like this: $(X1*W1 + X2*W2 + X3*W3) - (\text{Threshold})$ i.e. $(1*5 + 0*3 + 1*2) - 5 = 2$. In my case, the answer is 2. It’s a positive value. Which means, yes, I should order *paav bhaji*. This is how ML works. There are many more complications to this. But, this is the gist of ML.”

The Multifaceted Elements Of Machine Learning:

Nair notes that ML can be supervised. He explains, “ML has the ability to create an algorithm of its own. If I am a programmer, then I have to give every condition possible for it to give an output. Now, if any other condition exists, like [for a reverb] if I only have pre delay and a decay, and I need to add reflection, I need to program the reflection into the reverb. I have reflection, but I now need 7.1, so now I program it too. Since its Atmos now, so we need at least 9.1.4 or the client is not going to be happy. So, I program 9.1.4. Now, I may also need to release this in 22.2. So, you can see how this can scale. You have to programme every single thing. Like Batman has no jurisdiction, ML has no jurisdiction.”

In supervised learning, Nair states that ML can iterate on the data being fed to it and create an output on its own. He explains, “You give ML a set of inputs and label it, and it will listen to what you feed and try and create a pattern from that. Later, you give it an input without telling it what it is. It will try and figure out an output and you can check if your output is correct. If it is not, then you go and tweak the algorithm. You give it more data. For this to work, ML needs an extensively huge amount of data. Especially for audio.”

ML also functions on something known as ‘unsupervised learning’. Nair enlightens his audience, “Unsupervised learning is where ML makes its own decisions. This is where Deep Learning comes into play. And that is actually where you will see most of the future developments in the field of audio. It’s not about taking away jobs, but about seeing all of the possibilities available to us.”

Last, but not the least, Nair remarks that for ML to work, users also use a model known as ‘reinforcement’. “Reinforcement is like a reward model”, Nair shares, “You give it an input. It gives you an output. Is the output right? If yes, then you reward it. If it’s not, you punish it. It’s amazing how close ML is to us. But, it’s essentially trying to emulate how we think.”

Understanding AI:

After fleshing out the basic concept of Machine Learning, Nair informs his audience that within ML, there exists a subsection, which is known as Deep Learning. When ML and DL are clubbed together, what we arrive at is essentially a part of AI.

Nair adds, “AI has other subtexts as well. NLP, which stands for ‘Natural Language Processing’, which is exactly what GPT is. There is an input. There is a model. There is an output.”

How do we create this model? Nair answers, that while it seems like a complicated task, it is actually quite simple in practice. “If I am a programmer and if I have to give answers to everything, I can’t figure out what combinations I am going to have. This is where data and learning system enters. The learning system is what actually creates this model, and it will iterate again and again. The more iterations you have, the better output you will get. The way these things work is they create an output, then match it to see if it is believable enough for a model. If not, it will go back, re-iterate, create. Go back, reiterate, create – until it gets one that is believable enough for the model to match.”

He continues, “This is how the model is generated. So, if I was a company trying to make a plugin platform, that was going to do a De-Rustle on my track, I cannot create an algorithm to remove rustle. Because the way it works is that it has to understand what it is that I am trying to remove first and also fill in the blanks. If you remove rustle and you are left with a hole, then you might just as well call a sound editor.”

Detailing why ML is the key to generating a better audio output by using AI, Nair expounds, “Imagine all of these things in an audio. You cannot communicate the terms of clarity, the terms of a feel, the terms of an openness to that particular system like you would to a human being. These are not technical terms you can actually put into a system. That is why, you need somebody like us. That is why it cannot be fixed by a plug in. That is why you need ML.”

The Role Of AI and ML In Audio Engineering:

Nair moves on to describing a list of functions that AI and ML can perform to generate a more sophisticated audio output, and how, through this, AI and ML are poised to transform the field of audio engineering.

Nair first talks about automatic mixing, “When I say automatic mixing, that doesn’t mean that you take your tracks and tell the system, “I have three bass guitars, four guitars, three keyboards, one drum, two loops, and a voice – now, give me something that sounds like Honey Singh”. No, that is not how it works. There are things that it can analyse and position, and can also create a well-balanced mix that it thinks is a good place to start. It is like, if you are a mix engineer, you are getting a well-produced track. Who doesn’t like a well-produced start and mix?”

AI and ML can also assist with speech-to-text conversion and vice-versa. Nair states, “When we look at AI in general, there are some things that we take for granted. For example, the very fact that I am standing here, walking across, moving my hands, talking to you, creating a filter with my mouth, changing my tongue, moving my lips, looking at each one of you – it’s a coordination of a lot of things. My central gravity has to be kept stable. The fluid between my ears has to control my balance. This is a very, very, very complex thing. Right now, we are still in the primordial soup of AI. So, if you think about AI, these types of functions being available, especially for blind people, physically challenged people, is a HUGE thing. Imagine the kind of musical instruments you can create for them to perform. Imagine the kind of DAW you can create for them to actually make it work.”

Sound classification is another area where AI and ML can make the task smooth for audio engineers. Nair opens the conversation with a question, “How many of you have actually used ChatGPT to do sound editing? Explain your scene to ChatGPT and see what comes from it. It will give you suggestions that you have probably never thought of. Imagine you are trying to figure out a sound you want – a very emotional, sad blow of wind. The rain has to feel that agony and pain. AI can help classify the sound. Not just that, it can also suggest genres of songs for you. You will probably end up hearing songs you have never heard before.”

AI can create and enhance an adaptive audio system. “This is excellent”, affirms Nair, “since it is able to take elements in your mix and automatically place them in a space, depending on whether it is doing that automatically or using ML to find out the different components that make up an instrument and split it.”

Nair adds, “Moreover, for sound synthesis, you can actually create sounds or instruments that never existed before. You can have different layers of different things, one following the other on an envelope, all of that creating a completely new experience.”

Help with physically challenged musicians. You can actually have motion-controlled instruments that are triggering other things and have constantly changing music based on the performance happening on the stage. You will never see two shows in the same way.

(Continued on page 64)



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Making Music Sound Good

The Six Newest Active Loudspeakers To Watch Out For In 2023

Sound is the soul of any live event. An active loudspeaker forms a crucial element of achieving crisp, clear sound that can keep the crowd grooving. Designed to deliver power-packed performance in outdoor events such as live shows, concerts, mobile DJs, and more, active loudspeakers are a prerequisite to make any stage show a success.

QSC LA108 Powered Line Array Loudspeaker

Designed to deliver exceptional audio experiences and performance through system intelligence and premium components, the LA108 is easy to deploy for applications ranging from simple, portable, plug-and-play setups, to high-tech and networked fixed installations. Its splay angle adjustment and array optimization, paired with its interoperability with networked audio systems makes it an ideal option for artists, consultants, and production houses.

Main Features include:

- Lightweight neodymium 8-inch (203 mm) woofer and 1.75-inch (44 mm) HF compression driver
- Energy efficient, 1300 W peak power Class D amplifier module with Power Factor Correction
- Innovative QSC LEAF (Length-Equalized Acoustic Flare) waveguide with uniform coverage (100° H x 15° V)
- Intuitive, single operator QSC RapidDeploy rigging technology
- Onboard QSC AWARE (Automatic Wireless Array Recognition) system intelligence
- QSC SysNav (System Navigator) App
- Acoustic Linear Phase (ALP) design
- Digital audio-over-IP (Dante) for interoperability
- 6-Year Extended Warranty with product registration

Technical Specifications:

- Configuration: Two-way active line array loudspeaker
- LF Transducer: 203 mm (8-inch), cone
- HF Transducer: 44 mm (1.75-inch), compression driver with Polyimide diaphragm
- Frequency Response (-6 dB): 62 Hz - 20 kHz
- Frequency Range (-10 dB): 57 Hz - 20 kHz
- Nominal Coverage Angle: 100° H x 15° V
- Maximum Rated SPL1 (peak): 134 dB @1 m



Meyer Sound 2100 – LFC Low-Frequency Control Element

The 2100-LFC features 35% more range, a single 21-inch driver, 20% more lightweight configuration, 8000 watts of peak power, the Meyer Sound 2100 – LFC promises better performance, easy rigging, and improved functionality. Designed for the stage, the 2100 – LFC is poised to make the audience feel music from head to toe, in every nerve, that too quite seamlessly.

Main Features Include:

- 30 – 125 Hz response
- Single 21-inch driver
- 20% more lightweight
- 8000 watts of peak power

Technical Specifications:

- Operating Frequency Range: 30 Hz – 125 Hz
- Coverage: 360° (single unit)
- Weight: 235 lbs. (106.6 kg)
- Enclosure: Premium multi-ply birch, slightly textured black finish
- Protective Grille: Powder-coated, stamped steel
- Rigging: End frames with captive GuideA-Links secured with 0.4375 in x 0.090 in quick-release pins
- IEC Ingress Protection Rating (IP Rating): IP55, when connected to cables terminated with Neutrik TOP connectors
- Max Long-Term Continuous Power (>10 sec): 1200 W
- Burst Power (<1 sec): 2400 W
- Operating Voltage Range: 200 – 240 V AC, 50 or 60 Hz



Pioneer DJ XPRS102 10” Full-Range Active Loudspeaker

The XPRS2 Series pairs the versatility and mobility of the original XPRS Series with heightened sound-performance and audio intelligibility to deliver a high-calibre speaker system for mobile DJs, live sound, houses of worship, rental, and fixed installations. The XPRS2 employs Class D Amplification with increased output wattage for an extraordinary audio experience.

Main Features include:

- Powerful class D amplification
- High quality, robust build
- Four DSP modes
- 16 customizable user DSP modes
- Full-range speaker design

Technical Specifications:

- Type: 10 inch 2-way active loudspeaker
- Amplifier Output: Class D; 2000W peak
- Supported voltages: 110 V to 240 V (50 Hz/60 Hz)
- Power consumption: 800 W
- Frequency Range: 50 - 20000 Hz
- Width: 11.77 in
- Height: 20.47 in
- Depth: 12.2 in
- Weight: 34.17 lb
- DSP modes: Factory Presets (4 types); Sub Setting (Sub Setting menu is for selecting the high-pass frequency or matching subwoofer); EQ (4-band equalizer); User Programs (16 presets)
- Maximum Sound Pressure: 129 dB
- Cross Over Frequency: 2 kHz
- Inputs: MIC / LINE x 1 (Combo); HI-Z / LINE x 1 (Combo); 3.5 mm stereo mini jack x 1 (Unbalanced input)
- Outputs: MIX (XLR)
- Driver: 10 inch ferrite LF cone driver; 1.75 inch compression driver



Void Acoustics Arclite

A two-way active, three-way arrayable point source, the Arclite is designed for pairing with Arcline 218 and 118 subwoofers, which offers scalability with optimal output and coherence. Created to fulfil the needs of sound engineers and audio integrators, the Arclite is here to answer the demands of the most challenging acoustic spaces around the world.

Main Features include:

- Two-way active, three-way arrayable point source
- Ground stack or flying configurations available
- Asymmetrical combination waveguide and horn optimised with FEA
- Dual NL4 speakON connector with link out for quick and easy set up
- Arrayable in vertical and horizontal configurations
- Blanking plate for use without rigging

Technical Specifications:

- Frequency response: 45 Hz - 18 kHz ±3 dB
- Efficiency1: MHF: 113 dB 1 W / 1 m LF: 98 dB 1 W / 1 m
- Nominal impedance: LF: 8 Ω, MHF: 16 Ω
- Power handling2: LF: 1000 W, MHF 190 W
- Maximum output3: 133 dB Cont, 139 Peak to 20kHz
- Driver configuration: 1 x 15” LF, 1 x 4” MF, 1 x 2.5” HF
- Dispersion: 35° H x 60° V (25° up - 35° down)
- Connectors: 2 x 4-pole speakON NL4
- Weight: 44 kg (97 lbs)
- Enclosure: 15 mm birch plywood
- Mounting: Ground stack or suspended
- Finish: Textured ‘TourCoat’ polyurea



KV2 Audio ESR106 Active Driven 3 Way System

The ESR106 is an active driven 3 way system that uses a unique column array of multiple 6” woofers for clear, high quality vocal and music reproduction in a spectrum of environments. Featuring 8 x 6” woofers, 2 x 6” mid bass woofers and a single 1” high frequency driver mounted on a wide dispersion horn, the ESR106 is designed to represent one large point source. The ESR106 is controlled and driven by a ESR2600D amplifier that uses KV2 Audio proprietary SLA technology.

Main features include:

- Full range 3-way system incorporating state of the art multiple transducers
- Multi point fixings for external brackets and flyware
- True musical solution for speech, vocals and music playback in difficult acoustical environments.

Technical Specifications:

- Max SPL Long-term: 131dB
- Max SPL Peak: 137dB
- -3dB Response: 60Hz to 20kHz
- -10dB Response : 52Hz to 28kHz
- Crossover Point: 450Hz: 2.4kHz
- Acoustic Design: Horn Loaded
- High Horn Coverage Horizontal / Vertical: 100° x 80°
- Speaker Input: 1x AMPHENOL 6
- Cabinet Material: Baltic birch
- Diaphragm Material: Titanium
- Magnet Type: Neodymium
- Height: 2048 mm (80.629”)
- Width: 250 mm (9.842”)
- Depth: 268 mm (10.551”)
- Weight: 42,5 kg (93.7lbs)



Mackie Thrash212 GO

Mackie’s Thrash212 GO a full-size 300W loudspeaker, that is battery-powered for a professional performance that lasts for upto 10 hours. From live events to DJ gigs, the Thrash212 GO is just the ideal solution for venues that demand quick setup and teardown.

Main features include:

- Up to 10 hours of playtime with included swappable, rechargeable battery
- Ultra-efficient, 300W Class-D amplifier
- Bluetooth streaming
- Link via Bluetooth to a second Thrash212 GO for stereo music playback
- Built-Like-A-Tank to conquer every gig while lightweight for easy loading

Technical Specifications:

- Frequency Response (-10 dB): 52 Hz – 20 kHz
- Frequency Response (-3 dB): 65 Hz – 20 kHz
- Crossover Frequency: 2.4 kHz
- Horizontal Coverage: 90 degrees
- Vertical Coverage: 60 degrees
- Maximum SPL Peak: 125 dB
- Monitor Angle: 45 degrees
- Battery Type: Lithium Ion
- Battery Life: Up to 10 hours
- Height: 26.4 in/ 669 mm
- Width: 14.8 in/ 375 mm
- Depth: 12.3 in/ 313 mm
- Weight: 34.7 lb/ 15.7 kg



From Meyer Sound to KV2 Audio, PALM Expo Magazine features 2023’s six newest active loudspeakers to keep an eye out for in the Indian pro audio market.

DENON DJ RE-ENTERS INDIAN DJ MARKET WITH VISIONHIRE ENTERTAINMENTS (VHE)

Visionhire Entertainments (VHE) has been appointed as the official distributor of **Denon DJ**, **Rane DJ** and **SoundSwitch** in India, marking **Denon DJ** and **Rane DJ's** official re-entry into the Indian DJ market.

"We are very excited to be partnering

with VHE, a company which has been at the forefront of promoting DJ products in India for several years now. We appreciate their vision and feel this is the right match for Denon DJ to re-establish its rightful presence in the Indian market", said **Mark Spies**, Director of Sales (Asia Pacific), inMusic Brands.

Siddharth Lulla, Managing Director, VHE, says: "Our aim of partnering with Denon DJ and Rane DJ is to bring choice back into the Indian DJ market by providing the community with products that are far ahead of the competition in terms of technology, being future proof with regular feature updates and ensuring the go to market strategy is innovative and approachable for DJs to truly appreciate the Denon DJ

offering."

Denon DJ's product range focusses primarily on powerful, self-contained, stand-alone products. From the professional, world-touring SC6000 media players; to their popular all-in-one systems (such as SC Live and recently relaunched Prime4+) as well as the super-portable, battery-powered Prime Go – Denon DJ products are designed by DJ's, for DJ's.



DENON DJ

DEMYSTIFYING ARTIFICIAL INTELLIGENCE...

(Continued from page 60)

According to Nair, AI and ML can help create something called intelligent spatial mixing, and Nair believes that it gives rise to multiple possibilities of creating an immersive mix, "If AI can read and find placement in things and start of suggesting things, it can actually create a much more immersive mix."

AI can also help ideate and create scratches. Not just that, AI also has the ability to perform sentiment analysis, where it can, in Nair's own words, "actually analyse emotions." He further notes, "All of these things are possible with ML and AI. I have barely scratched the surface. We need to understand that this is not something that we need to be scared of. It is just something that we can use as a tool."

The AI Revolution - A Boon Or A Bane?

AI, used in a correct way, can actually help an artist explore, expand, and elevate the horizons of art. Nair concludes, "AI and ML can actually push you in terms of art. In terms of what you are experiencing as a listener and what you are creating as an artist. When the DAW first came, everybody said that the tapes would sound better, we will lose all of the analogue warmth and things like that – now we know that is not the case. We still have a lot of fantastic productions that are made in Pro Tools, and more. It was not the DAW. It was always the artist."

Commenting on the fact that technological evolution is the only way forward for art, in every form, to flourish, Nair delivers the final words of the session, "These things will always happen. It will actually bring out art in a way that was never experienced.

As a human culture, the human race, experiencing something we have never done before will actually make us adapt to newer things. And newer things will always inspire."

To view the complete conference session go to [Youtube PALM Expo India](#)

Note:

We deeply apologize for factual errors in the article '**Demystifying Artificial Intelligence & Machine Learning For Audio Engineers**' featured in the previous September-October 2023 issue of the magazine. This article was published as an excerpt from the Conference Session, conducted at the **PALM Expo 2023** by **Sreejesh Nair**. PALM Expo Magazine has taken swift action by republishing the corrected content in the magazine's current issue. We understand this may have caused confusion and request our readers to consider this revised version of the article only.

Our aim is to provide content that is accurate and balanced and again we sincerely apologize to our readers and to Mr. Sreejesh Nair for the inconvenience.

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KORG ANNOUNCES KAOSS REPLAY SAMPLER AND FX UNIT

Korg announced a new version of the brand's classic Kaoss Pad effects unit named the **Kaoss Replay**.

KAOSS Replay is a self-contained performance tool that is designed as an all-in-one solution for musicians, performers, and producers. It features KAOSS Pad and Effects, expanded sample playback and sampling capabilities, and intuitive, precise DJ controls. In a mobile stand-alone unit, KAOSS Replay enables performances on the fly, which eliminates the need for additional equipment.

USB-C powered and equipped with on-board connectivity, KAOSS Replay offers quick setup, allow-

ing the user to create hassle-free gear settings, regardless of the location. The KAOSS Replay introduces an advanced sample playback and sampling system, which boasts 128 sample slots (16 pads x 8 banks) for each of up to 100 projects.

Using the PAD MOTION function or simply holding the desired position using TOUCH HOLD mode, KAOSS Replay helps the user to automate various effects effortlessly. Furthermore, the FX Release function ensures smooth transitions and seamlessly integrates the user's effects into his/her musical composition. With a dedicated MIC Input, the KAOSS Replay eases the process of playing and performing the

tracks while improvising the creative sound effects in the desired manner.

To put it briefly, KAOSS Replay lets the user edit the samples, apply effects, assign hot cues, resample, and much more, just with a single click.

Korg's KAOSS Replay is a self-contained performance tool that features KAOSS Pad and Effects, 128 sample slots and a dedicated MIC input



REDISCOVERING FAIRLIGHT

(Continued from page 50)

open mind. The studio version of Resolve is reasonably priced and comes with lifetime upgrades—an attractive proposition for those considering the Resolve platform.

The Fairlight Audio Editor is a marvel of hardware engineering. Each button on its qwerty keyboard features a mini screen below, referred to as self-labelling keys, adapting to the audio editing task at hand. Whether you're in ADR mode or pure editing mode, the buttons transform into shortcut keys based on your desired function. While currently exclusive to the

Fairlight page, envision the possibilities if Blackmagic could extend the Fairlight Audio Editor's functionality to other tabs like Cut, Edit, Fusion, and Color in Resolve. With an LCD screen and rotary knobs, it could surpass the Speed Editor and Editor Keyboard in effectiveness.

Seven years since its integration into DaVinci Resolve, Fairlight has evolved continuously, and the latest version at the time of writing this article in September 2023 is Resolve 18, featuring numerous enhancements to Fairlight. The software continues to advance, with Blackmagic Design committed to adding more features.

Over the next five years, the number of Studio version licence holders for

Resolve is expected to surge, and they will enjoy free upgrades to the latest versions. Although newer and more robust computers may be needed to run future versions of Resolve, editors and sound designers purchasing the software now won't have to worry about additional costs for software updates.

With a growing pool of trained editors and sound engineers armed with licensed software, the established players in the industry may face stiff competition. As history has shown with the rapid decline of once-dominant giants like Nokia and Kodak, innovation can swiftly alter the landscape.

A few years ago, Netflix and Amazon were not considered major contend-

ers at the Oscars, but times have changed. DaVinci Resolve, similarly, has the potential to bring about a paradigm shift. Young filmmakers should embrace this ecosystem, and who knows, in the near future, we might witness an Oscar-winning film shot on a reliable camera, edited, colour-corrected, and mixed on Fairlight in Dolby Atmos within the DaVinci Resolve system.

To feature your editorial in PALM Expo Magazine, contact
Pooja Shah at
pooja.shah@hyve.group



LIGHT OF LADAKH

(Continued from page 56)

Let go of everything and drink it all in. Surprisingly easy to do in that environment.

LlamaJi continues gently. Loose yourself within the picture. Total release. Then slowly lift yourself up and observe the entire universe around you. Capture every detail. You missed the smell.

I respond. Life never smelt sweet-

er. Salt, humidity, crystals, fine, almost moon dust, and even some ice floating in a tiny rock pool sheltered from the sun.

What a wonderful moment. Timeless. Enduring. Eternal.

Suddenly it's all over and the day begins properly. Bustling people. The sun lighting both east and west equally, the wheels of the village crunching the gravel paths. Time for breakfast.

Over Omelettes and cold fried

toasts, I wonder if I can recreate even a smidgeon of this wonder from behind a lighting desk. Can I feel that peace and fulfilment? Can I fill my audiences with such wonder within the enclosed space of a theatre?

Break it down. Keep the experience, and like a LED wall, address the different pixels. Something to work on. I'm lost in thought.

LlamaJi smiles his beautiful smile. Pink cheeks and twinkling eyes. 'Don't fill

yourself up yet. Tonight, is the Blue Moon. The sun does not show the salt flecks in the mountains. In the moonlight, you will see the same vistas but from a totally different perspective. Everything will be black. The hills, the water, the snow, and the salt with fire like phosphorescence.

AND. The moon sets at 3:45 AM. If the clouds are clear – we will see the milky way.

11 QUESTIONS WITH **Dr. Andreas Sennheiser**

Co-CEO, Sennheiser Electronics

Dr. Andreas Sennheiser is eponymous with one of the most pioneering pro audio brands around the world – Sennheiser. Being trusted by scores of pro audio rental companies, studios, broadcasters, engineers, and artists in India for precise, excellent audio clarity and delivery, the audio giant has today carved a niche for itself in the country's acoustic landscape. Dr. Andreas Sennheiser, Co-CEO, Sennheiser sits down for an in-depth conversation with Smita Rai, Deputy Project Director, PALM + AV-ICN Expo and Editor, PALM Expo Magazine and AV-ICN Expo Magazine, to field 11 Questions and expounds on the unexpected growth of a particular pro audio segment, the market for wireless microphones in India in the next five years, his takeaway from interactions with the clients in India, and more.



From a business development perspective, after selling the consumer division business to Sonova, how has things changed for Sennheiser? Is the brand doing anything differently now?

After 50 years of operating in both consumer and professional segments, we are proud to return to our roots as a fully pro-dedicated business. This shift has allowed us to focus all of our attention on meeting the needs of our professional customers, from management to field operations and spending. With this renewed focus, we have invested heavily in research and development, allocating nearly 10% of our revenue to developing cutting-edge technologies. Our global salesforce and business developers are now solely dedicated to serving our pro customers, ensuring that we provide the best possible business communication solutions for audio environments. This more targeted approach has allowed us to better understand and meet the unique needs of our professional clients, and we look forward to continuing to innovate and exceed their expectations for many years to come.

In which segment of the pro audio industry do you see most growth?

As the world continues to adapt to the new normal brought by the pandemic, it's no surprise that the hybrid working model

has become the norm. This shift has resulted in a surge in demand for our Business Communication solutions, which includes ceiling microphones, streaming solutions like mobile connect for in-house streaming. Universities have also embraced this change, making it clear that this trend is here to stay. But what's even more surprising is the unexpected growth we've seen in the Live segment. After being cooped up for two years, artists are eager to get back on stage, and fans are equally excited to attend concerts once again. In fact, ticket sales for live

“

The Indian market is still looking for high value for money. But what we have also seen is the shift to more value for higher technology. Higher quality, better workflows. So, the value has shifted from being very affordable to being just the right solution for the problem.

events in the US alone have increased by over 35%. However, it's not just the entertainment industry that's experiencing growth. The digital government sector, particularly in India, is far more advanced than in many other areas. With seamless technology, collaboration across states and borders has become easier than ever before.

Can you elaborate a little on how the demand and supply chain for Sennheiser was impacted due to the post pandemic disruption?

Fortunately, we had a highly efficient integrated supply chain that allowed us to fulfill most of the demand throughout the pandemic. In fact, we were the only audio industry player capable of doing so. This was made possible by our vertically integrated supply chain, which included our own production plants. Additionally, our strong relationships with key chip suppliers enabled us to secure demand and supply even during the most challenging times. Our goal is to be the most reliable partner in the audio industry, and we have proved this during the pandemic.

Sennheiser has invested heavily on AMBEO 3D. How has that evolved for the brand and what are the applications of the same?

The demand for spatial audio or AMBEO has been on the rise among consumers. Our team has been working on 3D audio for over 25 years, driven by our passion for creating immersive audio experiences. While we have always been excited about this technology, it is only in recent years that the public has become more receptive to VR, AR, and other such technologies in 3D audio. We are thrilled to see great success on the consumer side with our 3D soundbars, which have set a benchmark in the industry. Moreover, Netflix productions have also started using our spatial audio algorithm, and we are proud to announce that our 3D audio algorithms will be featured in cars launching in January next year. As a result, we have seen a significant increase in demand for our competencies in spatial audio across various industries.

You mentioned AR and VR. What about AI – do you anticipate Artificial Intelligence and Machine Learning to play a significant role in pro audio?

Absolutely, there are multiple benefits that AI can bring to our products. Firstly, it can significantly improve the efficiency of our internal development and processes. However, more importantly, AI can help us make our parts more intelligent. For instance, we are working on developing microphones that can detect the type of noise they record - whether it is speech or background music. This will enable us to create smarter devices that can selectively listen to wanted noise or speech while filtering out unwanted noise. We are leveraging AI not just for the microphone side but also for the processing side. AI algorithms can be instrumental in cleaning audio streams, especially in situations where different users have varying audio environments. For example, in meetings with different participants, one user may be in an environment with a higher reverb, while another user may have a different acoustic environment. AI can help even out these differences and deliver a consistent audio stream, regardless of where it was recorded.

At present, is there any solution or product for pro audio which Sennheiser is pushing aggressively in the market?

Currently, we are witnessing a significant surge in demand for our bread-and-butter products such as the D-6000 System on the wireless side, particularly in India. We are thrilled to see that many top artists in India are using it, and it has almost become an industry standard here. While we are not deliberately pushing this product, its success speaks for itself. Looking ahead, we have something truly innovative in store for next year. We are developing a new transmission scheme for wireless microphones and in-ear monitors based on a white band transmission technology. While we haven't revealed much about this yet, we believe that it will be a game changer in the industry.

Are there any new innovations from Neumann that consumers can look forward to, and do you have any personal favorites from Neumann?

Neumann has been actively acquiring new technologies, and one of our recent acquisitions has allowed us to enter the interface business with a strong AES67 technology. This has given us an important role in the production stream of broadcasters and live mixers, which is a new area for us. Additionally, we are excited to announce that we will be bringing back the legendary U47 microphone next year. We were able to secure a supplier for tubes, and this will be akin to the resurrection of a legend. While I don't have a personal favorite product from Neumann, I do have a preferred home setup for doing broadcasts and using Teams for meetings. I use the KH 150 as my speaker and the TLM 104 microphone along with the MT 48 as the interface. When it comes to listening to loud music and enjoying it, I prefer using the KH 420 with a subwoofer.

Where do you see the market for wireless microphones in the next five years, specifically in India?

The wireless microphone industry is facing increasing challenges in terms of frequency allocations, and it is likely that the World Radiocommunication Conference will decide on another reduction in available frequencies. This is because some of the frequencies will be allocated to the telecom industry. Despite these challenges, we are working hard to ensure that our customers still have reliable transmissions. We are optimizing our existing technologies while also developing alternative transmission schemes such as the white band transmission. In addition, we see standard technologies like 5G as a potential option in the future, although there are currently latency issues that need to be addressed. In India, we are seeing a growing trend of using wireless microphones on stage, particularly for larger productions. Artists prefer the freedom of movement that wireless microphones provide, without the restrictions of wires on their gear. As a result, wireless microphones have become the standard for many productions.

India is always known as a price-sensitive market. Do you feel that this has changed a bit?

While India has traditionally been known as a price-sensitive market, we have observed a shift towards more value for higher technology. Customers are now seeking products that offer higher quality and better workflows, rather than simply being affordable. In our Business Communication segment, we have seen that our products may not always be the cheapest on the tender, but we are still winning many tenders due to the value that we provide. Our products work seamlessly, require minimal maintenance, and can be remotely controlled, making them highly efficient for managing

audio in classrooms or other settings from a centralized location. In such cases, the efficiency gained from using our products far outweighs any cost savings from choosing a cheaper alternative. Therefore, while there is still a strong demand for high value for money products in India, customers are increasingly looking for solutions that provide superior performance and efficiency. As a result, our focus remains on providing value for money by offering products that meet these needs, rather than simply being the most affordable option.

What is perception of the global market for the pro audio products and where does India fit into this whole scheme of things?

In my opinion, the global market for pro audio products is here to stay. As humans, we have always enjoyed making and listening to music together, and this need has only grown stronger with time. Today, we are using digital technologies to create a more immersive and global experience for music lovers around the world. India, in particular, has emerged as one of the most tech-savvy countries when it comes to adopting new ideas and technologies. As a result, I believe that India will continue to play an important role in the global market for pro audio products. With its large and growing population of music enthusiasts, India presents a significant opportunity for companies like ours to offer innovative and high-quality products that meet the needs of this market.

You have interacted with clients – rental companies, studios, broadcasters, artists, and engineers in India. What takeaways did you receive from these interactions and how have they shaped your engagement with the Indian market?

During our interactions with rental companies, studios, broadcasters, artists, and engineers in India, we gained valuable insights into the market and its challenges. As a company, we believe that staying connected with our clients is crucial to understanding what's happening in the field. One of the most striking takeaways from our visit was how rapidly India is evolving. The government's digital agenda has unlocked tremendous potential for virtual collaboration in the public sector, while higher education and corporate headquarters have also embraced virtual meetings and remote working. This progress is a testament to what can be achieved when there is a strong will and financial support for infrastructure development. Our visit to India was truly an eye-opening and insightful experience that has shaped our engagement with the Indian market. We are committed to providing innovative solutions that meet the evolving needs of our clients in India and around the world. By leveraging the lessons we learned during our visit, we aim to continue building strong relationships with our clients and delivering value-added services that help them succeed.



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In the world of audio amplification, some devices stand out by bringing technical sophistication to the forefront.

The heart of the Alpha Control Series lies in its powerful processing capabilities, featuring FIR filtering, dynamic EQ, and optional Dante Networking. These features work in harmony with unique enhancements such as 4 local + 4 aux DSP channels, which are also supplied to the network. This means that a single Alpha Control amplifier can effortlessly manage a stereo 4-way system without any external processing, and can supply audio to a Non-DSP amplifier either via analogue or a single Cat5 cable.

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